APPENDICES

APPENDIX A

EXECUTIVE SUMMARY TABLE

TABLE 1
SUMMARY OF POTENTIAL ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Resource	Alternative A	Alternative B	Alternative C	No Action
Geology and Soils				
Topography	No substantial grading would occur under Alternative A and all existing slopes would be preserved. - LS	Topographic features of the site would be altered by earthwork; however, the project design would preserve the most significant topographic features. - LS	No substantial grading would occur under Alternative C and all existing slopes would be preserved. - LS	NE
Mitigation	NA	NA	NA	NA
Soils/Geology	Disturbance of the soils could result in erosion. - LSM	Disturbance of the soils could result in erosion. - LSM	Disturbance of the soils would not result in erosion. - LS	NE
Mitigation	**MM 5.2 (A)** The Tribe shall obtain coverage under the General Construction National Pollutant Discharge Elimination System (NPDES) permit under the federal requirements of the Clean Water Act (CWA). As required by the NPDES permit, a Stormwater Pollution Prevention Plan (SWPPP) shall be prepared that addresses potential water quality impacts associated with construction and operation of the project alternatives. The SWPPP shall make provisions for erosion prevention and sediment control and control of other potential pollutants. The SWPPP shall describe construction practices, stabilization techniques, and structural Best Management Practices (BMPs) that are to be implemented to prevent erosion and minimize sediment transport. BMPs shall be inspected, maintained, and repaired to assure continued performance of their intended function. Reports summarizing the scope of these inspections, the personnel	Implement **MM 5.2 (A)**.	NA	NA

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	conducting the inspection, the dates of the inspections, major observations relating to the implementation of the SWPPP, and actions taken as a result of these inspections shall be prepared and retained as part of the SWPPP. To minimize the potential for erosion to occur on the site, the following items shall be addressed and implemented: 1. Stripped areas shall be stabilized through temporary seeding using dryland grasses. 2. Conveyance channels and severe erosion channels shall be mulched or matted to prevent excessive erosion. 3. Exposed stockpiled soils shall be covered with plastic covering to prevent wind and rain erosion. 4. The construction entrance shall be stabilized by the use of rip-rap, crushed gravel, or other such material to prevent the track-out of dirt and mud. 5. Construction roadways shall be stabilized through the use of frequent watering, physical covering of gravel or rip-rap. 6. Filter fences shall be erected at all onsite stormwater exit points and along the edge of graded areas to stabilized non-graded areas and control siltation of onsite stormwater. 7. Dust suppression measures included in **Section 2.3.3**, shall be implemented to control the production of fugitive dust and prevent wind erosion of bare and stockpiled soils. 8. Prior to land-disturbing activities, the clearing and grading limits shall be marked clearly, both in the field and on the plans. This can be done using construction fences or by creating buffer zones.			

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	9. Construction traffic shall be limited in its access to the site to a single entrance if possible. Haul roads and staging areas on-site soil. All access points, haul roads and staging areas shall be stabilized with crushed rock. Any sediment shall be removed daily and the road structure maintained. 10. Downstream waterways and properties shall be protected during construction from increased flow rates due to the higher impervious nature of the site. During construction, detention ponds can be combined with sedimentation ponds as long as the detention volume is not impacted by a buildup of sediment. 11. Concentrated flows create high potential for erosion; therefore, any slopes shall be protected from concentration flow. This can be done by using gradient terraces, interceptor dikes, and swales, and by installing pipe slope drains or level spreaders. Inlets need to be protected to provide an initial filtering of stormwater runoff; however, any sediment buildup shall be removed so the inlet does not become blocked. 12. The SWPPP shall address maintenance and repair of heavy equipment on site to remove the potential for pollution from oil, fuel, hydraulic fluid, or any other potential pollutant. 13. Staging areas and haul roads shall be constructed to minimize future over-excavation of deteriorated sub-grade soil. 14. If construction occurs during wet periods, sub-grade stabilization shall be required. Mulching or netting may be needed for wet-weather construction. 15. Temporary erosion control measures (such as silt fence, gravel filter berms,			

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Resource	Alternative A	Alternative B	Alternative C	No Action
	straw wattles, sediment/grease traps, mulching of disturbed soil, construction stormwater chemical treatment, and construction stormwater filtration) shall be employed for disturbed areas. 16. Exposed and unworked soils shall be stabilized by the application of effective BMPs. These include, but are not limited to, temporary or permanent seeding, mulching, nets and blankets, plastic covering, sodding, and gradient terraces. 17. The SWPPP shall address the maintenance of both temporary and permanent erosion and sediment control BMPs.			
Seismicity	The proposed facilities would designed in accordance with seismic codes. - LS	The proposed facilities would designed in accordance with seismic codes. - LS	The proposed facilities would designed in accordance with seismic codes. - LS	NE
Mitigation	NA	NA	NA	NA
Tsunami	NE	NE	The Mill Casino Site may expose people or structures to safety risks from tsunami inundation - S	NE
Mitigation	NA	NA	**MM 5.2 (B)** The Tribe shall adopt a tsunami evacuation plan consistent with the State of Oregon Tsunami Evacuation Map for the Coos Bay Peninsula.	NA
Mineral Resources	The development would not adversely affect known or recorded mineral resources. - LS	The development would not adversely affect known or recorded mineral resources. - LS	The development would not adversely affect known or recorded mineral resources. - LS	NE
Mitigation	NA	NA	NA	NA

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Resource	Alternative A	Alternative B	Alternative C	No Action
Water Resources				
Flooding	The project is not located in a floodplain and thus would not affect floodplain management. - NE	The southwestern tip of the Phoenix Site is located in a floodplain, but this area is not planned for development. - NE	The southern portion of the Mill Casino Site is located in a floodplain, but this area is not planned for development. - NE	NE
Mitigation	NA	NA	NA	NA
Construction Impacts	Construction of the project could result in discharges of pollutants to surface waters. - LSM	Construction of the project could result in discharges of pollutants to surface waters. – LSM	Construction of the project could result in discharges of pollutants to surface waters. - LSM	NE
Mitigation	**MM 5.3 (A)** As described under **MM 5.2 (A)**, prior to construction, an NPDES General Construction permit from the USEPA shall be complied with and a SWPPP shall be prepared. The SWPPP shall describe construction practices, stabilization techniques, and structural BMPs that are to be implemented to prevent erosion and minimize sediment transport as outlined above. **MM 5.3 (B)** In accordance the NPDES General Construction permit, a sampling and monitoring program shall be developed and implemented to assess the quality of surface water entering and leaving the site. At a minimum, sampling sites shall include: a location above all proposed development and a location downstream of all development. Analyses shall include total suspended solids (TSS), oils, and greases.	Implement **MM 5.3 (A)** and **MM 5.3(B)**. **MM 5.3 (C)** As described in detail under **MM 5.5**, **Biological Resources**, Mitigation Measure F, a 404 permit shall be obtained from the United States Army Corps of Engineers (USACE) prior to any discharge of dredged or fill material into waters of the U.S, and a 401 Water Quality Certification shall be obtained from the USEPA.	Implement **MM 5.5 (G) and 5.5 (I)**.	NA
Operational Stormwater Runoff	Stormwater run-off from the site could impact water quality. Storm water facilities would be developed to treat and contain runoff. - LS	Stormwater run-off from the site could impact water quality. Storm	Stormwater runoff would not be increased by the expansion of the Mill Casino. - NE	NE

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Resource	Alternative A	Alternative B	Alternative C	No Action
		water facilities would be developed to treat and contain runoff. - LS		
Mitigation	NA	NA	NA	NA
Groundwater	Increases to impervious surfaces would be minimal and soil absorption would eliminate groundwater pollutants. - LS	Increases to impervious surfaces would be minimal and soil absorption would eliminate groundwater pollutants. - LS	There would be no increases to impervious surfaces on the Mill Casino Site. - NE	NE
Mitigation	NA	NA	NA	NA
Air Quality				
Construction Emissions	Construction of Alternative A would not cause an exceedance of National Ambient Air Quality Standards (NAAQS) for criteria air pollutants (CAPs). Dust suppression and construction BMPs in Section 2.3.3 would reduce the potential for emissions to impact sensitive receptors. - LS	Construction of Alternative B would not cause an exceedance of NAAQS for CAPs. Dust suppression and construction BMPs in Section 2.3.3 would reduce the potential for emissions to impact sensitive receptors. - LS	Construction of Alternative C would not cause an exceedance of NAAQS for CAPs. Dust suppression and construction BMPs in Section 2.3.3 would reduce the potential for emissions to impact sensitive receptors. - LS	NE
Mitigation	NA	NA	NA	NA
Operational Vehicle and Area Emissions	Estimated mobile and stationary emissions of CAPs from operation of Alternative A would not exceed *de minimis* levels. - LS	Estimated mobile and stationary emissions of CAPs from operation of Alternative B would not exceed *de minimis* levels. - LS	Estimated mobile and stationary emissions of CAPs from operation of Alternative C would not exceed *de minimis* levels. - LS	NE
Mitigation	NA	NA	NA	NA
Biological Resources				
Habitats	None of the habitats that would be affected by the implementation of Alternative A are considered sensitive communities; therefore, no effect would occur. - NE	None of the habitats that would be affected by the implementation of Alternative B are considered sensitive communities; therefore, no effect would occur. - NE	Sensitive habitats are located adjacent to the Mill Casino Site, which may be impacted by sediment discharge and stormwater runoff. - LSM	NE

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Resource	Alternative A	Alternative B	Alternative C	No Action
Mitigation	NA	NA	**MM 5.5 (G)** A USACE 401 Water Quality Certification permit and a nationwide 404 permit shall be obtained from the USACE prior to any discharge of dredged or fill material into waters of the U.S. The Tribe shall comply with all the terms and conditions of the permit and compensatory mitigation shall be in place prior to any direct effects to waters of the U.S. Minimal mitigation measures would require the creation of wetlands at a 1:1 ratio for any wetlands impacted. Full mitigation will be carried out in compliance with any permits. **MM 5.5 (I)** Consultation on Standard Local Operating Procedures for Endangered Species (SLOPES) with National Marine Fisheries Service (NMFS) and the USACE shall occur to determine the BMPs required to minimize disturbance and mobilization of sediment during the bulkhead reinforcement. BMPs and sediment stabilization measures shall be implemented immediately after reinforcement of the bulkhead and the surrounding area to prevent erosion and discharge of sediment into Coos Bay. These measures include, but are not limited to, installation of erosion blankets, moveable silt or sediment containment curtains, and coffer dams, as well as other	NA

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Resource	Alternative A	Alternative B	Alternative C	No Action
			measures as outlined in **Section 5.2.1**, **Geology and Soils**.	
Federally-Listed Species	Sediment and stormwater runoff could impact water quality within the ditch connection the Medford Site to Bear Creek, which contains two listed species, Chinook Salmon and Coho Salmon. - LSM	No federal listed wildlife species occur within the Phoenix Site; therefore, no effect to federally listed wildlife would occur. - NE	Alternative C could impact water quality adjacent to the Mill Casino Site within habitat for federally-listed fish species. - LSM	NE
Mitigation	Implement **MM 5.2 (A)**.	NA	Implement **MM 5.5 (G)** and **MM 5.5 (I)**. **MM 5.5 (H)** Reinforcement of the bulkhead shall occur in a timeframe agreed to with the USACE to minimize impacts to Oregon coast coho salmon egg and fry life stages, and Pacific eulachon juveniles within the associated bay and estuarine waters.	NA
Migratory Birds	Construction of Alternative A could result in impacts to species protected under the Migratory Bird Treaty Act (MBTA) if active nests are present and due to increased lighting. - LSM	Construction of Alternative B could result in impacts to species protected under the MBTA if active nests are present and due to increased lighting. - LSM	Construction of Alternative C could result in impacts to species protected under the MBTA due to increased lighting. - LS	NE
Mitigation	**MM 5.5 (A)** In accordance with the MBTA, a qualified biologist will conduct a preconstruction survey within 100 feet around the vicinity of the site for active nests should construction activities commence during the nesting season for birds of prey and migratory birds (between February 15 and September 15). Following a preconstruction nesting bird survey, if any active nests of migratory birds are located within 100 feet of the Action Area, a no-disturbance buffer zone shall be established around the nests to avoid disturbance or	Implement **MM 5.5 (A)**, **MM 5.5 (B)**.	NA.	NA

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Resource	Alternative A	Alternative B	Alternative C	No Action
	destruction of the nest. The distance around the no-disturbance buffer shall be determined by the biologist in coordination with United States Fish and Wildlife Service (USFWS), if needed, and will depend on the level of noise or construction activity, the level of ambient noise in the vicinity of the nest, line-of-sight between the nest and disturbance, and the species at hand. The biologist shall delimit the buffer zone with construction tape or pin flags. The no-disturbance buffer will remain in place until after the nesting season (to be lifted August-September) or until the biologist determines that the young birds have fledged. A report shall be prepared and submitted to the Coquille Indian Tribe and the USFWS following the fledging of the nestlings to document the results. **MM 5.5 (B)** Trees anticipated for removal will be removed between September 15 and February 15, prior to the nesting season. If trees are anticipated to be removed during the nesting season, a preconstruction survey will be conducted by a qualified biologist. If the survey shows that there is no evidence of active nests, then the tree will be removed within 10 days following the survey. If active nests are located within trees identified for removal, a species-specific buffer will be installed around the tree and additional measures outlined in A above shall be implemented.			
Wetlands and/or Waters of the US	There are no jurisdictional Waters of the U.S. located within the Medford Site. However, Alternative A could result in water quality impacts to a neighboring drainage ditch. - LSM	There are no known jurisdictional Waters of the U.S. located within the development footprint of Alternative B. However, a wetland delineation was unable to be performed, therefore Alternative B could result in	There are no jurisdictional Waters of the U.S. located within the Mill Casino Site. However, Alternative C could result in water quality impacts to waters adjacent to the Mill Casino Site. - LSM	NE

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Resource	Alternative A	Alternative B	Alternative C	No Action
		water quality impacts to unknown wetlands. - LSM		
Mitigation	**MM 5.5 (C)** As described under **Section 5.2.1**, **Geology and Soils**, Mitigation Measure B, prior to construction, an NPDES permit from the USEPA shall be complied with and a SWPPP shall be prepared. The SWPPP shall describe construction practices, stabilization techniques, and structural BMPs that are to be implemented to prevent erosion and minimize sediment transport as outlined above. **MM 5.5 (D)** The site shall incorporate BMPs for stormwater runoff, including sedimentation basins, vegetated swales, and runoff infiltration devices if necessary, to ensure that the water quality of on-site or nearby waters does not degrade. Stormwater runoff from the site shall be monitored according to BMPs to assess the quality of water leaving the site. **MM 5.5 (E)** All equipment re-fueling and maintenance shall occur in an approved staging area and an agency-approved spill prevention plan will implemented by the contractor.	Implement **MM 5.5 (C)**, **MM 5.5 (D)**, **MM 5.5 (E)**, and **MM 5.5 (G)**. **MM 5.5 (F)** A delineation of wetlands and waters of the U.S. shall be conducted within the Phoenix Site in accordance with Section 404 of the CWA and submitted to the USACE for verification. Should it be determined that wetlands and/or waters of the U.S. occur within the development footprint of Alternative B, the requirements of Mitigation Measure G shall apply.	Implement **MM 5.5 (G)**, **MM 5.5(H)**, and **MM 5.5 (I)**.	NA
Cultural and Paleontological Resources				
Cultural Resources	Previously unknown cultural resources may be encountered during ground disturbing activities. - LSM	Previously unknown cultural resources may be encountered during ground disturbing activities. - LSM	Previously unknown cultural resources may be encountered during ground disturbing activities. However, the disturbed nature of the engineered fill would result in a lack of depositional integrity. - LS	NE

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Resource	Alternative A	Alternative B	Alternative C	No Action
Mitigation	**MM 5.6 (A)** All earth disturbing activities involving excavation greater than 2 feet in depth shall be monitored by a qualified archaeologist. If intact archaeological deposits and/or cultural features including human remains are discovered during project construction and monitoring activities, the following measures will apply. **MM 5.6 (B)** In the event of any inadvertent discovery of prehistoric or historic archaeological resources or paleontological resources during construction-related earth-moving activities, all such finds shall be subject to Section 106 of the National Historic Preservation Act (NHPA) as amended (36 Code of Federal Regulations [CFR] 800). Specifically, procedures for post-review discoveries without prior planning pursuant to 36 CFR 800.13 shall be followed. All work within 50 feet of the find shall be halted until a professional archaeologist can assess the significance of the find. If any find is determined to be significant by the archaeologist, then representatives of the Tribe shall meet with the archaeologist to determine the appropriate course of action, including the development of a Treatment Plan, if necessary. All significant cultural materials recovered shall be subject to scientific analysis, professional curation, and a report prepared by the professional archaeologist according to current professional standards. **MM 5.6 (C)** If human remains are discovered during ground-disturbing activities on Tribal lands,	Implement **MM 5.6 (A-C)**. **MM 5.6 (D)** Prior to approval of Alternative B, a comprehensive cultural resources survey will be required, utilizing shovel tests or similar subsurface testing as surface soil visibility is very poor. If any cultural resources are detected during the shovel testing program, all such finds shall be subject to Section 106 of the NHPA as amended (36 CFR 800). Specifically, sufficient subsurface exploration, evaluation, and/or research in the case of historic-era finds shall be performed to allow an evaluation of the finds for National Register eligibility. If sites are found and are eligible to the National Register, a Treatment Plan will be prepared and implemented in order to mitigate project impacts. Appropriate treatment may include site sampling, testing, data recovery, documentation, or a combination of measures. Any recommended treatment shall be completed prior to project construction.	NA	NA

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Resource	Alternative A	Alternative B	Alternative C	No Action
	the Tribal Official and Bureau of Indian Affairs (BIA) representative shall be contacted immediately. No further disturbance shall occur until the Tribal Official and BIA representative have made the necessary findings as to the origin and disposition. If the remains are determined to be of Native American origin, the BIA representative shall notify a Most Likely Descendant (MLD). The MLD is responsible for recommending the appropriate disposition of the remains and any grave goods.			
Paleontological Resources	Previously unknown paleontological resources could be discovered during earthmoving activities. - LSM	Previously unknown paleontological resources could be discovered during earthmoving activities. - LSM	No paleontological resources have been reported or observed on or in the vicinity of the Mill Casino Site, and construction will only affect engineered fill. - LS	NE
Mitigation	**MM 5.6 (D)** In the event of accidental discovery of paleontological materials during ground-disturbing activities, a qualified paleontologist shall be contacted to evaluate the significance of the find and collect the materials for curation as appropriate.	Implement **MM 5.6 (D)**.	NA	NA
Socioeconomic Conditions				
Economic Effects	Under Alternative A, construction activities are estimated to cost approximately $20.2 million, which is expected to generate a one-time total output of approximately $22.9 million within the County. New spending from Alternative A is expected to generate a net annual total output of approximately $32.2 million within the County during the operation phase. Construction and operation of Alternative A would generate substantial output to a variety of businesses in Jackson	Under Alternative B, construction activities are estimated to cost approximately $31.8 million, which is expected to generate a one-time total output of approximately $40.9 million within the County. New spending from Alternative B is expected to generate a net annual total output of approximately $31.6 million within the County during the operation phase. Construction and operation of Alternative B would generate	Under Alternative C, construction activities are estimated to cost approximately $23.9 million, which is expected to generate a one-time total output of approximately $16.7 million within the County. Alternative C is expected to generate an annual total output of approximately $7.7 million within the County. Construction and operation of Alternative C would generate substantial output to a	NE

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Resource	Alternative A	Alternative B	Alternative C	No Action
	County, which would stimulate the local economy. - BE	substantial output to a variety of businesses in Jackson County, which would stimulate the local economy. - BE	variety of businesses in Coos County, which would stimulate the local economy. - BE	
Mitigation	NA	NA	NA	NA
Substitution Effects	The anticipated gaming revenue substitution effect under Alternative A would be approximately $23.0 million of the projected local revenue for the project ($31.7 million); however, anticipated substitution effects would not result in the closure of any of the competing gaming facilities. No physical environmental effects would occur. - LS	The anticipated gaming revenue substitution effect under Alternative B would be approximately $22.7 million of projected local revenue for the project ($31.1 million); however, anticipated substitution effects would not result in the closure of any of the competing gaming facilities. No physical environmental effects would occur. - LS	The anticipated gaming revenue substitution effect under Alternative C would be approximately $4.1 million of projected local revenue for the project ($4.1 million); Alternative C would result in a maximum impact on existing tribal gaming facilities of 5.0 percent or less. Anticipated substitution effects would not result in the closure of any of the competing gaming facilities. - LS	NE
Mitigation	NA	NA	NA	NA
Fiscal Effects	Alternative A would result in the transfer of 2.4 acres from fee status into federal trust status. Therefore, property taxes and business taxes from the existing business on the site would be lost. Tax revenues would be generated for federal, state, and local governments from activities including secondary economic activity generated by tribal gaming. Construction of Alternative A would generate one-time $1.8 million in federal tax revenues, and $1.0 million in state/county/local tax revenues. Operation of Alternative A would generate annually $2.7 million in federal tax revenues, and $0.8 million in state/county/local tax revenues from indirect and induced taxes. - BE	Alternative B would result in the transfer of the Phoenix site from fee status into federal trust status. Therefore, property taxes would be lost. Tax revenues would be generated for federal, state, and local governments from activities including secondary economic activity generated by tribal gaming. Construction would result in an estimated $3.0 million in federal tax revenues, and $1.7 million in state/County/local government tax revenues. Operation of Alternative B would result in an estimated $2.6 million in federal tax revenues, and $0.8 million in state/County/local government tax revenues. - BE	Alternative C would be constructed on land that is already held in trust by the federal government for the Tribe; therefore, no property taxes would be lost. Alternative C would generate tax revenues from construction, and annual revenues to the federal, State, County, and local governments. Construction would result in an estimated $1.2 million in federal tax revenues, and $0.7 million in state/County/local government tax revenues. Operation of Alternative C would result in an estimated $0.6 million in federal tax revenues, and $0.2 million in	NE

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Resource	Alternative A	Alternative B	Alternative C	No Action
			state/County/local government tax revenues. - BE	
Mitigation	NA	NA	NA	NA
Property Values	Changes in adjacent property values could result in decreased taxes from those properties. However, most surrounding land is commercially zoned. - LS	NE	Alternative C would stimulate a mild increase in patronage and will not result in a change in land use. - LS	NE
Mitigation	NA	NA	NA	NA
Employment	For full buildout under Alternative A, investment in construction activities would generate a one-time total of approximately 181 employment positions within the County. Alternative A would generate an annual total of approximately 327 employment opportunities to be captured within Jackson County during the operation phase. The generation of employment and wages during the construction phase is considered a beneficial effect of Alternative A. - BE	For full buildout under Alternative B, investment in construction activities would generate a one-time total of approximately 305 employment positions within the County. Alternative B would generate an annual total of approximately 317 employment opportunities to be captured within Jackson County during the operation phase. The generation of employment and wages during the construction phase is considered a beneficial effect of Alternative B. - BE	Under Alternative C, investment in construction activities would generate a one-time total of approximately 127 employment opportunities within the County during the construction phase. Operation activities associated with Alternative C would generate an annual total of approximately 84 employment opportunities captured within Coos County. The generation of employment and wages during the construction phase is considered a beneficial effect of Alternative C. - BE	NE
Mitigation	NA	NA	NA	NA
Housing	In the project s first full year of operation in 2019, the Jackson County housing market is projected to have more than enough units for its new 327 workers. Alternative A is not expected to stimulate regional housing development. - LS	Alternative B would have a similar effect on housing as Alternative A, due to the proximity of the Medford Site to the Phoenix Site. - LS	In 2014, approximately 15.3 percent of housing units were vacant in Coos County. Due to the number of vacant houses in the vicinity of the project, Alternative C is not expected to stimulate regional housing development. - LS	NE
Mitigation	NA	NA	NA	NA

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Resource	Alternative A	Alternative B	Alternative C	No Action
Social Effects	There would be no anticipated significant increase in problem gambling rates in the local area because of the relatively large number of existing casinos in the greater Pacific Northwest area. Alternative A would introduce a large number of patrons and employees into the community on a daily basis. As a result, under Alternative A, criminal incidents would be expected to increase in the project area, particularly at the Medford Site, as with any other development of this size. Alternative A could result in increased crime and increased demand on law enforcement services. - LS	There would be no anticipated significant increase in problem gambling rates in the local area because of the relatively large number of existing casinos in the greater Pacific Northwest area. Alternative B would introduce new patrons and employees into the community on a daily basis. As a result, under Alternative B, criminal incidents would be expected to increase in the project area, particularly at the Phoenix Site, as with any other development of this size. Alternative B could result in increased crime and increased demand on law enforcement services. - LS	There would be no increase in problem gambling rates in the local area given the existence of the Mill Casino. Law enforcement services will be provided under the North Bend Municipal Services Agreement (MSA; **Appendix J**), and no significant effects associated with crime will occur. - LS	NE
Mitigation	Implement **MM 5.10 (C)**	Implement **MM 5.10 (D)**	NA	NA
Community Impacts	Due to the limited number of employees that are expected to relocate to the project area, effects on Jackson County's schools, libraries, and parks are expected to be minimal. - LS	Due to the limited number of employees that are expected to relocate to the project area, effects on Jackson County's schools, libraries, and parks are expected to be minimal. - LS	Due to the limited number of employees that are expected to relocate to the project area, effects on Coos County's schools, libraries, and parks are expected to be minimal. - LS	NE
Mitigation	NA	NA	NA	NA
Effects to the Coquille Indian Tribe	Alternative A would generate employment opportunities that are expected to benefit Tribal members as well fund necessary tribal member services. - BE	Alternative B would generate employment opportunities that are expected to benefit Tribal members as well fund necessary tribal member services. - BE	Alternative C would not generate a sufficient amount of revenue to fund all essential governmental, social, and other services. - S	NE
Mitigation	NA	NA	NA	NA
Effects to the Cow Creek Band	Alternative A would reduce revenues at the Seven Feathers Casino Resort by 13.2 percent. These effects are expected to	Alternative B would reduce revenues at the Seven Feathers Casino Resort by 12.6 percent. These effects are	Alternative C would reduce revenues at the Seven Feathers Casino Resort by 1.8 percent.	NE

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of Umpqua Indians	dissipate over time and reach baseline no-project 2019 revenue levels after 9.3 years. - LS	expected to dissipate over time and reach baseline no-project 2019 levels after 8.9 years. - LS	These effects are expected to dissipate over time and reach baseline no-project 2019 levels after 1.2 years. - LS	
Mitigation	NA	NA	NA	NA
Environmental Justice: Minority and Low-income Communities	No minority communities were identified in the vicinity of the Medford Site and one low-income community was identified 0.7 miles from the site; Alternative A would not result in significant adverse effects to low-income or minority communities. - LS	No minority communities were identified in the vicinity of the Phoenix Site and one low-income community was identified; Alternative B would not result in significant adverse effects to low-income or minority communities. - LS	No low-income or minority communities were identified in the vicinity of the Mill Casino Site; therefore, Alternative C would not result in significant adverse effects to low-income or minority communities. - LS	NE
Mitigation	NA	NA	NA	NA
Transportation				
Construction Traffic	Construction activity impacts would be concentrated on Hwy 99 in the immediate vicinity of the Medford Site, and would include temporary traffic delays due to slower moving construction trucks and the increase in worker vehicles on area roadways. Because construction traffic would be temporary, significantly less than operational traffic, and would occur outside of the peak hour, significant adverse effects would not occur. - LS	Construction activity impacts would be concentrated on North Phoenix Road in the immediate vicinity of the Phoenix Site, and would include temporary traffic delays due to slower moving construction trucks and the increase in worker vehicles on area roadways. Because construction traffic would be temporary, significantly less than operational traffic, and would occur outside of the peak hour, significant adverse effects would not occur. - LS	Construction activity impacts would be concentrated on US-101 in the immediate vicinity of the Mill Casino Site, and would include temporary traffic delays due to slower moving construction trucks and the increase in worker vehicles on area roadways. Because construction traffic would be temporary, significantly less than operational traffic, and would occur outside of the peak hour, significant adverse effects would not occur. - LS	NE
Mitigation	NA	NA	NA	NA
Site Access	Access to the site will be provided by four driveways, two along Hwy 99 and two along Charlotte Ann Road. The addition of the driveways to the existing roadway is required to meet Oregon Administrative Rule (OAR)	Access to the site will be provided by one pre-existing driveway along North Phoenix Road. The Phoenix Site is not on a State Highway and	No changes will occur to site access. - NE	NE

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Resource	Alternative A	Alternative B	Alternative C	No Action
	734 -051 (Division 51) standards, which are included as mitigation. - LSM	therefore is not required to meet Division 51 standards. - NE		
Mitigation	**MM 5.8 (A)** In accordance with Oregon Administrative Rule (OAR) 734 -051 (Division 51) the Tribe shall enter into discussions with ODOT regarding the two accesses along Oregon State 99 (Hwy 99) and the applicability of the "moving in the direction" criteria. The collaboration may conclude with issuance of access permits. Improvements to the existing accesses as a result of this collaboration may include, but may not be limited to: 1. Install a narrow median island on Hwy 99 to limit the access to the northern driveway (South Pacific Highway / Human Bean Driveway) to right-in, right-out movements. 2. Restripe the southern driveway on Hwy 99 (South Pacific Highway / Project Driveway) with one entry lane and separated right turn and left turn exit lanes. 3. Design truck access locations to accommodate vehicles with a wheel base of 67 feet (WB-67 vehicles).	NA	NA	NA
Project Traffic	The increase in traffic generated by buildout of Alternative A would not contribute to unacceptable traffic operations at any of the study area intersections. - LS	The increase in traffic generated by buildout of Alternative B would contribute to unacceptable traffic operations at the intersections of North Phoenix Road / Juanipero Way and North Phoenix Road / East Barnett Road. - LSM	The increase in traffic generated by Alternative C would not impact traffic conditions. - LS	NE
Mitigation	NA	**MM 5.8 (B) and (C)** The Tribe shall offer to pay a fair	NA	NA

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Resource	Alternative A	Alternative B	Alternative C	No Action
		share contribution to the following mitigation measures for Alternative B: North Phoenix Road and Juanipero Way: Install traffic signal when signal warrants are met. Proportionate fair share of 2 percent. North Phoenix Road and East Barnett Road: Contribute to planned intersection improvements identified in 2018-2038 Medford Transportation System Plan. Proportionate fair share of 3 percent.		
Crash Analysis	Alternative A would not result in an increase in excess crashes between 2022 base conditions and 2022 project conditions. Therefore, Alternative A would not have a significant adverse effect on crash rates. - LS	No study intersections would exceed the critical crash rate threshold; therefore, further safety analysis is not required. Alternative B would not have a significant adverse effect on crash rates. - LS	NE	NE
Mitigation	NA	NA	NA	NA
Transit, Bicycle, and Pedestrian Facilities	The addition of project-related riders to existing ridership on Rogue Valley Transportation District (RVTD) Route 10 buses would not exceed the capacity of RVTD's existing facilities. Because sufficient parking is available onsite and sidewalk and bicycle facilities do not provide direct access to the Medford Site, no significant effects would occur to pedestrian facilities as a result of Alternative A. - LS	The addition of project-related riders to existing ridership on RVTD Route 10 buses would not exceed the capacity of RVTD's existing facilities. Because sufficient parking is available onsite and sidewalk and bicycle facilities do not provide direct access to the Phoenix Site, no significant effects would occur to pedestrian facilities as a result of Alternative B. - LS	The addition of project-related riders to existing ridership on Coos County Area Transit (C-CAT) Bay Area East Loop buses would not exceed the capacity of C-CAT's existing facilities. Because sufficient parking is available onsite and sidewalk and bicycle facilities do not provide direct access to the Mill Casino Site, no significant effects would occur to pedestrian facilities as a result of Alternative C. - LS	NE
Mitigation	NA	NA	NA	NA

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Resource	Alternative A	Alternative B	Alternative C	No Action
Land Use				
Land Use Plans	Alternative A is compatible with existing zoning and land use plans. Although state and local land use plans do not apply to tribal lands, Alternative A would be compatible with local zoning and land use policies. - LS	Alternative B is compatible with nearby existing and land use plans. Additionally, state and local land use plans do not apply to tribal lands. - LS	Alternative C is located on trust land already containing a gaming facility. - LS	NE
Mitigation	NA	NA	NA	NA
Land Use Compatibility	Alternative A has the potential to result in land use compatibility impacts with nearby sensitive receptors. - LSM	Alternative B has the potential to result in land use compatibility impacts with nearby sensitive receptors. Any compatibility impacts with neighboring agricultural operations would be buffered by at least 1,000 feet. - LSM	Alternative C is located on trust property already developed with a gaming facility and hotel. - LS	NE
Mitigation	Implement **MM 5.8 (A)**, **MM 5.11 (A)**, and **MM 5.11 (B)**	Implement **MM 5.8 (B-C)**, **MM 5.11 (A)**, and **MM 5.11 (B)**	NA	NA
Agriculture	Because the Medford Site is not used for agricultural purposes and is located in an urban area, Alternative A would not result in significant adverse effects to agricultural resources. - NE	Because the Phoenix Site is not used for agricultural purposes, Alternative B would not result in significant adverse effects to agricultural resources. - NE	Because the Mill Casino Site is not used for agricultural purposes and is already developed with urban uses, Alternative C would not result in significant adverse effects to agricultural resources. - NE	NE
Mitigation	NA	NA	NA	NA
Public Services				
Water Supply	With the construction of the standby fire protection service connection, existing MWC treatment, conveyance, and distribution systems are capable of conveying both potable water demand and fire suppression flow requirements to Alternative A. With the continued payment of monthly service fees by	City of Phoenix has the supply and pressure capabilities to serve Alternative B. Service to the Phoenix Site would require off-site improvements along North Phoenix Road. - LSM	Alternative C would continue to be served by the Coos Bay-North Bend Water Board (CBNBWB). CBNBWB has sufficient capacity to serve the increased demand under Alternative C. - LS	NE

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Resource	Alternative A	Alternative B	Alternative C	No Action
	the Tribe, the impact on water supply infrastructure and service from the operation of Alternative A is less than significant. - LS			
Mitigation	NA	**MM 5.10 (A)** The Tribe shall offer to enter into service agreement(s) prior to project operation to reimburse the Medford Water Commission, Rogue Valley Sewer Services (RVSS), or other applicable service providers, as appropriate, for necessary new, upgraded, and/or expanded water and/or wastewater collection, distribution, or treatment facilities. This service agreement shall include, but is not limited to, fair share compensation for new, upgraded, and/or expanded water supply and wastewater conveyance facilities necessary to serve development of the selected site, including development of appropriately sized infrastructure to meet anticipated flows. Such improvements shall be sized to maintain existing public services at existing levels. The service agreement shall also include provisions for monthly services charges consistent with rates paid by other commercial users. **MM 5.10 (B)** Field testing would be performed to verify the availability of sufficient fire flow (estimated to be 4,000 gallons per minute [GPM]). If sufficient flow is not achievable, additional design components consistent with RVSS standards, including but not limited to a secondary water pipeline, would be	NA	NA

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Resource	Alternative A	Alternative B	Alternative C	No Action
		submitted and approved by RVSS prior to construction.		
Wastewater Service	The existing wastewater conveyance and treatment systems are sufficient to accommodate the additional wastewater generated by Alternative A. With the continued payment of monthly service fees by the Tribe, the impact on wastewater treatment infrastructure and service from the operation of Alternative A is less than significant. - LS	RVSS will have treatment capacity to serve Alternative B through the Medford RWRF. Alternative B would require an off-site extension of services along North Phoenix Road. - LSM	Alternative C would continue to be served by the City of North Bend under the North Bend MSA. - LS	NE
Mitigation	NA	Implement **MM 5.10 (A)**, and **MM 5.10 (B)**.	NA	NA
Solid Waste Service	Construction and operation of Alternative A would result in a less-than-significant effect on solid waste services. - LS	Construction and operation of Alternative B would result in a less-than-significant effect on solid waste services. - LS	Construction and operation of Alternative C would result in a less-than-significant effect on solid waste services. - LS	NE
Mitigation	NA	NA	NA	NA
Law Enforcement	The Medford Police Department would not need any additional facilities or equipment to meet the increased need for services under Alternative A; however, the Medford Police Department could experience increased costs associated with demand for additional law enforcement services. Changes in criminal jurisdiction would not be significant. - LSM	The Jackson County Sheriff's Office may require additional facilities or equipment to meet the increased need for services under Alternative B. Additionally, Alternative B would increase service demands to the Phoenix Site. - LSM	The North Bend Police Department will continue to provide law enforcement services to the Mill Casino Site under the North Bend MSA. No additional facilities or equipment would be needed. - LS	NE
Mitigation	**MM 5.10 (C)** Prior to operation, the Tribe shall offer to enter into agreements to reimburse the Medford Police Department for direct and indirect costs incurred in conjunction with providing law enforcement services. The agreement shall include a provision requiring the Tribe to meet with the City at least once a year, if requested, to discuss ways to improve police services and prosecution of crimes	**MM 5.10 (D)** Prior to operation, the Tribe shall offer to enter into agreements to reimburse the Jackson County Sheriff's Department for direct and indirect costs incurred in conjunction with providing law enforcement services. The agreement shall include a provision requiring the Tribe to meet with the County at least once	NA	NA

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Resource	Alternative A	Alternative B	Alternative C	No Action
	associated with the project. As is current practice at the Mill Casino, the Tribe shall not tolerate any criminal act or attempted criminal act on the facility's premises, and any such act shall be investigated, and when practical, charges shall be brought against suspects to the fullest extent of the law; in cases of suspected criminal activity calls will be made to local dispatch for law enforcement assistance.	a year, if requested, to discuss ways to improve police services and prosecution of crimes associated with the project.		
Fire Protection and Emergency Medical Services	Medford Fire-Rescue would not need any additional facilities or equipment to meet the increased need for services under Alternative A; however, Medford Fire-Rescue could experience increased costs associated with additional fire protection and emergency medical services. - LSM	Jackson County Fire District 5 would not need any additional facilities or equipment to meet the increased need for services under Alternative B; however, Jackson County Fire District 5 would experience increased costs associated with additional fire protection and emergency medical services. - LSM	The North Bend Fire Department (NBFD) would continue to provide law enforcement services to the Mill Casino Site under the North Bend MSA. No additional facilities or equipment would be needed. - LS	NE
Mitigation	**MM 5.10 (E)** Prior to operation, the Tribe shall offer to enter into an agreement to reimburse the Medford Fire Department for additional demands caused by the operation of the facilities on trust property. The agreement shall address any required conditions and standards for emergency access and fire protection system.	**MM 5.10 (F)** Prior to operation, the Tribe shall offer to enter into an agreement to reimburse Jackson County Fire District 5 for additional demands caused by the operation of the facilities on trust property. The agreement shall address any required conditions and standards for emergency access and fire protection system.	NA	NA
Electricity and Natural Gas	Pacific Power and Light (PPL) and Avista Utilities will continue to provide the Medford Site with electricity and natural gas services, respectively. Alternative A would not result in significant adverse effects on electricity or natural gas services. - LS	PPL and Avista Utilities would provide the Phoenix Site with electricity and natural gas services, respectively. Alternative B would require a new electricity utility service line. - LS	PPL and Suburban Propane will continue to provide the Mill Casino Site with electricity and natural gas services, respectively. Alternative C would not result in significant adverse effects on electricity or natural gas services. - LS	NE

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Resource	Alternative A	Alternative B	Alternative C	No Action
Mitigation	NA	NA	NA	NA
Noise				
Construction Noise (Traffic)	Alternative A construction traffic would less than double existing traffic levels, which would not result in an audible increase in noise. - LS	Alternative B construction traffic would less than double existing traffic levels, which would not result in an audible increase in noise. - LS	Alternative C construction traffic would less than double existing traffic levels, which would not result in an audible increase in noise. - LS	NE
Mitigation	NA	NA	NA	NA
Construction Noise (Equipment)	The maximum stationary construction noise level for Alternative A at the nearest sensitive noise receptor would be greater than the Federal Highway Administration (FHWA) standard of 85 dBA Leq resulting in a short-term significant impact. - S	The maximum stationary construction noise level for Alternative B at the nearest sensitive noise receptor would be less than the FHWA standard of 85 dBA Leq. - LS	The maximum stationary construction noise level for Alternative C at the nearest sensitive noise receptor would be less than the FHWA standard of 85 dBA Leq. - LS	NE
Mitigation	**MM 5.11 (A)** Construction shall not be conducted between the hours of 6:00 p.m. and 7:00 a.m. Additionally, the following measures shall be used to minimize impacts from noise during work hours (7:00 a.m. to 6:00 p.m.): 1. All construction vehicles or equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers and acoustical shields or shrouds, in accordance with manufacturers' specifications. 2. Haul trucks shall be operated in accordance with posted speed limits. 3. Loud stationary construction equipment shall be located as far away from residential receptor areas as feasible. To the extent feasible, existing barrier features (structures) shall be used to block sound	Implement **MM 5.11 (A)**.	Implement **MM 5.11 (A)**.	NA

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Resource	Alternative A	Alternative B	Alternative C	No Action
	transmission between noise sources and noise sensitive land uses. 4. Equipment shall not be left idling for more than 5 minutes. 5. All diesel engine generator sets shall be provided with enclosures. 6. The Tribe shall monitor construction noise and will designate a disturbance coordinator, such as an employee of the general contractor or the project manager for the Tribe, post the coordinator's contact telephone number conspicuously around the project site, and provide the number to nearby sensitive receptors. The disturbance coordinator shall receive all public complaints, be responsible for determining the cause of the complaints, and implement any feasible measures to alleviate the problem.			
Construction Vibration	The predicted vibration levels from construction of Alternative A are below the threshold for structures and above the threshold for annoyance of people resulting in a short-term significant impact. - S	The predicted vibration levels from construction of Alternative B are below the significance threshold for structures and for annoyance of people and would not result in significant adverse effects. - LS	The predicted vibration levels from construction of Alternative C are below the significance threshold for structures and for annoyance of people and would not result in significant adverse effects. - LS	NE
Mitigation	Implement **MM 5.11 (A)**.	NA	NA	NA
Operation Noise (Traffic)	Alternative A would not result in a perceivable increase in traffic noise and, therefore, would not result in significant adverse effects associated with traffic noise levels. - LS	Alternative B would not result in a perceivable increase in traffic noise and, therefore, would not result in significant adverse effects associated with traffic noise levels. - LS	Alternative C would not result in a perceivable increase in traffic noise and, therefore, would not result in significant adverse effects associated with traffic noise levels. - LS	NE

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Resource	Alternative A	Alternative B	Alternative C	No Action
Mitigation	NA	NA	NA	NA
Operation Noise (Stationary)	Noise levels idling trucks; and parking lots from Alternative A would not result in a significant adverse effect associated with the ambient noise environment. Noise levels from HVAC systems could be audible at the nearest sensitive receptors. - LS	Noise levels from HVAC systems; idling trucks; and parking lots from Alternative B would not result in a significant adverse effect associated with the ambient noise environment. - LS	Alternative C would not result in a substantial change to the use of HVAC systems; idling trucks; and parking lots. - LS	NE
Mitigation	**MM 5.11 (B)** HVAC systems for the gaming facility will be roof-mounted and shielded to minimize noise.	Implement **MM 5.11 (B)**.	NA	NA
Operation Vibration	Commercial uses do not include sources of perceptible vibration. Therefore, operation of Alternative A would not result in significant adverse effects associated with vibration. - NE	Commercial uses do not include sources of perceptible vibration. Therefore, operation of Alternative B would not result in significant adverse effects associated with vibration. - NE	Commercial uses do not include sources of perceptible vibration. Therefore, operation of Alternative C would not result in significant adverse effects associated with vibration. - NE	NE
Mitigation	NA	NA	NA	NA
Hazardous Materials				
Construction	Construction personnel could encounter contamination during earth moving activities that may pose a risk to human health and/or the environment. - LSM Hazardous materials used during construction of Alternative A could pose a risk to human health and/or the environment. - LS	Construction personnel could encounter contamination during earth moving activities that may pose a risk to human health and/or the environment. - LS Hazardous materials used during construction of Alternative B could pose a risk to human health and/or the environment. - LS	Construction personnel could encounter contamination during earth moving activities that may pose a risk to human health and/or the environment. - LS Hazardous materials used during construction of Alternative C could pose a risk to human health and/or the environment. - LS	NE
Mitigation	**MM 5.12 (A)** The Tribe shall ensure, through the enforcement of contractual obligations, that all contractors require construction personnel to wear appropriate personal protective	NA	NA	NA

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Resource	Alternative A	Alternative B	Alternative C	No Action
	equipment (PPE) and follow proper decontamination procedures subsequent to working in areas where native soils have been disturbed			
Operation	Small quantities of hazardous materials would be stored, handled, and disposed of during operation of Alternative A; however adherence to state, federal, and manufacturer's guidelines would prevent impacts from use of these materials to the public or the environment. - LS	Small quantities of hazardous materials would be stored, handled, and disposed of during operation of Alternative B; however adherence to state, federal, and manufacturer's guidelines would prevent impacts from use of these materials to the public or the environment. - LS	Small quantities of hazardous materials would be stored, handled, and disposed of during operation of Alternative C; however adherence to state, federal, and manufacturer's guidelines would prevent impacts from use of these materials to the public or the environment. - LS	NE
Mitigation	NA	NA	NA	NA
Aesthetics				
Scenic Resources	No designated scenic resources are present in the vicinity of the Medford Site. - LS	No designated scenic resources are present in the vicinity of the Phoenix Site. - LS	The views of the Mill Casino from travelers on US-101, would remain one of commercial development and would not represent a major alteration. Therefore, a significant adverse visual effect would not occur. - LS	NE
Mitigation	NA	NA	NA	NA
Viewsheds	Alternative A would not cause significant adverse effects from Viewpoint A, B, C, or D. - LS	Alternative B would cause significant adverse effects from Viewpoints A and B. - S	Alternative C would be visually compatible with land uses on site and surrounding the Mill Casino Site. - LS	NE
Mitigation	NA	NA	NA	NA
Shadow, Light, and Glare	As the height of the gaming facility would be similar to the currently existing structure, no changes to shadows on neighboring properties would occur. The existing commercial/industrial development on and	Alternative B would result in a new source of shadow, light, and glare in the project vicinity. - LS	As the height of the expansion would be similar to the currently existing structure, no changes to shadows on neighboring properties would occur. The	NE

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Resource	Alternative A	Alternative B	Alternative C	No Action
	adjacent to the Medford Site is a substantial source of light and glare in the project area. Therefore, new lighting proposed under Alternative A would not result in significant adverse effects on light and glare. - LS		existing commercial development on and adjacent to the Mill Casino Site is a substantial source of light and glare in the project area. Therefore, new lighting proposed under Alternative C would not result in significant adverse effects on light and glare. - LS	
Mitigation	NA	NA	NA	NA
Indirect and Growth-Inducing Effects				
From Off-site Traffic Mitigation	No significant indirect effects to any resource area are expected to occur as a result of off-site traffic mitigation under Alternative A. - LS	NA	NA	NE
Mitigation	NA	NA	NA	NA
From Utility Improvements.	NA	No significant indirect effects to any resource area are expected to occur as a result of utility improvements under Alternative B. - LS	NA	NE
Mitigation	NA	NA	NA	NA
Growth-Inducing Effects	The minimal amount of commercial growth that may be induced by Alternative A is not expected to result in significant adverse environmental effects. - LS	The amount of commercial growth that may be induced by Alternative B is expected to result in significant adverse environmental effects. - S	The minimal amount of commercial growth that may be induced by Alternative C is not expected to result in significant adverse environmental effects. - LS	NE
Mitigation	NA	NA	NA	NA
Cumulative Effects				
Geology and Soils	All other developments that disturb one acre or more must comply with the requirements of the NPDES Construction General Permit,	All other developments that disturb one acre or more must comply with the requirements of the NPDES	All other developments that disturb one acre or more must comply with the requirements of	NE

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Resource	Alternative A	Alternative B	Alternative C	No Action
	which requires BMPs be chosen and implemented to address water quality degradation by preventing erosion. With the implementation of mitigation measures listed above, Alternative A would not result in significant adverse cumulative effects to geology or soils. - LSM	Construction General Permit, which requires BMPs be chosen and implemented to address water quality degradation by preventing erosion. With the implementation of mitigation measures listed above, Alternative B would not result in significant adverse cumulative effects to geology or soils. - LSM	the NPDES Construction General Permit, which requires BMPs be chosen and implemented to address water quality degradation by preventing erosion. With the implementation of mitigation measures listed above, Alternative C would not result in significant adverse cumulative effects to geology or soils. - LSM	
Water Resources	The proposed stormwater systems would adequately treat and control flow of stormwater prior to discharge off the Medford Site. Other cumulative projects would have similar precautionary features incorporated in their design. Therefore, implementation of Alternative A would not result in significant cumulative effects to surface water or groundwater recharge. The NPDES permit program and BMPs would reduce impacts to groundwater quality. Therefore, with the implementation of mitigation measures listed above, Alternative A would not result in significant adverse cumulative effects on groundwater resources. - LSM	The proposed stormwater systems would adequately treat and control flow of stormwater prior to discharge off the Medford Site. Other cumulative projects would have similar precautionary features incorporated in their design. Therefore, implementation of Alternative B would not result in significant cumulative effects to surface water or groundwater recharge. The NPDES permit program and BMPs would reduce impacts to groundwater quality. Therefore, with the implementation of mitigation measures listed above, Alternative B would not result in significant adverse cumulative effects on groundwater resources. - LSM	Alternative C includes mitigation to prevent water quality degradation and would not result in significant adverse cumulative effects to water resources. Stormwater would continue to be handled as it is currently. - LSM	NE
Air Quality	Cumulative emissions would not result in an exceedance of the *de minimis* levels for any criteria air pollutants (CAPs). Additionally, mitigation measures listed above would minimize CAP emissions from operation of Alternative A. After the implementation of recommended mitigation for the Alternative A, no	Cumulative emissions would not result in an exceedance of the *de minimis* levels for any CAPs. Additionally, mitigation measures listed above would minimize CAP	Cumulative emissions would not result in an exceedance of the *de minimis* levels for any CAPs. Additionally, mitigation measures listed above would minimize CAP	NE

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Resource	Alternative A	Alternative B	Alternative C	No Action
	intersection would have a level of service (LOS) or an increase in delay in the cumulative year 2035 that would warrant a carbon monoxide Hot Spot Analysis. GHG emissions resulting from Alternative A are primarily indirect (indirect mobile emissions from delivery, patron, and employee vehicles). BMPs in Section 2.3.3 would reduce indirect GHG emissions from electricity use, water and wastewater transport, and waste transport through the installation of energy efficient lighting, heating and cooling systems, low-flow appliances, drought resistant landscaping, and recycling receptacles. Operational BMPs would also reduce indirect mobile GHG emissions by requiring adequate ingress and egress to minimize vehicle idling and preferential parking for vanpools and carpools to reduce project-related trips. Therefore, Alternative A would not result in a significant adverse effect associated with cumulative GHG emissions and climate change. - LS	emissions from operation of Alternative B. After the implementation of recommended mitigation for the Alternative B, no intersection would have an LOS or an increase in delay in the cumulative year 2042 that would warrant a carbon monoxide Hot Spot Analysis. GHG emissions resulting from Alternative B are primarily indirect (indirect mobile emissions from delivery, patron, and employee vehicles). BMPs in Section 2.3.3 would reduce indirect GHG emissions from electricity use, water and wastewater transport, and waste transport through the installation of energy efficient lighting, heating and cooling systems, low-flow appliances, drought resistant landscaping, and recycling receptacles. Operational BMPs would also reduce indirect mobile GHG emissions by requiring adequate ingress and egress to minimize vehicle idling and preferential parking for vanpools and carpools to reduce project-related trips. Therefore, Alternative B would not result in a significant adverse effect associated with cumulative GHG emissions and climate change. - LS	emissions from operation of Alternative C. After the implementation of recommended mitigation for the Alternative C, no intersection would have an LOS or an increase in delay in the cumulative year 2042 that would warrant a carbon monoxide Hot Spot Analysis. GHG emissions resulting from Alternative C are primarily indirect (indirect mobile emissions from delivery, patron, and employee vehicles). BMPs in Section 2.3.3 would reduce indirect GHG emissions from electricity use, water and wastewater transport, and waste transport through the installation of energy efficient lighting, heating and cooling systems, low-flow appliances, drought resistant landscaping, and recycling receptacles. Operational BMPs would also reduce indirect mobile GHG emissions by requiring adequate ingress and egress to minimize vehicle idling and preferential parking for vanpools and carpools to reduce project-related trips. Therefore, Alternative C would not result in a significant adverse effect associated with cumulative GHG emissions and climate change. - LS	

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Resource	Alternative A	Alternative B	Alternative C	No Action
Biological Resources	With the implementation of mitigation measures discussed above, Alternative A would not result in cumulative effects to habitat, federally-listed species, migratory birds, or potential waters of the U.S. - LSM	With the implementation of mitigation measures discussed above, Alternative B would not result in cumulative effects to habitat, federally-listed species, migratory birds, or potential waters of the U.S. - LSM	With the implementation of mitigation measures discussed above, Alternative C would not result in cumulative effects to habitat, federally-listed species, migratory birds, or potential waters of the U.S. - LSM	NE
Cultural Resources	Cultural resources are afforded substantial protection through federal and state regulations and county historic preservation guidance. Because with the mitigation listed above Alternative A would not impact cultural resources, it would not contribute towards potential adverse cumulative effects. - LSM	Cultural resources are afforded substantial protection through federal and state regulations and county historic preservation guidance. Because with the mitigation listed above Alternative B would not impact cultural resources, it would not contribute towards potential adverse cumulative effects. - LSM	Cultural resources are afforded substantial protection through federal and state regulations and county historic preservation guidance. Because Alternative C would not impact cultural resources, it would not contribute towards potential adverse cumulative effects. - LS	NE
Socioeconomic Conditions	Planning documents for Jackson County and the City of Medford will continue to designate land uses and plan public services for anticipated growth in the region. Therefore, with the implementation of mitigation measures listed above, Alternative A would not contribute to significant adverse cumulative socioeconomic effects. - LSM	Planning documents for Jackson County will continue to designate land uses and plan public services for anticipated growth in the region. Therefore, with the implementation of mitigation measures listed above, Alternative B would not contribute to significant adverse cumulative socioeconomic effects. - LSM	Alternative C would introduce a relatively modest amount of new economic activity into Coos County. Alternative C's specific potential cumulative effects would be similar but lesser than those described under Alternative A. Therefore, Alternative C would not contribute to significant adverse cumulative socioeconomic effects. - LS	NE
Transportation	The increase in traffic generated by Alternative A would contribute to unacceptable traffic operations in the cumulative year 2042 at the intersections of Garfield Street and South Pacific Highway and Charlotte Ann Road and South Pacific	The increase in traffic generated by Alternative B would contribute to unacceptable traffic operations in the cumulative year 2042 at the intersections of North Phoenix Road and Juanipero Way and North Phoenix Road and East Barnett Road, causing them to operate below acceptable LOS standards. Mitigation measures listed above would restore	The increase in traffic generated by Alternative C would not have a significant effect on traffic operations in the cumulative year 2038 at the intersections in the vicinity of the Mill Casino Site. Alternative C would have no significant effects on transit,	NE

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Resource	Alternative A	Alternative B	Alternative C	No Action
	Highway, causing them to operate below acceptable LOS standards. **MM 5.8 (D) and (E)** The Tribe shall offer to implement and pay a fair share contribution to the following mitigation measure for the Medford Site: South Pacific Highway and Garfield Street: Restripe the westbound right-turn lane to a shared through-right and making appropriate changes to the signal head, controller and signage. Proportionate fair share of 2 percent. South Pacific Highway and Charlotte Ann Road: Access management via turn movement restrictions. Right-out only of the private driveway and striping the westbound movements to be separate movements. Proportionate fair share of 3 percent. Alternative A would have a potentially significant effect on queueing at the I-5/Garfield interchange ramps. Mitigation measures listed above would reduce queuing impacts to a less-than-significant level. - LSM Alternative A would have no significant effect on transit, bicycle, and pedestrian facilities. - LSM	this intersection to an acceptable condition. Alternative B would have no significant effects on transit, bicycle, and pedestrian facilities. - LSM	bicycle, and pedestrian facilities. - LS	
Land Use	Development within the City of Medford will be consistent with applicable planning documents and policies, which prevent disorderly growth and incompatible land uses.	Although Alternative B is not consistent with allowable uses under existing zoning, it is compatible with surrounding land uses along the I-5 corridor. Alternative B would not conflict with neighboring land uses. Alternative B would not result in	Development within the City of North Bend and Coos County will be consistent with applicable planning documents and policies, which prevent disorderly growth and incompatible land uses. Alternative C would not contribute	NE

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Resource	Alternative A	Alternative B	Alternative C	No Action
	Alternative A would not contribute to adverse cumulative land use effects. Alternative A would not convert designated agricultural land to urban uses, and thus would not contribute to adverse cumulative effects to agricultural lands. - LS	adverse cumulative effects to land use planning. Alternative B would not preclude the use of surrounding lands for agricultural purposes, and thus would not contribute to significant cumulative effects to agricultural lands. - LS	to adverse cumulative land use effects. Alternative C would not convert designated agricultural land to urban uses, and thus would not contribute to adverse cumulative effects to agricultural lands. - LS	
Public Services	There is adequate water and wastewater capacity for Alternative A. Solid waste generation would not significantly decrease the life expectancy of the landfill. The City of Medford and State of Oregon law enforcement services would experience an increase in service demands as a result of the project. Fire protection and emergency medical services are funded through development fees and property tax. Electricity and natural gas service would require consultation with service providers and capacity would be made available for the projects. With the implementation of mitigation measures listed above, Alternative A would not result in cumulative adverse effects associated with Public Services. - LSM	There is adequate water and wastewater capacity for Alternative B. Solid waste generation would not significantly decrease the life expectancy of the landfill. The Jackson County and State of Oregon law enforcement services would experience an increase in service demands as a result of the project. Fire protection and emergency medical services are funded through development fees and property tax. Electricity and natural gas service would require consultation with service providers and capacity would be made available for the projects. With the implementation of mitigation measures listed above, Alternative B would not result in cumulative adverse effects associated with Public Services. - LSM	There is adequate water and wastewater capacity for the increased demand Alternative C. Solid waste generation would not significantly decrease the life expectancy of the landfill. The North Bend law enforcement services would continue to provide service as described in the MSA. Fire protection and emergency medical services are funded through development fees and property tax. Electricity and natural gas service would require consultation with service providers and capacity would be made available for the projects. With the implementation of mitigation measures listed above, Alternative C would not result in cumulative adverse effects associated with Public Services. - LSM	NE
Noise	In the cumulative year 2038, traffic volumes would increase, but would not result in significant adverse cumulative effects to sensitive receptors. Cumulative impacts associated with vibration and other noise sources from Alternative A would be the	In the cumulative year 2038, traffic volumes would increase, but would not result in significant adverse cumulative effects to sensitive receptors. Cumulative impacts associated with vibration and other noise sources from Alternative B	In the cumulative year 2038, traffic volumes would increase, but would not result in significant adverse cumulative effects to sensitive receptors. Cumulative impacts associated with vibration and other noise sources from	NE

Notes: NE = No Effect; LS = Less than Significant Effect; LSM = Less than Effect Significant with Mitigation; S = Significant Adverse Effect; BE = Beneficial Effect; NA = Not Applicable

Resource	Alternative A	Alternative B	Alternative C	No Action
	same as the direct effects of the project. - LSM	would be the same as the direct effects of the project. - LSM	Alternative C would be the same as the direct effects of the project. - LSM	
Hazardous Materials	Approved projects would be required to follow applicable federal and state regulations concerning hazardous materials management, including the implementation of construction BMPs through the NPDES permitting process. With the implementation of BMPS in Section 2.3.3 and the mitigation measure listed above, Alternative A would not result in cumulative adverse effects associated with hazardous materials. - LSM	Approved projects would be required to follow applicable federal and state regulations concerning hazardous materials management, including the implementation of construction BMPs through the NPDES permitting process. With the implementation of BMPS in Section 2.3.3, Alternative B would not result in cumulative adverse effects associated with hazardous materials. - LS	Approved projects would be required to follow applicable federal and state regulations concerning hazardous materials management, including the implementation of construction BMPs through the NPDES permitting process. With the implementation of BMPS in Section 2.3.3, Alternative C would not result in cumulative adverse effects associated with hazardous materials. - LS	NE
Aesthetics	Approved projects would be required to comply with local policies related to design, landscaping, sign, and lighting ordinances. The development of Alternative A on the Medford Site would be visually compatible with land uses currently existing onsite. With the implementation of BMPs in Section 2.3.3, Alternative A would not result in cumulative adverse effects associated with visual resources. - LS	Approved projects would be required to comply with local policies related to design, landscaping, sign, and lighting ordinances. The Phoenix Site was identified in the Regional Problem Solving (RPS) Plan as a preferred area for future expansion of the Urban Growth Boundary (UGB) of the City of Phoenix. With the implementation of BMPs in Section 2.3.3, Alternative B would not result in cumulative adverse effects associated with visual resources. - LS	Approved projects would be required to comply with local policies related to design, landscaping, sign, and lighting ordinances. Development of Alternative C would be consistent with currently existing Mill Casino and would be visually compatible with urban land uses in the vicinity. With the implementation of BMPs in Section 2.3.3, Alternative C would not result in cumulative adverse effects associated with visual resources. - LS	NE

Notes: NE = No Effect; LS = Less than Significant Effect; LSM = Less than Effect Significant with Mitigation; S = Significant Adverse Effect; BE = Beneficial Effect; NA = Not Applicable

APPENDIX B

Expanded Regulatory and Environmental Setting

APPENDIX B

EXPANDED REGULATORY AND ENVIRONMENTAL SETTING

1 INTRODUCTION

This appendix presents an expanded discussion of the regulations cited in the Environmental Impact Statement (EIS) for the Coquille Indian Tribe (Tribe) Fee-to-Trust and Gaming Facility Project (Proposed Project) that may be applicable to the Proposed Action and alternatives analyzed. Expanded regulatory discussions are provided for the following resource area or issue:

EIS Section	Resource Area or Issue
3.2	Geology and Soils
3.3	Water Resources
3.4	Air Quality
3.5	Biological Resources
3.6	Cultural and Paleontological Resources
3.7	Socioeconomic Conditions
3.8	Transportation and Circulation
3.9	Land Use
3.11	Noise
3.12	Hazardous Materials
3.13	Aesthetics

2 GEOLOGY AND SOILS

SEISMIC INTENSITY: THE MODIFIED MERCALLI INTENSITY SCALE

Seismic intensity is the measurement of the strength of shaking experienced during an earthquake. The Modified Mercalli Intensity (MMI) scale is a common measure of earthquake effects due to ground shaking intensity. The MMI scale is an arbitrary ranking of intensity based on observed effects from an earthquake and does not have a mathematical basis. The MMI scale is composed of 12 increasing levels of intensity that range from imperceptible shaking to catastrophic destruction, expressed by Roman numerals (**Table 1**). The "intensity" reported generally decreases the farther the location is removed from the earthquake epicenter. The lower numbers of the MMI scale generally describe the manner in which people feel the earthquake, while the higher numbers of the scale define observed structural damage that could accompany an earthquake (Bolt, 1988). Intensity levels ranging from IV to X could cause moderate to significant structural damage.

The damage level represents the estimated overall level of damage that will occur for various MMI scale intensity levels. The damage, however, will not be uniform. Some buildings will experience substantially more damage than this overall level, and others will experience substantially less damage. The age, material, type, method of construction, size, and shape of a building all affect its performance (Bolt, 1988). In addition, geologic factors of a particular site strongly influence the intensity of an earthquake – sites on soft ground or alluvium experience intensities two to three values higher than sites on bedrock (Bolt, 1988). Maximum peak ground acceleration at the Medford Site is predicted to be approximately

1.96 meters per second per second (approximately 20% of the acceleration of gravity), and thus is expected to cause between MMI scale intensity level VII and VIII effects (USGS, 2014). Ground shaking effects of this intensity could include considerable damage in ordinary substantial buildings, with partial collapse, while damage would be slight in specially designed structures.

TABLE 1
MODIFIED MERCALLI INTENSITY SCALE

Intensity Value	Intensity Description	Average Peak Acceleration
I.	Not felt except by very few persons under especially favorable circumstances.	< 0.0015 g[1]
II.	Felt only by a few persons at rest, especially on upper floors of buildings. Delicately suspended objects may swing.	< 0.0015 g
III.	Felt quite noticeably indoors, especially on upper floors of buildings, but many persons do not recognize it as an earthquake. Standing motorcars may rock slightly. Vibration similar to the passing of a truck. Duration estimated.	< 0.0015 g
IV.	During the day felt indoors by many, outdoors by few. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motorcars rocked noticeably.	0.015 g-0.02 g
V.	Felt by nearly everyone, many awakened. Some dishes, windows, etc., broken; a few instances of cracked plaster; unstable objects overturned. Disturbances of trees, poles, and other tall objects sometimes noticed. Pendulum clocks may stop.	0.03 g-0.04 g
VI.	Felt by all, many frightened and run outdoors. Some heavy furniture moved; a few instances of fallen plaster or damaged chimneys. Damage slight.	0.06 g-0.07 g
VII.	Everybody runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving motorcars.	0.10 g-0.15 g
VIII.	Damage slight in specially designed structures; considerable in ordinary substantial buildings, with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Persons driving motorcars disturbed.	0.25 g-0.30 g
IX.	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.	0.50 g-0.55 g
X.	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations; ground badly cracked. Rails bent. Landslides considerable from riverbanks and steep slopes. Shifted sand and mud. Water splashed (slopped) over banks.	> 0.60 g
XI.	Few, if any, (masonry) structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly.	> 0.60 g
XII.	Damage total. Practically all works of construction are damaged greatly or destroyed. Waves seen on ground surface. Lines of sight and level are distorted. Objects are thrown upward into the air.	> 0.60 g

Notes: [1]g is gravity = 980 centimeters per second squared
Source: Bolt, 1988.

LIQUEFACTION

Liquefaction is the temporary transformation of saturated, non-cohesive material from a relatively stable, solid condition to a liquefied state as a result of increased soil pore water pressure. Soil pore water pressure is the water pressure between soil particles. Liquefaction occurs most often in non-marine soils if three factors are present: seismic activity, loose sand or silty soil, and shallow groundwater. Liquefaction potential has been found to be greatest where the groundwater is within a depth of 50 feet or less, and submerged loose, fine sands occur within that depth. Liquefaction potential decreases with increasing grain size and clay and gravel content, but increases as the ground acceleration and duration of shaking increases.

HYDROLOGIC SOIL GROUPS

The hydrologic soil group is a classification based on the runoff potential of the soils when thoroughly saturated by a long duration storm. Soils are grouped into four classes with letters ranging from A to D, with A being coarse-grained soils with high infiltration and low runoff potential, and D being mostly fine-grained clays with extremely slow infiltration and high runoff potential.

SOILS CAPABILITY CLASS

The soils capability class indicates limitations for practical use for food, fiber, or forage production. Classes are designated 1 through 8, with additional coding by subclass indicated by lower case letters. Class 1 is the least restricted with Class 8 being severely limited and nearly precluded from use for commercial crop production. Prime farmland soils are those located on land that has a combination of physical and chemical characteristics best suited to produce forage, feed, food, and other crops.

VOLCANIC HAZARD

Volcanically active regions in the state of Oregon include the major 19 volcanoes scattered in the Cascade Range area. Volcanic hazards include tephra falls, lahar or debris flows, pyroclastic flows and surges, lateral blasts, and debris avalanches (Sherrod and Smith, 1995). Tephra is produced during volcanic activity, and can include dust, ash, cinders, pumice, and blocks (Blake et al., 2008). Tephra falls present a great hazard even for distant communities surrounding active volcanoes, as the material can travel up to 225 miles per hour and be carried more than 5 miles from the volcano. Lahar, also called mudflows or debris flows, are landslides consisting of pyroclastic material traveling down the slopes of a volcano, and the deposits these slides produce (Blake et al., 2008). Lahar present the greatest hazard from volcanism because they travel farther than any other hazards with the exception of airborne tephra and affect river valley communities where extensive human development often occurs (Sherrod and Smith, 1995). The Medford Site is approximately 54 miles from the nearest volcano (Crater Lake) and approximately 74 miles from Cinnamon Butte.

GEOLOGY OF THE MEDFORD SITE AND PHOENIX SITE

The Medford Site lies within the Cascade Volcanoes geologic province (Cascade province) that is east of the Klamath Mountains in the southern portion of the Middle Cascade Mountains of southwestern Oregon. The Cascade province is comprised of two volcanic regions: the older, broader, and deeply eroded Western Cascades; and the higher, easterly volcanoes of the High Cascades. The Cascade Range, like most of the Pacific Northwest, was formed by an active volcanic arc associated with the under-thrusting of oceanic lithosphere beneath North America in the Cascadia Subduction Zone. Subduction zones are formed when one tectonic plate is forced underneath another and the friction and pressure of the plates heats the material which rises and forms mountain ranges, earthquakes, and other volcanic attributes. In the case of the Cascade Range, the Juan de Fuca oceanic plate, located offshore

approximately 200 miles west of Medford, is subsiding under the North American continental plate (Pacific Northwest Seismograph Network, U.S. Geological Survey, Awtater, & Clague, n.d.).

SATURATED HYDRAULIC CONNECTIVITY FOR THE MEDFORD SITE

Saturated hydraulic conductivity is a quantitative measurement of the movement of water through saturated soil, abbreviated "Ksat." The drainage class is a measure of the frequency and duration of wet periods under the conditions in which the soil developed. While this classification is similar to Ksat, drainage class accounts for conditions of the soil in its natural state. In moderately drained soils, which are the majority of the Medford Site, water is slowly removed from the soil. Free moisture is not likely to be encountered at deep to very deep levels. Erosion hazard ranges from slight to very severe.

The Agate-Winlo complex has a soil capability classes of 4s and 6s where the soils have a severe limitation that reduces the choice of plants or needs very careful management where the soil is shallow, droughty, or stony. The Gregory soils are in the 2w capability class when irrigated, indicating that the soils have moderate limitations that require moderate conservation practices and water in the soil may interfere with plant growth or cultivation.

GEOLOGY OF THE MILL CASINO SITE

The Mill Casino Site, as described in Section 2.2, is located within Coos County in the Town of North Bend on the east shore of the bay. The 10.95-acre Mill Casino Site is located within the west Coastal Mountain Range of Oregon.

Volcanic activity approximately 66 million years ago during the Cretaceous Period created offshore islands beginning in the southern portion of the current coastal range. These Roseburg volcanics were followed by the Siletz River Volcanics in the northern portions of the range, and lastly a series of basalt flows from the Columbia River also added to these formations with some smaller flows between (USFWS, 2009). Many of the formations are the result of pillow basalt formations created when a hot basalt flow rapidly cooled upon meeting the salt water of the ocean. These deposits offshore were then pushed into the continental plate. This tectonic collision forced the basalt formations (and newer sedimentary rock formations that include marine terrace deposits) upward and created the coastal range.

The geologic boundaries of the coast range formation extend from southwest Washington State in the north to near the Coquille River in the south where the older and taller Klamath Mountains begin. In the east, the mountains begin as foothills forming the western edge of the Willamette Valley and continue west to the coastline and beyond where the basalt formation tapers off into the continental shelf and ends at the continental slope with several banks and basins offshore (Berkman, 1990).

The Coastal Range is divided into three categories, North, Central, and South, with the South being the "oldest" formed. The southern portion of the coast includes mountains and cliffs. Bone Mountain is 3,547 feet amsl and some cliffs are as high as 400 feet (Berkman, 1990). Because Southwestern Oregon's coast range was likely formed by islands that were pushed together, many river valleys were formed and steep crevasses allowed for three major rivers to develop in the area: Coos River, Coquille River, and the Umpqua River.

3 WATER RESOURCES

Executive Order 11988 Executive Order (EO) 11988 pertaining to floodplain management states that each federal agency shall "provide leadership and shall take action to reduce the risk of flood loss." In order for

the BIA to carry out its responsibility, the order requires determination of whether a project is located within a floodplain and consideration of alternative project locations not within a floodplain. If the project must reside on a floodplain, BIA must minimize any potential impacts. The Federal Emergency Management Agency (FEMA) is responsible for predicting the potential for flooding in most areas. FEMA routinely performs this function through the update and issuance of Flood Insurance Rate Maps (FIRM) that depict various levels of predicted inundation.

CLEAN WATER ACT

The federal Clean Water Act (CWA), 33USC Section 1251(a)(2), sets forth national goals that waters shall be "fishable, swimmable" waters (CWA Section 101 [a][2]). The CWA addresses both point and non-point sources of pollution (Sections 402 and 319, respectively), both of which are controlled through the National Pollution Discharge Elimination System (NPDES). An NPDES permit must be obtained in order to discharge pollutants into "Waters of the U.S." In some states, the US Environmental Protection Agency (USEPA) has delegated permitting authority to the regional water quality agency, in this case the Washington Department of Ecology. However, the USEPA retains authority to regulate discharges to waters on tribal lands, including the alternative sites identified in this EIS. The CWA also directs states to establish water quality standards for waterways in their jurisdiction and to review and update these standards every three years (Section 303[c]).

Section 303(d) of the CWA requires states to periodically prepare a list of all surface waters in their respective jurisdictions for which beneficial uses of the water – such as for drinking, recreation, aquatic habitat, and industrial use – are impaired by pollutants. These include water bodies that do not meet state surface water quality standards and are not expected to improve within the next two years. States establish a priority ranking of these impaired waters for purposes of developing water quality control plans that include Total Maximum Daily Loads (TMDL). A TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and includes an allocation for each of the pollutant's sources. These water quality control plans describe how an impaired water body will meet water quality standards through the use of TMDLs.

SAFE DRINKING WATER ACT

Under the mandate of the Safe Drinking Water Act, the USEPA sets legally enforceable National Primary Drinking Water Regulations (primary standards) that apply to public water systems. These standards are established to protect human health by limiting the levels of contaminants in drinking water. The USEPA also defines National Secondary Drinking Water Regulations (secondary standards) for contaminants that cause cosmetic and aesthetic effects, but not health effects. The USEPA recommends that these secondary standards be met but does not require systems for compliance. Both primary and secondary drinking water standards are expressed as either Maximum Contaminant Levels (MCL), which define the highest level of a contaminant allowed in drinking water, or Maximum Contaminant Level Goals (MCLG), which define the level of a contaminant below which there is no known or expected risk to health.

2011 ODEQ ROGUE BASIN GROUNDWATER INVESTIGATION

According to a 2011 ODEQ Rogue Basin Groundwater Investigation, contaminants of substantial groundwater quality concern for the Middle Rogue Sub-basin include nitrate, bacteria, arsenic, and fluoride (ODEQ, 2013). The 2011 Rogue Basin Groundwater Investigation tested 52 domestic wells in rural areas of Jackson County and Josephine County. Samples were tested for the following primary constituents of concern: nitrogen, arsenic, fluoride, boron, manganese, and arsenic. Findings concluded that the majority of groundwater contamination by nitrate in Jackson County centered on Central Point, West Medford, and North Ashland. All Central Point wells had moderate to high levels of nitrate and

moderate nitrate concentrations were detected in all wells immediately north and west of Medford. This is likely caused by agricultural uses as the highest levels detected were adjacent to heavy agricultural practices. Fluoride levels were found to be low in the majority of the wells. Boron levels were elevated in only two wells; however, the location of these wells was not cited. Manganese levels were detected in some wells, but none were above the thresholds or elevated. Arsenic levels were detected in approximately 17% of the wells, but only three were over the 10 parts per billion (ppb) threshold and were not located in or near Medford. Well data is available in Appendix D of the 2011 Rogue Basin Groundwater Investigation (ODEQ, 2013).

4 AIR QUALITY

NATIONAL AMBIENT AIR QUALITY STANDARDS

The Clean Air Act (CAA) of 1970, as amended, establishes air quality standards for several pollutants that have been identified by the USEPA as being detrimental to human health. The USEPA has designated six criteria air pollutants (CAP): ozone (O_3), carbon monoxide (CO), particulate matter (PM, 10 or 2.5 microns in size notated as PM_{10} or $PM_{2.5}$, respectively), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead (Pb). PM_{10} and CO are CAPs of special concern. These pollutants are termed "criteria" pollutants because the USEPA has established specific concentration threshold criteria based upon specific medical evidence of health effects or visibility reduction, soiling, nuisance, and other forms of damage.

The federal government has established National Ambient Air Quality Standards (NAAQS) to define levels of air quality that protect the public health and welfare from the known adverse effects of air pollutants. Standards were developed for all CAPs. These NAAQS are divided into primary standards and secondary standards. Primary standards are designed to protect public health and secondary standards are intended to protect the public welfare from effects such as visibility reduction, soiling, nuisance, and other forms of damage. Ambient air quality standards are presented in **Table 2**.

Areas are designated attainment, nonattainment, or maintenance by the USEPA depending on whether the area is below or exceeding the established NAAQS. Nonattainment areas must take steps towards attainment within a specific period of time. Once an area reaches attainment for a particular criteria pollutant, then the area is redesignated as attainment or maintenance. The CAA places most of the responsibility on states to achieve compliance with the NAAQS. States, municipal statistical areas, air basins, and counties that contain areas of nonattainment are required to develop a State Implementation Plan (SIP), which outlines policies and procedures designed to bring the nonattainment area into compliance with the NAAQS.

The Medford-Ashland Air Quality Maintenance Area (AQMA), which encompasses the Medford and Phoenix sites (Alternatives A and B), is designated maintenance for PM_{10}. The Medford UGB, which encompasses the Medford Site (Alternative A), is designated maintenance for CO. The Medford-Ashland AQMA and the Medford UGB are designated attainment for all other CAPs (USEPA, 2019). There are no CAPs of special concern in the Coos Bay region because Coos County is designated attainment for all CAPs (USEPA, 2019).

TABLE 2
NATIONAL AMBIENT AIR QUALITY STANDARDS

Pollutants	Averaging Time	Primary		Secondary		Violation Criteria
		ppm	µg/m³	ppm	µg/m³	
O_3	8 hours	0.070	-	0.070	-	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
CO	8 hours	9	-	-	-	Not to be exceeded more than once per year
	1 hour	35	-	-	-	Not to be exceeded more than once per year
NO_2	1 year	0.053	-	0.053	-	Annual mean
	1 hour	0.100	-	-	-	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
SO_2	1 hour	0.075	-	-	-	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	3 hours	-	-	0.5	-	Not to be exceeded more than once per year
PM_{10}	24 hours	-	150	-	150	Not to be exceeded more than once per year on average over 3 years
$PM_{2.5}$	1 year	-	12.0	-	15.0	Annual mean, averaged over 3 years
	24 hours	-	35	-	35	98th percentile, averaged over 3 years
Pb	Rolling 3 month average	-	0.15	-	0.15	Not to be exceeded

Notes: µg/m3 = micrograms per cubic meter of air
ppm = parts per million
Source: USEPA, 2019b.

STATE IMPLEMENTATION PLAN

Nonattainment areas must take steps towards attainment by a specific timeline. These steps are consolidated within the SIP as mandated by the CAA. The SIP sets forth the state's strategy for achieving federal air quality standards. The SIP is not a single document, but a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting), district or regional rules, state regulations, and federal controls. All of the items that are included in the SIP are published in the CFR.

In 2001, ODEQ demonstrated that the Medford UGB had attained the 8-hour CO standard and submitted a maintenance plan which was approved by the USEPA in 2002. A limited CO maintenance plan was submitted based on USEPA guidance in December 2015 (ODEQ, 2015). There have been several PM_{10} plans developed for the Medford-Ashland AQMA. The initial attainment plan was adopted in 1991 and updated in 1998 and 2004. On June 19, 2006, ODEQ approved and updated the PM10 attainment plan, which also included a maintenance plan (40 C.F.R § 1.52,81 2006).

ODEQ is the air quality management agency for the geographic region encompassing the Medford-Ashland region and the geographic region encompassing the Coos Bay area. ODEQ's role is to establish statewide standards and rules that must be met. Local agencies may adopt more stringent standards and rules if the local air quality requires such action. The ODEQ has the responsibility for all outdoor air pollution sources within its jurisdiction, including automobiles, chemical paper, saw, and pulp mills, and aluminum reduction plants.

The ODEQ operate an air quality monitoring network that determines whether the Medford-Ashland region and Coos Bay area of Oregon complies with the NAAQS. There are four monitoring stations in Medford which monitor PM_{10}, $PM_{2.5}$, and O_3. CO monitoring in Medford ended in 2010. There is one monitoring station in the City of Roseburg, approximately 45 miles west of North Bend, which monitors PM_{10} and $PM_{2.5}$. ODEQ does not operate monitoring stations within Coos County.

FEDERAL GENERAL CONFORMITY

Under the General Conformity Rule, most recently updated in March of 2010, the lead agency with respect to a federal action is required to demonstrate that the proposed federal action conforms to the applicable SIP before the action is taken. There are two phases to a demonstration of general conformity.

1) The Conformity Review process, which entails an initial review of the federal action to assess whether a full conformity determination is necessary, and
2) The Conformity Determination process, which requires that a proposed federal action be demonstrated to conform to the applicable SIP.

The Conformity Review requires the lead agency to compare estimated emissions to the applicable general conformity *de minimis* threshold(s). If the emission estimates from step one is below the applicable threshold(s), then a general conformity determination is not necessary and the full Conformity Determination is not required. If emission estimates are greater than *de minimis* levels, the lead agency must conduct a Conformity Determination.

HAZARDOUS AIR POLLUTANTS (HAPS)

In addition to the criteria pollutants discussed above, Hazardous Air Pollutants (HAPs) are a group of pollutants of concern. HAPs are listed airborne chemicals developed by the USEPA. Sources of HAPs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, cigarette smoke, and motor vehicle exhaust. Cars and trucks release at least forty different HAPs. The most important, in terms of health risk, are diesel particulates, benzene, formaldehyde, 1,3-butadiene, and acetaldehyde. Health effects of HAPs can include cancer, birth defects, and neurological damage.

HAPs are less pervasive in the urban atmosphere than CAPs, but are linked to short-term (acute) or long-term (chronic or carcinogenic) adverse human health effects. Currently, there are over 188 HAPs listed by the USEPA. The majority of the estimated health risk from HAPs can be attributed to relatively few compounds, the most important being the HAPs found in diesel particulate matter (DPM). Diesel engines emit a complex mixture of air pollutants, composed of gaseous and solid material. The visible emissions in diesel exhaust are particulate matter that includes carbon particles or “soot.” Diesel exhaust also contains a variety of harmful gases and over 40 other cancer causing substances. Exposure to DPM is a health hazard, particularly to children whose lungs are still developing and the elderly who may have other serious health problems.

Environmental tobacco smoke (ETS) is a complex mixture of thousands of gases and fine particulate matter; many of these compounds have been defined by the USEPA as HAPs. The composition will vary depending on heat of combustion, tobacco content and additives present, and type of filter material used. Researchers distinguish cigarette smoke as being comprised of two main components: mainstream and sidestream smoke. ETS is a combination of exhaled mainstream smoke, sidestream smoke, and compounds that diffuse through the cigarette paper.

Section 112 of the CAA includes provisions for the promulgation of National Emissions Standards for Hazardous Air Pollutants (NESHAP), or maximum achievable control technology (MACT) standards, as well as several related programs to enhance and support the program. The NESHAP are additional Federal emission limitations established for less widely emitted, but highly dangerous or toxic air pollutants that are not covered by the NAAQS.

FEDERAL CLASS I AREAS

Title 1, Part C of the CAA was established, in part, to preserve, protect, and enhance the air quality in national parks, national wilderness areas, national monuments, national seashores, and other areas of special national or regional natural, recreational, scenic, or historic value. The CAA designates all international parks, national wilderness areas, and memorial parks larger than 5,000 acres and national parks larger than 6,000 acres as "Class I areas." The CAA prevents significant deterioration of air quality in Class I areas under the Prevention of Significant Deterioration (PSD) program. The PSD Program protects Class I areas by allowing only a small increment of air quality deterioration in these areas by requiring assessment of potential impacts on air quality related values of Class I areas.

Any major source of emissions within 100 kilometers (km) (62.1 miles) from a federal Class I area is required to conduct a pre-construction review of air quality impacts on the area(s). A "major source" for the PSD program is defined as a facility that will emit (from direct stationary sources) 250 tons per year of regulated pollutant. For certain industries, these requirements apply to facilities that emit (through direct stationary sources) 100 tons per year or more of a regulated pollutant. Mobile sources (i.e. vehicle emissions) are by definition not stationary sources and are therefore not subject to the PSD program. Federal Class I area within 62.1 miles of the Medford Site and Phoenix Site include Mountain Lakes, Oregon, Marble Mountain, California, and Crater Lake National Park, Oregon. There are no Federal Class I areas within 62.1 miles of the Mill Casino Site. Because there are federal class I areas within 62.1 miles of the Medford Site and Phoenix Site, a pre-construction review is required for the project alternatives.

TRIBAL NEW SOURCE REVIEW

A Tribal New Source Review (NSR) permit is required prior to construction in both attainment and nonattainment areas if the projected aggregate operational emissions from stationary sources at the proposed facility exceed the minor NSR thresholds listed in 40 CFR 49.153 and shown in **Table 3** below. NSR programs must comply with the standards and control strategies of the Tribal Implementation Plan (TIP) or SIP. If there is not an applicable SIP or TIP, the USEPA issues permits and implements the program. If applicable, the Tribe would apply for and obtain a site-specific or, if promulgated prior to the start of construction, a general minor NSR permit in accordance with the USEPA guidelines and Tribal NSR regulations.

FEDERAL EXECUTIVE ORDER 13990

On February 19, 2021, pursuant to federal Executive Order (EO) 13990, Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, the Council on Environmental Quality (CEQ) rescinded its 2019 Draft National Environmental Policy Act (NEPA) Guidance on Consideration of Greenhouse Gas Emissions and is reviewing, for revision and update, the 2016 Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews. In the interim, EO 13990 directs agencies to consider all available tools and resources in assessing GHG emissions and climate change effects of their proposed actions, including the 2016 GHG Guidance.

TABLE 3
TRIBAL MINOR NEW SOURCE REVIEW THRESHHOLDS

Pollutant	Emissions Thresholds for Attainment Areas (tons per year)	Emissions Thresholds for Attainment Areas (tons per year)
Nitrogen Oxide	10	5
Reactive Organic Gas (ROG)	5	2
Particulate Matter	10	5
Particulate Matter Less than 10 Microns in Size	5	1
Particulate Matter Less than 23 .5 Microns in Size	3	0.6
Carbon Monoxide	10	5
Sulfur Dioxide	10	5
Lead	0.1	0.1
Source: 40 CFR 49.153		

To assess impacts, the 2016 GHG Guidance states that federal agencies should quantify direct and indirect emissions of the project alternatives with the level of effort being proportionate to the scale of the emissions relevant to the NEPA review. The CEQ guidance advises federal lead agencies to consider the following:

1. The potential effects of a proposed action on climate change as indicated by assessing GHG emissions, and
2. The effects of climate change on a proposed action and its environmental impacts.

This guidance does not propose a specific, quantitative threshold of significance; however, it states that agencies should consider the potential for mitigation measures to reduce or mitigate GHG emissions and climate change effects when those measures are reasonable and consistent with achieving the purpose and need for the proposed action. Examples of mitigation provided for in the guidance include, but are not limited to, enhanced energy efficiency design, lower GHG-emitting technology, carbon capture, carbon sequestration (e.g., restoration of forest, agricultural soils, and coastal habitat), and compensation.

Additionally, on February 19, 2021, Secretary of the Interior Deb Haaland issued Secretarial Order (SO) 3399 to prioritize action on climate change throughout the Department and to restore transparency and integrity in the Department's decision-making processes. SO 3399 specifies that when considering the impact of GHG emissions from a proposed action, Bureaus/Offices should use appropriate tools, methodologies, and resources available to quantify GHG emissions and compare GHG quantities across alternatives. SO 3399 acknowledges that identifying the interactions between climate change and the environmental impacts of a proposed action in NEPA documents can help decision makers identify opportunities to reduce GHG emissions, improve environmental outcomes, and contribute to protecting communities from the climate crisis.

OREGON STATE REGULATIONS REGARDING CLIMATE CHANGE

Oregon House Bill 3543

House Bill 3543, the Climate Change Integration Act was passed in 2007 and sets specific Greenhouse Gas (GHG) emissions reduction goals for Oregon:

1) By 2010, arrest the growth of Oregon's GHG emissions and begin to reduce them.
2) By 2020, achieve GHG levels that are 10 percent below 1990 levels.
3) By 2050, achieve GHG levels that are at least 75 percent below 1990 levels.

The bill also created the Global Warming Commission; the Commission is responsible for recommendations to meet the GHG reduction targets.

Oregon House Bill 2001

The 2009 House Bill 2001 (Jobs and Transportation Act) is essentially a transportation funding plan. The three core themes of the bill are:

1) Accountability, innovation, and environmental stewardship
2) Highway, road, and street funding
3) Multimodal funding

Oregon House Bill 2186

House Bill 2186, adopted in 2009, is a wide-ranging piece of legislation that seeks to reduce Oregon's GHG emissions. Section 10 requires the creation of a Metropolitan Planning Organization (MPO) Greenhouse Gas Emissions Task Force to evaluate alternative land use and transportation scenarios that would meet community growth needs, while reducing GHG emissions, and recommend future legislative action to support such efforts.

Oregon Senate Bill 1059

In 2010, the Oregon Legislature directed the Oregon Department of Transportation (ODOT) and the Oregon Department of Land Conservation and Development (DLCD) to provide an overall framework for transportation and climate change in Senate Bill 1059. The purposes of ODOT and DLCD are to:

1) Coordinate and consult with MPOs and other state agencies to develop a state-level strategy to reduce GHGs from transportation.
2) Develop a toolkit to assist local governments and MPOs in reducing GHGs from transportation.
3) Develop guidelines for scenario planning, and provide information to DLCD to set transportation-related GHG reduction targets for major metropolitan areas.
4) Conduct outreach and education to the public.
5) Work with local governments within areas served by an MPO to consider what actions they might take, transportation-wise, to reduce GHGs in the short-term.

Oregon Senate Bill 692

In 2015, the Oregon Senate Bill 692 Chapter 418 was established to create new provisions and to clarify and amend existing provisions related to the sale and installation of products and their adherence to minimum energy efficiency standards.

Oregon House Bill 2250

House Bill 2250, adopted in 2019, requires the Department of Environmental Quality and Oregon Health Authority to regularly assess final changes to federal environment laws to determine whether changes are significantly less protective of public health, environment or natural resources than standards and

requirements contained in those federal environmental laws, as in effect on January 19, 2017. Additionally, HB 2250 requires the State of Oregon to take actions under certain circumstances as necessary to retain protections afforded by certain federal environmental laws as in effect on January 19, 2017.

MEDFORD SITE AND PHOENIX SITE REGIONAL METEOROLOGY

The climate and topography of a region can dictate a region's air quality. The Ashland-Medford area, which includes the City of Phoenix, has cold winters and warm summers, with temperatures averaging 40 degrees Fahrenheit (ºF) in the winter and 70 ºF in the summer. Precipitation ranges from 1.4 inches in the summer to 8.3 inches in the winter, with an average annual snow fall of 6.8 inches. During most of the year, the prevailing direction of the wind is from the north or northwest. Fog often fills the lower portion of the Medford valley during winter and early spring months. The structure and orientation of terrain features will often influence and even control air motion and mechanical turbulence in the lower atmosphere, which can dictate weather a region, will have an increased or decreased concentration of air pollution. Medford is located in a mountain valley formed by the famous Rogue River and one of its tributaries, Bear Creek. The major portion of the valley ranges in elevation from 1,300 to 1,400 feet above sea level. Mountains surround the valley on all sides, to the east the Cascades, ranging up to 9,500 feet, to the south the Siskiyou Mountains, ranging up to 7,600 feet, and to the west and north the Coast Range and Umpqua Divide, ranging up to 5,500 feet above sea level. The valley exits to the ocean 80 miles westward through the narrow canyon of the Rogue River (WRCC, 2016).

MILL CASINO SITE REGIONAL METEOROLOGY

The Coos Bay region has cold winters and moderate summers, with temperatures averaging 47ºF in the winter and 59ºF in the summer. Precipitation ranges from 2.7 inches in the summer to 29 inches in the winter, with an average annual snow fall of 1.3 inches. During most of the year, the prevailing direction of the wind is from the north or south-southeast. Several times each year winds of hurricane force strike the coast in the Coos Bay region. The Coos Bay region includes the Oregon coastal plain and coastal valleys, and the Coast Range. Coast Range peaks range from 2,000 to 5,500 feet above sea level (WRCC, 2016).

5 BIOLOGICAL RESOURCES

WETLANDS AND WATERS OF THE U.S.

Any person, firm, or agency planning to alter or work in navigable Waters of the U.S., including the discharge of dredged or fill material, must first obtain authorization from the U.S. Army Corps of Engineers (USACE). Additionally, to comply with EO 11990, agencies are responsible for minimizing the destruction of wetlands, safeguarding against the loss or degradation of wetlands, and preserving and enhancing the natural and beneficial values of wetlands. Permits, licenses, variances, or similar authorization may also be required by other federal, state, and local statutes. Section 10 of the Rivers and Harbors Act of 1899 prohibits the obstruction or alteration of navigable Waters of the U.S. without a permit from the USACE (33 USC 403). Section 301 of the Federal Water Pollution Control Act (FWPCA) and Amendments of 1972 prohibits the discharge of pollutants, including dredged or fill material, into Waters of the U.S. without a Section 404 permit from USACE (33 USC 1344). A Section 401 Water Quality Certification may be required by the USEPA for trust lands before other permits are issued.

Waters of the U.S. are defined as:

> all waters used in interstate or foreign commerce; all interstate waters including interstate wetlands; all other waters such as intrastate lakes, rivers, streams (including intermittent and ephemeral streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, where the use, degradation, or destruction of which could affect interstate commerce; impoundments of these waters; tributaries of these waters; or wetlands adjacent to these waters (Section 404 of the CWA; 33 CFR Part 328.

Wetlands are defined as:

> those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (Federal Register, 1980, 1982; Braddock and Huppman, 1995).

The USACE and the USEPA issued the USACE Jurisdictional Determination Form Instructional Guidebook on May 30, 2007, to provide guidance based on the Supreme Court's decision regarding Rapanos v. United States and Carabell v. United States (Rapanos Guidance) (USACE, 2007). The decision provides new standards that distinguish between traditional navigable waters (TNWs, relatively permanent waters (RPW), and non-relatively permanent waters (non-RPW). Wetlands adjacent to non-RPWs are subject to CWA jurisdiction if: the water body is relatively permanent, if a water body abuts a RPW, or if a water body, in combination with all wetlands adjacent to that water body, has a significant nexus with TNWs. The significant nexus standard will be based on evidence applicable to ecology, hydrology, and the influence of the water on the "chemical, physical, and biological integrity of downstream traditional navigable waters" (USACE, 2007). Isolated wetlands are not subject to the FWPCA jurisdiction based on the Supreme Court's decision regarding Solid Waste Agency of Northern Cook County (SWANCC) (Guzy, 2001).

FEDERAL ENDANGERED SPECIES ACT

The USFWS enforces the provisions of the federal Endangered Species Act (ESA) for all terrestrial species. Section 9 (§1538) prohibits the "taking" of a listed species by anyone, including private individuals and state and local agencies. Threatened and endangered species on the federal list (50 CFR Sections 17.11 and 17.12) are protected from take, defined as direct or indirect harm. If "take" of a listed species is necessary to complete an otherwise lawful activity, this triggers the need for consultation under Section 7 of the ESA for federal agencies, including Tribes. A Section 7 Biological Opinion with incidental take provisions would be rendered.

Pursuant to the requirements of the ESA, a federal agency reviewing a proposed project within its jurisdiction must determine whether any federally listed species may be present on the proposed project site and whether the proposed project will have a potentially significant impact on such species. A discussion of regionally listed species is provided in consideration of potential impacts associated with project implementation under each alternative below. Under the ESA, habitat loss is considered to be an impact to the species. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species that is proposed for listing under the ESA or to result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC Section 1536[3], [4]). Therefore, should it be determined that a project would result in impacts to these species, or their habitats, it would be considered significant and require mitigation.

MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT

The Magnuson-Stevens Fishery Conservation and Management Act (MSMA) mandates the conservation and management of fishery resources off the coasts of the U.S., anadromous species, and Continental Shelf fishery resources of the U.S., including the conservation and management of highly migratory species through the implementation and enforcement of international fishery agreements. The National Marine Fisheries Service (NMFS) enforces the MSMA, and regulates commercial and recreational fishing and the management of fisheries resources. The Sustainable Fisheries Act of 1996 amended the MSMA to include new fisheries conservation provisions by emphasizing the importance of fish habitat in regards to the overall safety and sustainability of U.S. marine fisheries (Public Law 104-267). The revised MSMA mandates the identification and protection of essential fish habitat (EFH) for managed species during the review of projects conducted under federal permits that have the potential to affect such habitat. Federal agencies are required to consult with NMFS on all actions and proposed actions that are authorized, funded, or undertaken by the agency, which may adversely affect EFH (MSMA 305.b.2). Adverse effects can be direct (contamination or physical disruption), indirect (loss of prey or reduction in species fecundity), site-specific, or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions (50 CFR 600.810). Four Fishery Management Plans (FMP) occur in California, Oregon, and Washington. The FMPs identify EFH for groundfish, coastal pelagic species, salmon, Pacific halibut, and highly migratory fisheries.

The Mill Casino Site occurs hydrologically upstream of a designated EFH for chinook salmon, coho salmon, and green sturgeon.

MIGRATORY BIRD TREATY ACT

Migratory birds are protected under the federal Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703-712). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed under 50 CFR 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). The direct injury or death of a migratory bird, due to construction activities or other construction-related disturbance that causes nest abandonment, nestling abandonment, or forced fledging would be considered take under federal law. As such, project-related disturbances must be reduced or eliminated during the nesting season. The general nesting season extends from February 15 to September 15.

BALD AND GOLDEN EAGLE PROTECTION ACT

In 1940, the Bald and Golden Eagle Protection Act (16 USC 668-668d, 54 Stat. 250) was enacted (and later amended) to prohibit anyone, without a permit issued by the Secretary, from taking bald and golden eagles, including their parts, nests, or eggs. The Bald and Golden Eagle Protection Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase to barter, transport, export, or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The Bald and Golden Eagle Protection Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb."

OREGON ENDANGERED SPECIES ACT

Oregon’s threatened and endangered species lists include all native species listed under the federal ESA as of May 15, 1987, plus any additional native species determined by the appropriate state agency to be threatened or endangered. The species recovery mechanism under state law is limited to state-owned land, state-leased land, and land over which the state has a recorded easement.

MEDFORD SITE FEDERALLY LISTED SPECIES

Coho Salmon – Oregon Coast ESU (Oncorhynchus kisutch)
Federal Status: Threatened

The Oregon Coast coho salmon ESU was listed by the NMFS as federally threatened on May 12, 2008 (73 Federal Register 7816) in response to severe population declines in the 1990s and mid-2000s. The Oregon Coast coho salmon includes all naturally spawned populations of coho salmon (and their progeny) in rivers and streams from the Columbia River south to Cape Blanco in southern Oregon. Adult Oregon Coast coho salmon enter streams to spawn between November and January after runoff from significant rainfall events have opened river and stream mouths and increased flows to allow for upstream passage. Spawning typically occurs from January through March in pool tailouts. Juveniles exhibit optimum growth at water temperatures between 12°C -14°C. Juvenile Oregon Coast coho salmon prefer complex in-stream habitat consisting of riffle and deep pool complexes with abundant large woody debris and a well-developed riparian canopy for optimum survival. Juveniles spend 12-18 months rearing in freshwater habitat foraging on a diet consisting primarily of aquatic invertebrates before migrating to the ocean. Oregon Coast coho salmon typically spend two years in near shore and occasionally pelagic saltwater habitat foraging on crustaceans, small fish, and squid before reaching maturity and returning to freshwater habitat to spawn. Nearly all females return as three-year old fish, while males typically return in three to five years to spawn, although some males return as two-year old 'jacks'[1].Critical habitat for Oregon Coast coho salmon was established on May 12, 2008 (73 Federal Register 7816) and includes all coastal streams and river reaches accessible to Oregon Coast coho salmon from the Columbia River south to Cape Blanco in southern Oregon. Designated critical habitat includes the stream channels within the designated stream reaches, and includes the lateral extent, as defined by the ordinary high-water line (33 CFR 329.11). In areas where the ordinary high-water line has not been defined, the lateral extent is defined by the bankfull elevation (70 FR 52488). A recovery plan for this ESU has not been finalized. A map depicting Oregon Coast coho salmon critical habitat is included as Figure 3.5-5.

The Mill Casino Site is entirely developed and contains no aquatic habitat features. However, construction of the 5,000 square-foot addition would involve reinforcement of the bulkhead below the site within the Ferndale Lower Range, which serves as critical habitat for coho salmon.

Green Sturgeon – Southern DPS (Acipenser medirostris)
Federal Status: Threatened

The green sturgeon southern DPS was listed by the NMFS as federally threatened on April 7, 2006 (71 FR 17757). The green sturgeon ranges from Ensenada, Mexico north to the Bering Sea, Alaska. Adults spend the majority of their lives in near shore oceanic waters, bays, and estuaries, returning to fresh water only to spawn. Spawning occurs every two to five years and the juveniles remain in fresh water for one to four years. Green sturgeon spawn in freshwater rivers that have a variety of sand, cobble, and bedrock substrate. Cold, clean water is necessary for proper embryonic development.

Critical habitat for green sturgeon southern DPS was established on October 9, 2009 (74 FR 195) and includes all coastal marine waters up to 60 fathoms deep from Monterey Bay, California to Cape Flattery, Washington. Additionally, the following waters are included in the critical habitat designation: San Francisco Bay, Humboldt Bay, Coos Bay, Winchester Bay, Yaquina Bay, Nehalem Bay, Suisun Bay, San Pablo Bay, Wallipa Bay and Grays Harbor, as well as inland fresh waters of the Sacramento River, lower Yuba River, lower Feather River, and lower Columbia River. A recovery plan does not exist for this DPS. A map depicting green sturgeon critical habitat is included as Figure 3.5-5.

[1] A "jack" is a salmon that returns to spawn earlier than typical for the species.

The Mill Casino Site is entirely developed and contains no aquatic habitat features. However, construction of the 5,000 square-foot addition will involve reinforcement of the bulkhead below the site within the Ferndale Lower Range, which serves as critical habitat for the green sturgeon.

Pacific Eulachon – Southern DPS (Thaleichthys pacificus)
Federal Status: Threatened

The Pacific eulachon southern DPS was listed by the NMFS as federally threatened on March 18, 2010 (75 FR 13012). Pacific eulachon are known to live in from the San Francisco Bay north to the Bering Sea, Alaska. Adults spend over 95% of their lives in near shore oceanic waters, returning to estuaries and fresh water only to spawn. Eulachon spawn at two to five years of age from late winter to early summer. Juveniles remain in fresh water and estuaries for several weeks before commencing to deeper ocean waters. Pacific eulachon spawn in tidally influenced freshwater in a variety of sand, cobble, or bedrock substrate. Cold, clean water is necessary for proper embryonic development. The largest Pacific eulachon run exist in the Columbia River Basin, but smaller runs have been observed in the Tenmile Creek and Umpqua River in Oregon as well as several rivers in northern California and Washington. Critical habitat for the Pacific eulachon southern DPS was established on October 20, 2011(76 FR 65323) and includes 16 rivers and creeks throughout California, Oregon, and Washington. As with the coho salmon and green sturgeon, Tribal Lands are excluded from this critical habitat designation. The nearest critical habitat for the Pacific eulachon is the Umpqua River, approximately 15 miles north of the Mill Casino Site.

The Mill Casino Site is entirely developed and contains no aquatic habitat features. However, construction of the 5,000 square-foot addition will involve reinforcement of the bulkhead below the site within the Ferndale Lower Range, which serves as potential habitat for the Pacific eulachon.

6 CULTURAL AND PALEONTOLOGICAL RESOURCES

SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT

Section 106 of the National Historic Preservation Act (NHPA) as amended, and its implementing regulations found in 36 CFR Part 800, require federal agencies to identify cultural resources that may be affected by actions involving federal lands, funds, or permitting. The significance of the resources must be evaluated using established criteria outlined in 36 CFR § 60.4, as described below.

If a resource is determined to be a historic property, Section 106 requires that effects of the federal undertaking on the resource be determined. A historic property is defined as “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in the National Register of Historic Places [NRHP], including artifacts, records, and material remains related to such a property” (NHPA Section 301[5]).

Section 106 prescribes specific criteria for determining whether a project would adversely affect a historic property, as defined in 36 CFR § 800.5. An impact is considered adverse when prehistoric or historic archaeological sites, structures, or objects that are listed or are eligible for listing in the NRHP are subjected to the following.

- Physical destruction of or damage to all or part of the property
- Alteration of a property
- Removal of the property from its historic location
- Change of the character of the property’s use or of physical features within the property’s setting that contribute to its historic significance

- Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features
- Neglect of a property that causes its deterioration, transfer, lease, or sale of the property out of federal control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance. If the historic property would be adversely affected by development, then prudent and feasible measures to avoid or reduce adverse impacts must be taken. The State Historic Preservation Officer (SHPO) must be provided an opportunity to review and comment on these measures prior to project implementation.

NATIONAL REGISTER OF HISTORIC PLACES

The NHPA of 1966, as amended through 2000, and its implementing regulations found at 36 CFR 800 authorize the NRHP, a program for the preservation of historic properties ("cultural resources") throughout the nation. The eligibility of a resource for listing in the NRHP is determined by evaluating the resource using criteria defined in 36 CFR 60.4

Sites younger than 50 years, unless of exceptional importance, are not eligible for listing in the NRHP.

All properties change over time. Therefore, it is not necessary for a property to retain all of its historic physical features or characteristics in order to be eligible for listing on the NRHP. The property must, however, retain enough integrity to enable it to convey its historic identity; in other words, to be recognizable to a historical contemporary. In order to properly assess integrity, however, significance (why, where, and when a property is important) must first be fully established. Therefore, the issues of significance and integrity must always be considered together when evaluating a historic property.

NATIVE AMERICAN TRIBES

In 1992, the NHPA was amended to allow Native American tribes the opportunity to assume the functions of the SHPO in the Section 106 process for undertakings on tribal lands. The responsibilities can include identifying and maintaining inventories of culturally significant properties, nominating properties for inclusion on national and tribal registers of historic places, and conducting Section 106 reviews of federal agency projects on tribal lands and on tribal ancestral lands. This includes designating a Tribal Historic Preservation Officer with whom federal agencies are required to consult in lieu of the SHPO for undertakings occurring on or affecting historic properties on tribal lands or on tribal ancestral lands.

ARCHAEOLOGICAL RESOURCES PROTECTION ACT OF 1979

The Archaeological Resources Protection Act of 1979 (ARPA) (Public Law 96-95; 16 USC 470), provides for the protection of archaeological resources and sites which are on public and Indian lands, and fosters increased cooperation and exchange of information between governmental authorities, the professional archaeological community, and private individuals having collections of archaeological resources and data which were obtained before October 31, 1979. ARPA also provides for penalties for noncompliance and illegal trafficking.

ANTIQUITIES ACT OF 1906

The Antiquities Act of 1906 (Public Law 59-209; 34 Stat. 225) calls for the protection of historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest on lands owned or controlled by the United States government. Additional provisions appear in the Archaeological

and Historic Data Preservation Act of 1974, as amended, for the survey, recovery, and preservation of significant scientific, prehistoric, historic, archaeological, or paleontological data, in such cases wherein this type of data might be otherwise destroyed or irrecoverably lost as a result of federal projects.

NATIVE AMERICAN GRAVES PROTECTION AND REPATRIATION ACT

The Native American Graves Protection and Repatriation Act (NAGPRA) is a federal law passed in 1990. NAGPRA provides a process for museums and federal agencies to return certain Native American cultural items – human remains, funerary objects, sacred objects, or objects of cultural patrimony – to lineal descendants, and culturally affiliated Indian tribes and Native Hawaiian organizations. NAGPRA includes provisions for unclaimed and culturally unidentifiable Native American cultural items, intentional and inadvertent discovery of Native American burials and cultural items on federal and tribal lands, and penalties for noncompliance and illegal trafficking.

PALEONTOLOGICAL RESOURCES PRESERVATION ACT

The Paleontological Resources Preservation subtitle of the Omnibus Public Land Management Act of 2009, (PL 111-011, Title VI, Subtitle D) requires the U.S. Department of Agriculture and the U.S. Department of the Interior to issue implementation regulations to provide for the preservation, management, and protection of paleontological resources on federal lands. Significance for Paleontological Resources is reflected in terms of compliance with the Antiquities Act of 1906 (PL 59-209; 16 USC 431 et seq.; 34 Stat. 225), which calls for the protection of historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest on federal land. Additional provisions appear in the Archaeological and Historic Data Preservation Act of 1974, as amended, for the survey, recovery, and preservation of significant scientific, prehistoric, historic, archaeological, or paleontological data, in such cases wherein this type of data might be otherwise destroyed or irrecoverably lost as a result of federal projects.

EXTENDED CULTURAL SETTING FOR MEDFORD SITE AND PHOENIX SITE

Prehistory

Several cultural chronologies have been posited for the southern Oregon region, including those specific to the Rogue Basin, Elk Creek/Upper Rogue River, and southwest Oregon in general (McDaniel, 2009) based on studies conducted at a number of archaeological sites located throughout the greater Rogue River Basin. In earlier phases of archaeological investigations, a five-phase chronological sequence was used to describe cultural change through time in southern Oregon (McDaniel, 2009) that included the Paleo-Indian, Applegate, Marial, Coquille, and Rogue phases.

However, the chronological sequence presented above is based on older archaeological research that was conducted and published by Richard Pettigrew and Clayton Lebow in the early 1980s during cultural resource management work for the Elk Creek Dam on the upper Rogue River (Pettigrew and Lebow, 1987). This chronology was developed without the benefit of a sufficient radiocarbon and obsidian hydration chronology and relied on perceived similarity of projectile point forms with temporally sensitive projectile point forms identified on the Columbia Plateau and elsewhere. Subsequent research led to the division of the regional prehistory into an Early Holocene/Pre-Mazama Era, a Middle Holocene/Early Late Holocene era, and a Late Holocene era (C.F. Aikens et al., 2011: Chapter 6). During these periods, the climate shifted from a post-Pleistocene warming trend to the cooler Middle Holocene period, finally warming once again to modern levels with commensurate shifts in vegetation, fauna, and resource exploitation strategies.

Ethnographic and Historic Setting

The project area is located in a region claimed by both Penutian-speaking and Hokan-speaking groups. Before European or Euro-American contact, the valley was home to Native American people who identified ethnically and linguistically as Takelma, Shasta, and Athapaskan. These groups lived in generally autonomous villages centered around extended patrilineal families, but these villages and families were in turn linked into relationships with other families and villages near and far through kinship, marriage, shared cultural practices, trade in materials goods, and visiting for social and spiritual occasions.

Both the Upland Takelma and Shasta were comprised of small, politically and economically autonomous groups. People related to one another inhabited villages, and marriage partners were sought from outside the group, creating and strengthening alliances between villages. While the Takelma traced their descent patrilineally and were patrilocal, the Shasta descent bilaterally and residence patterns were not strictly observed. Within the village, a man could achieve a position of leadership and respect through the acquisition of wealth and its strategic redistribution. Although the individual groups were autonomous, they could be mobilized and coalesce to form larger bodies with common goals, such as conducting communal fishing and hunting, or war (McDaniel, 2009).

Villages were strategically located to take advantage of hunting, fishing, and plant gathering activities, particularly where there was an abundance of predictable resources. The Shasta located their villages along the valley edge close to a stream. The Takelma dispersed during the warmer summer months to gather economically important plant resources, first collecting those in the valley bottoms followed by those that ripened later at higher elevations. Additionally, trade from the coast to the interior valleys was common in northern California and southern Oregon.

Native American culture in southwestern Oregon, and elsewhere, underwent a series of changes beginning in approximately AD 1500. Locally, these changes included the disappearance of pottery, and a change in house form from circular to rectangular. These changes coincide with a smallpox epidemic that is thought to have occurred in AD 1520-1524 and resulted in mortality rates of up to 75% (McDaniel, 2009).

Initial contact between Euro-American and Native American peoples in Jackson County occurred early in the spring of 1827 when Peter Skene Ogden of the Hudson Bay Company led a brigade through the Rogue Valley. Over the next few years, others from the Hudson Bay Company explored the area, with two of the expeditions resulting in the deaths of some local Native Americans due to altercations between the two groups.

Coquille Tribe

Coquille Tribe members are descended from Native Americans who inhabited the Coquille River drainages and parts of Coos Bay (Coquille Tribe, 2016). Treaties signed in the mid-19th century ceded much of their territory to the United States, though those treaties were never ratified by Congress. Major villages were located near Bandon, Myrtle Point, Charleston, and Bullards, focused on the banks of the lower Coquille River and its tributaries (Oregon's Adventure Coast, 2016). Satellite villages and gathering areas were established near resource locations, to take advantage of seasonally available resources. Permanent Coquille villages were most often oriented around a group of related men of Athapaskan or Milluk ethnicity, but also included women from neighboring groups from across southern Oregon and beyond.

EXTENDED CULTURAL SETTING FOR THE MILL CASINO SITE

Prehistory

A general chronology has been developed for Native American use and occupation of the Oregon coast, including the Coos Bay region, where the Mill Casino is located. That chronology is divided into five broad periods. Isolated finds of fluted points in western Oregon attest to the presence of people in the Pacific Northwest in the Paleo-Indian period (prior to 10,000 years before present [BP]), but none have been identified along the modern coastline. The earliest evidence for occupation of the Oregon coast occurs in the Early Archaic period (10,000-5500 BP). The lifeways of these early groups are unclear. Many of the Early Archaic sites lack associated shell middens, leading some researchers to suggest that these earliest inhabitants pursued a "pre-marine" or "pre-littoral" subsistence strategy. By the Middle Archaic period (5500-3000 BP), marine-oriented subsistence strategies were clearly in use. Faunal material indicate Middle Archaic groups were using a variety of intertidal shellfish, coastal birds, and mammals (terrestrial and marine). Economies focused on intensive use of marine resources were present throughout the southern Northwest Coast region by the Late Archaic period (3,000-1,500 BP). The earliest evidence on the Oregon coast for the rectangular plank houses and bone/antler artwork typical of Northwest Coast late prehistoric and ethnographic societies is found during this period. Finally, the Formative Period (1,500-200 BP) encompassed the full emergence of ethnographic Northwest Coast culture patterns along the Oregon coast, characterized by large villages containing plank houses, ranked societies, and distinctive modes of artistic elaboration. The final 200 years of this period is subdivided as the Protohistoric era, when non-native artifacts entered sites along the northern Oregon coast. The epidemic diseases that accompanied Europeans to North America apparently resulted in a rapid decline in the coastal Formative population and had a disastrous impact on their cultural and economic lifeways (BLM, 2002).

Ethnographic and Historic Setting

The ethnographic setting for the Mill Casino Site is the same as for the Medford and Phoenix Sites described previously.

European trappers and traders began exploring western Oregon early in the eighteenth century, and growth continued slowly through the latter half of the nineteenth century and into the twentieth century. Construction of a military wagon road connecting Coos Bay with Roseburg began in 1870, and the CBW Road was opened to traffic in 1872, providing Coos Bay with a connection to the interior valleys (BLM, 2002).

A small group of Americans reached Coos Bay in 1853, and established the first town of Empire City, which is now part of the city of Coos Bay (originally called Marshfield). Lumberman and shipbuilder Asa Meade Simpson established the mill and shipbuilding town of North Bend in 1856. The pioneer period on Coos Bay lasted for about another half century, and led to the development of sawmills, shipyards, and coal mining. By the late 1850s and 1860s, farmers settled along the Coos River and Coquille River, providing resources to San Francisco and Portland. The coal industry collapsed early in the twentieth century, but forest products assumed an increasing role in the local economy, eased by road construction and the development of an extended transportation network.

7 SOCIOECONOMIC CONDITIONS

EXECUTIVE ORDER 12898

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations, as amended, directs federal agencies to develop an Environmental Justice Strategy that

identifies and addresses disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations. The Council on Environmental Quality (CEQ) has oversight responsibility compliance by the federal government c with EO 12898 and NEPA. The CEQ, in consultation with the USEPA and other agencies, has developed guidance to assist federal agencies with their NEPA procedures so that environmental justice concerns can be effectively identified and addressed.

According to guidance from the CEQ (1997) and USEPA (1998), agencies should consider the composition of the affected area, to determine whether minority populations, low-income populations, or Indian tribes are present in the area affected by a Proposed Action and, if so, whether there may be disproportionately high and adverse environmental effects to those populations. Communities may be considered "minority" under EO 12898 if one of the following characteristics apply.

- The cumulative percentage of minorities within a census tract is greater than 50% (primary method of analysis).
- The cumulative percentage of minorities within a census tract is less than 50%, but the percentage of minorities is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis (secondary method of analysis).

According to the USEPA, either the county or the state can be used when considering the scope of the "general population." A definition of "meaningfully greater" is not given by the CEQ or USEPA, although the latter has noted that any affected area that has a percentage of minorities above the statewide percentage is a potential minority community and any affected area that has a minority percentage double that of the state is a definite minority community under EO 12898.

Communities may be considered "low-income" under EO 12898 if one of the following characteristics applies.

- The median household income for a census tract is below the poverty line (primary method of analysis).
- Other indications are present that indicate a low-income community is present within the census tract (secondary method of analysis).

In most cases, the primary method of analysis will suffice to determine whether a low-income community exists in the affected environment. However, when a census tract income may be just over the poverty line or where a low-income pocket within the tract appears likely, the secondary method of analysis may be warranted. Other indications of a low-income community under the secondary method of analysis include limited access to health care, overburdened or aged infrastructure, and dependence on subsistence living.

8 TRANSPORTATION AND CIRCULATION

Medford Site Roadway System

Major roadways in the vicinity of the Medford Site are described below:

- **OR 99** is a north-south principal arterial under the jurisdiction of the ODOT; portions of OR 99 are under the jurisdiction of the City of Medford. OR 99 is a five-lane facility with a two-way

center left turn lane and dedicated left turn lanes at key intersections and arterials. The posted speed limit is 45 (mph). OR 99 is called South Riverside Avenue north of Garfield Street and South Pacific Highway south of Garfield Street.

- **East Stewart Avenue** is an east-west four-lane road and is designated as an arterial under the City of Medford with a two-way center left turn lane and dedicated left and right turn lanes at key intersections and arterials. The posted speed limit is 35 mph. East Stewart Avenue curves north and terminates at East Barnett Road north of its intersection with Center Drive.
- **East Barnett Road** is an east-west four-lane road and is designated as a minor arterial under the City of Medford with dedicated left and right turn lanes at key intersections and arterials. The posted speed limit is 35 mph.
- **Garfield Street** is an east-west four-lane road and is designated as a minor arterial under the City of Medford. The posted speed limit is 35 mph. Garfield Street turns into Highland Drive north of I-5.
- **Charlotte Ann Road** is a local east-west two-lane roadway under the jurisdiction of the City of Medford. The speed limit is 25 mph.
- **Center Drive** is a four-lane north-south minor arterial roadway under the jurisdiction of the City of Medford. The speed limit is 35 mph. Center Drive terminates past Garfield Street to the south and at East Stewart Avenue to the north.
- **Highland Drive** is a two-lane north-south major collector under the jurisdiction of the City of Medford. The speed limit is 35 mph. South of I-5, Highland Drive is called Garfield Street (see above).

Phoenix Site Roadway System

Major roadways in the vicinity of the Medford Site are described below:

- **I-5** is a north-south four-lane interstate highway under the jurisdiction of ODOT. The northbound and southbound ramps consist of two lanes each, with posted speed limits of 45 mph.
- **North Phoenix Road** is a north-south two-lane (four lanes north of East Barnett Road) City road and is designated as an arterial (within the City) under the City of Medford. Outside of the City of Medford, North Phoenix Road is under the jurisdiction of Jackson County. The posted speed limit is 45 mph. From north to south, North Phoenix Road intersects with Cherry Lane, East Barnett Road, Juanipero Way, and Fern Valley Road.
- **Cherry Lane** is an east-west two-lane City road and is designated as a collector under the City of Medford with occasional two-way center left turn lane and dedicated left and right turn lanes at key intersections and arterials. The posted speed limit is 25 mph.
- **East Barnett Road** is an east-west four-lane City road and is designated as an arterial under the City of Medford with dedicated left and right turn lanes at key intersections and arterials. The posted speed limit is 40 mph.
- **Juanipero Way** is an east-west four-lane (west of North Phoenix Road) City road and is designated as a collector under the City of Medford with dedicated left and right turn lanes at key intersections and arterials. The posted speed limit is 25 mph. Currently, Juanipero Way ends at North Phoenix Road, with plans for eastward extension.
- **Fern Valley Road** is an east-west four-lane County road and is designated as a rural minor arterial under Jackson County with dedicated left and right turn lanes at key intersections and

arterials. The posted speed limit is 30 mph. Fern Valley Road connects with on- and off-ramps to I-5.

9 LAND USE

FEDERAL

Coastal Zone Management Act

The Coastal Zone Management Act (CZMA), passed in 1972, is administered by the NOAA Office of Ocean and Coastal Resource Management (OCRM) and provides for the management of resources along the U.S. coast and balances economic development with environmental conservation. The CZMA states that each federal activity within or outside the coastal zone that affects any land or water use or natural resource of the coastal zone should be carried out in a manner that is consistent to the maximum extent practicable with the enforceable policies of approved state management programs. The term "maximum extent practicable" means federal activities, including development projects directly affecting the coastal zone of states with approved management programs, must be fully consistent with such programs unless compliance is prohibited due to the requirements of existing law applicable to the fundamental operations of an agency.

Farmland Protection Policy Act

The Farmland Protection Policy Act (FPPA) is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to non-agricultural uses. It assures that federal programs are administered in a matter that is compatible with state and local units of government as well as private programs and policies to protect farmland (7 USC § 4201).

The NRCS is responsible for the implementation of the FPPA and categorizes farmland in a number of ways. These categories include prime farmland, farmland of statewide importance, and unique farmland. Prime farmland is considered to have the best possible features to sustain long-term productivity. Farmland of statewide importance includes farmland similar to prime farmland, but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Unique farmland is characterized by inferior soils and generally needs irrigation depending on climate.

The Land Evaluation and Site Assessment is a numeric rating system used by the NRCS to evaluate the relative agricultural importance of farmlands. This evaluation is completed on Form AD 1006, the Farmland Conversion Impact Rating (FCIR) Form.

STATE

Oregon's Statewide Planning Goals and Guidelines

Statewide Planning Goals provide basic planning direction and establish the framework for planning programs of all governmental agencies and bodies in the state and county. Since 1973, Oregon has maintained a strong statewide program for land use planning including a foundation of 19 Statewide Planning Goals that express policies on land use and related topics, such as citizen involvement, housing, and natural resources. Most of the goals are accompanied by non-mandatory guidelines that are suggestions for how a goal may be applied.

Oregon's statewide goals are achieved through local comprehensive planning. State law requires each city and county to adopt a comprehensive plan consistent with the Statewide Planning Goals and the zoning

and land-division ordinances needed for implementation. Plans are reviewed for consistency by the Oregon Land Conservation and Development Commission (LCDC).

LOCAL – MEDFORD SITE

City of Medford Comprehensive Plan - General Land Use Plan Element

The central purpose of the 2004 City of Medford Comprehensive Plan is to provide the "goals and policies [to] establish a framework upon which to base decisions and actions related to the use of land" (City of Medford, 2018a). The Comprehensive Plan contains 11 elements, including a General Land Use Plan Element, which individually and collectively influence future development in Medford.

The General Land Use Plan (GLUP) map graphically represents the present and future land use patterns within the City of Medford, and the future patterns within the UGB (City of Medford, 2016b). It is dynamic and not meant to be site-specific, nor the sole basis for making zoning changes. The GLUP map has 13 different land use designations that are described in the zoning code.

The purpose of a city code is to regulate the use of land, buildings, or other structures for residences, commerce, industry, and other uses required by the community. Additionally, city code regulates the location, height, and size of buildings, structures, yards, courts, and open spaces as well as the amount of building coverage permitted and population density in each zone.

Figure 3.9-1, shows the land use and zoning designations of the City of Medford for the area that includes the Medford Site. As shown on Figure 3.9-1, the Medford Site has a commercial land use designation and is zoned for regional and heavy commercial development; surrounding parcels have commercial, industrial, and residential land use designations. City land use designations applicable to the Medford Site and vicinity are described below.

Commercial: This designation permits the largest spectrum of commercial development as well as residential development under certain circumstances. It permits multiple-family dwellings meeting the density standards of the MFR-30 (Multi-Family Residential - 30 units per gross acre) zoning district, except for mixed–use (commercial-residential) buildings, which have no maximum density limitation.

The C-N (Neighborhood Commercial), C-C (Community Commercial), C-R (Regional Commercial), and C-H (Heavy Commercial) zoning districts are permitted in this designation.

Urban Medium Density Residential: This designation permits medium density urban residential uses (10 to 15 units per gross acre), including townhouses (row houses), duplexes, apartments, mobile home parks, and group quarters. The zoning district permitted in this designation is MFR-15 (Multiple Family Residential - 15 units per gross acre).

Parks and Schools: This designation depicts existing and proposed public parks and schools. There is no specific zoning district associated with this designation.

General Industrial: This designation permits the I-L (Light Industrial) and the I-G (General Industrial) zoning districts. The most appropriate zoning district for each site designated General Industrial shall be determined based on the following criteria.

- The I-L zone is intended for office uses and light manufacturing. The I-L zoning district is suitable for areas near residential and commercial properties.

- The I-G zone provides land for industrial uses in which production and processing activities involve a degree of noise, vibration, air pollution, radiation, glare, and fire and explosive hazards. The I-G zoning district is suitable for areas near the Heavy Commercial and the Heavy Industrial zoning districts due to the higher intensity of uses permitted in this zone.

Heavy Industrial: This designation permits uses with a large amount of noise, vibration, air pollution, or other nuisance. It permits the I-G and Heavy Industrial (I-H) zoning districts. The most appropriate zoning district for each site designated Heavy Industrial should be determined based on the following criteria.

- The I-G zone provides land for industrial uses in which production and processing activities involve a degree of noise, vibration, air pollution, radiation, glare, and fire and explosive hazards.
- The I-G zoning district is suitable for areas near the Heavy Commercial and the Heavy Industrial zoning districts due to the higher intensity of uses permitted in this zone.

City of Medford Urban Growth Boundary

The Medford Site is within the designated UGB of Medford. This includes land within the city as well as selected land surrounding the city that is committed to and/or planned for future city growth that is likely to require the extension of urban services (City of Medford and Jackson County, 2018).

Official City of Medford Land Development Code

Chapter 10 of the City of Medford's Municipal Code is the Land Development Code, and Article III describes the zoning districts in Medford (Medford Planning, 2019). Applicable zoning designations for the Medford Site and vicinity are described below.

- **Regional Commercial, C-R**: The C-R zone provides land for the development of those service and commercial uses which serve shoppers from the surrounding region as well as from the local community. The C-R zone shall be located in areas served by adequate regional and local street systems to avoid the impact of regional traffic using neighborhood streets.
- **General Industrial, I-G**: The I-G district provides land for industrial uses in which production and processing activities involve a degree of noise, vibration, air pollution, radiation, glare phenomena, and fire and explosive hazards. The physical effects of such phenomena shall be limited to levels as per the performance standards contained in Article V. Offices shall be permitted only when accessory and subordinate to the principle permitted use. This district is not intended to be customer-oriented, and retailing shall be permitted as an accessory use only.
- **Heavy Commercial, C-H**: The C-H district provides lands for those heavier commercial and service commercial uses which typically may produce a greater degree of noise, vibration, air pollution, and glare than residential or other commercial zones. All uses, excluding those customarily conducted outdoors, should be conducted wholly within an enclosed building.
- **Single-Family Residential (SFR) - 00 (1 dwelling unit per existing lot)**: The primary purpose of this zoning district is to provide a holding zone for properties that are changing from county to city zoning and have not yet been tested for facility adequacy to allow development to urban level densities and intensities. These parcels will primarily be located within the urbanized area of Medford. In addition to one dwelling unit, one accessory dwelling unit (ADU) will be allowed per existing parcel.

LOCAL – PHOENIX SITE

Jackson County Comprehensive Plan

The Jackson County Comprehensive Plan is the official long-range land use policy document for Jackson County. The plan sets forth general land use planning policies and allocates land uses into resource, residential, commercial, and industrial categories. The plan serves as the basis for the coordinated development of physical resources, and the development or redevelopment of the county based on physical, social, economic, and environmental factors (Jackson County, 2004). The Jackson County Comprehensive Plan addresses each of the 14 applicable Statewide Planning Goals, as well as local goals, and contains policies and implementation strategies aimed at compliance with these goals.

Figure 3.9-2 shows the Jackson County zoning designations for the area that includes the Phoenix Site. As shown in Figure 3.9-2, the Phoenix Site is zoned for EFU; surrounding parcels to the east of I-5 are also zoned EFU while land across I-5 is zoned urban residential.

The site is also part of the PH-5 urban reserve area (URA). The local land use policies that apply to the Phoenix Site are discussed below to provide a context for the analysis of potential land use conflicts in Section 4.0.

- Areas designated as agricultural land in Jackson County will be zoned EFU. Jackson County intends to preserve agricultural lands for farm use, preventing uses or activities that are incompatible with farm use within or near agricultural land.
- The EFU zoning district will be established on the Jackson County Zoning Maps for all plan map designated as agricultural land, and permissible development standards will be established in the Jackson County Land Development Ordinance in accordance with state law and the Jackson County Comprehensive Plan. It may also be applied to land designated in the Comprehensive Plan for long-range non-resource uses as an interim zoning district (e.g., within a UGB).
- The Comprehensive Plan map designates Urban Residential areas where the lands are justified for that use through the Goal Exceptions process or lie within urban growth, urban containment, or urban unincorporated community boundaries. The Urban Residential designation provides for urban level densities where public facilities and services are sufficient to serve that level of development. Urban level development within urban growth boundaries can only occur consistent with the mutually adopted UGB agreements, which usually require annexation.

Greater Bear Creek Valley Regional Problem Solving (RPS) Plan

On November 23, 2011, the Jackson County Board of Commissioners adopted the Greater Bear Creek Valley Regional Problem Solving (RPS) Plan as an amendment to its comprehensive plan.

The core elements of the RPS Plan include the region's planning area, planning horizon, problem statements, and the plan goals. It establishes URAs for the cities of Central Point, Eagle Point, Medford, Phoenix, and Talent to accommodate planned residential, commercial, and industrial growth. URAs were identified through the RPS process as the preferred locations for future UGB expansions. The first part of a UGB expansion, the evaluation of the potential environmental, economic, and social impacts of urbanization, was completed and the URAs established such that they would provide a 50-year supply of residential and employment land (Jackson County, 2011).

The Phoenix Site is located within the PH-5 URA, which consists of 427 acres (of which 412 are considered "reasonably developable") located north of Phoenix city limits and its UGB, immediately east of I-5. Medford is to the north, and agricultural land is to the east. Much of the land immediately south and within Phoenix has been developed; there is a Home Depot® building supply store, a La-Z-Boy® furniture store, and a Peterbilt truck center adjacent to I-5, at the regionally important Fern Valley Interchange (City of Phoenix, 2015).

All of PH-5 is currently planned for agriculture and zoned EFU by Jackson County. The Resource Lands Review Committee, a group of resource land experts involved in the RPS planning process, recommended that PH-5 not be recognized as part of the commercial agricultural land base, despite the existence of an operating cattle ranch and equestrian center (Arrowhead Ranch [co-located with the Phoenix Site]). Compared to all the other surrounding agriculture lands, PH-5 is comprised of the least capable agricultural soils. The proposed uses for PH-5 are 22% residential, 12% open space/parks, and 66% employment land (City of Phoenix, 2015).

LOCAL – MILL CASINO SITE

The Mill Casino Site is located on tribal trust land and is not subject to state and local land use plans and regulations.

10 NOISE

Noise standards used in the EIS include the Federal Highway Administration (FHWA) Noise Abatement Criteria (NAC) for the assessment of noise consequences related to surface traffic, and the noise impact criteria established by the ODOT noise policy. These standards are discussed below. Vibration standards used in this study consist of the Federal Transportation Administration (FTA) construction vibration criteria for damage to structures and annoyance of sensitive receptors.

FEDERAL NOISE ABATEMENT CRITERIA

The FHWA provides construction noise level thresholds in its Construction Noise Handbook, 2006, which are provided in **Table 4**.

TABLE 4
FEDERAL CONSTRUCTION NOISE THRESHOLDS

Noise Receptor Locations and Land-Uses	Daytime (7 a.m. - 6 p.m.)	Evening (6 p.m. - 10 p.m.)	Nighttime (10 p.m. - 7 a.m.)
	dBA, Lmax		
Noise-Sensitive Locations: (Residences, Institutions, Hotels, etc.)	85	85	80
Source: FHWA, 2006.			

The FHWA establishes NAC for various land uses that have been categorized based upon activity. Land uses are categorized on the basis of their sensitivity to noise as indicated in **Table 5**. The FHWA NAC is based on peak traffic hour noise levels. Sensitive receptors with the potential to be impacted by the project alternatives include residential land uses; thus, the Category B, 67 dBA Leq noise standard would apply.

TABLE 5
FEDERAL NOISE ABATEMENT CRITERIA HOURLY A-WEIGHTED SOUND LEVEL DECIBELS[1]

Activity Category	Activity Criteria[2] Leq (h), dBA[3]	Evaluation Location	Activity Category Description
A	57	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B[4]	67	Exterior	Residential.
C[4]	67	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E[4]	72	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.
F	--	--	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, shipyards, utilities (water resources, water treatment, electricity), and warehousing.
G	--	--	Undeveloped lands that are not permitted.

Notes:[1] Either Leq(h) or L10(h) (but not both) may be used on a project.
[2] The Leq(h) and L10(h) Activity Criteria values are for impacts determination only, and are not design standards for noise abatement measures.
[3] Hourly A-weighted sound level, decibels (dBA).
[4] Includes undeveloped lands permitted for this activity category.
Source: FHWA, 2010.

FEDERAL VIBRATION STANDARDS

The effects of groundborne vibrations typically cause only a nuisance to people, but damage to buildings may occur at extreme vibration levels. Although groundborne vibration can be felt outdoors, it commonly becomes an annoyance indoors because of the associated effects of the building shaking. Groundborne noise is an effect of groundborne vibration. It is produced from the noise that radiates from the motion of the walls and floors of a room and may consist of the rattling of windows or dishes on shelves. Consequently, groundborne noise occurs solely in indoor environments.

Peak particle velocity (PPV) is often used to measure vibration. PPV is the maximum instantaneous peak (inches per second) of the vibration signal. The PPV levels are used to estimate L_v or VdB levels (vibration decibels with a reference velocity of one micro-inch per second). Scientific studies have shown that human responses to vibration vary by the source of vibration, which is either continuous or transient. Continuous sources of vibration include construction, while transient sources include truck movements. Generally, the thresholds of perception and annoyance are higher for transient sources than for continuous sources. **Table 6** summarizes the FTA's guideline vibration damage criteria for various structural categories. As shown therein, buildings extremely susceptible to vibration damage could be damaged if vibration levels exceed 90 VdB. Sensitive receptors have a perceptibility threshold of 65 VdB andbegin to

exhibit a significant response at approximately 75 VdB. Background vibration velocity in residential areas is usually 50 VdB or lower (FTA, 2018).

TABLE 6
CONSTRUCTION VIBRATION DAMAGE CRITERIA

Building Category	Approximate L_v (VdB)
Reinforced-concrete, steel, or timber (no plaster)	102
Engineered concrete and masonry (no plaster)	98
Non-engineered timber and masonry buildings	94
Buildings extremely susceptible to vibration damage	90
Source: FTA, 2018.	

STATE OF OREGON NOISE REGULATIONS

In 1971, the Oregon Department of Environmental Quality (ODEQ) adopted noise standards. These standards establish motor vehicle noise emission limits and set ambient noise limits for commercial and industrial operations. The standards vary according to time of day and proximity to noise sensitive properties (City of Medford, 2019b). ODOT implements the regulations adopted by ODEQ (ODOT, 2011).

While FHWA considers a traffic noise impact to occur if predicted peak-hour traffic noise levels "approach" or exceed the NAC or "substantially exceed" existing levels, ODOT considers traffic noise impacts to occur if predicted peak-hour traffic noise levels "approach" 2 dBA of the NAC or "substantially exceed" existing levels by greater than 10 dBA. Because ODOT's standards are more stringent than the FHWA, ODOT criteria will be used to determine whether a traffic noise impact would occur. Therefore, the NAC in **Table 5** will be reduced by 2 dBA in accordance with ODOT criteria and the absolute criteria for Activity Category B would be 65 dBA.

LOCAL NOISE REGULATIONS

The City of Medford publishes specific noise standards in Municipal Code Section 10.752 (Noise Standards and Regulations for Commercial and Industrial Sources). The City of Medford provides an exemption from these noise standards for sounds that originate on construction sites in compliance with Municipal Code Section 5.225, Unnecessary Noise. Construction must be limited to the hours of 7:00 a.m. to 6:00 p.m. to be in compliance unless exempted by the City Manager from this restriction (City of Medford, 2019b).

The Phoenix Site is located outside of the Phoenix city limits within Jackson County. Jackson County does not publish specific noise standards or ordinances.

The City of North Bend publishes general guidelines regarding generation of unnecessary noise in the North Bend City Code. For example, City Code 9.04.030(5) limits "the erection, including excavation, demolition, alteration or repair of any building, other than between the hours of 7:00 a.m. and 6:00 p.m., except upon special permit granted by the city council" (City of North Bend, 2011).

ACOUSTICAL BACKGROUND AND TERMINOLOGY

Sound is defined as any pressure variation in air that the human ear can detect and is technically described in terms of loudness (amplitude) and frequency (pitch). The standard unit of sound amplitude measurement is the decibel (dB). The dB scale uses the hearing threshold (20 micropascals of pressure),

as a point of reference, defined as 0 dB. Other sound pressures are then compared to the reference pressure, and the logarithm is used to keep the numbers in a practical range. The dB scale allows a million-fold increase in pressure to be expressed as 120 dB.

The perceived loudness of sounds depends on many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable and can be approximated by weighing the frequency response of a sound level meter by standardized means.

Community noise is commonly described in terms of the "ambient" noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (Leq) over a given time period (usually one hour). The Leq is the foundation of the Day-Night Average Level (Ldn) noise descriptor and shows a strong correlation with community response to noise.

Table 7 contains definitions of acoustical terminology used in this section. **Table 8** shows examples of noise sources and their effects on humans, which correspond to various sound levels.

TABLE 7
ACOUSTICAL TERMINOLOGY

Terms	Definitions
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm of base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).
Frequency, Hertz	The number of complete pressure fluctuations per second above and below atmospheric pressure.
A-Weighted Sound Level (dBA)	Sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. This accounts for sensitivity by de-emphasizing very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Lmax	The maximum A-weighted sound level associated with a given event.
Equivalent Noise Level (Leq)	The average A-weighted noise level during the measurement period.
Day/Night Noise Level (Ldn)	The average A-weighted noise level during a 24-hour day that is obtained after the addition of 10 dB to levels measured in the night between 10:00 p.m. and 7:00 a.m.
Ambient Noise Level	All-encompassing sound associated with a given environment, excluding the analysis system's electrical noise and the sound of interest.
Source: FHWA, 2016; Oregon Administrative Rule: Chapter 340, Division 35.	

TABLE 8
TYPICAL SOUND LEVELS

Sound Source	dB	Typical Human Response
Sonic Boom	140	Painfully Loud
Jet Takeoff (200 feet)	120	Limits of Amplified Speech
Auto Horn (3 feet)	110	Maximum Vocal Effort
Shout (0.5 foot)	100	Very Annoying
Heavy Truck (50 feet)	90	Annoying
Pneumatic Drill (50 feet)	80	Telephone Use Difficult
Freeway Traffic (50 feet)	70	
Air-conditioning Unit (20 feet)	60	
Living Room	50	Quiet
Library	40	
Soft Whisper	30	Very Quiet
Leaves Rustling	10	Just Audible
	5	Threshold of Hearing
Source: City of Medford, 2018b.		

EFFECTS OF NOISE ON PEOPLE

Human reaction to a new noise can be estimated through comparison of the new noise to the existing ambient noise level within a given environment. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will likely be judged by the recipients. With regard to increases in A-weighted noise levels, the following relationships occur.

- Except in carefully controlled laboratory experiments, a change of 1-dBA cannot be perceived.
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference.
- A change in level of at least 5-dBA is required before any noticeable change in human response would be expected.
- A 10-dBA change is subjectively heard as approximately a doubling in loudness and can cause adverse response.

Generally, most noise is generated by transportation systems, principally motor vehicle noise, but also including aircraft noise and rail noise. The level of traffic noise depends on three things: l) the volume of the traffic, 2) the speed of the traffic, and 3) the number of trucks in the flow of the traffic. Because noise is measured on a logarithmic scale, 50 dBA plus 50 dBA does not equal 100 dBA. Instead, two sources of equal noise added together have been found to result in an increase of 3 dBA. For example, if a certain volume of traffic results in a noise level of 50 dBA and there is an addition of the same volume of traffic, or doubling, the combined noise level is 53 dBA (ODOT, 2011). As stated above, 3 dBA is just audible; therefore, if the project doubles the traffic volume, there would be an audible increase in the ambient noise level.

The primary source of noise in the Medford-Ashland region is generated by traffic on OR 99 and I-5, and aircraft that fly over the site from the RVIMA, Ashland Municipal Airport, and the Crater Lake-Klamath Regional Airport that also serves as the Kingsley Field Air National Guard Base. The primary source of noise in the Coos Bay region is generated by traffic on US-101, aircraft that fly over the site from the Southwest Oregon Regional Airport, and commercial and passenger traffic in Coos Bay. Changing the

traffic volume affects noise levels. Given that the traffic composition, speed and driving patterns are unchanged, the logarithmic nature of the dB scale means that a 50% reduction of the traffic volume results in a 3 dB reduction in noise levels, regardless of the absolute number of vehicles.

Stationary point sources of noise, including stationary mobile sources, such as idling vehicles, attenuate (lessen) at a rate of 6 to 9 dBA per doubling of distance from the source, depending on environmental conditions (i.e., atmospheric conditions and noise barriers, either vegetative or manufactured, etc.). Widely distributed noises, such as a large industrial facility or a street with moving vehicles would typically attenuate at a lower rate, approximately 4 to 6 dBA per doubling of distance.

11 HAZARDOUS MATERIALS

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA)

Hazardous materials are subject to numerous laws and regulations at several levels of government. The primary legislation enacted to control the disposal of hazardous materials is RCRA (codified in 42 USC section 6901 et seq). Under RCRA, materials are considered hazardous if they display one or more of the following characteristics: corrosivity, flammability, reactivity, or toxicity (40 CFR Section 261).

RESIDENTIAL LEAD-BASED PAINT HAZARD REDUCTION ACT

The Residential Lead-Based Paint Hazard Reduction Act of 1992 amended the Toxic Substances Control Act (TSCA) to include Title IV, Lead Exposure Reduction. The USEPA regulates building renovation activities that could create lead-based paint hazards in target housing and child-occupied facilities and has established standards for lead-based paint hazards and lead dust cleanup levels in most pre-1978 housing and child-occupied facilities.

NATIONAL EMISSION STANDARDS FOR ASBESTOS

The CAA was enacted in 1970 and requires the USEPA to establish primary and secondary national ambient air quality standards. The CAA also required each state to prepare an air quality control plan, referred to as a State Implementation Plan. Section 112 of the CAA defines “hazardous air pollutants” and sets threshold limits. Asbestos is a federal hazardous air pollutant (40 CFR Part 61, Subpart M [National Emission Standards for Hazardous Air Pollutants, Asbestos]).

HAZARDOUS MATERIALS SITES NEAR THE MEDFORD SITE

Davis Finish Products/Smith Lumber Co.

The Davis Finish Products/Smith Lumber Co. site is located adjacent to the easternmost parcel of the Medford Site. The property is listed on the RCRA NonGen/NLR, FINDS, and ECHO databases as a furniture and related product manufacturing business. As it is listed on the RCRA NonGen/NLR database, the site does not presently generate hazardous waste (**Appendix M**). According to the ECHO website, this site has no compliance violations (USEPA, 2019b). The site is listed on the LUST and UST database due to two previous USTs that were present on the site but have since been decommissioned and removed. Cleanup of the leaking tanks began in 1990 and is listed as complete since 1991. According to the 2015 Phase I ESA prepared for Tax Lot 37-1W-32C-4701, the leak was due to an overfill of the tank and was not a long-term leak (SWCA, 2015). Furthermore, the leak was cleaned up to ODEQ standards and the cleanup was listed as complete, receiving regulatory closure from ODEQ in 1991. Due to the details of the spill and the completed cleanup actions, this incident does currently not pose a risk to the environmental quality of the Medford Site.

Royal-Goldencrest-Silvercrest Orchards

Approximately 0.9 miles away from the Medford Site is the Royal-Goldencrest-Silvercrest Orchards Site. The ODEQ received a work plan for the cleanup of pesticides adjacent to a mixing shed on this site, but no follow-up information was provided. The current status of this site is listed as requiring investigation with suspected contamination, and ODEQ recommends site screening (ODEQ, 2019b).

HAZARDOUS MATERIALS SITES NEAR THE PHOENIX SITE

Royal-Goldencrest-Silvercrest Orchards

Approximately 0.9 miles away from the Phoenix Site is the Royal-Goldencrest-Silvercrest Orchards Site. Refer above for a description of the Royal-Goldencrest-Silvercrest Orchards Site.

HAZARDOUS MATERIALS SITES NEAR THE MILL CASINO SITE

Sun Plywood Mill

The former Sun Plywood Mill site is located on the Mill Casino Site. Details of this site are discussed earlier in the Previous Investigations section.

Tyree Oil

Less than 0.1 mile southwest of the Mill Casino Site is the Tyree Oil Site. In 1968, approximately 1,200 gallons of bunker oil was released from an aboveground storage tank (AST). Cleanup was documented and the local ODEQ office documented the contaminant and cleanup and did not require any further actions. In 1993, a soil assessment was performed and TPH concentrations at 2 feet below ground surface (bgs) exceeded ODEQ RBCs for residential soils for diesel or gasoline at two different locations. In 2004, the site status was updated to state that impacts via surface water are not anticipated due to sediment sample results showing only low concentrations and the lack of on-site wells. However, there may be some groundwater contamination at the site. An expanded preliminary assessment was recommended, but further action was rated as low priority (Appendix M).

Unocal Marketing Terminal

Located approximately 0.3 miles south of the Mill Casino Site is the Unocal Marketing Terminal site, which is listed as a conditional no further action site (Appendix M). This site was formerly operated as a "bulk terminal for the storage and distribution of petroleum products such as gasoline, diesel, and stove oil. Operations began in 1935 and included a wharf, railroad track, railroad unloading rack, and fuel pipelines" (ODEQ, 2019b). These facilities were decommissioned or demolished in 2006. However, during operation, this site experienced "historical releases of petroleum products from the petroleum piping, loading racks, tanks and other facilities associated with the terminal and bulk plant [such that] residual concentrations of oil, diesel, gasoline, and their constituents are present in soil and groundwater beneath the site" (ODEQ, 2019b). ODEQ has determined that no further action is required at this site as long as the terms of the Contaminated Media Management Plan (CMMP) are followed. These measures include procedures intended as precautions to be taken during construction events on the site, such as soil excavation or groundwater extraction.

Chevron Bulk Plant Former

Located approximately 0.3 miles south of the Mill Casino, a bulk-fuel plant was operational at the Chevron site from the 1920s to 1980. Diesel and gasoline were found in the soil under the facility. Chevron remediated contamination in the groundwater in 1981. In 1997, it was reported that groundwater

cannot be used at the site because of the wood waste fill, salinity, and low yield. Benzene, toluene, ethylbenzene, and xylene (BTEX) and PAHs have been detected in soils and sediment at the site. To treat groundwater contamination, a biosparging and funnel and gate treatment system was installed (Appendix M).

12 AESTHETICS

NATIONAL SCENIC BYWAY PROGRAM

The National Scenic Byway Program is part of the U.S. Department of Transportation (USDOT), Federal Highway Administration (FHWA). The U.S. Secretary of Transportation recognizes certain roads as All- American Roads or National Scenic Byways based on one or more archeological, cultural, historic, natural, recreational, and scenic qualities

FEDERAL HIGHWAY ADMINISTRATION

The FHWA includes guidelines for the Visual Impact Assessment of highway projects and provides mitigation and BMPs for construction and aesthetic design features on new structures along highways. The mitigation measure specific to the use of aesthetic design features on structures states the following.

> "Design structures associated with the proposed project in a manner that allows these features to blend with the surrounding built and natural environments so that they complement the visual landscape. Such measures will include, but are not limited to, the following.
>
> - Aesthetic treatments to structures will be implemented to help soften their visual intrusion upon the landscape, especially in areas of high use, to improve project aesthetics.
> - Structures will be constructed with low-sheen and nonreflective surface materials to reduce potential for glare. Unpainted metal surfaces will not be permitted.
> - At a minimum, finishes will be matte and roughened and concrete [insert structure] will be painted or will use concrete colored integrally with a shade that is two to three shades darker than the general surrounding area. Choose colors from the Federal Color Standard 595. All paints used for the color panels and structures will be color matched directly from the physical color chart, rather than from any digital or color-reproduced versions of the color chart. Paints will be of a dull, flat, or satin finish only to reduce potential for glare, and the use of glossy paints for surfaces will be avoided. Appropriate paint type will be selected for the finished structures to ensure long-term durability of the painted surfaces. The appropriate operating agency or organization will maintain the paint color over time. (FHWA, 2015.)"

VIEWSHED CHARACTERISTICS

A viewshed is comprised of one or more viewing corridors from a specific location or viewpoint. Each of these viewpoints provides a line of sight that can be characterized uniquely from among other viewpoints within the viewshed. The visual experience within each viewpoint is comprised of the following constituent elements.

1. Clarity in Line of Sight is the overall visibility of the object within the viewshed, influenced by such factors as trees, buildings, topography, or any other potential visual obstruction within the viewshed.

2. Duration of Visibility is the amount of time the object is exposed to viewers within the viewshed, i.e., a passing commuter will experience a shorter period of viewing time than a resident within the viewshed.
3. Proximity of the Viewer are the effects of foreshortening due to the distance of the viewer from the object that influence the dominance of the object in the perspective of the viewer within the viewshed.
4. Number of Viewers pertains to the number of viewers anticipated to experience the visual character of the object in forward-oriented view (i.e., not through a rear-view mirror). A densely populated residential district or a busy highway within the viewshed of the object would present more viewers than unpopulated areas.

Viewsheds and viewpoints are described by expressing the strength of the viewing experience, framed within the analytical criteria listed above. While the viewing experience is personal and subjective in nature, the application of the above criteria allows for an objective, baseline assessment of the visual environment and subsequent visual impacts.

SCENIC RESOURCES

There is no comprehensive list of specific features that automatically qualify as scenic resources; however, certain characteristics can be identified that contribute to the determination of a scenic resource. The following is a partial list of visual qualities and conditions that, if present, may indicate the presence of a scenic resource.

- A tree that displays outstanding features of form or age
- A landmark tree or a group of distinctive trees accented in a setting as a focus of attention
- An unusual planting that has historical value
- A unique, massive rock formation
- A historic building that is a rare example of its period, style, or design, or that has special architectural features and details of importance
- A feature specifically identified in applicable planning documents as having a special scenic value
- A unique focus or a feature integrated with its surroundings or overlapping other scenic elements to form a panorama
- A vegetative or structural feature that has local, regional, or statewide importance

MEDFORD SITE

If the federal government acquires the proposed trust property[2] in trust for the Tribe, that property will not be subject to local or regional land use regulations; the Tribe has jurisdictional authority over aesthetic matters within its trust lands. The following is a brief description of the applicable local regulations that would apply to the portion of the Medford Site that would remain in fee.

Development in the area of the Medford Site is guided in part by the City of Medford ordinances related to building development, lighting, and signage. As described in Section 3.9, the Medford Site has a commercial land use designation and is zoned for Regional-Commercial; surrounding parcels have commercial, industrial, and residential land use designations (see Figure 3.9-1). The City of Medford

[2] Under Alternative A, the proposed trust property is Tax Lot Number 37-1W-32C-4701.

zoning code limits building height in C-R zoning districts to 85 feet and 35 feet in C-H zoning districts. In all districts, the City of Medford Municipal Code requires that any operation or activity producing glare should be conducted so that direct or indirect light from the source should not have a maximum permitted illumination in excess of 0.5 footcandles on any property in a residential district other than the lot on which the glare is generated. Additional restrictions on lighting include prohibiting the use of flickering or flashing lights and the locating of light sources within buffered areas, except on pedestrian walkways. The City of Medford allows the following signs within C-R and C-H zoning districts, subject to certain limitations: ground signs, wall signs, projecting signs, and awning/canopy/marquee signs.

PHOENIX SITE

If the federal government acquires the Phoenix Site in trust for the Tribe, the property will not be subject to local or regional land use regulations. The Tribe has jurisdictional authority over aesthetic matters within its trust lands. The following is a brief description of the applicable local regulations if the property not taken into trust, but developed privately or publicly.

Development in the area of the Phoenix Site is guided in part by the Jackson County Comprehensive Plan's Natural and Historic Resources Element. This element of the comprehensive plan sets forth a policy to "maintain or enhance the aesthetic qualities and values of the significant natural scenic landscape resources of the County" through appropriate zoning of natural resource lands and use of a scenic resource overlay to designate areas of special protection. There are no special protection areas within the vicinity of the Phoenix Site.

MILL CASINO SITE

The Mill Casino Site is located on land that is held in federal trust for the benefit of the Tribe and is therefore not subject to any local or regional land use regulations. The Tribe has jurisdictional authority over aesthetic matters within its trust lands.

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APPENDIX C

Notice of Intent

elements of conservation design to help us identify priority conservation areas that will contribute to achieving measurable conservation targets such as population objectives. The policy ensures that when employees propose new refuges or expansions to existing refuges, they analyze and describe: (1) The project's vulnerability to climate change and other non-climate stressors (*e.g.,* habitat fragmentation, invasive species), (2) how we will mitigate stressors to ensure the project's resiliency, (3) how the project is arranged in a geographically efficient manner to safeguard ecological processes across the landscape, and (4) how the project complements the resilience of other conservation areas.

The policy establishes the process for sending project proposals to the Service Director and the potential outcomes of the Director's review. It also describes how designated representatives at the local level—Refuge Managers—must interact, coordinate, cooperate, and collaborate with State fish and wildlife agencies in the acquisition and management of refuges.

Summary of Comments and Changes to the Final Policy

On January 30, 2014, we announced the draft policy and requested public comment via a **Federal Register** notice (79 FR 4952). The comment period was open from January 30, 2014, through March 3, 2014. We received 35 detailed comment letters and many individual comments on the draft policy. In total, we received 236 individual comments, which were grouped into 71 comment categories. The comments were from nongovernmental organizations, individuals, States, and industry. Most of the comments expressed general support, and many addressed specific elements in the draft policy.

We considered all of the recommendations for improvement and clarification included in the comments and made appropriate changes to the draft policy. Many of the comments we received were outside the scope of this policy. We drafted this policy in a way that gives us flexibility as funding levels and resources change. The policy does not supersede any piece of legislation, regulation, or other policy.

Dated: December 11, 2014.

Dan Ashe,

Director, Fish and Wildlife Service.

[FR Doc. 2015–00381 Filed 1–14–15; 8:45 am]

BILLING CODE 4310–55–P

DEPARTMENT OF THE INTERIOR

Bureau of Indian Affairs

[AAK6006201 156A2100DD AOR3030.999900]

Intent To Prepare an Environmental Impact Statement for the Proposed Coquille Indian Tribe Fee-to-Trust and Casino Project, City of Medford, Jackson County, Oregon

AGENCY: Bureau of Indian Affairs, Interior.

ACTION: Notice.

SUMMARY: This notice advises the public that the Bureau of Indian Affairs (BIA) as lead agency intends to gather information necessary for preparing an Environmental Impact Statement (EIS) pursuant to the National Environmental Policy Act (NEPA) in connection with the Coquille Indian Tribe's (Tribe) application for a proposed 2.4-acre fee-to-trust transfer and casino project to be located in the City of Medford, Jackson County, Oregon. This notice also announces the beginning of the public scoping process to solicit public comments and identify issues.

DATES: Written comments on the scope of the EIS must arrive by February 17, 2015. The date of a public scoping meeting will be announced at least 15 days in advance through a notice to be published in the local newspaper, the Mail Tribune, and posted at *www.coquilleeis.com.*

ADDRESSES: You may mail or hand-deliver written comments to Mr. Stanley Speaks, Northwest Regional Director, Bureau of Indian Affairs, Northwest Region, 911 Northeast 11th Avenue, Portland, Oregon 97232–4165. Please include your name, return address, and ''DEIS Scoping Comments, Coquille Indian Tribe Fee-to-Trust and Casino Project'' on the first page of your written comments. The location of a public scoping meeting will be announced at least 15 days in advance through a notice to be published in the local newspaper, the Mail Tribune, and posted at *www.coquilleeis.com.*

FOR FURTHER INFORMATION CONTACT: Dr. BJ Howerton, Bureau of Indian Affairs, Northwest Regional Office, 911 Northeast 11th Avenue, Portland, Oregon 97232; fax (503) 231–2275; phone (503) 231–6749.

SUPPLEMENTARY INFORMATION: The Tribe has submitted an application to the BIA requesting that approximately 2.4 acres of land be transferred from fee to trust status (Proposed Action), upon which the Tribe would renovate an existing bowling alley to convert it into a gaming facility. In order for the Department to fully consider and either grant or deny the Tribe's application, the Department must first comply with NEPA.

The proposed fee-to-trust property is located within the incorporated boundaries of the City of Medford, Oregon, adjacent to the northeastern boundary of Highway 99, between Charlotte Ann Lane and Lowry Lane. The Tribe's stated purpose of the Proposed Action is to improve the economic status of the Tribe so it can better provide housing, health care, education, cultural programs, and other services to its members. Adjacent fee land would be used for parking.

The Proposed Action encompasses the various federal approvals which may be required to implement the Tribe's proposed economic development project, including approval of the Tribe's fee-to-trust application. The EIS will identify and evaluate issues related to these approvals.

Areas of environmental concern identified for analysis in the EIS include land resources; water resources; air quality; noise; biological resources; cultural/historical/archaeological resources; resource use patterns; traffic and transportation; public health and safety; hazardous materials and hazardous wastes; public services and utilities; socioeconomics; environmental justice; visual resources/aesthetics; and cumulative, indirect, and growth-inducing effects. The range of issues and alternatives to be addressed in the EIS may be expanded or reduced based on comments received in response to this notice and at the public scoping meeting. Additional information, including a map of the project site, is available by contacting the person listed in the **FOR FURTHER INFORMATION CONTACT** section of this notice.

Public Comment Availability: Comments, including names and addresses of respondents, will be available for public review at the BIA address shown in the **ADDRESSES** section, during regular business hours, 8 a.m. to 4:30 p.m., Monday through Friday, except holidays. Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask in your comment that your personal identifying information be withheld from public review, the BIA cannot guarantee that this will occur.

Authority: This notice is published in accordance with sections 1503.1 and 1506.6 of the Council on Environmental Quality Regulations (40 CFR parts 1500 through 1508) implementing the procedural requirements of the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321–4345 *et seq.*), and the Department of the Interior Manual (516 DM 1–6), and is in the exercise of authority delegated to the Assistant Secretary—Indian Affairs by 209 DM 8.1.

Dated: January 8, 2015.

Kevin K. Washburn,

Assistant Secretary—Indian Affairs.

[FR Doc. 2015–00550 Filed 1–14–15; 8:45 am]

BILLING CODE 4337–2A–P

DEPARTMENT OF THE INTERIOR

Bureau of Indian Affairs

[156A2100DD.AADD001000]

Advisory Board for Exceptional Children Meeting

AGENCY: Bureau of Indian Affairs, Interior.

ACTION: Notice of meeting.

SUMMARY: The Bureau of Indian Education (BIE) is announcing that the Advisory Board for Exceptional Children (Advisory Board) will hold its next meeting in Albuquerque, New Mexico. The purpose of the meeting is to meet the mandates of the Individuals with Disabilities Education Act of 2004 (IDEA) for Indian children with disabilities.

DATES: The Advisory Board will meet on Thursday, March 26, 2015, from 8:30 a.m. to 4:30 p.m. and Friday, March 27, 2015, from 8:30 a.m. to 4:30 p.m. Mountain Time.

ADDRESSES: The meeting and orientation will be held at the Manuel Lujan, Jr. Indian Affairs Building, 1011 Indian School Road NW., Albuquerque, New Mexico 87104; telephone number (505) 563–5383.

FOR FURTHER INFORMATION CONTACT: Ms. Sue Bement, Designated Federal Official, Bureau of Indian Education, Albuquerque Service Center, Division of Performance and Accountability, 1011 Indian School Road NW., Suite 332, Albuquerque, New Mexico 87104; telephone number (505) 563–5274.

SUPPLEMENTARY INFORMATION: In accordance with the Federal Advisory Committee Act (5 U.S.C. app.), the BIE is announcing that the Advisory Board will hold its next meeting in Albuquerque, New Mexico. The Advisory Board was established under the Individuals with Disabilities Education Act of 2004 (20 U.S.C. 1400 *et seq.*) to advise the Secretary of the Interior, through the Assistant Secretary-Indian Affairs, on the needs of Indian children with disabilities. The meetings are open to the public.

The following items will be on the agenda:

- Introduction of Advisory Board members;
- Appointment of Advisory Board Chair and Vice Chair;
- Report from Ms. Gloria Yepa, Supervisory Education Specialist, BIE, Division of Performance and Accountability;
- Report from BIE Director's Office;
- Report from Dr. Jeffrey Hamley, Associate Deputy Director of the Division of Performance and Accountability;
- Stakeholder input on BIE Annual Performance Report and State Systemic Improvement Plan;
- Public Comment (via conference call, March 26, 2015, meeting only *); and
- BIE Advisory Board-Advice and Recommendations.

* During the March 26, 2015 meeting, time has been set aside for public comment via conference call from 1:30–2:00 p.m. Mountain Time. The call-in information is: Conference Number 1–888–417–0376, Passcode 1509140.

Dated: January 6, 2015.

Kevin K. Washburn,

Assistant Secretary—Indian Affairs.

[FR Doc. 2015–00549 Filed 1–14–15; 8:45 am]

BILLING CODE 4310–6W–P

DEPARTMENT OF THE INTERIOR

National Park Service

[NPS–IMR–LAMR–16527; PP1LAMR00.PPMPSAS1Z.Y00000]

Off-Road Vehicle Management Plan, Final Environmental Impact Statement, Lake Meredith National Recreation Area, Texas

AGENCY: National Park Service, Interior.

ACTION: Notice of availability.

SUMMARY: The National Park Service (NPS) announces the availability of a Final Environmental Impact Statement (FEIS) for the Off-Road Vehicle Management Plan (Plan), Lake Meredith National Recreation Area, Texas. The Plan/FEIS evaluates the impacts of four alternatives that address off-road vehicle (ORV) management in the national recreation area.

DATES: The NPS will execute a Record of Decision (ROD) no sooner than 30 days following publication by the Environmental Protection Agency of its Notice of Availability of the Final Environmental Impact Statement.

ADDRESSES: The Plan/FEIS is available in electronic format online at: *http://parkplanning.nps.gov/LAMR.* Hard copies of the Plan/FEIS are available at Lake Meredith National Recreation Area, Alibates Flint Quarries National Monument Offices, 419 E. Broadway, Fritch, Texas 79036–1460, by phone at 806–857–3151.

FOR FURTHER INFORMATION CONTACT: Robert Maguire, Superintendent, Lake Meredith National Recreation Area, Alibates Flint Quarries National Monument, P.O. Box 1460, Fritch, Texas 79036–1460, by phone at 806–857–3151, or by email at *Robert_Maguire@nps.gov.*

SUPPLEMENTARY INFORMATION: The Plan/FEIS responds to, and incorporates agency and public comments received on the Draft Environment Impact Statement (DEIS) and Plan, which was available for public review from January 25, 2013, to March 26, 2013. Public meetings were held on March 19 and 20, 2013, to gather input on the EIS and Plan. Over 116 pieces of correspondence were received during the public review period. Agency and public comments and NPS responses are provided in Appendix B of the FEIS/Plan.

The purpose of this Plan/FEIS is to manage ORV use in the national recreation area for visitor enjoyment and recreation opportunities, while minimizing and correcting damage to resources. By special regulation (Title 36, Section 7.57 of the Code of Federal Regulations), the national recreation area allows the use of ORVs in two areas: Blue Creek and Rosita Flats. The Plan/FEIS evaluates four alternatives to manage ORV use in the national recreation area: a No Action Alternative (A) and three Action Alternatives (B, C, and D (preferred). When approved, the Plan will guide the management of ORV use for the next 15–20 years.

Alternative A: No Action—The national recreation area would continue to operate under the 2007 Interim ORV Management Plan where ORVs are allowed below the 3,000 foot elevation line in Rosita Flats and from cutbank to cutbank at Blue Creek. Limited facilities are supplied. No additional management tools such as zoning, permits, or use limits would be implemented.

Alternative B: Under this alternative, ORV use would be managed through a zone system. Uses would be separated into the following zones: camping, hunting, resource protection, low speed, and beginner. At Rosita Flats, two areas

APPENDIX D

Water and Wastewater Feasibility Study and Stormwater Quality Analysis

APPENDIX C

Water And Wastewater Feasibility Study And Drainage And Stormwater Treatment Analysis

Adjustments were made to the Draft EIS project alternatives between the preparation of this Water and Wastewater Feasibility Study and the publication of the Draft Environmental Impact Statement (EIS).

Those adjustments not reflected within this Water and Wastewater Feasibility and Stormwater Study are as follow:

1) The area of the Roxy Ann Site has decreased from approximately 8.91 acres to approximately 7.24 acres and consists of ten tax lots currently owned or leased by the Coquille Indian Tribe, rather than the previously studied six tax lots.

2) An alternative proposing an on-site wastewater facility was originally considered and analyzed, but finally excluded from consideration. The alternative (originally Alternative B) was removed from the EIS and all alternative IDs were shifted up.

Prior Designation	**Current Designation**
Alternative A	Alternative A
Alternative B	Removed
Alternative C	Alternative B
Alternative D	Alternative C
Alternative E	Alternative D

3) Alternative A originally proposed the use of an existing parking lot and the potential demolition of existing buildings on an adjacent lot to transform the lot into a second parking area. Demolition of existing buildings was removed from the alternative, and a different adjacent lot will be used as the second parking area instead. The alternative now includes the use of two existing empty lots in the northern area of the Medford site as parking areas.

All adjustments would result in no change or decreased water and wastewater demands from those presented in this study, so this study serves as a conservative analysis of water and wastewater impacts under the updated project alternatives. For a full description of the updated project, see Section 2.0 and associated discussions within Section 3.0 and 4.0 of the EIS.

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Coquille Tribe
Medford Casino Project
Water and Wastewater
Feasibility Study

April 2016

Prepared for

Analytical Environmental Services
1801 7th Street, Suite 100
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K/J Project No. 1576010*00

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K Rogue Valley Sewer Services System Development Charges
L Rogue Valley Sewer Services Wastewater Rates
M Medford Water Commission Fire Protection Service Standards
N Medford Water Commission 2015 Water Quality Report
O Stormwater Modeling and Analyses

List of Acronyms

%	percent
°C	degrees Celsius
ADWF	Average Dry Weather Flow
BMP	Best Management Practices
BOD	Biochemical Oxygen Demand
C	concrete
cfs	cubic feet per second
CIPP	cured-in-place concrete
City	City of Phoenix
County	Jackson County
DEQ	Department of Environmental Quality

DOGAMI	Department of Geology and Mineral Industries
EFU	Exclusive Farm Use
Facility Plan	2007 Water Distribution Facility Plan
FRP	fiberglass reinforced plastic
gal	gallons
gpd	gallons per day
gpdsf	gallons per day per square foot
gpm	gallons per minute
I-5	Interstate 5
In	inches
in/hr	inches per hour
LCDC	Land Conservation and Development Commission
LF	linear feet
Manual	Rogue Valley Stormwater Quality Design Manual
Mg/L	milligrams per liter
MGD	million gallons per day
MMF	Maximum Monthly Flow
MMWWF	Maximum Month Wet Weather Flow
MWC	Medford Water Commission
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
ODOT	Oregon Department of Transportation
PDF	Peak Day Flow
ppd	pounds per day
ppd VS	pounds volatile solids per day
Project	Coquille Indian Tribe Fee-to-Trust and Casino Project
PWWF	Peak Wet Weather Flow
Regional Plan	Greater Bear Creek Valley Regional Plan
RVSS	Rogue Valley Sewer Services
RWRF	Regional Water Reclamation Facility
SCD	System Development Charges
SF	square foot or feet
TMDL	Total Maximum Daily Load
Tribe	Coquille Indian Tribe
UGB	Urban Growth Boundary
URA	Urban Reserve Area
WTP	Water Treatment Plant

Section 1: Introduction

1.1 Purpose

The purpose of this Study is to evaluate the feasibility of providing water and wastewater services to the Coquille Indian Tribe Fee-to-Trust and Casino Project (proposed project) at two alternative site locations: The Roxy Ann Site, located within the City of Medford, and the Phoenix Site, located north of the City of Phoenix, Oregon. The alternative site locations are shown on Figure 1-1. Site specific stormwater analyses are also included for each site location.

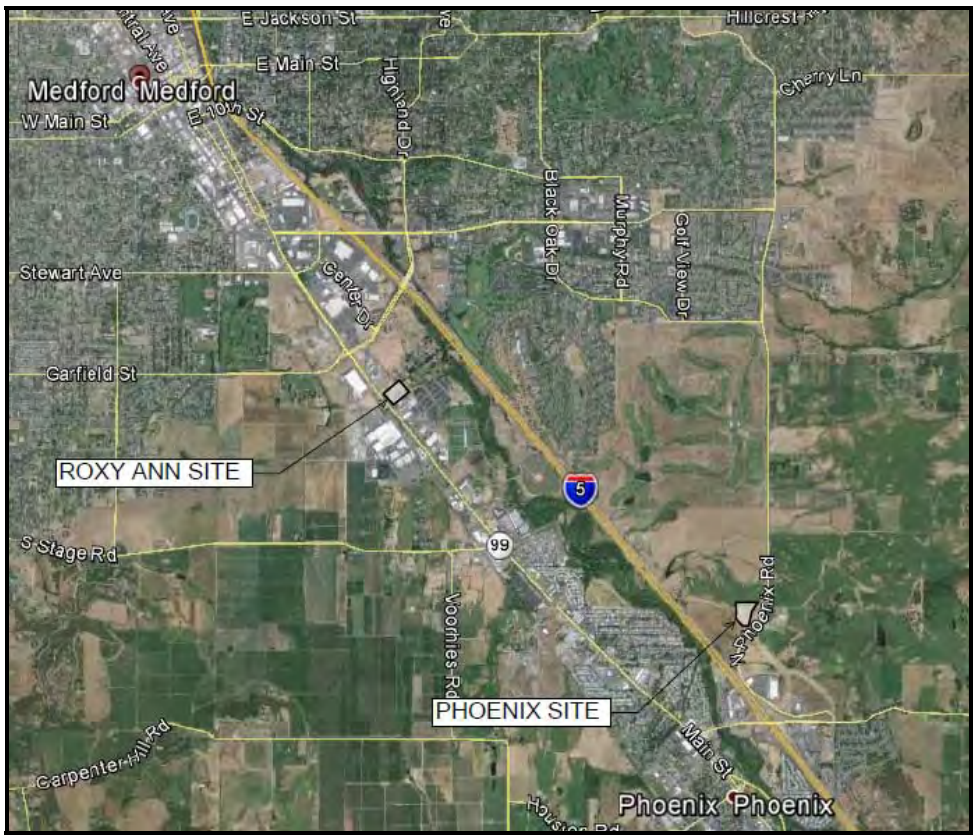

Figure 1-1: Proposed Project Alternative Site Locations

1.2 Proposed Project

The proposed project is a 30,000 square foot (SF) gaming facility consisting of approximately 16,700 SF of Class II gaming area, 7,500 SF of bar/deli and kitchen area, and approximately 5,000 SF of ancillary and support facilities, as shown on Figure 1-2. The proposed project at the Roxy Ann Site consists of a remodel of the existing Roxy Ann Lanes bowling alley along South Pacific Highway (State Highway 99). The Phoenix Site consists of new construction on agricultural land north of the City of Phoenix (City) Urban Growth Boundary (UGB).

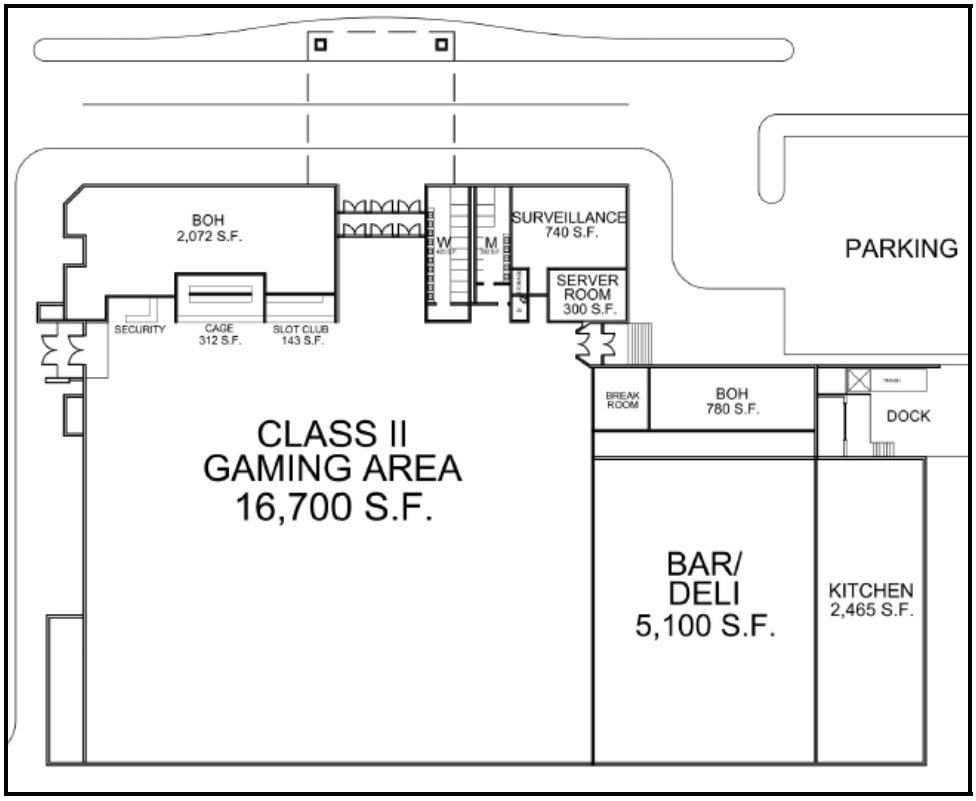

Figure 1-2: Proposed Project

1.2.1 Roxy Ann Site

The Roxy Ann Site is located in Medford, Oregon at 2375 South Pacific Highway (Oregon Highway 99), as shown on Figure 1-3. The site is owned by the Coquille Indian Tribe (Tribe) and is currently leased to a bowling alley operator, Roxy Ann Lanes. The project proposes to transfer a 2.4 acre parcel held in fee by the Tribe into federal trust. The proposed project would be constructed on the 2.4 acre parcel. A fee-to-trust land acquisition is a transfer of land title from an eligible Tribe or individual to the United States of America, in trust, for the benefit of the eligible Indian Tribe or individual. Once the land has been placed into trust, the property can be remodeled into a Class II gaming facility. Class II gaming is defined by the State of Oregon to be games of chance, such as bingo, and non-banked card games. The parcel proposed for the fee-to- trust transfer, tax lot 4701, is shown on Figure 1-4.

The Roxy Ann Site is located within the service jurisdiction of the Medford Water Commission (MWC), Rogue Valley Sewer Services (RVSS), and the City of Medford Regional Water Reclamation Facility (RWRF). This Study reviews the regulatory requirements as well as system capacities and conditions to determine the feasibility of continued service by these providers to the proposed project. This Study also includes a technical memorandum prepared by Kennedy/Jenks Consultants evaluating the feasibility of providing independent onsite water and wastewater to serve the Roxy Ann Site, included as Appendix A.

Figure 1-3: Roxy Ann Site Location

Figure 1-4: Roxy Ann Site Fee-to-Trust Parcel

The Roxy Ann Site Plan shown on Figure 1-5 consists of two elements: the 2.4 acre fee-to-trust parcel, and additional areas, consisting of tax lots 4100, 4200, 4300, 4400, and 4500. The additional areas will serve the gaming facility; however, these parcels will not be transferred to trust status. For the purposes of this Study, both the 2.4 acre parcel and the additional areas are considered to be part of the overall site plan.

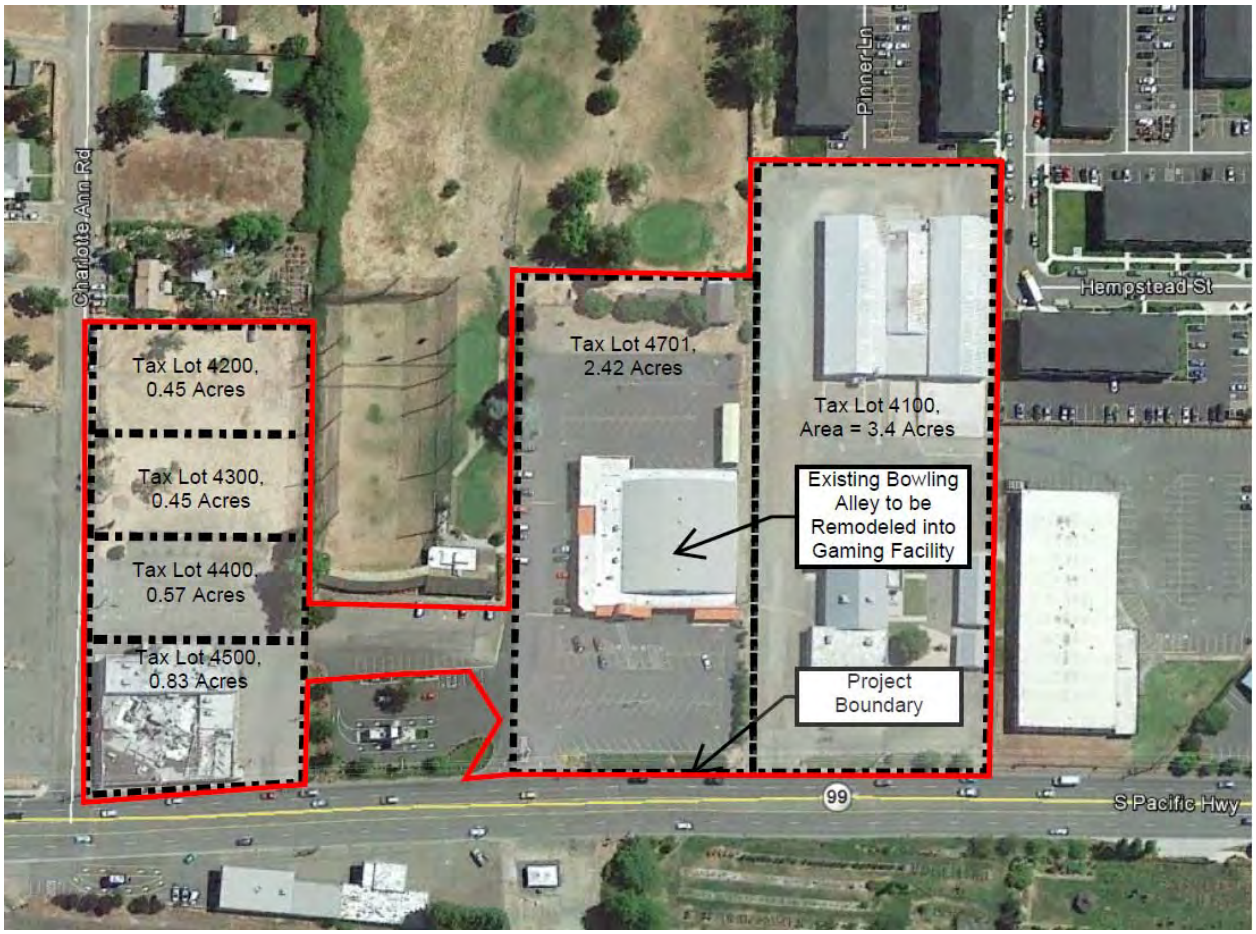

Figure 1-5: Roxy Ann Site Plan

1.2.2 Phoenix Site

The Phoenix Site is situated on a 46 acres located off of North Phoenix Road in Jackson County. The site lies just north of the City of Phoenix UGB and the Fern Valley Interstate 5 (I-5) interchange, as shown on Figure 1-6. The site consists of two parcels currently owned by the Arrowhead Ranch Land and Cattle Company. At the Phoenix Site, the project proposes to purchase the land and enter into a fee-to-trust process for the purpose of constructing the proposed project shown on Figure 1-2. The developed Phoenix Site would consist of a 7.8 acre development, depicted as the shaded polygon on Figure 1-6. The parcels proposed for purchase and transfer to trust are shown on Figure 1-7 as Tax Lots 100 and 500. The Phoenix Site Plan is shown on Figure 1-8.

The Phoenix Site is located outside of the service areas for utilities serving the City of Phoenix. This Study reviews the land use regulations and planning procedures associated with a UGB adjustment for the purpose of extending water and wastewater services to the site. This Study also reviews the regulatory and technical feasibility of the extension of and connection to water and wastewater services, provided by the City of Phoenix and RVSS, respectively.

Figure 1-6: Phoenix Site Location

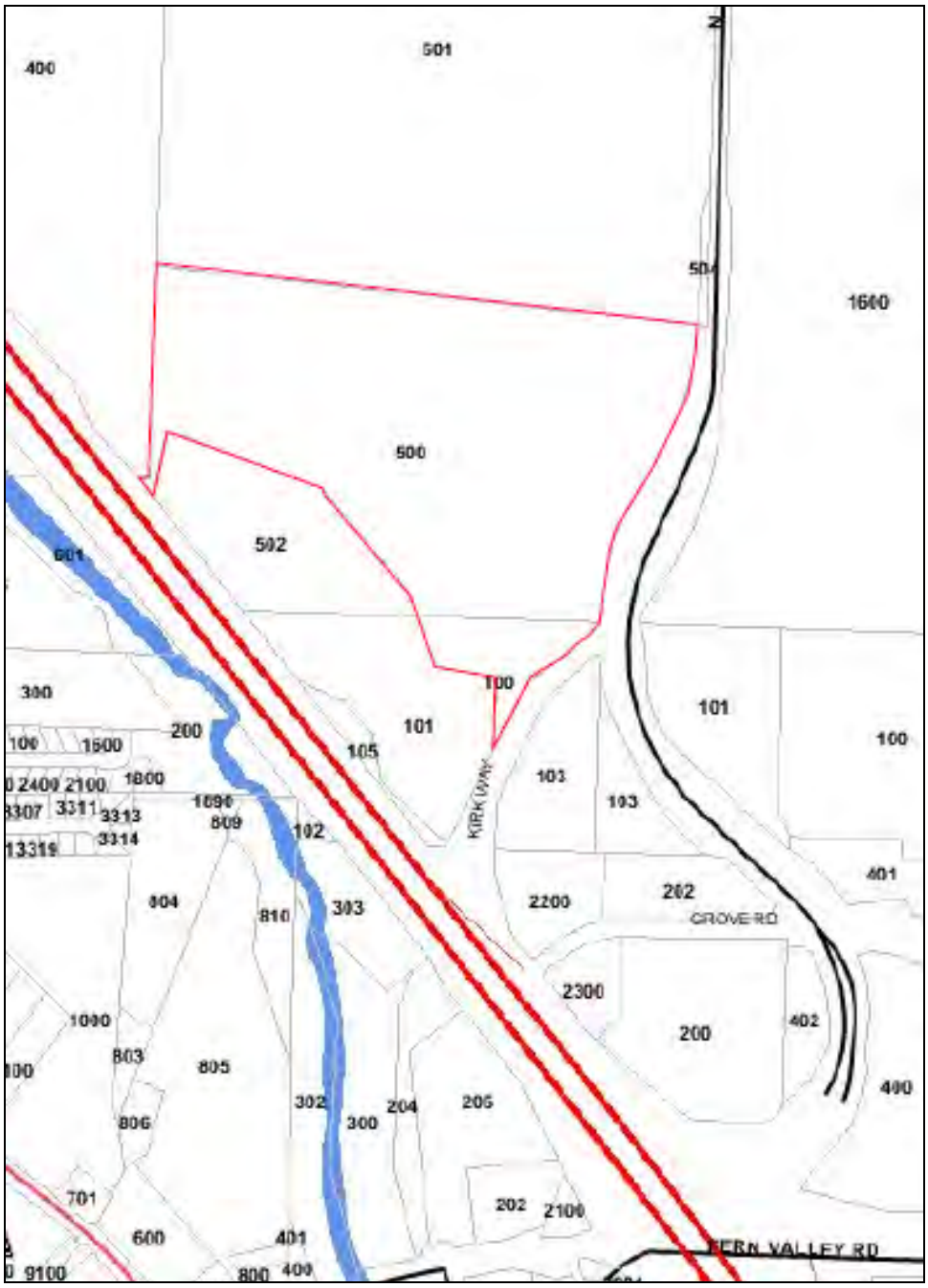

Figure 1-7: Phoenix Site Proposed Fee-to-Trust Parcel

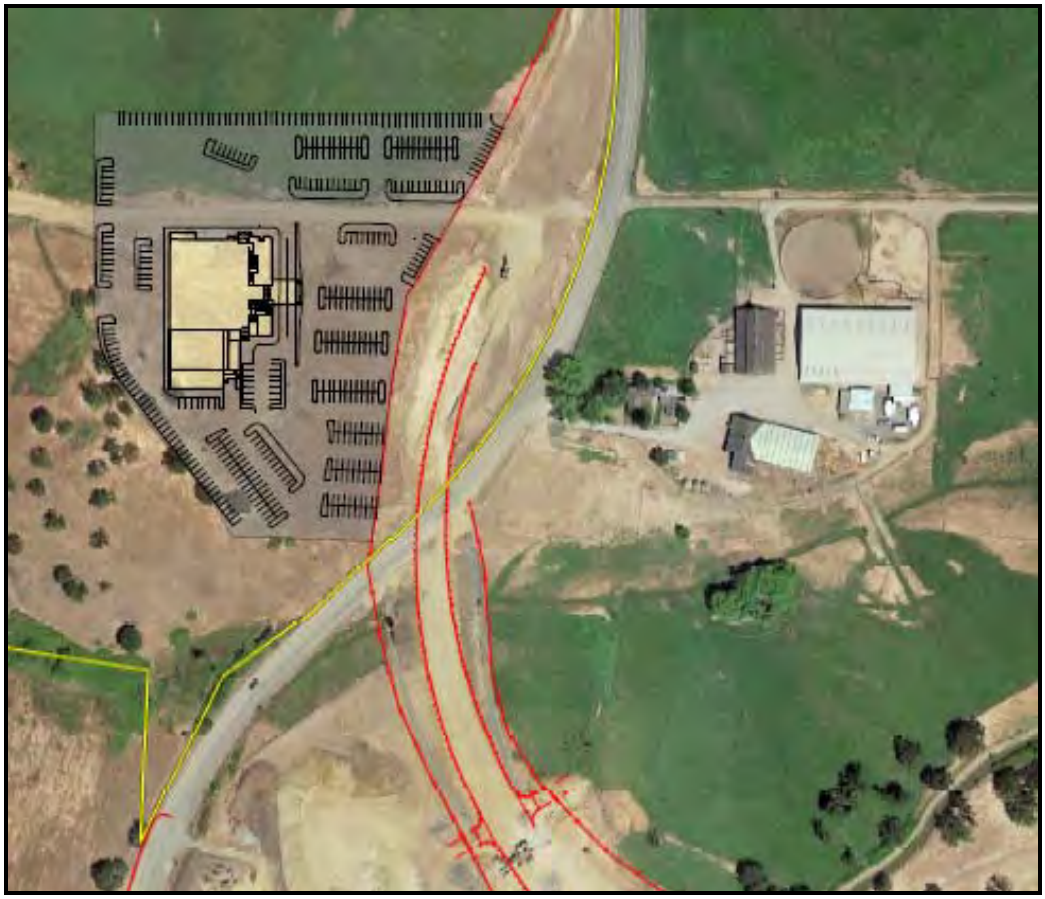

Figure 1-8: Phoenix Site Plan

Section 2: Projected Flows

2.1 Projected Wastewater Flows

The proposed project will generate wastewater flows requiring conveyance and treatment. The primary sources of wastewater include lavatories in the gaming area and plumbing fixtures in the kitchen and food service areas. Data from comparable facilities were reviewed to estimate wastewater generation rates in terms of gallons per day per square foot (gpdsf) for the areas shown in the proposed project floor plan on Figure 1-2. The floor plan includes approximately 16,700 SF of gaming area, and approximately 7,585 SF of bar/deli and kitchen area. Wastewater generation peaking factors were determined based on review of similar wastewater projections for gaming facility developments. Table 2-1 summarizes the projected wastewater flows for the proposed project.

Table 2-1: Projected Wastewater Flows

Area	Units	Unit Qty	Unit Wastewater Generation Rate, gpdsf[1,2,3]	Average Daily Flow, gpd[4]
Gaming	SF	16,700	0.43	7,181
Bar/Deli and Kitchen	SF	7,585	1.40	10,619
			Total Average Daily Flow, gpd	**17,800**
			Peaking Factor[3]	**2**
			Peak Day Flow, gpd	**35,600**

Notes:

1. Assumes 100% area utilization rate.
2. gpdsf = gallons per day per square foot.
3. Comparable gaming facilities as presented in wastewater feasibility reports prepared by Summit Engineering (2014), Olson Engineering (2005), Bray and Associates (2013), and Hydroscience Engineers (2007)
4. gpd = gallons per day.

2.1.1 Roxy Ann Site Wastewater

To assess the impact of the proposed project on wastewater generation rates at the Roxy Ann Site, existing MWC winter water use records for the property were reviewed. The existing rates were then decreased by 10 percent to account for a 10 percent loss factor between potable water and wastewater systems. The current average daily wastewater flow for Roxy Ann Lanes bowling alley is estimated to be 1,350 gpd. Based on the estimated projected wastewater flows presented in Table 2-1, the proposed project is anticipated to generate a 1,300% percent increase in wastewater flows from the current use. No changes are proposed for tax lot 4100, and therefore no change to wastewater flow for the 3.4 acre parcel is expected.

2.1.2 Phoenix Site Wastewater

The Phoenix Site is currently undeveloped agricultural land. The wastewater flow projections for the proposed project would represent new flows to the wastewater system originating from the Phoenix Site.

2.2 Projected Water Demand

The projected water demand for the proposed project is comprised of potable water demand for the gaming and bar/deli and kitchen areas, as well as estimated demands associated with irrigation and fire suppression systems. The projected demands for potable, irrigation, and fire suppression flows for the Roxy Ann and Phoenix Sites are summarized in Table 2-2.

Table 2-2: Total Projected Water Demand

Demand	Roxy Ann Site	Phoenix Site
Potable		
Average, gpd	19,778	19,778
Peak, gpd	39,556	39,556
Irrigation, gpd		
Average, gpd	2,000	6,800
Peak, gpd	5,000	17,000
Fire Suppression, gpm x hours	1,250 x 2	1,250 x 2

2.2.1 Potable Water Demand

Potable water demands for the gaming and bar/deli and kitchen areas were estimated based on the projected wastewater flows presented in Table 2-1. For the purpose of this Study, it is assumed that 90 percent (%) of the potable water supplied to the proposed project will require disposal through the project's wastewater system, with the remaining 10 percent consumed onsite. A peaking factor of two is applied to average daily demand to estimate the maximum day demand. Table 2-3 summarizes the projected potable water demands.

Table 2-3: Projected Potable Water Demand

Area	Units	Unit Qty	Unit Water Consumption Rate, gpdsf[1,2]	Average Daily Demand, gpd[3]
Gaming	SF	16,700	0.48	7,979
Bar/Deli and Kitchen	SF	7,585	1.56	11,799
			Total Average Daily Demand, gpd	**19,778**
			Peaking Factor	**2**
			Maximum Day Demand, gpd	**39,556**

Notes:

1. Assumes 10% loss between potable and wastewater systems.
2. gpdsf = gallons per day per square foot.
3. gpd = gallons per day.

2.2.1.1 Roxy Ann Site Potable Water

To assess the impact on the potable water demand associated with the proposed project at the Roxy Ann Site, existing MWC winter water use records for the property were reviewed. The current average daily potable water demand for the Roxy Ann Lanes bowling alley is estimated to be 1,500 gpd. Based on the estimated projected potable water demand presented in Table 2-3, the proposed project is anticipated to generate a 1,300 percent increase in potable water demand from the current use. No changes are proposed for tax lot 4100, and therefore no change to potable water demand for the 3.4 acre parcel is expected.

2.2.1.2 Phoenix Site Potable Water

The Phoenix Site is currently undeveloped agricultural land. The potable water demand projections for the proposed project would represent new demand to serve the Phoenix Site.

2.2.2 Irrigation Water Demand

2.2.2.1 Roxy Ann Site

The Roxy Ann Site is anticipated to require irrigation for landscaping. The majority of the site is comprised of paved parking; however, there are several areas along roadways as well as vegetated stormwater facilities which are assumed to be irrigated. A site layout of the Roxy Ann Site depicting areas that are assumed to require irrigation are shown on Figure 2-1. To estimate a peak daily irrigation demand, a conservative evapotranspiration rate of 0.5 inches per day is assumed given the hot and dry climate conditions in the Medford area. The total irrigation area including stormwater facilities for the Roxy Ann Site is estimated to be approximately 16,000 SF. Peak daily irrigation demand is estimated to be approximately 5,000 gallons per day (gpd). Please note that the projected peak irrigation water demand is based on conservative assumptions with respect to evapotranspiration rates applied for the purpose of a determination of feasibility. The historical average daily evapotranspiration rate is 0.2 inches per day, equating to an average daily irrigation demand of 2,000 gpd.

To assess the impact on the irrigation water demand associated with the proposed project at the Roxy Ann Site, existing MWC summer and winter water use records for the property were reviewed. The current average daily irrigation water demand for the Roxy Ann Lanes bowling alley is estimated to be 300 gpd. Based on the estimated projected irrigation water demand, the proposed project is anticipated to generate a 700 percent increase in irrigation water demand from the current use. No changes are proposed for tax lot 4100, and therefore no change to irrigation water demand for the 3.4 acre parcel is expected.

2.2.2.2 Phoenix Site

Irrigation for landscaping and stormwater facilities is also anticipated for the Phoenix Site. The total irrigation area at the Phoenix Site is estimated to be approximately 54,000 SF. Assumed irrigation areas are shown on Figure 2-2. Assuming an evapotranspiration rate of 0.5 inches per day, the peak daily irrigation demand for the Phoenix Site is estimated to be approximately 17,000 gpd.

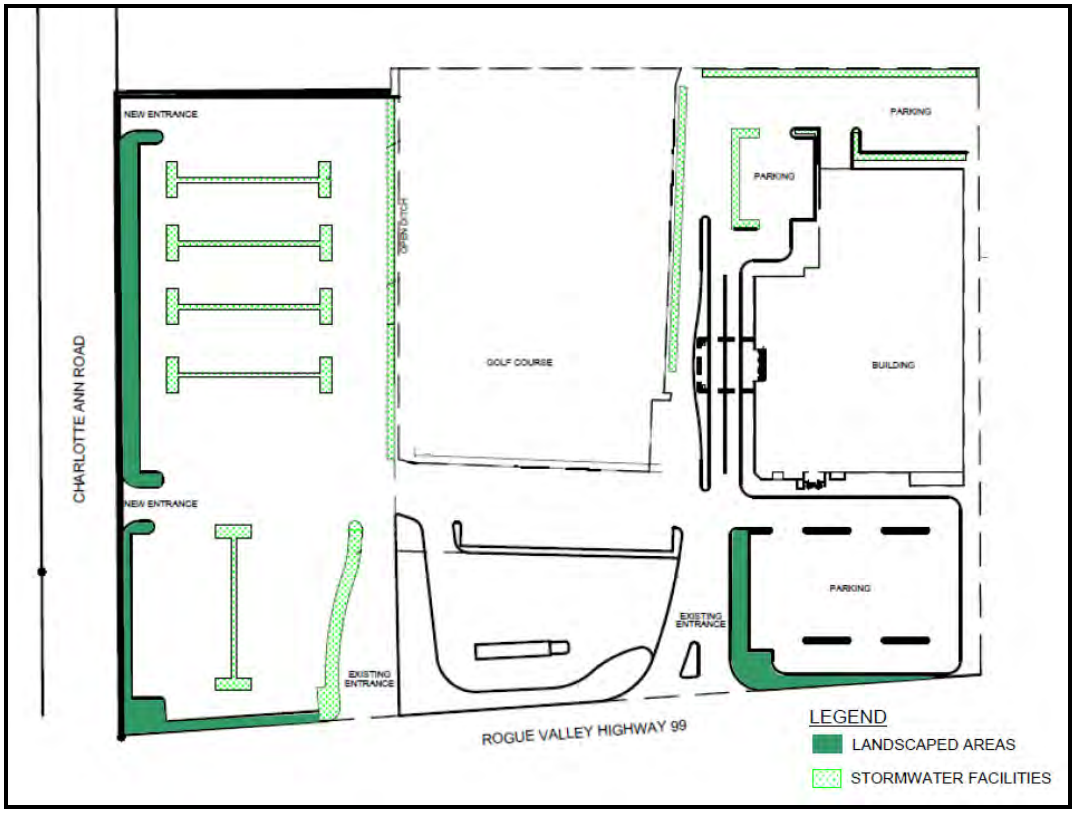

Figure 2-1: Roxy Ann Site Irrigation Areas

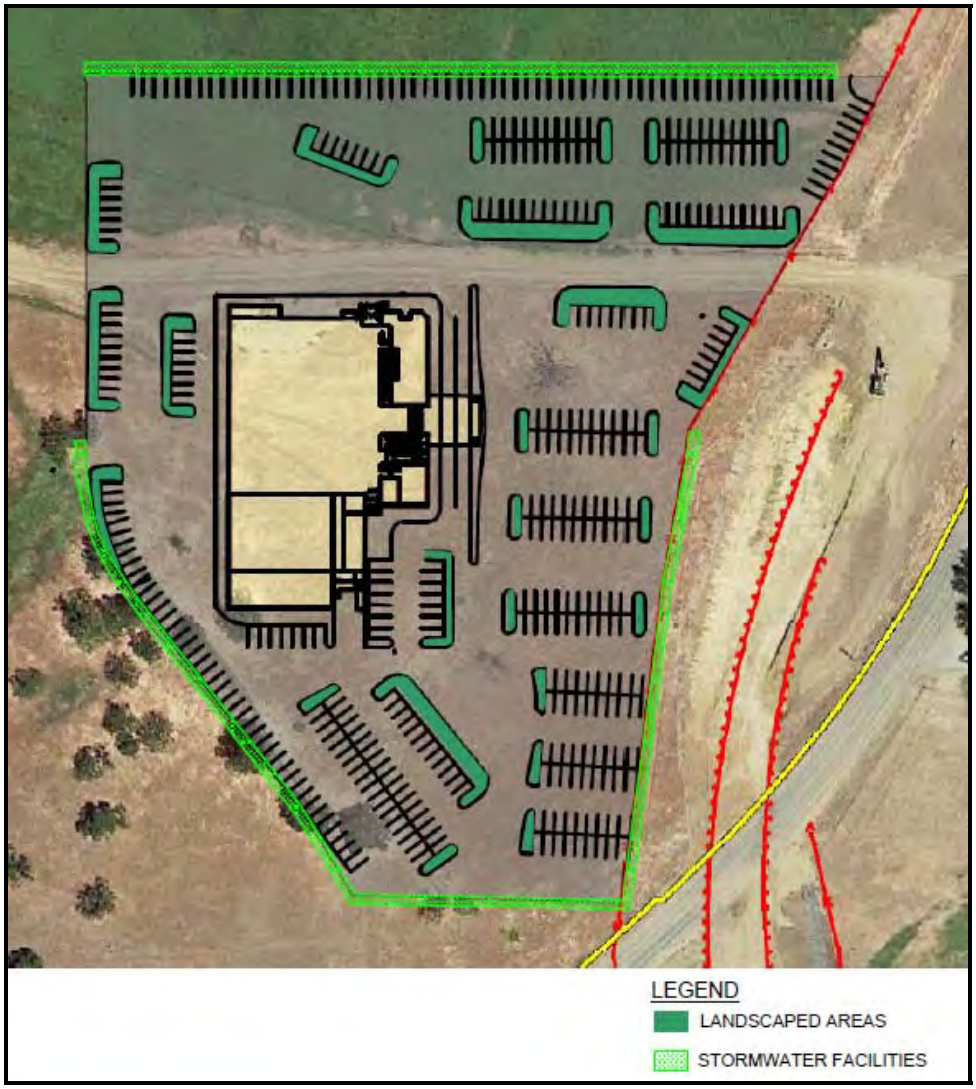

Figure 2-2: Phoenix Site Irrigation Areas

2.2.3 Fire Suppression Water Demand

In addition to the total daily potable water demands presented in Sections 2.2.1 and 2.2.2, the proposed project will require fire suppression flows to supply the building's automatic sprinkler system. Fire suppression flow rates and durations are specified in the 2014 edition of the Oregon Structural Specialty Code. For the purpose of this Study, the proposed structure is assumed to be either type IIA or IIB construction. The proposed structure is assumed to have an automatic sprinkler system, allowing a 50 percent reduction in the specified fire flow rate. Table 2-4 summarizes the fire flow requirements. Please note that as the project moves forward and information regarding the proposed project building classification becomes available, a review of the fire suppression data discussed in this section will need to be performed to determine actual requirements.

Table 2-4: Fire Suppression Requirements

Total Building Area, SF	Construction Type[1]	Fire Flow, gpm[2]	Duration, hrs	Required Storage Volume, gal[3]
30,284	IIA or IIB	1,250	2	150,000

Notes:

1. Assumed building classification. Actual classification not yet determined.
2. Assumed 50% reduction with automatic sprinklers.
3. Storage volume required to be available within the MWC distribution system storage reservoirs.

The fire suppression water requirements in Table 2-4 represent new additional water demands for both the Roxy Ann and Phoenix Sites as neither site is currently directly supplied with fire suppression flows. No changes are proposed for tax lot 4100, and therefore no change to fire suppression requirements for the 3.4 acre parcel are expected.

Section 3: Regulatory Requirements

3.1 Water Regulatory Requirements

3.1.1 Roxy Ann Site Water Regulatory Requirements

The Roxy Ann Site is located within the MWC service area. Development within the MWC service area is required to submit construction plans depicting connections to MWC facilities for review and approval. Connections are required to meet MWC standards for service connections and standby fire protection service connections. Connections involving construction within City right-of-way and within Oregon Department of Transportation (ODOT) right-of-way will also require utility permits from the City and ODOT.

The plan review process for new connections requires the developer to submit full-size drawing sheets to the MWC Engineering Division, which are reviewed and returned with any comments. Once review comments have been incorporated into the plans, MWC will issue a fee letter with estimates of charges for plan reviews and work performed by MWC, such as flushing and testing of newly installed lines. Plans must be approved and signed by the City of Medford, Public Works Department, and the City Engineer prior to MWC approving the plans. Upon approval, the developer is required to sign an easement granting MWC access to the installed facilities, as well as a development agreement describing the developer's responsibilities associated with the facilities. The developer must also attend a pre-construction conference with MWC prior to construction.

As part of the plan review process, MWC determines system development charges (SDCs) and credits that may apply to the project. SDCs are based on new metered connections to the potable water system. MWC does not assess SDCs for new standby fire protection services. Given that the existing MWC potable water service connection is to remain, and that standby fire protection services are not subject to SDCs, no MWC SDCs are anticipated for the proposed project at the Roxy Ann Site. The proposed project at the Roxy Ann Site would be responsible for monthly water rate charges. The MWC potable water rate structure for commercial properties is included as Appendix B.

3.1.2 Roxy Ann Site Independent Onsite Water Regulatory Requirements

As an alternative to continued service by MWC, the regulatory requirements associated with an independent onsite potable water supply were reviewed as part of the previously prepared onsite technical memorandum, included as Appendix A. The Environmental Protection Agency (EPA) regulates public water systems for tribal trust lands, and the developer must coordinate with the local EPA Region 10 office as development of the onsite groundwater source proceeds. EPA will monitor the design of the onsite system to ensure adequate measures are being taken to ensure that public health standards are being upheld and to establish monitoring and operational requirements.

Environmental Protection Agency (EPA) drinking water standards would apply to the Roxy Ann Site upon completion of the fee-to-trust transfer. The primary contaminants of concern found in Jackson County are arsenic, bacteria, fluoride, and nitrate. Groundwater at the Roxy Ann Site must either meet maximum contaminant level requirements for these contaminants as presented in Table 3-1, or onsite treatment systems capable of producing potable water meeting these standards must be provided.

Table 3-1: Maximum Contaminant Levels

Contaminant	MCL[1]
Arsenic (As)	10 µg/L
Bacteria	Present in <5% of samples
Fluoride (F^-)	4 mg/L
Nitrate (as N)	10 mg/L

Notes:
1. Maximum contaminant level.

The EPA recommends a source water protection program be implemented on trust lands producing onsite potable water to identify the specific potential contaminants of concern in the groundwater supply. The EPA also recommends the program adopt a long-term management plan for the protection of the onsite groundwater supply. Separation of onsite wastewater disposal systems and groundwater wells must also be sufficient to protect groundwater from contamination. Separation requirements as specified by the Oregon DEQ are discussed in the independent onsite water and wastewater technical memorandum, included as Appendix A. The Water Education Foundation with funding assistance from the EPA has developed a useful guideline to assist tribes with the implementation of a groundwater protection program entitled *Protecting Drinking Water: A Workbook for Tribes.*

The fire suppression regulations presented in Section 2 would also apply to the Roxy Ann Site onsite alternative. Assuming an automatic sprinkler system is installed in the remodeled building, 150,000 gallons of onsite storage would be required to meet the 2014 Oregon Structural Specialty Code requirements.

3.1.3 Phoenix Site Water Regulatory Requirements

The Phoenix Site location is situated just north of the City of Phoenix (City) UGB. The City owns and operates a potable water distribution system within the City's UGB, and the water supply is purchased from the MWC. Given the Phoenix Site's location relative to the City's UGB and distribution system, an extension of facilities beyond the current UGB would be required to serve the Phoenix Site.

The Oregon Land Conservation and Development Commission (LCDC) has established state wide planning goals as controls for encouraging the efficient urbanization of rural areas. A summary of these goals is included as Appendix C. Goal 11 prohibits the extension public facilities north of the City's UGB to serve the Phoenix Site. In coordination with regional and

state planning goals, MWC has also passed resolution 1058 prohibiting the extension of facilities owned by municipalities and water districts that are supplied by MWC into areas outside the UGB, included as Appendix D. Given the existing state and regional planning goals that are in place, serving the Phoenix Site location would require amendment of the City's current UGB to include the Phoenix Site.

Discussions with City and Jackson County (County) planning staff, regarding the potential for UGB expansion in the Phoenix Site area, were based on the Greater Bear Creek Valley Regional Plan (Regional Plan), a regional planning document created by Jackson County and the 11 incorporated areas within the County. The Regional Plan was approved by the LCDC in 2013, and represents the framework for UGB and Urban Reserve Area (URA) policy within the County. Both the City and County Comprehensive Plans have formally incorporated the Regional Plan.

The Phoenix Site is located within a URA identified in the Regional Plan as PH-5. PH-5 consists of 427 acres situated between I-5 to the west and the City of Medford to the north. The areas east of PH-5 are primarily agricultural. All of PH-5 is currently zoned Exclusive Farm Use (EFU) by Jackson County; however, compared to other surrounding agricultural lands, PH-5 is comprised of the least capable agricultural soils. The Regional Plan has also identified PH-5 to be the City's best block of land to support efficient future urbanization.

The procedure for amending the UGB to include urban reserve PH-5 is detailed in the Phoenix/Jackson County Urban Growth Boundary and Policy Agreement, included as Appendix E. Under the Agreement, the inclusion of the entire PH-5 area would constitute a major revision to the UGB. As such, sufficient documentation of a demonstrated need for additional housing and employment would be required. Under the Regional Plan, the region would be required to establish a mechanism, such as a regional economic opportunities analysis, to assist the City of Phoenix in justifying the regional need for urban reserve PH-5. The City and County consider such major revisions at five year intervals. Given the recent implementation of the Regional Plan, a major revision has not yet been contemplated by the County. While a planning pathway for a major revision has been envisioned, the process has not yet been tested and includes several requirements set by the state that are somewhat ambiguous, specifically the process and mechanism for justifying the regional need for expansion into PH-5. Specific exceptions related to URA PH-5 are described in Chapter 5 of the Regional Plan, included as Appendix F.

An alternate approach would be for the City or the property owner to petition for a minor boundary line adjustment. A minor adjustment is defined in the City's UGB policy agreement (Appendix E) as an adjustment that is not anticipated to have significant impact beyond the immediate area of the change. This procedure consists of a written application to the County planning department. The application is required to demonstrate a need for the change consistent with City and County urbanization policies, efficiency of land use and urban facilities, and findings related to the seven urbanization factors required by the state land use goal 14 (Appendix C). Applications are reviewed by both City and County planning commissions annually, and if approved, are referred to the respective governing bodies. A successful boundary adjustment would allow for the extension of water service to the Phoenix Site, and development would then proceed in accordance with the City of Phoenix land development code.

The developer would be required to submit to the City and MWC full size construction plans depicting the extension of the City's water facilities north along North Phoenix Road to serve the Phoenix Site location. Construction plans must be prepared in accordance with City and MWC standards for construction. Construction plans would be reviewed by the City Engineer, the City Public Works department, and MWC. Plans must be approved and all necessary permits obtained prior to construction.

Plans for a potable water service connection to the newly extended line would be reviewed by the City's Public Works department, City Engineer and MWC. Connections are required to meet City and MWC standards for service connections, backflow prevention, and standby fire protection service connections.

SDCs for potable water service would be assessed by the City of Phoenix. City Ordinance 900, adopted by the City Council in 2008, establishes SDC calculation methodologies based on reimbursement for existing facilities and capacities, and improvements based on the City's capital improvement plan. SDCs related to the intake, treatment, and conveyance of water are assessed by the City and transferred via reimbursement to MWC. The City of Phoenix SDC methodologies are included as Appendix G. The proposed project at the Phoenix Site would be responsible for monthly water rate charges. The City's potable water rate structure for commercial properties is included as Appendix H.

3.2 Wastewater Regulatory Requirements

Wastewater service for the Roxy Ann and Phoenix Sites would be provided by RVSS for wastewater collection and conveyance, and the City of Medford for wastewater treatment at the Medford RWRF, a regional wastewater treatment facility.

3.2.1 Roxy Ann Site Wastewater Regulatory Requirements

The City of Medford and RVSS are the local governing agencies which provide wastewater treatment and conveyance services to the Roxy Ann Site, respectively. Development projects within the City of Medford and RVSS service areas are required to submit construction plans depicting the connections to the wastewater collection system and plumbing fixtures for review and approval by the City of Medford and RVSS. RVSS does not impose a plan review fee for change of use development where an existing wastewater connection is in place. New connections are required to obtain a permit from RVSS and must meet RVSS standards. Connections involving construction within City right-of-way and within ODOT right-of-way will also require utility permits from the City and ODOT.

As part of the plan review, RVSS reviews the building plan, site plan, and plumbing fixtures plan to determine the SDCs and credits that may apply to the proposed project. RVSS assesses SDCs for the collection system based on the number of plumbing fixtures. The City of Medford reviews plans to assess SDCs for the RWRF based on the additional flows and loadings that will be generated by the proposed project. The City of Medford and RVSS publish SDC calculation methodologies in their respective development codes, included as Appendices I and K, respectively. The proposed project at the Roxy Ann Site would be responsible for monthly wastewater rate charges. The City of Medford and RVSS wastewater rate structures for commercial properties are included as Appendices J and L, respectively.

3.2.2 Roxy Ann Site Independent Onsite Wastewater Regulatory Requirements

As an alternative to continued conveyance by RVSS and treatment by the Medford RWRF, the regulatory requirements associated with an independent onsite wastewater treatment and disposal system were reviewed as part of the previously prepared onsite technical memorandum, included as Appendix A.

Treatment requirements with respect to wastewater effluent quality for onsite disposal would be regulated by the EPA and are typically based on local groundwater conditions. Given that groundwater investigation has not been completed, conservative values as presented in Table 3-2 are assumed. Requirements for Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS) are assumed to be 30 mg/L, a fairly conservative assumption given that typical septic tank effluent concentrations range between 80 and 100 mg/L. Given the concern regarding elevated nitrate levels in the area and a nitrate MCL of 10 mg/L, conservative treatment requirements of 3 mg/L for ammonia and nitrate were selected. Further site investigation, including determination of groundwater nitrate levels for the proposed project, may lessen treatment requirements with respect to nitrogen.

Table 3-2: Wastewater Treatment Requirements

Constituent	Effluent Concentration[1], mg/L [2]
BOD[3]	30
TSS[4]	30
Ammonia (NH_3-N)	3
Nitrate (NO_3-N)	3

Notes:
1. Average Daily Maximum.
2. mg/L = milligrams per liter.
3. BOD = biochemical oxygen demand.
4. TSS = total suspended solids.

The disposal of wastewater onsite via subsurface drainage would be regulated by the EPA within the Underground Injection Control (UIC) program. The subsurface drainage system would constitute a Class V injection well and must be registered with EPA as such.

3.2.3 Phoenix Site Wastewater Regulatory Requirements

The Phoenix Site is located within the RVSS service area; however, as discussed in Section 3.1.2, extension of wastewater facilities to the Phoenix Site location would require a UGB adjustment in accordance with the Phoenix/Jackson County Urban Growth Boundary and Policy Agreement. Once the adjustment is completed, development within City right-of-way would then proceed in accordance with the City of Phoenix land development code.

The City of Medford and RVSS would provide wastewater treatment and conveyance services to the Phoenix Site, respectively. The developer would be required to submit full size plans depicting the extension of RVSS facilities north along North Phoenix Road to serve the Phoenix Site location to the City of Phoenix and RVSS. Plans must be prepared in accordance with City and RVSS standards for construction. Construction plans would be reviewed by the City Engineer, the City Public Works department, and RVSS. Plans must be approved and all necessary permits obtained prior to construction.

City of Phoenix requirements for submission, review, and approval of construction plans are as described in Section 3.1.3. Requirements for RVSS are as described in Section 3.2.1. The Phoenix Site would require a new connection and thus, a connection permit to be issued by RVSS. SDCs for the proposed project at the Phoenix Site would be assessed by the City of Medford and RVSS and determined as described in Section 3.2.1. The proposed project at the Phoenix Site would be responsible for monthly wastewater rate charges. The City of Medford and RVSS wastewater rate structures for commercial properties are included as Appendices J and L, respectively.

3.3 Stormwater Regulatory Requirements

In 2009, the City of Medford and Jackson County adopted the Rogue Valley Stormwater Quality Design Manual, dated January 2006 and revised March 2015 (Manual), which is currently applicable to the current Roxy Ann Site. After the fee-to-trust process is complete for the Roxy Ann Site, only the additional parking area would technically fall under the jurisdiction of the Manual with respect to onsite stormwater facilities; the 2.4 and 3.4 acre trust parcels would be considered to be under federal EPA jurisdiction. However, for the purpose of this Study, it is assumed that the requirements presented in the Manual represent the best local stormwater practices and are therefore applied to the entire Roxy Ann Site as a means to simplify site design requirements. The Phoenix Site would also fall under EPA stormwater requirements; however, given that the site is assumed to convey all stormwater offsite to lands within the expanded City of Phoenix UGB, the requirements presented in the Manual would also represent the best local stormwater practices for the Phoenix Site. The Manual requires stormwater from new developments and redeveloped areas to meet requirements for pollution reduction, flow control, and downstream (destination) hydraulic capacity. The Manual also includes requirements for erosion and sediment control during construction; however, these requirements are not reviewed as part of this Study.

To manage potential pollutants in stormwater runoff, the Manual requires stormwater from new developments and redeveloped areas to meet discharge requirements for suspended solids and oils and grease. Suspended solids and oil and grease are considered indicator contaminants, meaning that treatment systems capable of meeting the requirements for these contaminants are assumed to remove other contaminants of concern as well. The suspended solids treatment requirement is 70 to 89 percent removal, depending on influent suspended solids concentrations. The maximum allowable oil and grease concentration in stormwater discharges is 10 milligrams per liter (mg/L). The design storm for sizing treatment facilities is defined as a 1-inch storm in 24 hours.

3.3.1 Roxy Ann Site Stormwater Regulatory Requirements

The Roxy Ann Site is located within the limits of the City of Medford. Presently, stormwater from the Roxy Ann Site discharges offsite via a drainage channel to Bear Creek, approximately 1,500 feet northeast of the Roxy Ann Site. The Roxy Ann Site and Bear Creek are depicted on Figure 3-1.

Figure 3-1: Roxy Ann Site Existing Drainage

Bear Creek is considered waters of the state and is listed by the Oregon Department of Environmental Quality (DEQ) as water quality limited with respect to fecal coliform, *E. coli*, temperature, sedimentation, habitat modification, flow modification, arsenic, and dissolved oxygen. Stormwater discharge from the proposed redevelopment is not expected to impact loading of fecal coliforms, *E.* coli, arsenic, or dissolved oxygen. Operational best management practices (BMPs) should be implemented to further reduce the possibility of contributing

nutrients and bacteria to the receiving stream. Examples of these operational BMPs include avoiding or minimizing the use of fertilizers on landscaping and, if they are needed, locating areas for pet walking in the northeastern portion of Lot 4701 of the site where runoff will not discharge to Bear Creek. The water quality and flow control standards in the Manual proposed for use on this project are designed to prevent flow modification and excess sedimentation. With these controls in place, habitat modification is not expected to occur as a result of the proposed project.

Although the temperature standard is not specifically addressed in the Manual, the conceptual treatment alternatives considered in this Study address temperature in addition to contaminant removal. The Total Maximum Daily Load (TMDL) published in 2007 by DEQ for the Middle Rogue subbasin and Bear Creek Watershed allocates a temperature increase of 0.1 degrees Celsius (°C) in Ashland Creek to the City of Ashland's Wastewater Treatment Facility. A human use allowance of 0.05°C is included to account for all nonpoint sources related to the development of the landscape surrounding Bear Creek and its tributaries. All other National Pollutant Discharge Elimination System (NPDES) point sources are considered to be insignificant thermal load contributors. Although a specific temperature requirement would not apply to the proposed project at the Roxy Ann Site, measures to mitigate temperature loading to Bear Creek, such as shade trees, would be implemented.

3.3.2 Phoenix Site Stormwater Regulatory Requirements

Although the Phoenix Site is located in unincorporated Jackson County north of the City of Phoenix, it is assumed for the purposes of this report that the Manual requirements for water quality and flow would apply given a future City of Phoenix UGB adjustment incorporating the destination lands and waters that are anticipated to receive stormwater runoff flows. Offsite stormwater discharge originating from the Phoenix Site discharges to Bear Creek, as shown on Figure 3-2. The TMDL requirements for Bear Creek described in Section 3.3.1 would also apply to the Phoenix Site.

The Phoenix Site is located approximately 1,500 feet northeast of Bear Creek, across I-5, at the top of a hill. Stormwater would discharge offsite from two locations to existing ditches and creeks. Stormwater from the northern half of the site would flow approximately 4,500 feet through an existing ditch and unnamed creek to an existing pond that appears to discharge through a culvert under the interstate to Bear Creek. Stormwater from the southern half of the site would flow approximately 2,500 feet through an existing ditch and unnamed creek, into a field, then to another culvert under I-5. It appears, based on aerial imagery, that stormwater in the ditch south of the Phoenix Site fully infiltrates or evaporates before it crosses the existing field.

Figure 3-2: Phoenix Site Existing Drainage

3.3.3 Flow Control Requirements

The Manual requires new development and redevelopment projects to implement flow control measures to ensure that post-development peak flows do not exceed pre-development quantities. The manual defines pre-development peak flow to represent a site's natural cover prior to development, regardless of current site conditions, and assigns a value of 0.25 cubic feet per second (cfs) per acre. This value is assumed to apply to both the Roxy Ann and Phoenix Sites. The Manual defines redevelopment as "any development that requires demolition or complete removal of existing structures or impervious surfaces at a site and replacement with new impervious surfaces." Top-layer grinding and repaving of existing pavement, such as at the Roxy Ann Site, is not considered redevelopment.

3.3.4 Destination Requirements

The Manual requires that hydraulic modeling be performed to demonstrate that downstream conveyance can carry any additional flows to the destination. Runoff must not surcharge downstream conveyance during a 10-year storm event, nor cause overtopping of roadways or flooding of buildings. In addition, flow control and treatment measures must include a structure to safely bypass flows from a 25-year storm event. For the Roxy Ann Site, the downstream conveyance is considered to be the central drainage channel. For the Phoenix Site, the downstream conveyance is considered to be the existing unnamed tributary creeks.

Section 4: Roxy Ann Site Independent Onsite Water and Wastewater

Kennedy/Jenks Consultants prepared an April 2015 Technical Memorandum addressing the feasibility of independent onsite water and wastewater for the Roxy Ann Site. Section 4.1 summarizes the findings of the Technical Memorandum. The complete memorandum is included with this Study as Appendix A.

4.1 Roxy Ann Site Independent Onsite Water and Wastewater Findings Summary

Review of existing well log data obtained from Jackson County indicates that an onsite potable water supply is likely to be a feasible alternative to connection to the Medford Water Commission. Groundwater appears to be available in sufficient quantity and quality to meet the needs of the proposed project. The onsite alternative for the proposed project would include construction of two wells (one duty, one redundant), pumping and conveyance systems, a treatment system, and distribution and storage facilities.

Review of projected wastewater quality and quantity estimates indicates that onsite wastewater treatment is likely to be feasible. Packaged membrane bioreactor systems are capable of producing some of the highest quality effluents attainable. Onsite disposal of wastewater, although feasible, would present significant design challenges due to poor soil and groundwater conditions, potentially including groundwater diversion, native soil replacement, and additional surrounding parcels brought in to the fee-to-trust process.

Groundwater diversion measures may be required to lower the water table in the vicinity of the subsurface discharge system. An unsaturated percolation zone between the subsurface piping and seasonal high groundwater level is needed to ensure a properly functioning system capable of providing sufficient treatment. The minimum depth of the unsaturated zone, and the resulting degree of groundwater diversion that may be required, is dependent on the soil conditions in which the system is installed. Further investigation of site groundwater conditions and soil percolation testing is recommended to evaluate potential groundwater diversion measures.

Groundwater diversion measures such as hydraulic barrier curtains can be installed to control the water table in a particular area. Hydraulic barrier curtains are subgrade installations of impermeable materials such as bentonite grout that are pressure injected into the soil to form a watertight vertical wall for the purpose of controlling the flow of groundwater. Hydraulic barrier curtains could potentially be installed upstream of the onsite disposal area to divert the hydraulic gradient around the subsurface system; however, additional site investigation and groundwater modeling is recommended to evaluate such an approach.

The footprint of the treatment and subsurface drainage systems would also significantly reduce availability of open space for parking, as the drainage system must be located within a pervious area. Construction costs associated with a subsurface drainage system would also likely prove to be expensive compared to facilities with soil conditions better suited to subsurface drainage. Offsite disposal of wastewater via an outfall pipeline and surface water discharge to nearby

Bear Creek may be feasible in the future; however, the time associated with obtaining a discharge permit is significant and may stall the development of the property.

The construction of a subsurface drainage system for wastewater disposal on tax lot 4100 to serve the Proposed Project may necessitate the design and construction of stormwater facilities to limit peak run-off conditions from the site to pre-development levels. As stated in Section 3, the Rogue Valley Stormwater Quality Design Manual (Manual) establishes design criteria for stormwater treatment and flow control measures. Depending on the extent and nature of the pervious surface installed over the subsurface drainage system, hydraulic and hydrologic modeling may need to be performed for the design stormwater facilities. Of the 3.6 acres available on tax lot 4100, a total of approximately 3 acres are reserved for the construction of a subsurface drainage system, leaving approximately 0.6 acres for the construction of stormwater treatment and flow control measures. Potential alternatives for stormwater treatment and flow control may include construction of vegetated bioswales to detain peak run-off onsite, or the installation of enhanced infiltration areas to promote rapid infiltration of run-off into the soil. It is recommended that a detailed stormwater analysis for tax lot 4100 be performed once the proposed uses for tax lot 4100 have been identified as part of a site plan for the independent, onsite Proposed Project.

Section 5: Water Supply Assessment

5.1 Roxy Ann Site Water Supply Assessment

5.1.1 Roxy Ann Site Water Conveyance

Figure 5-1 depicts the existing potable water service connection to the MWC distribution system for the proposed project on tax lot 4701. The site is served by a 2-inch service connection and meter tapped to a 16-inch water main located in South Pacific Highway. The connection shown on Figure 5-1 represents the only source for potable water at the Roxy Ann Site; no alternative or supplemental source is available at the site. No change to potable water service is expected for tax lot 4100.

Figure 5-1: Roxy Ann Site Proposed Project Existing Potable Water Connection

Review of the proposed project with MWC staff indicates that the existing 2-inch service and meter is capable of continuously flowing 80 gallons per minute (gpm), or approximately 115,000 gallons per day (gpd). Comparing the capacity of the existing service connection to the projected potable water demands presented in Section 2, the existing potable water service connection has sufficient capacity to serve the proposed project, and a new metered connection would not be required. In review of the 2007 MWC Facilities Plan, no improvements are required to serve growth along South Pacific Highway near the Roxy Ann Site up to the planning year 2026. The additional flows generated by the proposed project are not anticipated to significantly impact system operating pressures within the 16-inch water main serving the Roxy Ann Site.

While the existing service connection is capable of meeting potable water demands, the fire suppression flow requirements presented in Section 2 exceed the capacity of the existing service connection. To meet fire flow requirements, the proposed project would need to construct a separate standby fire protection service from the 16-inch water line in South Pacific Highway to the building to supply the automatic sprinkler system. MWC publishes Standards for the construction of Fire Protection Services, including construction of the service from the water main to the building, the backflow prevention device, and the fire protection vault to house the device. MWC fire protection standards are included as Appendix M. Review of the 2007 MWC Facilities Plan indicates that under current (2005) conditions, when the Duff Water Treatment Plant (WTP) is not operating (typically November through April), available fire flow at the Roxy Ann Site will range between 1,000 and 4,000 gpm. Given that the required fire flow in Table 2-4 is 1,250 gpm, additional investigation and field testing of fire hydrants within the project vicinity is recommended to verify the available fire flow. Review of available fire flow within the general area with MWC staff indicates that sufficient fire flow is believed to be available for the proposed project. Regarding fire flow storage, the nearby Barneburg storage reservoir has a capacity of 500,000 gallons (gal), and as such, would be able to accommodate the required 150,000 gallons of fire storage, as presented in Table 2-4.

Review of the 2007 MWC Facilities Plan and discussions with MWC staff indicates that the existing conveyance and distribution systems are capable of conveying both the potable water demand and fire suppression flow requirements to the proposed project at the Roxy Ann Site, assuming construction of a standby fire protection service.

5.1.2 Roxy Ann Site Water Treatment

The Medford Water Commission is the local governing agency which provides potable water to the Roxy Ann Site. MWC sources both ground and surface waters to supply the City of Medford, as well as several nearby municipalities and water districts. Primary groundwater source for MWC is Big Butte Springs, located 30 miles northeast of Medford. The springs produce high quality groundwater requiring only disinfection to meet drinking water quality standards. Currently, Big Butte Springs is capable of supplying the average daily water demand for the entire MWC customer base through the months of November through April. During the drier summer months of May through October when irrigation needs are greatest, the average daily demand is met with supplemental surface water taken from the Rogue River by the Duff WTP, located three miles north of the Medford city limits. The facilities and capacities of each source are summarized in Table 5-1.

Table 5-1: MWC Source Summary

	Big Butte Springs	Rogue River - Duff WTP
Facilities	Sodium Hypochlorite Disinfection	Intake Facility (Pumps, Screens) Coagulation Flocculation Settling Filtration Sodium Hypochlorite Disinfection Ozone Disinfection
Capacity, MGD[1]	26.4 (year round)	45 (summer) 22.5 (winter)

Note:

1. MGD = million gallons per day

Both the Big Butte Springs and Duff WTP have consistently met water quality standards with respect to inorganic, biological, and radiological contaminants, as well as disinfection byproducts and lead and copper within the distribution system and customer taps. The 2015 MWC Water Quality Report detailing testing standards and results is included as Appendix N.

The current and projected MWC potable water demands as presented in the 2007 MWC Facility Plan are summarized in Table 5-2.

Table 5-2: Current and Projected Potable Water Demand

Condition	2005	2026
Average Daily Demand, MGD[1]	29	45.2
Maximum Month Demand, MGD	53	84.1
Maximum Daily Demand, MGD	60	97.4

Note:

1. MGD = million gallons per day

As shown in Table 5-1, the current maximum capacity available to supply MWC customers as supplied by both Big Butte Springs and the Duff WTP is 71.4 MGD during the summer months, and 48.9 MGD during the winter. Given that the maximum month and maximum day demands will both exceed capacity at some point prior to 2026, additional capacity will need to be constructed at the Duff WTP. The Duff WTP can be expanded to provide up to 65 MGD during the summer months. Water rights and transmission limitations at Big Butte Springs prevent future expansion for additional capacity.

The proposed project's potable water demands, presented in Table 2-2, are relatively insignificant when compared to the overall system capacities and demands. In discussion with MWC staff, construction of the proposed project is not expected to directly influence any capital improvement plans related to water treatment. Table 5-3 summarizes the proposed project's impact on potable water demands and capacities relative to Big Butte Springs and Duff WTP.

Table 5-3: Proposed Project Impact on Potable Water Demands and Capacities

Condition	BBS Demand[1]	BBS Capacity[1]	Duff WTP Demand[1]	Duff WTP Capacity[1]	Proposed Project Demand[2]
Average Daily Demand, MGD[3]	26.4	26.4	2.6	22.5	0.02
Maximum Daily Demand, MGD	26.4	26.4	33.6	45	0.04

Notes:

1. Current MWC demands and capacities from 2007 MWC Water Distribution Facilities Plan
2. Proposed project demand includes daily potable water requirements and irrigation requirements
3. MGD = million gallons per day.

5.1.3 Roxy Ann Site Independent Onsite Water Supply

As an alternative to continued service by MWC, the technical feasibility of an independent onsite potable water supply was reviewed as part of the previously prepared onsite technical memorandum, included as Appendix A. Based on available data from Jackson County well logs, it is anticipated that groundwater would be available in sufficient quantities at the Roxy Ann Site to meet average daily demands; however, further investigation including construction of a test well and aquifer testing is recommended.

Groundwater quality data contained in a 2011 DEQ study for the Rogue Basin were reviewed to understand likely contaminants in the groundwater supply and identify potential treatment systems. Arsenic, fluoride, and nitrate were detected at multiple sampling locations near the Roxy Ann Site; however, most results indicated concentrations well below the MCLs presented in Table 3-1. Total coliform and fecal coliform testing at several nearby sampling locations also did not indicate an impaired quality with respect to bacteria. Site specific testing is recommended to determine actual treatment requirements.

Should groundwater treatment be necessary, there are a variety of treatment alternatives available for each of the contaminants listed in Table 3-1, including adsorptive media, ion exchange resins, and oxidation, coagulation, and filtration systems. Chlorine disinfection is typically used to treat for bacteria, although other systems utilizing ultra-violet light and ozone are sometimes used. Table 5-4 summarizes available treatment systems.

Table 5-4: Onsite Water Treatment Alternatives Summary

Treatment	Contaminant	Treatment Goal[1]	Footprint	Operations and Maintenance
Adsorptive Media	Arsenic	< 8 µg/L[2]	Small process footprint	Simple system operation, requires sampling and possible generation of hazardous waste
	Fluoride	3.2 mg/L[3]		
Ion Exchange	Arsenic	< 8 µg/L	Small process footprint but requires regeneration brine storage tank	Moderately complex system operation, involves regeneration cycle and disposal of hazardous waste
	Fluoride	3.2 mg/L		
	Nitrate	< 8 mg/L		
Oxidation/Filtration	Arsenic	< 8 µg/L	Largest process footprint, includes flocculation tank and filter backwash settling tanks	Most complex system operation, involves chemical addition and backwashing
Disinfection	Bacteria	No positive samples	Small footprint, includes sodium hypochlorite storage and metering	Simple system operation

Notes:
1. Treatment goals are 80 percent of MCL
2. µg/L = micrograms per liter.
3. mg/L = milligrams per liter.

Based on available groundwater quantity and quality data provided by Jackson County well logs and the DEQ Rogue Basin water quality study, groundwater appears to be available in sufficient quantity and quality to meet the needs of the proposed project at the Roxy Ann Site. Further investigation is recommended to determine potential well yields, water quality, and the need for treatment systems.

5.2 Phoenix Site Water Supply Assessment

5.2.1 Phoenix Site Water Conveyance

The MWC is the local governing agency which provides potable water to the City of Phoenix for distribution to properties within the City's UGB. The MWC connection is the City's sole source for potable water supply; no alternative or supplemental source is available. The City bored a 12-inch water main underneath I-5 just north of the Fern Valley Interchange to serve several residential areas and highway commercial developments on the east side of I-5. Based on review with City Staff and the City Engineer, the 12-inch line was sized to serve future residential and industrial development in areas north of the City's UGB. Serving the Phoenix Site would require an extension of the City's facilities north of the Fern Valley I-5 interchange, along North Phoenix Road. The Phoenix Site and the closest connection point to the potable water distribution system are depicted on Figure 5-2.

Figure 5-2: Phoenix Site Potable Water Connection

Review of the proposed project with the City of Phoenix Public Works department, and the City Engineer indicates that the existing 12-inch water main on North Phoenix Road would be capable of meeting the projected potable water demands and fire suppression flow requirements. Current modeling of the distribution system on the east side indicates that 4,000 gpm fire flow would be available, assuming that a loop was constructed on the east side of I-5. Given that the Phoenix Site would only extend the water main, without construction of a loop, it is recommended that field testing be performed to verify the available fire flow. If sufficient flow is not available, the potable water loop would need to be constructed.

As discussed in Section 5.1.1, a 2-inch meter and service connection would be required to convey projected potable water demands. In addition to the service connection, the proposed project would need to construct a separate standby fire protection service to supply the building's automatic sprinkler system. Details regarding construction of fire protection services are similar to those for the Roxy Ann Site, described in Section 5.1.1.

In discussion with City of Phoenix public works department, the Phoenix Site location is located uphill from the proposed connection point, shown on Figure 5-2. The extension of the water main may require construction of a new booster pump station sufficiently sized to convey the full fire suppression flow to the Phoenix Site, approximately 80 vertical feet in elevation above the connection point.

Review of the proposed project with the City of Phoenix Public Works department, and City Engineer indicates that the existing 12-inch water main at the proposed connection point is likely capable of conveying both the potable water demand and fire suppression flow requirements. As stated in Section 5.1.1, the existing MWC fire flow storage reservoir is also capable of meeting the required fire flow requirements. Review of the existing conditions and capacities of the potable water system indicate service via an extension of facilities on North Phoenix Road to be feasible.

5.2.2 Phoenix Site Water Treatment

Potable water demand for the proposed project at the Phoenix Site would be treated and supplied by Big Butte Springs and the Duff WTP. See Section 5.1.2 for a detailed discussion of treatment processes, potable water demands, and capacities.

Section 6: Wastewater Assessment

6.1 Roxy Ann Site Wastewater Assessment

6.1.1 Roxy Ann Site Wastewater Conveyance

The collection system serving the Roxy Ann Site is owned and operated by RVSS. The proposed project on tax lot 4701 is currently served by a wastewater connection to a 12-inch sewer main located in South Pacific Highway. The proposed project site and sewer main are shown on Figure 6-1. No change to wastewater service is expected for tax lot 4100.

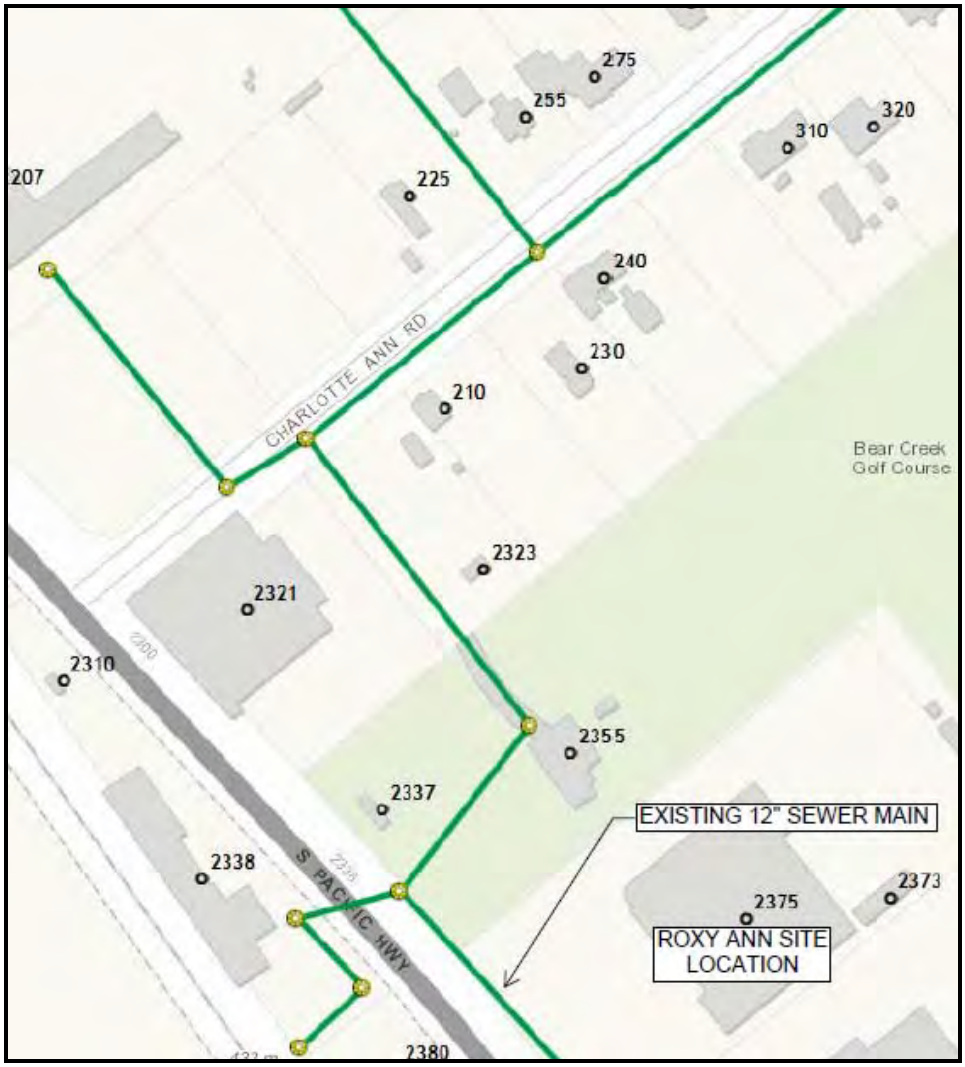

Figure 6-1: Roxy Ann Site Proposed Project Existing Wastewater Connection

The collection system conveys wastewater flows from the Roxy Ann Site to the Medford RWRF, a regional treatment facility located on Kirtland Road in White City, Oregon. The flow path through the collection system from the Roxy Ann Site to the Medford RWRF is shown in red on Figure 6-2.

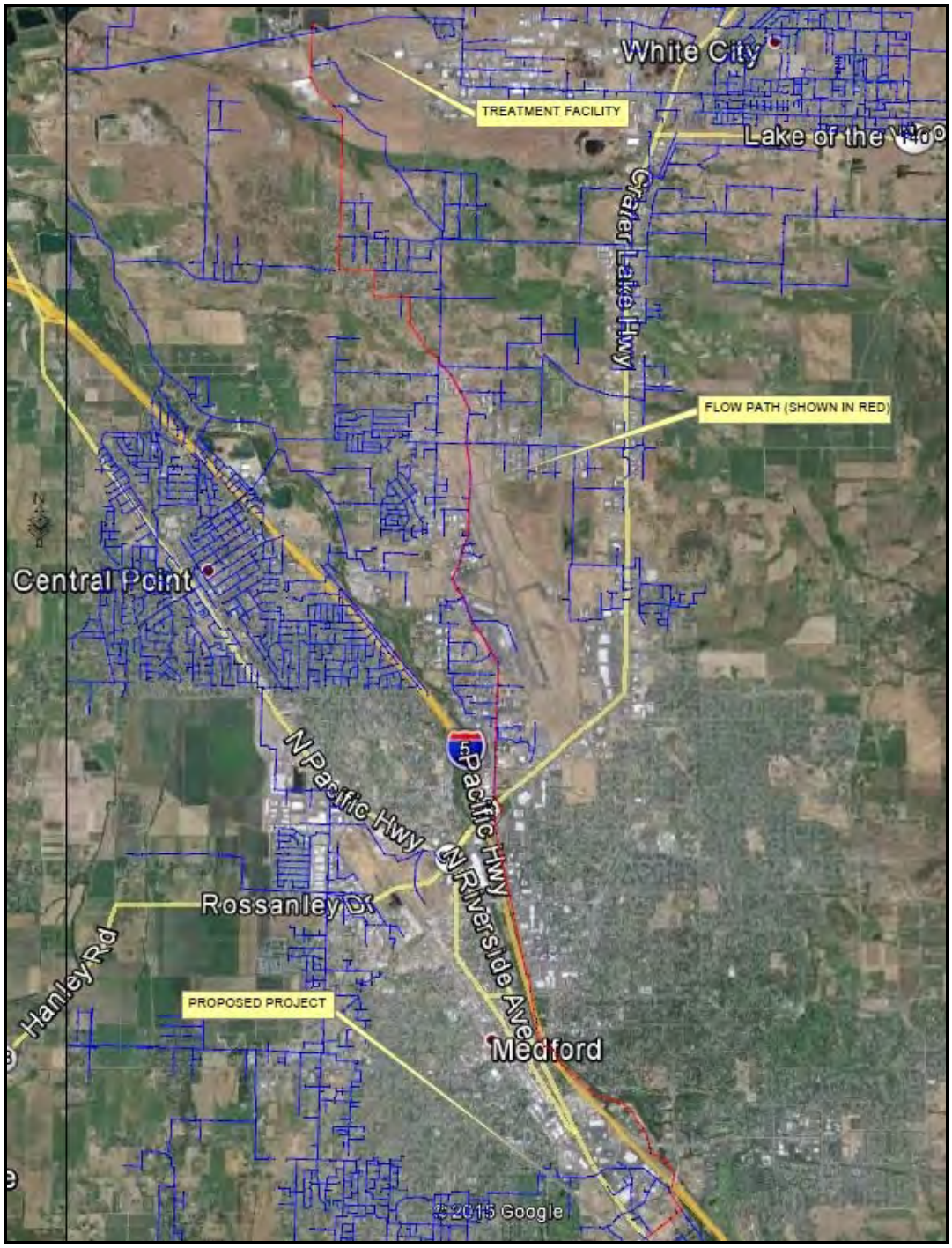

Figure 6-2: Roxy Ann Site Collection System Flow Path

The collection system flow path is comprised entirely of gravity alignments; no pumping stations are needed to convey wastewater flows originating from the Roxy Ann Site to the Medford RWRF. Sewer sizes range from 12 inches in South Pacific Highway directly serving the Roxy Ann Site, to 66 inches at the Medford RWRF influent sewer. Table 6-1 summarizes collection system data along the flow path, beginning at the Roxy Ann Site.

Table 6-1: Roxy Ann Site Collection System Flow Path Summary

Pipe Diameter, in[1]	Length, LF[2]	Material	Year
12	2,107	C[3]	1957
42	1,509	C	1971
48	1,308	C	1971
54	15,713	C	1971
54	731	FRP[4]	2003
54	10,502	C	1971
60	428	C	1971
54	963	C	1971
60	18,244	C	1971
66	4,429	C	1971
66	238	CIPP[5]	2001

Notes:

1. in = inches
2. LF = linear feet
3. C = concrete
4. FRP = fiberglass reinforced plastic
5. CIPP = cured-in-place pipe

RVSS performs regular collection system maintenance, including routine TV inspection and flushing of all segments every three years. Discussion with RVSS staff indicates the pipeline condition along the flow path to be in good repair, with no recent or imminent rehabilitation projects completed or planned.

To evaluate the feasibility of the proposed project with respect to collection system capacity, RVSS staff entered the projected flow data, as presented in Table 2-1, into a hydraulic model to identify system limitations. In review of the model results with RVSS staff, no system deficiencies, such as overflows or surcharging of manholes, were identified. Staff do not anticipate any system improvements specific to the proposed project to be required. Review of the existing conditions and capacities of the wastewater collection system indicate continued service via the existing connection at the Roxy Ann Site to be feasible.

6.1.2 Roxy Ann Site Wastewater Treatment

The Medford RWRF provides wastewater treatment services to the cities of Medford, Central Point, Jacksonville, Talent, Phoenix, Eagle Point, as well as unincorporated areas in Jackson County with sewer service. The Medford RWRF was originally constructed in 1970 and has

undergone several major improvement phases since 1980. The Medford RWRF provides secondary treatment and discharges disinfected effluent to the Rogue River. Figures 6-3 and 6-4 show an aerial image of the Medford RWRF and vicinity and process schematic, respectively.

Figure 6-3: Medford RWRF Aerial and Vicinity

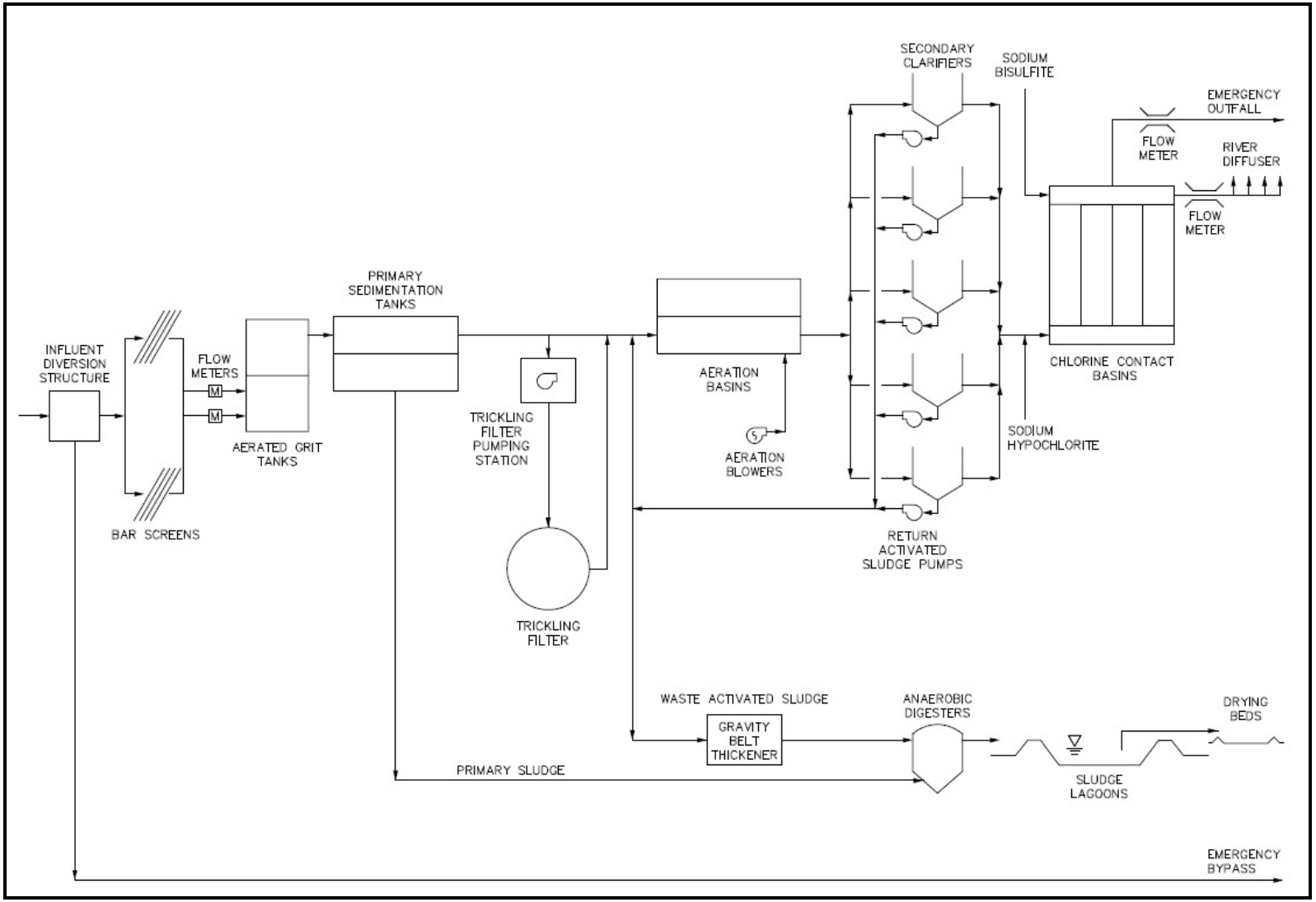

Figure 6-4: Medford RWRF Process Schematic

Current and projected flows and loads for the Medford RWRF are presented in Table 6-2. Liquid and solids stream unit process capacities are presented in Tables 6-3 and 6-4, respectively.

Table 6-2: Medford RWRF Current and Projected Flows and Loads

	Design Year		
Condition	**2012**	**2020**	**2030**
ADWF[1], MGD[2]	16.9	21	25
MMF[3], MGD	23	28	34
PDF[4], MGD	50	61	74
PWWF[5], MGD	91	101	118
Max Month BOD[6] Load, ppd[7]	33,000	41,000	49,000
Max Month TSS[8] Load, ppd	29,000	36,000	43,000

Notes:

1. ADWF = average dry weather flow
2. MGD = million gallons per day
3. MMF = maximum month flow
4. PDF = peak day flow
5. PWWF = peak wet weather flow
6. BOD = biochemical oxygen demand
7. ppd= pounds per day
8. TTS = total suspended solids

Table 6-3: Medford RWRF Liquid Stream Unit Process Capacity Summary

Unit Process	Capacity, MGD[1]	Condition
Bar Screens	120	PWWF[2]
Aerated Grit Tanks	61	PWWF
Primary Sedimentation Tanks	60	PWWF
Trickling Filter and Aeration Basins	19	ADWF[3]
Secondary Clarifiers (hydraulic)	65	PWWF
Secondary Clarifiers (solids loading)[4]	29	MMWWF[5]
Chlorine Contact Basin	80	PWWF
Outfall	170	PWWF

Notes:

1. Capacity in terms of MGD = million gallons per day
2. PWWF = peak wet weather flow
3. ADWF = average dry weather flow
4. Based on sludge volume index of 210 mg/L
5. MMWWF = maximum month wet weather flow

Table 6-4: Medford RWRF Solids Stream Unit Process Capacity Summary

Unit Process	Solids Capacity	Unit
Gravity Belt Thickener	35,600	ppd[1]
Anaerobic Digesters	207,000	gpd MM[2]
Sludge Lagoons	18,000	ppd VS[3]
Drying Beds	3,000	tons per year

Notes:

1. ppd = pounds per day
2. gpd = gallons per day, maximum month
3. ppd VS = pounds volatile solids per day

The 2012 Facilities Plan for the Medford RWRF was reviewed to identify potential deficiencies within treatment unit processes that may result due to increased flows and loads to the facility from the proposed project. Given the relatively small impact to unit process treatment capacities, the flows presented in Section 2 are not anticipated to impact the Facility or Capital Improvement Plans. Table 6-5 summarizes the proposed project's impact on wastewater treatment capacity at the Medford RWRF.

Table 6-5: Proposed Project Impact on Wastewater Treatment Capacity

Condition	Current Medford RWRF Flow[1]	Medford RWRF Capacity[2,3]	Proposed Project Wastewater Flow
ADWF[4], MGD[5]	16.9	19	0.02
PDF[6], MGD	50	60	0.04

Notes:

1. Current flows taken from 2012 Medford RWRF Facilities Plan.
2. ADWF capacity limited with respect to air supply limitations.
3. PDF capacity limited with respect to surface overflow rate of primary sedimentation tanks.
4. ADWF = average dry weather flow
5. MGD = million gallons per day
6. PDF = peak day flow

Review of the existing conditions and capacities of the Medford RWRF indicate continued wastewater treatment for the Roxy Ann Site to be feasible.

6.1.3 Roxy Ann Site Independent Onsite Wastewater Treatment

As an alternative to continued service by RVSS and the Medford RWRF, the technical feasibility of an independent onsite wastewater treatment and disposal system was reviewed as part of the previously prepared onsite technical memorandum, included as Appendix A. There are a

variety of onsite treatment systems available that are capable of ammonia and nitrate removal. Packaged treatment systems such as packed bed filtration and membrane bioreactors (MBRs) are well proven systems with many installations in operation. In review of the fee-to-trust parcel Roxy Ann Site plan, there also appears to be sufficient footprint available for a packaged wastewater treatment system. Based on the estimated wastewater flows and treatment requirements presented in Sections 2 and 3, respectively, onsite treatment of wastewater was determined to be feasible.

Onsite disposal of wastewater is accomplished with subsurface drainage systems that allow treated wastewater to drain into the surrounding soils. Consultation with local onsite system specialists and review of soils data indicate soils near the Roxy Ann Site to be very poor and not suitable for subsurface drainage. Measures could be implemented to improve site conditions, such as groundwater diversion and replacement of native soils.

6.2 Phoenix Site Wastewater Assessment

6.2.1 Phoenix Site Wastewater Conveyance

The Phoenix Site location is within the RVSS service area; however, there are no facilities directly serving the property. Serving the Phoenix Site would require an extension of RVSS facilities north of the Fern Valley I-5 interchange, along North Phoenix Road. The Phoenix Site and the closest connection point to the wastewater collection system are depicted on Figure 6-5.

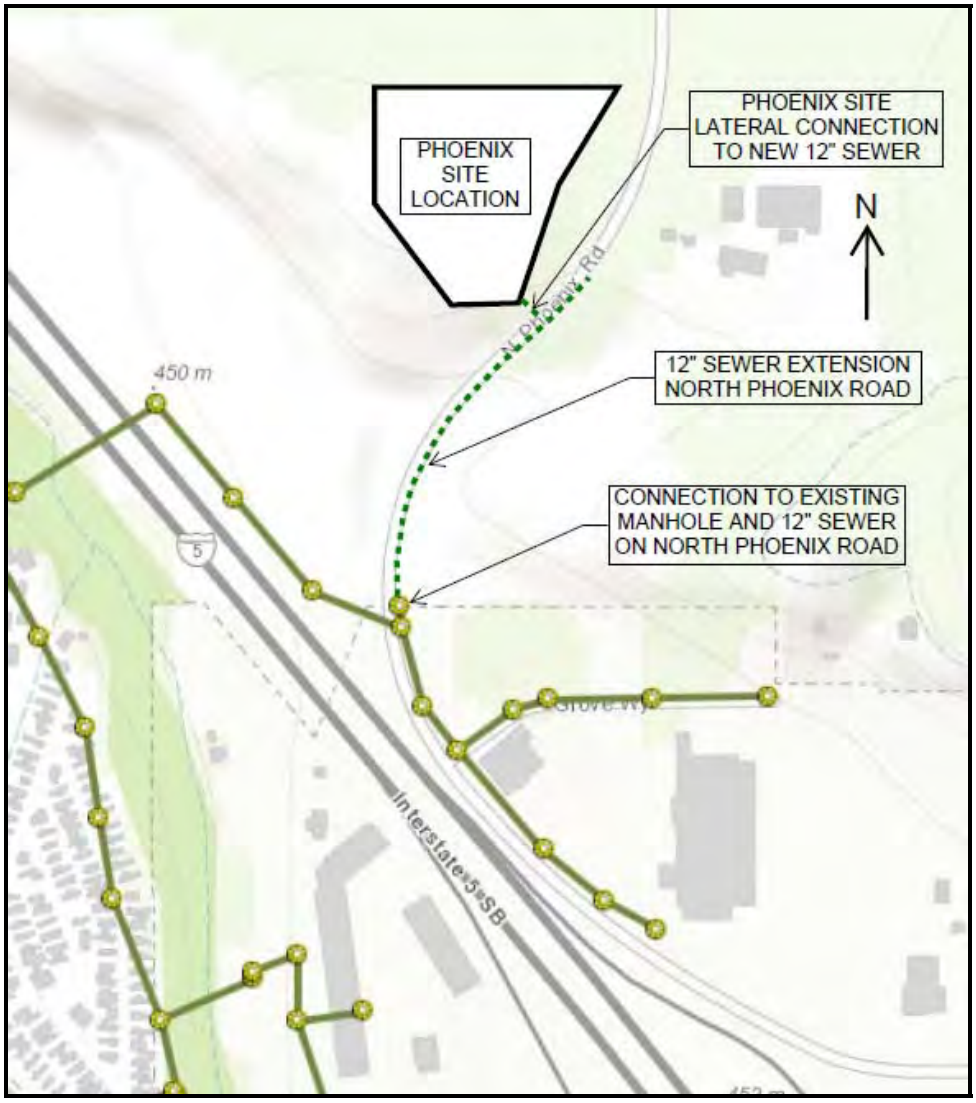

Figure 6-5: Phoenix Site Wastewater Connection

RVSS bored a 12-inch sewer main underneath I-5 just north of the Fern Valley Interchange to serve several residential and highway commercial developments on the east side of I-5. The 12-inch line was sized to serve future residential and industrial development in areas north of the City's UGB. As with the Roxy Ann Site, the collection system would convey wastewater flows from the Phoenix Site to the Medford RWRF. The flow path through the collection system from the Phoenix Site to the Medford RWRF is shown in green on Figure 6-6.

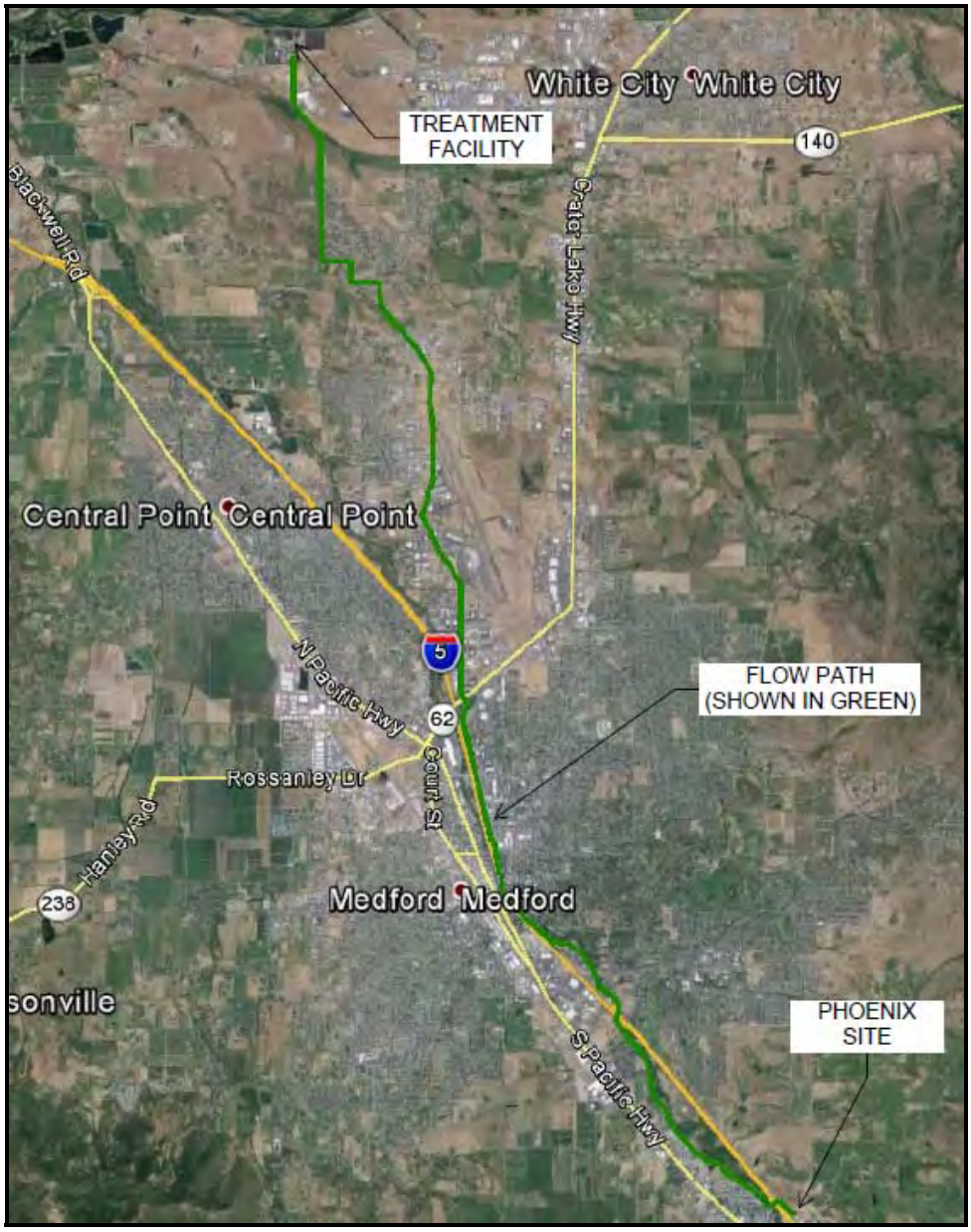

Figure 6-6: Phoenix Site Collection System Flow Path

The collection system flow path is comprised entirely of gravity alignments; no pumping stations are required to convey wastewater flows originating from the Phoenix Site to the Medford RWRF. Sewer sizes range from 12 inches in North Phoenix Road, including construction of a new extension of the existing 12-inch sewer to serve the Phoenix Site location, to 66 inches at the Medford RWRF influent sewer. Table 6-6 summarizes collection system data along the flow path, beginning at the Phoenix Site.

Table 6-6: Phoenix Site Collection System Flow Path Summary

Pipe Diameter, in[1]	Length, LF[2]	Material	Year
12	1,085	PVC[3]	2007
18	662	PVC	2007
36	5,458	C[4]	1971
42	6,979	C	1971
48	1,308	C	1971
54	28,338	C, FRP[5]	1971, 2003
60	18,244	C	1971
66	4,834	C	1971

Notes:

1. in - inches
2. LF = linear feet
3. PVC = polyvinyl chloride
4. C = concrete
5. FRP = fiberglass reinforced plastic

RVSS review of collection system condition and capacity the Phoenix Site indicated all sections to be in good repair, with no overflow or surcharging events predicted by the RVSS hydraulic model. Review of the proposed project at the Phoenix Site location with the City of Phoenix and RVSS indicate wastewater service via the extension of the existing 12-inch sewer on North Phoenix Road to the Phoenix Site location to be feasible.

6.2.2 Phoenix Site Wastewater Treatment

Wastewater generated by the proposed project at the Phoenix Site would be treated at the Medford RWRF. See Section 6.1.2 for a detailed discussion of the treatment processes and assimilative capacity of the Medford RWRF.

Section 7: Drainage and Stormwater Treatment Analysis

7.1 Stormwater Analysis Site Descriptions

7.1.1 Roxy Ann Site Description

The Roxy Ann Site consists of three distinct adjacent areas. The northwest area of the site includes tax lots 4200, 4300, 4400, and 4500 (L4200-4500), which are adjacent to Charlotte Ann Road and consist of a recently demolished building, existing paved parking, and an open field. Tax lot 4701 (L4701), in the central area of the site, consists of the Roxy Ann Lanes bowling alley, and associated parking. The northwest and central areas are connected by a paved strip approximately 60 feet wide by 190 feet long. Tax Lot 4100 (L4100) makes up the southeastern area of the site adjacent to L4701, and consists of several buildings as well as paved and gravel parking lots. The site layout and tax lot labels are shown in Figure 7-1. Note that the tax lot areas shown in Figure 7-1 do not necessarily correspond with the drainage basin areas.

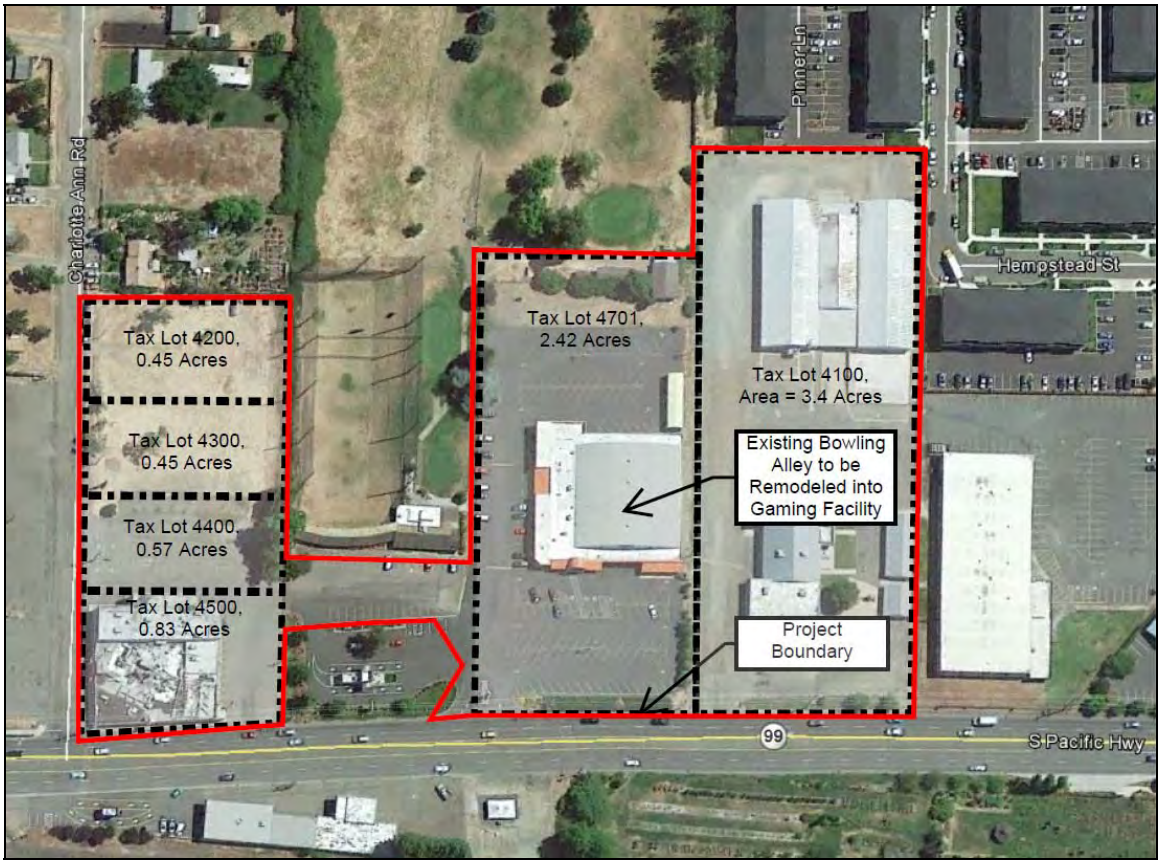

Figure 7-1: Roxy Ann Site Layout and Tax Lot Boundaries

Each of the three areas is approximately 250 feet wide along South Pacific Highway. L4200-4500 and L4701 are approximately 485 feet long. Lot 4100 is approximately 610 feet long. A coffee shop is located southwest of the central strip connecting L4200-4500 and L4701 and a driving range and golf course are located to the northeast. The coffee shop and driving range will not be modified as part of the proposed project.

The majority of drainage from the project site flows to three main areas. L4200-4500, the central strip, and the southwestern portion of L4701 drain to a central drainage channel running northeast from South Pacific Highway through the site. The central drainage channel crosses the central paved strip via a culvert and continues northeast, eventually discharging to Bear Creek. A smaller drainage ditch also runs between L4200-4500 and the south side of Charlotte Anne Road. However, because the site slopes away from Charlotte Anne Road, it is assumed that runoff from L4200-4500 drains into the central drainage channel.

The northeastern portion of L4701 drains toward the north corner of the lot to the existing golf course where runoff appears to infiltrate. No evidence of ponding or erosion was observed during a site visit conducted on 4 April 2015, or is apparent in aerial photographs. Runoff from the northeast portion of L4100 and southwest edge of L4701 flows to a shallow swale that runs between the L4710 and L4100. This swale conveys flows northeast toward the golf course, where it also appears to infiltrate.

The east and central portion of L4100 drain to the east end of the site, where runoff enters a network of catch basins. A site visit revealed conveyance piping at these structures appears to be 18 inches in diameter and that flows are conveyed northeast along the edge of L4100 and then offsite, where they are presumed to eventually enter Bear Creek. Runoff from the southwest portion of L4100 sheet flows northeast and appears to infiltrate into onsite pervious areas. An approximately 30-foot wide by 60-foot long loading bay in the center of L4100 may collect stormwater runoff that does not drain. Standing water 1 to 2 feet deep was observed in this loading bay during a site visit on 15 March 2016. Addressing this drainage problem is beyond the scope of this Study.

The site layout, assumed flow directions, discharge points, and the existing drainage system are shown in Figure 7-2. Photographs of the central drainage channel are provided in Figure 7-3.

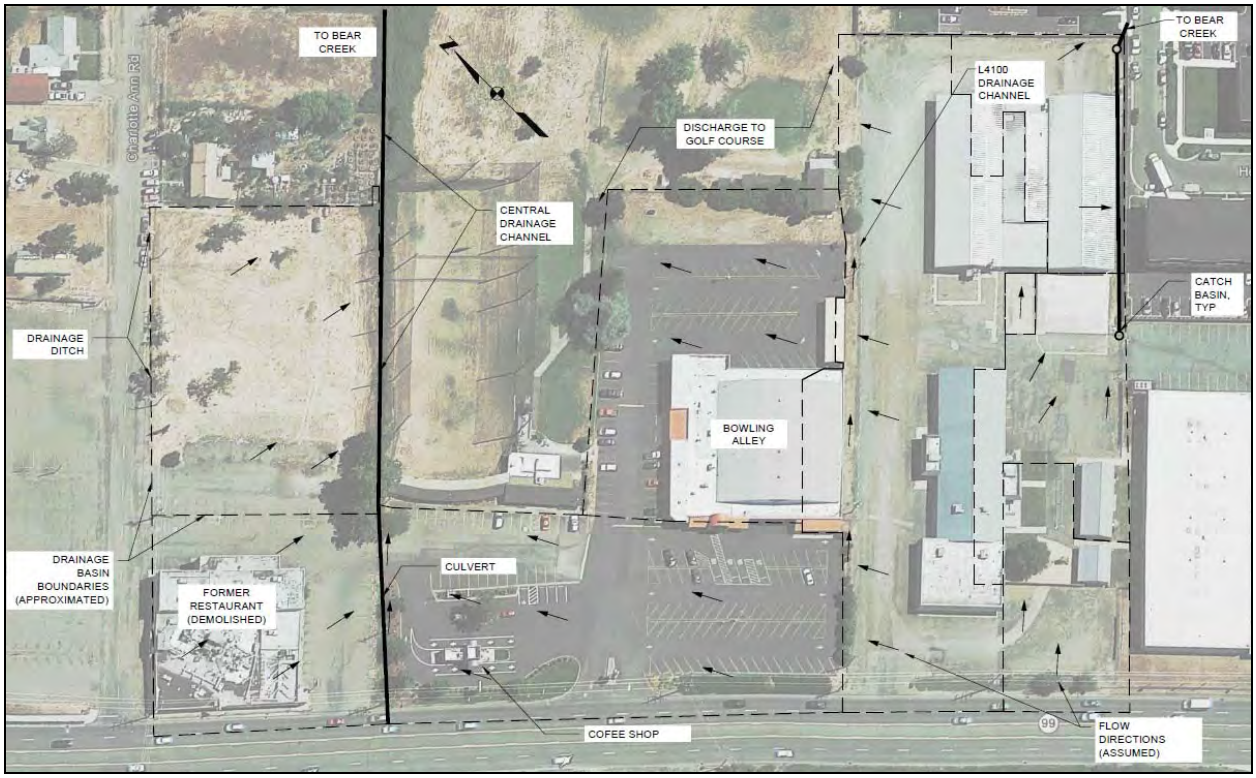

Figure 7-2: Roxy Ann Site Layout and Existing Stormwater Drainage

Figure 7-3: Roxy Ann Central Drainage Channel Photographs[1]

Note:

1. Taken from culvert looking upstream toward Pacific Highway (left) and downstream toward Bear Creek (right).

7.1.1.1 Roxy Ann Site Soil Characteristics

Based on data obtained from the Natural Resources Conservation Service (NRCS), the soil south of the central drainage channel is classified as Group A whereas soil in the northern portion is classified as Group B. According to the NRCS, Group A soils include soils with low runoff potential and high hydraulic conductivity, even when saturated. The saturated hydraulic conductivity of these soils is greater than 5.67 inches per hour (in/hr), and they usually consist largely of sand or gravel. Group B soils have moderate runoff potential when saturated, and their saturated hydraulic conductivity is between 1.42 and 5.67 in/hr. Group B soils usually have sandy loam or loamy sand textures.

The Rogue Valley Stormwater Quality Design Manual (Manual) discussed in Section 3.3 serves as the principal design guidance document for the Roxy Ann Site and states that soil groups A and B are suitable for infiltration of stormwater. To be conservative, infiltration facilities were sized assuming group B soils. To estimate the hydraulic conductivity, a correction factor of 2.0 was applied to the saturated hydraulic conductivity for soil type 6B, as published by the NRCS, resulting in an estimated infiltration rate of 0.7 in/hr for the purpose of this Study. Further site characterization, including assessing the infiltration capacity of soils and depth to groundwater, is required prior to design of infiltration facilities.

7.1.1.2 Roxy Ann Site Proposed Redevelopment

The existing bowling alley building in the central portion of the site is estimated to be approximately 0.56 acres, or 24,400 SF in area, as determined from aerial photography. The building is to be remodeled into a gaming facility, including the addition of approximately 7,600 SF of interior space for a bar/deli and kitchen area, and approximately 7,000 SF of other impervious surfaces, such as the port cochère associated with remodel of the building. The addition is located in existing parking areas and is not expected to increase the total impervious area of the site. L4200-4500 is comprised of approximately 1.20 acres of existing paved parking areas, including the area of the demolished building, and 1.12 acres of open grass field. The entire L4200-4500 section of the site is proposed to be paved for additional parking. Existing paved parking areas may also be repaved as part of the redevelopment; however, the replacement of pavement is not considered to constitute re-development as defined by the Manual. The buildings on Lot 4100 will remain unchanged. The exteriors and surrounding areas, primarily compacted gravel with some paved areas, will not be altered.

7.1.2 Phoenix Site Description

The Phoenix site is located on an approximately 46 acres of undeveloped agricultural land north of the City of Phoenix, adjacent to North Phoenix Road. The proposed development will create a total of 7.8 acres of new impervious surface that will include the gaming facility building and surrounding parking. The proposed project is to be located approximately 1,200 feet northeast of I-5 at the top of an approximately 80-foot-high hill at an elevation of approximately 1,540 feet. The hill slopes steeply toward the interstate to the southwest and more gradually toward the northeast. The groundcover at the proposed site is currently grass and scattered trees.

The site layout is shown on Figure 7-4, on a contour map generated using the Oregon Department of Geology and Mineral Industries (DOGAMI) Lidar data viewer. The approximate existing watershed boundaries where the proposed project site is located, the discharge points from the site, and the location of the discharge destinations are also shown on Figure 7-3. Approximately half of the site flows to the north and half of the site flows to the south. Note that North Phoenix Road to the east and south of the proposed project site has recently been realigned so that it is parallel to the proposed site boundary that is also shown on Figure 7-3.

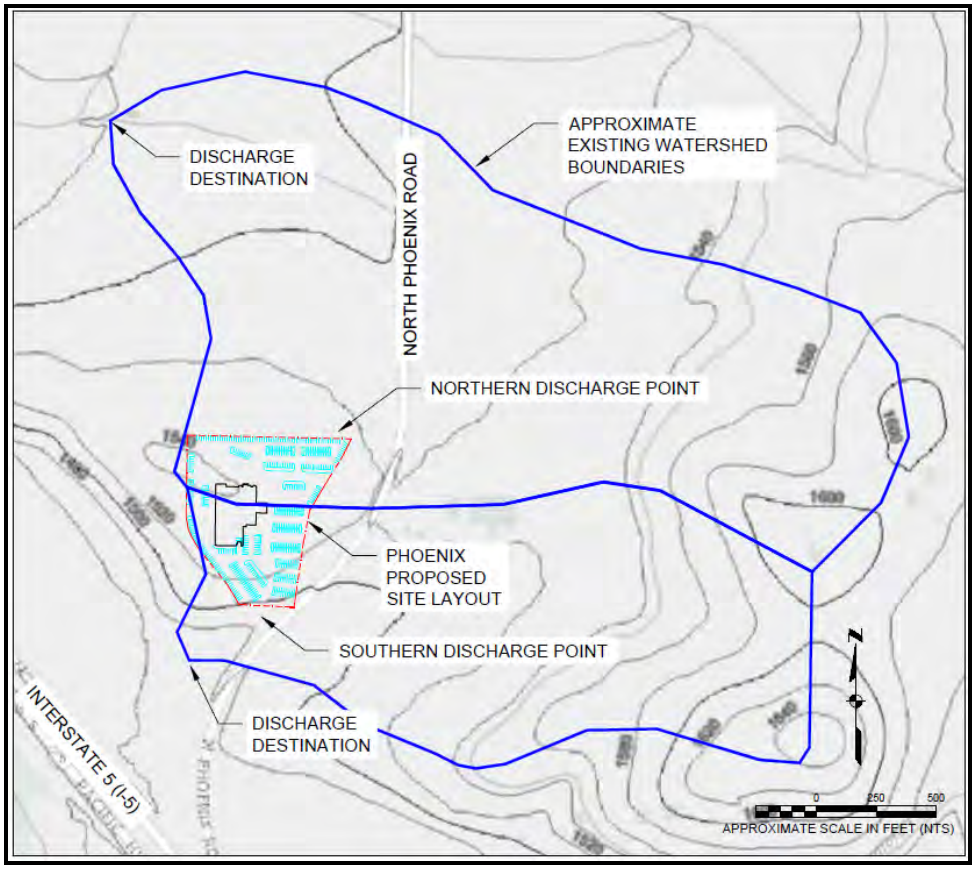

Figure 7-4: Phoenix Site Layout and Existing Stormwater Drainage

7.1.2.1 Phoenix Site Soil Characteristics

Based on NRCS data, the soil at the Phoenix site is primarily clay-containing loams classified as Group D. The majority of the soil at the proposed site is Brader-Debenger loams, which have a saturated hydraulic conductivity of approximately 1.2 in/hr. The northeastern corner and eastern boundary of the proposed project site is Darow silty clay loam, which has a saturated hydraulic conductivity of approximately 0.4 in/hr. These soils are not considered appropriate for infiltration of stormwater.

7.1.2.2 Phoenix Site Proposed New Development

The proposed development of the Phoenix site would include creation of 7.8 acres impervious surfaces on undeveloped land for construction of the gaming facility and surrounding parking. The building site is located approximately at the top of the hill on the existing watershed divide, therefore, runoff from the building roof and the surrounding parking was assumed to be divided equally between the northern and southern portions of the site.

7.2 Proposed Flow Controls and Treatment

The Roxy Ann and Phoenix Sites were modeled using Autodesk Storm and Sanitary Analysis software to determine preliminary sizing of stormwater flow control and treatment facilities. Each site was modeled in accordance with the Manual. The Santa Barbara Urban Hydrograph (SBUH) method was used for the sizing of pollution removal systems, assuming a rainfall of 1 inch in 24 hours. Similarly, the Rational Method was used for sizing and design of flow controls, using a 10-year, 24-hour storm based on the Medford rainfall intensity-duration-frequency (IDF) curve provided in Appendix E of the Manual. This section presents the findings and conclusions of the analyses. Kennedy/Jenks scope with respect to stormwater analysis was to develop two conceptual conveyance and treatment systems for the Roxy Ann Site and one conveyance and treatment system for the Phoenix Site. Detailed model descriptions and results for each site are included as Appendix O.

7.2.1 Roxy Ann Site Flow Control and Treatment

Two alternatives for flow control and treatment were considered for the Roxy Ann Site to bring the peak runoff to its pre-development level and effectively meet the pollution reduction requirements described in Section 3: at-grade vegetated bioretention swales located along the southeastern side of L4200-4500 and northeastern side of L4701, and a system of pervious planted strips distributed throughout the existing and proposed parking areas. Underground detention and infiltration systems can often be a viable alternative; however, the relatively flat grades at the project site do not allow for gravity drainage to the central drainage channel. As a result, underground detention and infiltration systems were not considered as part of the evaluation. As no changes are proposed for L4100, no stormwater improvements are required.

7.2.1.1 Vegetated Bioretention Swales

Vegetated bioretention swales (swales) combine features of a vegetated swale and an infiltration trench to retain, treat, and infiltrate runoff. Swales would be planted with native plants that are tolerant of inundation and drought, such as those presented in Appendix A of the Manual. Appropriate plant species will vary depending on swale locations and characteristics of the site. Swales for the Roxy Ann Site were sized to infiltrate the SBUH one-inch, 24-hour design storm and safely detain the rational method 10-year, 24-hour flow control design storm. Per the Manual, the systems will include a bypass that can safely convey a 25-year storm event.

Swale depth was limited to two feet for safety and ease of maintenance. To detain the one-inch water quality design storm and allow it to infiltrate, a weir one foot above the swale bottom is included in the design. Given the soil characteristics, the design storm is expected to infiltrate in less than 24 hours. Runoff from larger storms will be filtered through vegetation in the swale and discharged over the weir. A schematic from the Manual of a typical swale suitable for detention and treatment of stormwater runoff at this site is shown on Figure 7-5.

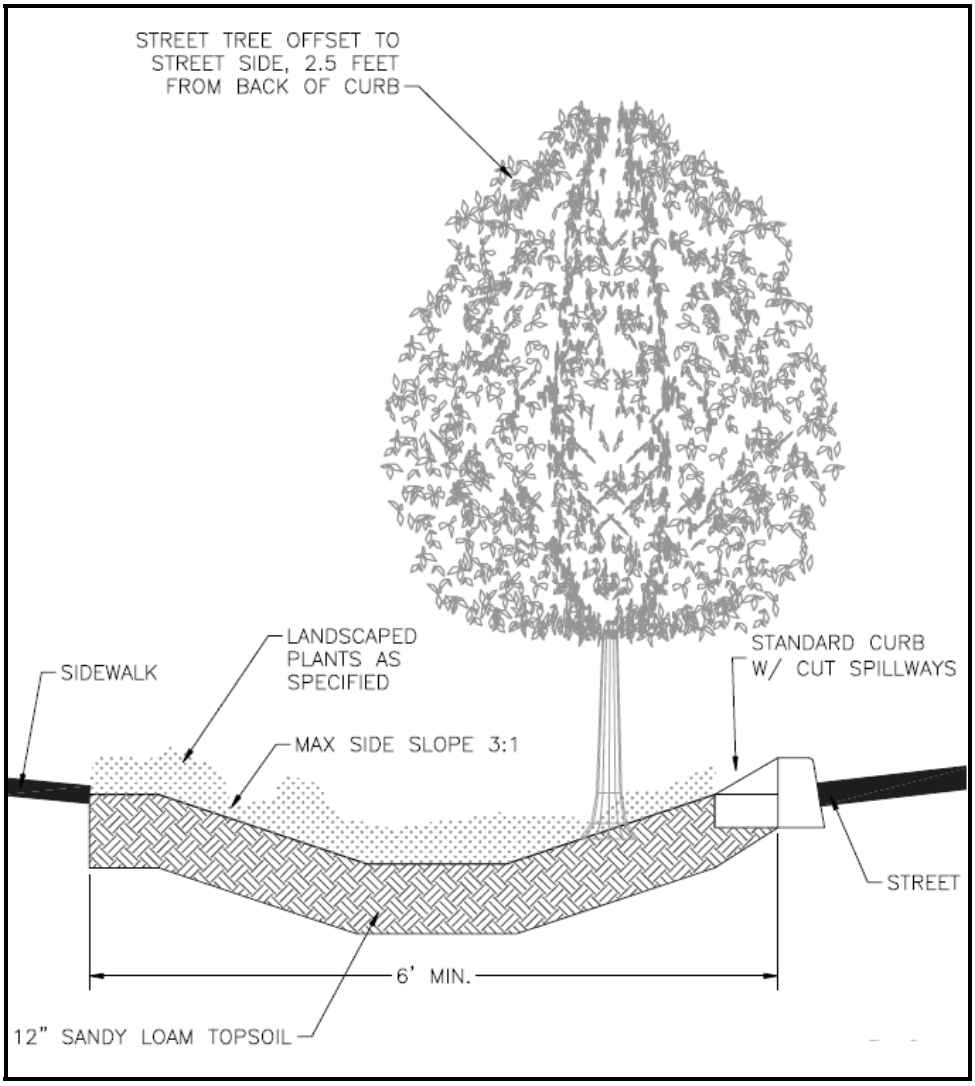

Figure 7-5: Typical Vegetated Bioretention Swale

To reduce the peak flow from the northern portion of the site during the 10-year, 24-hour storm to the pre-development level and meet the treatment goals, the bottom surface area of the swale needs to be approximately 1920 square feet (Guillette, 2010). An 8-foot wide by 240-foot long swale provides the required surface area and could potentially be located along the existing central drainage channel. The swale would discharge to the channel at the northeast end. With a side slope of 3 horizontal feet to 1 vertical, as recommended in the Manual, the total width of the swale at grade would be 20 feet. A second swale would be required in the southern portion of the site to serve the Southeast Building and Parking subbasin. A swale with a bottom surface area of approximately 660 SF would be required to restore pre-development conditions for the area of the proposed building addition. A 3-foot-wide by 220-foot-long swale with a side slope of 3 horizontal feet to 1 vertical would have an at grade width of 15 feet. A swale of this

size could potentially be located in the existing impervious strip on the eastern boundary of the subbasin and would discharge onto the adjacent golf course. The proposed site layout for the swales is shown on Figure 7-6.

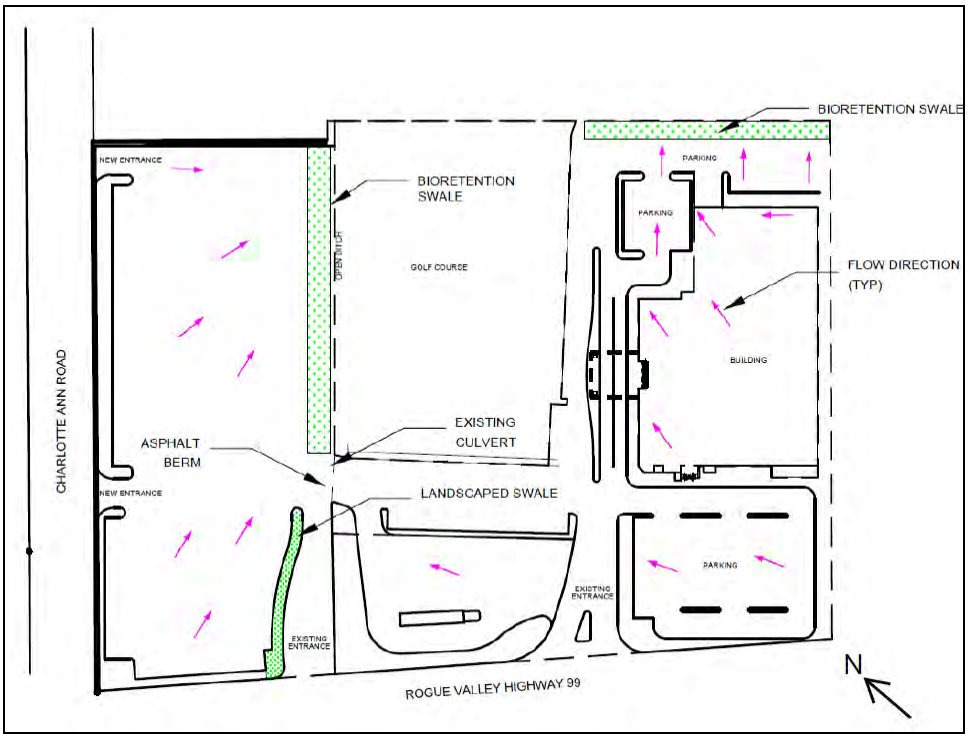

Figure 7-6: Roxy Ann Conceptual Site Layout with Vegetated Bioretention Swales

7.2.1.2 Distributed Pervious Strips

A system of pervious, vegetated strips distributed throughout the redeveloped and existing parking areas would reduce the total impervious surface in the parking area and provide treatment and infiltration of runoff. Based on the model results, approximately 5,250 SF of L4200-4500 would need to be converted to vegetated pervious strips to reduce the peak runoff from the project site to pre-development levels for the 10-year, 24-hour storm and infiltrate the 1-inch design storm. For the northeastern portion of L4701, approximately 2,200 SF would be required. The pervious strips could be positioned to minimize lost parking spaces. Similar to the swales, the pervious strips would be planted with drought-tolerant, native plants and shade trees. The pervious strips can be similar in appearance to the swales but they are not necessarily designed to provide storage and conveyance. A conceptual drawing of a parking lot fitted with pervious strips is shown on Figure 7-7.

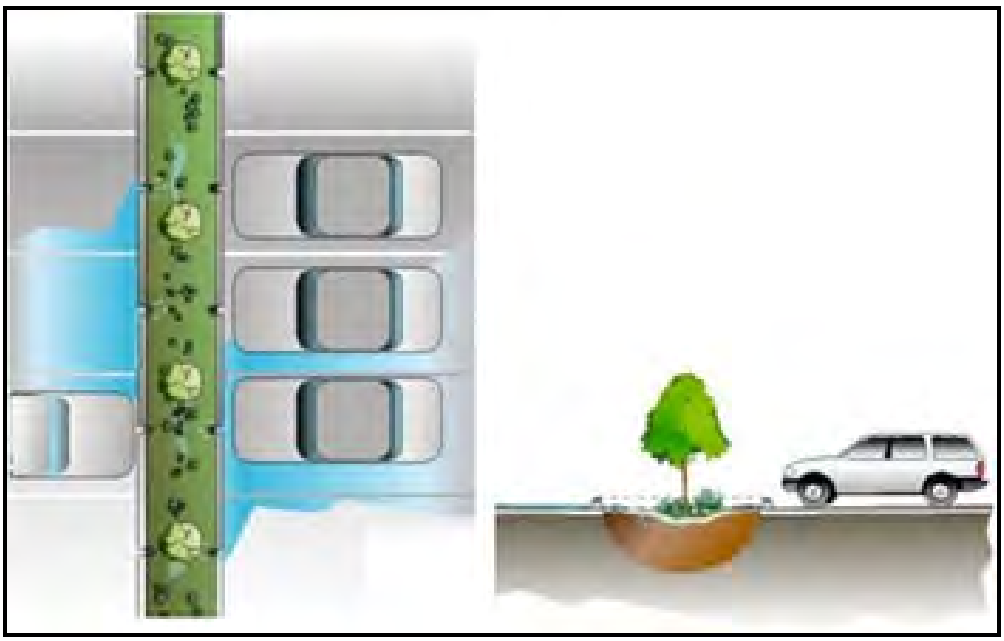

Figure 7-7: Typical Distributed Pervious Parking Strip

Additional treatment would be needed to remove particulates from the runoff that does not reach these strips. Therefore, this alternative also includes a grassy filter strip parallel to the central drainage channel. A 200-foot-long, 5-foot-wide filter strip along the northeastern edge of the newly paved area and along the eastern edge of the southern area would provide adequate treatment. The proposed site layout for this alternative is shown on Figure 7-8.

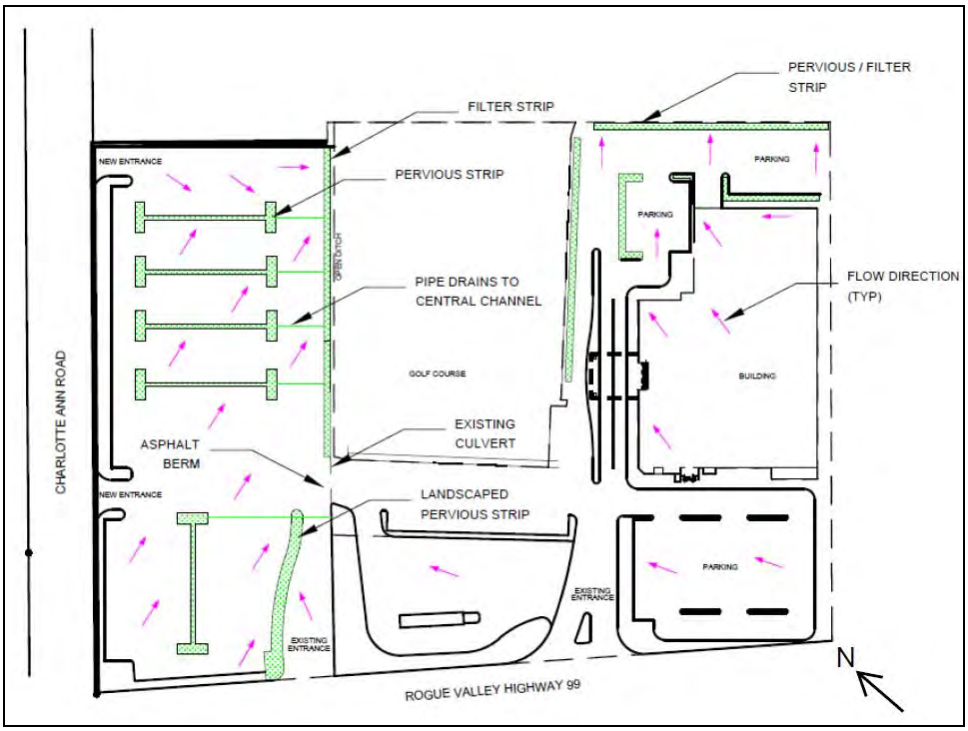

Figure 7-8: Roxy Ann Conceptual Site Layout with Distributed Pervious Parking Strips

7.2.1.3 Roxy Ann Site Conclusions

Based on the conceptual hydrologic and hydraulic modeling of the Roxy Ann Site, it is feasible to provide adequate stormwater conveyance, detention, and treatment via either vegetated bioretention swales or a distributed pervious strip system for the northeastern and central areas of the site. As no changes are proposed for L4100, no stormwater improvements are required.

7.2.2 Phoenix Site Flow Control and Treatment

7.2.2.1 Vegetated Bioretention Swales

For the Phoenix Site, a stormwater collection and conveyance system was designed with swales along the site periphery to slow and filter runoff while it is conveyed to detention ponds that provide further settling and flow control. Swales would be planted with native plants that are tolerant of inundation and drought. The conceptual design for the site is shown on Figure 7-9.

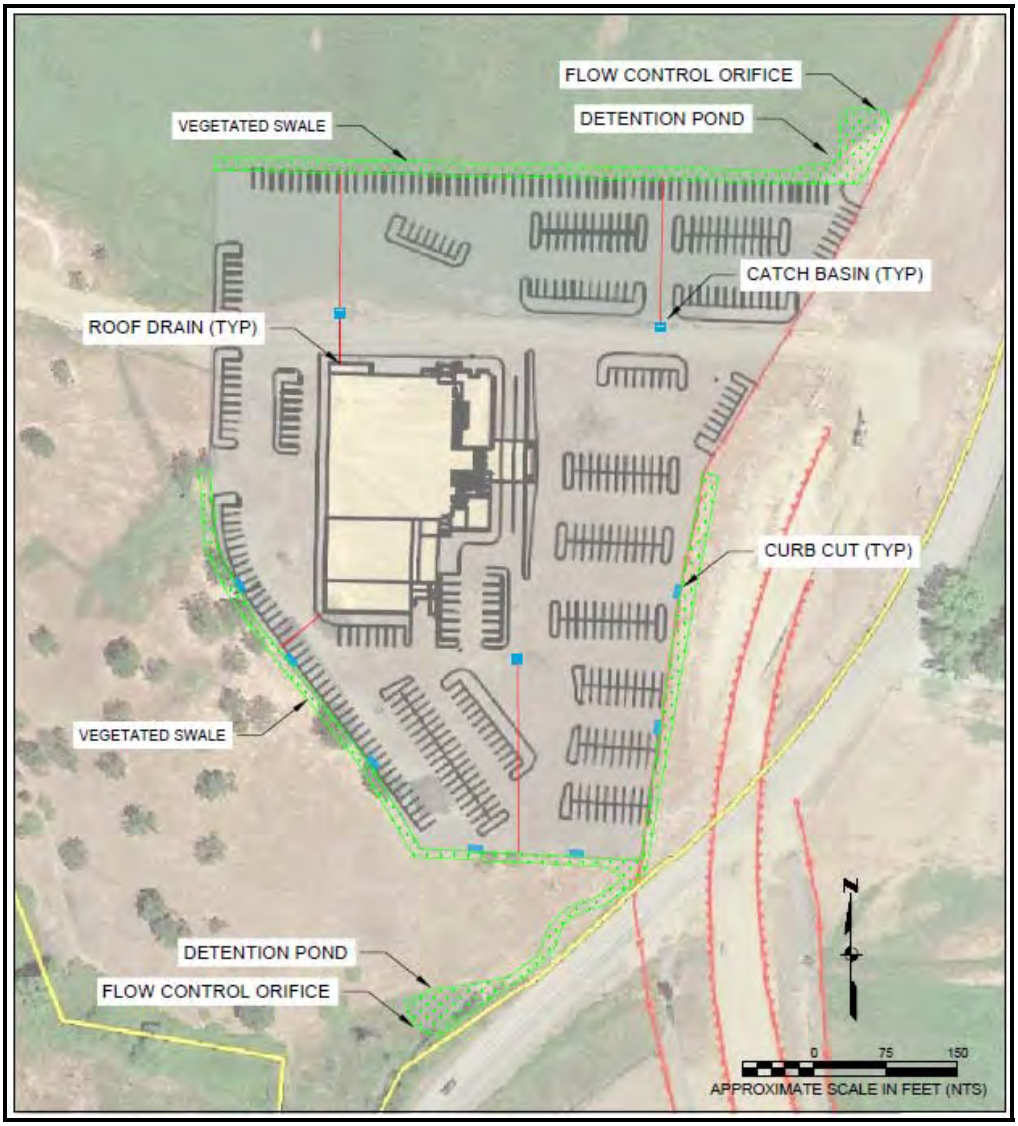

Figure 7-9: Phoenix Conceptual Site Layout with Vegetated Bioretention Swales and Detention Ponds

Runoff within 150 feet of the parking lot edges sheet flows to curb cuts where pretreatment is provided in shallow rock settling basins prior to discharging to the swales. Runoff from the interior of the site drains to catch basins with sumps to provide pretreatment through settling, and down-turned elbows on the outlet pipes to capture floatables such as oil and trash. The building roof drains and the catch basins are piped to discharge points in the swales.

The swales are designed with 3-horizontal-feet to 1-vertical-foot side slopes, a 1-foot bottom width, and a longitudinal slope of 0.5 percent. The Manual specifies a swale length of 75 feet for each 0.5 acres of impervious surface to provide adequate treatment. Based on this guideline, runoff from the proposed project site will receive adequate treatment in the swales.

Small detention ponds are required to provide flow control to reduce the post-development peak flow to pre-development levels. The swales discharge to detention ponds with a bottom area of approximately 1,000 SF and 3 to 1 side slopes. Discharge from the pond is through a 6-inch-diameter orifice through a weir designed to bypass high flows. Both of the proposed ponds can be located outside the proposed parking area within the parcel boundary. The southern pond is located at the bottom of the slope. Channel protection or drop structures are likely to be required upstream of the pond. Such features can often be designed to add aesthetic appeal to the site.

7.2.2.2 Phoenix Site Conclusions

Given the relatively steep slopes at the Phoenix Site, poorly infiltrating soils, and available land, a system of swales and detention ponds to convey stormwater is determined to be a feasible approach for providing sufficient treatment and control of peak runoff flows.

References

Wilton Rancheria Water and Wastewater Feasibility Study, Summit Engineering, 2014

Cowlitz Casino Project Water and Wastewater Report, Olson Engineering, 2005

Karuk Tribe Casino and Hotel Project, Bray and Associates, 2013

Graton Rancheria Hotel and Casino Water and Wastewater Feasibility Study, Hydroscience Engineers, 2007

Low Impact Development Technologies, Whole Building Design Guide, National Institute of Building Sciences, Guillette, 2010

Appendix A: Technical Memorandum: Roxy Ann Site Independent Onsite Water and Wastewater

3 December 2015

Technical Memorandum

To: Ms. Bibiana Alvarez, Analytical Environmental Services

From: Ben Bosse, P.E., Ron Walz, P.E., Kennedy/Jenks Consultants

Reviewed: Alex Peterson, P.E., Charles Wright, P.E., Kennedy/Jenks Consultants

Subject: Opinion of Feasibility of Independent Onsite Water and Wastewater Services
Coquille Indian Tribe Fee-to-Trust and Casino Project
K/J Project Number: 1576010*00

Introduction

Analytical Environmental Services (AES) has contracted Kennedy/Jenks Consultants to complete a water and wastewater feasibility study and storm water analysis for the Coquille Indian Tribe Fee-to-Trust and Casino Project (proposed project). The proposed project is located within the service area of the Medford Water Commission and Rogue Valley Sewer Services, and the preferred approach and focus of the feasibility study will be to maintain current providers. This technical memorandum (TM) presents an opinion of feasibility of providing independent onsite water and wastewater services as an alternative to the preferred approach.

Project Description

The proposed project consists of a 30,284 square foot (SF) gaming facility that includes 16,700 SF of Class II gaming area and 7,500 SF of food service and kitchen area. The proposed project is located on several parcels totaling approximately 10 acres along South Pacific Highway, in Medford, Oregon. The project location is shown on Figure 1.

Figure 2 depicts the proposed project boundary as well as the tax lots on which the project will be constructed. The proposed gaming facility and associated onsite water and wastewater facilities will be located within Tax Lots 4701 and 4100 that are contained within the project boundary. These parcels will be included in the fee-to-trust transfer process. The portion of Tax Lot 4700 located within the project boundary, as well as Tax Lots 4200, 4300, 4400, and 4500 will not be included in the fee to trust process. The project proposes to remodel an existing bowling alley building into a gaming facility, shown on Tax Lot 4701. A floor plan of the gaming facility proposed project is included as Figure 3.

Projected Flows

This section presents projected wastewater flows and potable water demand for the proposed project. Typical wastewater characteristics for gaming facilities are also presented along with irrigation, fire suppression, and onsite potable water storage requirements.

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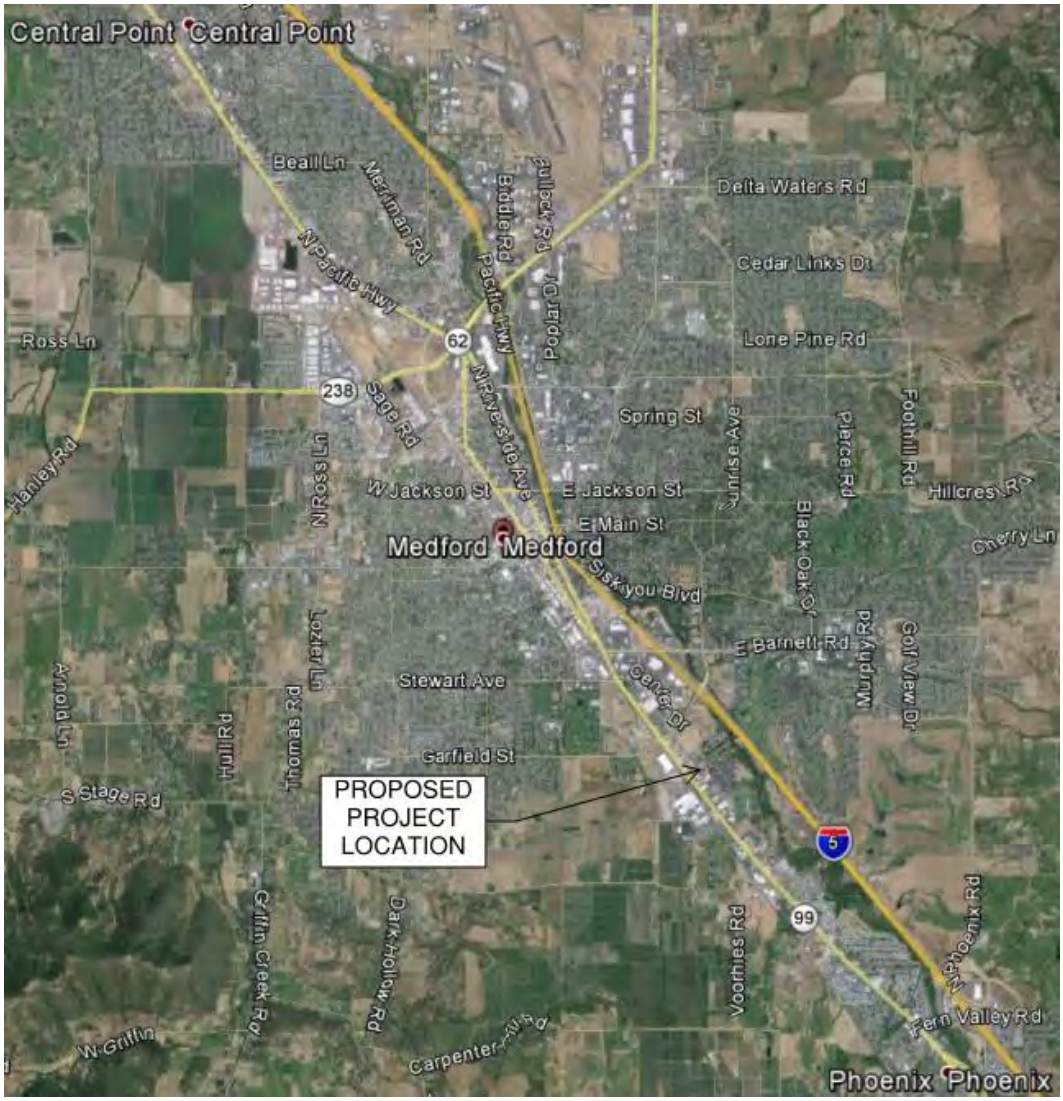

Figure 1: Project Location

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Figure 2: Proposed Project Boundaries and Tax Lots

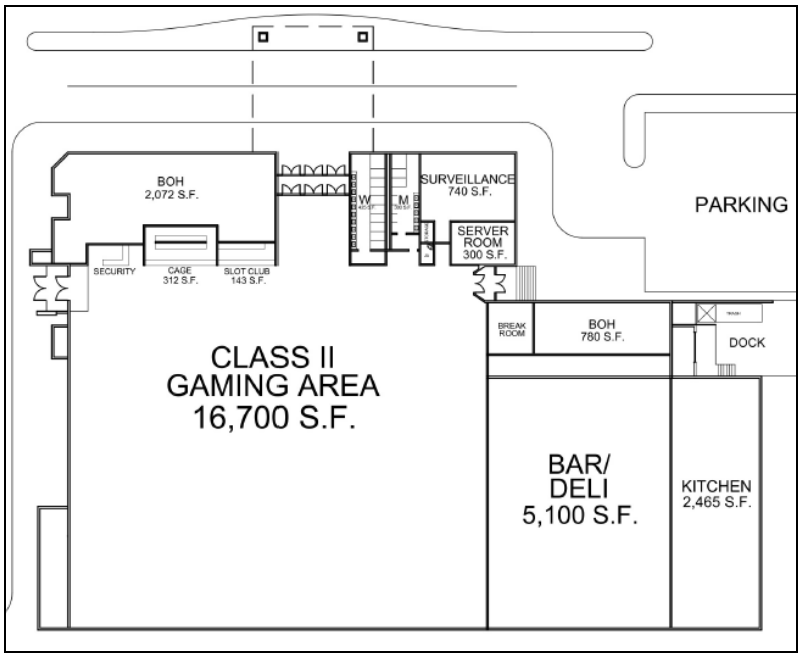

Figure 3: Floor Plan

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Projected Wastewater Flows

Projected wastewater flows for the proposed project were estimated based on review of similar wastewater projections for casino and gaming facility developments (references provided at the end of this memorandum). Wastewater flows were developed on a unit basis in terms of gallons per day per square foot of developed space. Based on the proposed project floor plan depicted on Figure 3, the two main areas that are projected to significantly contribute to wastewater flows are the Class II gaming area and the Bar/Deli and kitchen areas. Review of wastewater generation planning criteria for similar projects indicates a peaking factor of 2 for peak day flows. A summary of wastewater generation rates is presented in Table 1.

Table 1: Wastewater Generation Summary

Area	Units	Unit Qty	Unit Wastewater Generation Rate, gpdsf[a,b]	Average Daily Flow, gpd[c]
Class II Gaming Area	SF	16,700	0.43	7,181
Bar/Deli and Kitchen	SF	7,585	1.40	10,619
			Total Average Daily Flow, gpd	**17,800**
			Peaking Factor	**2.0**
			Peak Day Flow, gpd	**35,600**

Notes:
(a) Assumes 100% area utilization rate
(b) gpdsf = gallons per day per square foot
(c) gpd = gallons per day

Wastewater Characteristics

A review of gaming facility wastewater characteristics showed that Biochemical Oxygen Demand (BOD) concentrations typically vary between 300 and 900 mg/L. Total Suspended Solids (TSS) levels vary between 100 and 200 mg/L. Available data from several gaming facilities in La Center, Washington indicated an average ammonia-nitrogen (NH_3-N) concentration of 60 mg/L. Table 2 presents wastewater loading projections for the proposed project.

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Table 2: Wastewater Loading Projections

Constituent	Average Concentration, mg/L[(a)]	Average Loading, ppd[(b)]	Peak Loading, ppd[(c)]
BOD	650	96	193
TSS	175	26	52
NH3-N	60	9	18

Notes:
(a) Average concentrations of data set
(b) Based on average flows reported in Table 1
(c) Based on peak flows reported in Table 1
mg/L = milligrams per liter
ppd = pounds per day

Projected Potable Water Demand

Projected potable water demand for the proposed project is derived from wastewater generation rates and assumes a 10 percent loss between the potable and wastewater systems. Table 3 summarizes projected potable water demands.

Table 3: Potable Water Demand

Area	Units	Unit Qty	Unit Water Consumption Rate, gpdsf[(a,b)]	Average Daily Flow, gpd[(c)]
Class II Gaming Area	SF	16,700	0.48	7,979
Bar/Deli	SF	7,585	1.56	11,799
			Total Average Daily Flow, gpd	**19,778**
			Peaking Factor	**2.0**
			Peak Day Flow, gpd	**39,556**

Notes:
(a) Assumes 10% loss between potable and wastewater systems
(b) gpdsf = gallons per day per square foot
(c) gpd = gallons per day

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Irrigation Water Demand

Landscaped areas within project boundaries are shown on Figure 4. A conservative evapotranspiration rate of 0.5 inches per day is assumed for Medford's hot and dry climate. The approximate square footage of landscaped area is 10,000 SF, equating to a peak daily irrigation demand of 3,100 gpd.

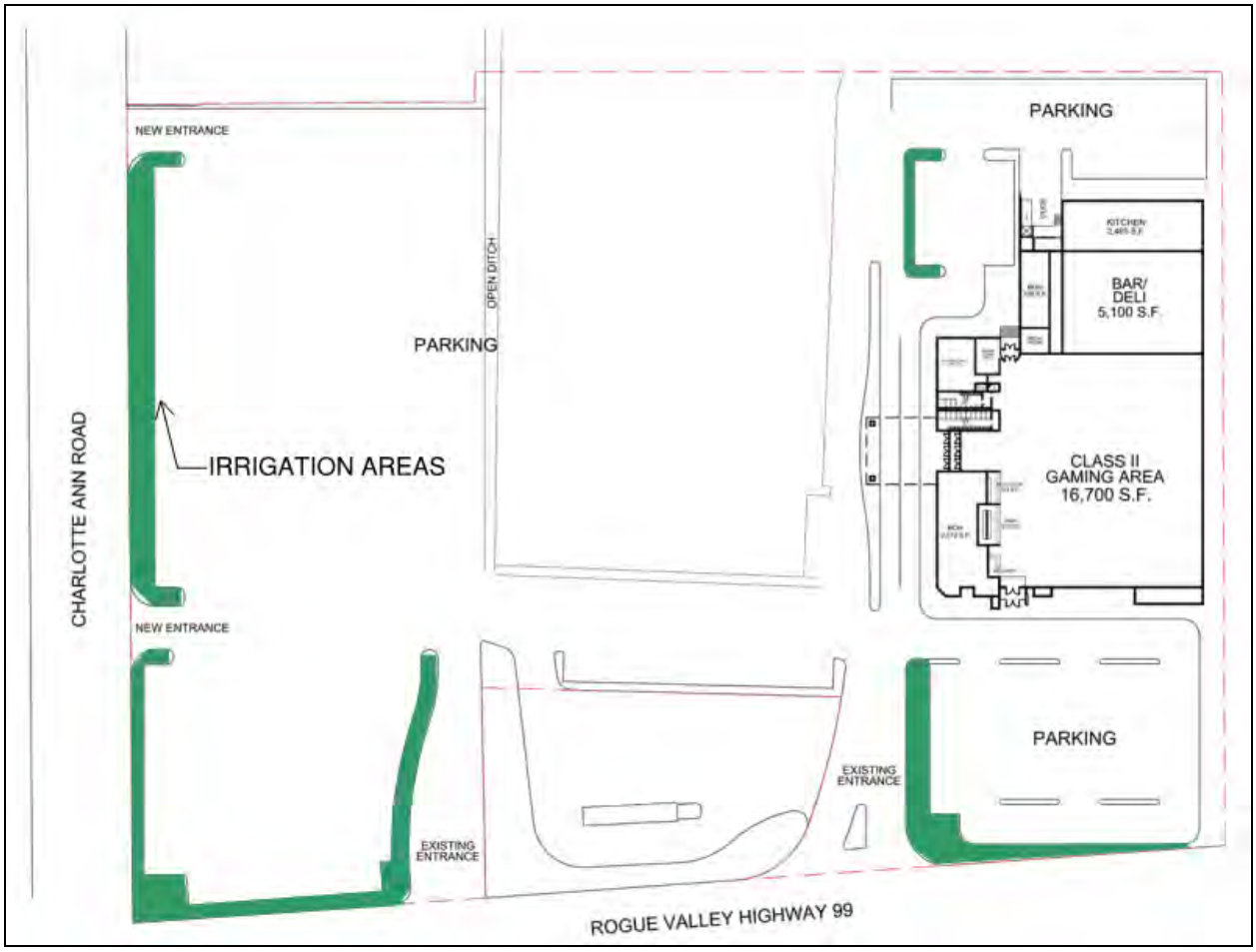

Figure 4: Irrigation Areas

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Fire Suppression Water Demand

Fire suppression flow rates and durations for the proposed project are specified in the 2014 edition of the Oregon Structural Specialty Code. For the purpose of this feasibility evaluation, the proposed structure is assumed to be either Type IIA or IIB construction. The proposed structure is assumed to have an automatic sprinkler system, allowing a 50 percent reduction in the specified fire flow rate. The onsite storage requirement for providing the full fire flow rate and duration is estimated to be 150,000 gallons. Table 4 summarizes the fire flow and storage requirements. Please note that as the project moves forward and information regarding the proposed project building classification becomes available, a review of the fire suppression data discussed in this section will need to be performed to determine actual requirements.

Table 4: Fire Suppression Requirements

Total Building Area, SF	Construction Type[(a)]	Fire Flow, gpm[(b)]	Duration, hrs	Required Storage Volume, gal
30,284	IIA or IIB	1,250	2	150,000

Notes:

(a) Assumed building classification. Actual classification of proposed project is not available.
(b) 50 percent reduction with automatic sprinklers.

Onsite Potable Water Storage Requirements

The onsite alternative will need to provide sufficient storage of potable water to accommodate peak water demands in the event of emergency system shutdown or scheduled maintenance. A 24-hour supply for peak potable water and irrigation demands is required, along with the specified fire suppression storage requirements. Onsite potable water storage requirements are summarized in Table 5.

Table 5: Onsite Potable Water Storage Requirements

Item	Required Storage Volume, gal
Peak Day Potable Water Demand	40,000
Irrigation	3,100
Fire Suppression	150,000
Total, gallons	**193,100**

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Onsite Regulatory Considerations

This section presents the regulatory requirements associated with onsite water and wastewater systems. The Fee-to-Trust land transfer places regulatory authority with federal agencies, and the regulatory framework presented in this section is established and enforced by the Environmental Protection Agency (EPA). Many of the regulatory requirements are similar to those as specified by the Oregon Department of Environmental Quality (DEQ), though the State will not have jurisdiction over the proposed project.

Onsite Groundwater Quality

An onsite groundwater source will either need to meet drinking water standards established by the Environmental Protection Agency (EPA), or include a treatment component capable of treating to the applicable standards. This section presents a review of the drinking water standards for contaminants commonly found in Jackson County, as well as a review of groundwater quality data for the project area.

The potable water supply for the onsite alternative of the proposed project must meet the minimum requirements for drinking water for various contaminants as established by the EPA. Water quality standards for contaminants include synthetic organic compounds, volatile organic compounds, inorganic compounds, and biological and radiological contaminants. For Jackson County and the Middle Rogue sub-basin, the primary contaminants of concern are arsenic, bacteria, nitrate, and fluoride. Maximum Contaminant Levels (MCL) for contaminants of concern are summarized in Table 6.

Table 6: Maximum Contaminant Levels

Contaminant	MCL[(a)]
Arsenic (As)	10 µg/L
Bacteria	Present in <5% of samples
Fluoride (F^-)	4 mg/L
Nitrate (as N)	10 mg/L

Notes:
(a) MCL = Maximum Contaminant Level

Arsenic is a naturally occurring contaminant sometimes present in groundwater as either arsenite, As(III), or arsenate, As(V); however anaerobic groundwaters typically have higher concentrations of arsenite. Arsenic concentrations typically remain fairly constant for a given groundwater source. Arsenic is classified as a chronic health risk contaminant potentially resulting in increased risk for cancers, damage to skin, and circulatory system problems.

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Bacteria in the form of total coliform may be present in groundwater sources and is naturally occurring in the environment. Fecal coliform may be present in groundwater sources due to contact with animal waste, or surface waters contaminated with coliform. The presence of bacteria in groundwater is not directly harmful to health, but may indicate the presence of other harmful pathogens.

Fluoride is naturally occurring in the environment, and is also added to potable water systems in certain parts of the country to promote dental health. Fluoride can lead to increased risk of bone fractures in adults and can be harmful to tooth enamel in children.

Nitrate is naturally occurring in the environment; however, agricultural and other anthropogenic sources can contribute significantly to nitrate levels in groundwater. Nitrate is harmful to infants and can cause shortness of breath and in some cases may be fatal if untreated.

A 2011 DEQ Water Quality Action Plan for the Rogue Basin included a review of private well test data for Jackson County generated by state Real Estate Transaction (RET) testing requirements. The review found a relatively high number of wells with nitrate concentrations between 7 and 10 mg/L, leading the DEQ to consider designating the County as a Groundwater Management Area (GWMA). Groundwater Management Areas are designated by the DEQ when groundwater in an area has elevated contaminant concentrations resulting, at least in part, from nonpoint sources. Once the GWMA is declared, a local groundwater management committee comprised of affected and interested parties is formed. The committee then works with and advises the state agencies that are required to develop an action plan that will reduce groundwater contamination in the area. Oregon has designated three GWMAs because of elevated nitrate concentrations in groundwater. These include the Lower Umatilla Basin GWMA, the Northern Malheur County GWMA, and the Southern Willamette Valley GWMA. Each one has developed a voluntary action plan to reduce nitrate concentrations in groundwater.

Water Rights

Although groundwater water rights are still being granted in the Rogue Basin, groundwater quantity in the basin is a growing concern as regions in the basin have been experiencing a dropping water table, a trend that is expected to continue. Property owners are required to obtain water rights to groundwater sources whenever average daily use is expected to exceed 5,000 gpd. Average daily use for the proposed project is expected to total approximately 20,000 gpd.

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The Bureau of Indian Affairs (BIA) manages a Water Rights Negotiation/Litigation Program for the purpose of defining and protecting Indian water rights and settling claims through negotiations. The primary priority of program funds is to provide all necessary documentation and other material as may be deemed necessary by a Court to further the United States water rights claims on behalf of an Indian tribe. This may include preparing hydrographic survey reports, determining the exact owner and priority of the water right, source of water, studies conducted to determine the water needs of fish and wildlife, and the engineering and economic requirements for water delivery.

Onsite Wastewater Treatment

Treatment requirements for onsite disposal are summarized in Table 7. Requirements for BOD and TSS are assumed to be 30 mg/L, a fairly conservative assumption given that typical septic tank effluent concentrations range between 80 and 100 mg/L. Given DEQ's concern regarding elevated nitrate levels in the area and a drinking water MCL of 10 mg/L for nitrate, a conservative treatment requirement of 3 mg/L for ammonia and nitrate was selected. Further site investigation, including determination of groundwater nitrate levels for the proposed project, may lessen treatment requirements with respect to nitrogen; however, for the purpose of this onsite alternative evaluation, a conservative treatment requirement is assumed.

Table 7: Wastewater Treatment Requirements

Constituent	Effluent Concentration, mg/L[(a)]
BOD	30
TSS	30
Ammonia (NH_3-N)	3
Nitrate (NO_3-N)	3

Notes:
(a) Average Daily Maximum

Onsite Water and Wastewater Feasibility

The feasibility of producing potable water onsite through construction of groundwater wells is evaluated in this section. Data concerning the depth of the water table and potential well yields were obtained from the Oregon Water Resources Department online database of well construction logs. Data concerning groundwater quality were obtained from a DEQ 2011 report on groundwater quality and a 2011 Water Quality Status and Action Plan for the Rogue Basin. This section also evaluates the feasibility of treating wastewater onsite through construction of treatment systems and disposal facilities.

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Onsite Water Feasibility

Jackson County is situated above three alluvial aquifers and several metamorphic rock formations which produce water via fractures. The geology at the project site likely consists of alluvial loam and topsoil ranging in thickness from 2 to 4 feet, overlying the Coker Clay, which ranges to depths of 15 to 20 feet below ground surface. Sandstone underlies the Coker Clay to a depth exceeding the maximum constructed well depth on record of 240 feet.

A review of well construction logs obtained from the Oregon Water Resources Department was conducted to evaluate the availability of groundwater at the project site. Given the proximity of the project site to the City of Medford Urban Growth Boundary, there are numerous wells in the project vicinity. Data from the eight closest domestic use well logs were reviewed, all within 2,500 to 5,000 feet of the project site. The project site and well locations are shown on Figure 5. A summary of well log data is presented in Table 8.

Table 8: Well Log Data

Well No.	First Water[(a)]	Completed Depth[(a)]	Static Water Level[(a)]	Yield, gpm	Date
14520	0	68	8	10	11/1/1960
52889	142	240	22	30	12/18/1998
53765	68	120	8	30	4/26/2000
54026	179	200	11	60	8/15/2000
54910	78	181	23	30	8/29/2001
55095	61	142	5	14	10/6/2001
55345	189	220	15	60	4/10/2002
57174	162	281	22	15	11/24/2004

Notes:
(a) Feet below ground surface

Based on the available data, it is anticipated that groundwater should be available in sufficient quantities to meet average daily demands at a depth of 150 to 200 feet; however, further investigation including construction of a test well and performing aquifer testing is required to make decisions on actual locations and depths, and evaluate yields of groundwater wells.

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Figure 5: Project Site and Well Locations

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To evaluate groundwater quality for the proposed project, a 2011 DEQ groundwater quality study for the Rogue Basin was reviewed to ascertain an understanding of groundwater concentrations for the contaminants listed in Table 6. The study sampled over 50 groundwater wells for arsenic, fluoride, and nitrate, as well as several other contaminants. The study did not sample for bacteria. The study's findings are presented in Table 9.

Table 9: Rogue Basin Groundwater Quality Study Summary of Findings

Contaminant	MCL[(a)]	Observed Concentrations[(b)]	No. Occurrences in excess of MCL[(c)]
Arsenic (As)	10 µg/L	1	3
Fluoride (F^-)	4 mg/L	0.5	0
Nitrate (as N)	10 mg/L	3	2

Notes:
(a) MCL = Maximum contaminant level
(b) Concentrations detected at sampling location nearest to the project site
(c) Number of samples for the complete project study in the Rogue Basin, > 50 samples

Of the sampled wells, three locations were found to have arsenic levels above the MCL and two locations were found to have nitrate levels in excess of the MCL. One well indicated fluoride concentrations above the health advisory level of 2 mg/L. Groundwater sampled near the project area indicated arsenic and nitrate concentrations below the MCL; at 1 µg/L, and 3 mg/L, respectively. Fluoride near the project area was measured to be between 0.1 and 0.5 mg/L. The sampling did not include testing for bacteria as part of the study.

Based on the information available, it is reasonable to expect arsenic, fluoride, and nitrate concentrations under 80 percent of the MCL; however, further investigation including construction and sampling of a test well is required to better understand the quality of the groundwater source and determine the level of onsite groundwater treatment required for the proposed project.

Groundwater sampling data from the Medford Water Commission and Medford Missionary Baptist Church were reviewed with respect to bacteria. The Medford Water Commission tests for total coliform and fecal coliform on a monthly basis. Samples over the last 2 years indicate one positive test for total coliform and no positive tests for fecal coliform. The Medford Missionary Baptist Church, located approximately 4 miles west of the project site, tests for coliform on a quarterly basis. Samples over the last 2 years indicate one positive test for total coliform and no positive tests for fecal coliform. The MCL for bacteria is 5 percent or greater positive detection for all samples performed in 1 month. Site specific testing is required to assess the presence of bacteria.

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Onsite Water Treatment Alternatives

There are a variety of treatment alternatives for each of the contaminants listed in Table 6 including adsorptive media, ion exchange resins, and oxidation, coagulation, and filtration systems for removal of arsenic, fluoride, and nitrate. Chlorine disinfection is typically used to treat for bacteria although other systems utilizing ultra-violet light and ozone are sometimes used.

Adsorptive Media

Adsorptive media, such as iron-based, activated alumina, and modified activated-alumina media, are engineered to have a high affinity for particular contaminants. As raw groundwater passes through the media, contaminants are chemically bound to adsorptive sites. Media are typically replaced on an annual basis once the adsorptive capacity is reached. The media is also periodically backwashed to maintain availability to adsorptive sites, typically about once every 6 months. Spent media will require testing to determine its hazardous classification and to identify appropriate disposal locations. Backwash water is typically recycled to the inlet of the treatment system.

Adsorptive media systems are typically comprised of pressurized media beds and may include pre-chlorination of arsenite as well as pH adjustment to maximize performance. Iron-based adsorptive media are not listed by EPA as a Best Available Technology (BAT) as their use was not well understood at the time the arsenic regulations were being developed; however, adsorptive media is an accepted and widely used technology. The EPA does define the technology to be Small System Compliant and acceptable for applications serving less than 10,000 people.

Several iron-based adsorption media are available, such as granular ferric oxide, for the removal of arsenic. This technology is typically capable of treating arsenic to levels of 4 to 8 μg/L. The performance of adsorptive media can be significantly influenced by local water quality and the presence of mineral ions competing for the arsenic receptor sites in the adsorptive media. Characteristics such as pH, phosphate, silica, and vanadium can impact performance. Due to the sensitivity of the process to certain groundwater constituents, a pilot study is typically performed prior to full scale implementation. Activated alumina and modified activated alumina media are capable of reducing fluoride concentrations up to 90 percent. Figure 6 depicts an adsorptive media treatment system.

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Figure 6: Adsorptive Media Treatment System

Ion Exchange

Ion exchange resins remove contaminants such as arsenic, fluoride, and nitrate through chloride anion exchange on a fixed resin surface. Unlike adsorptive media, the resin is a permanent fixture and is not disposed of. The resin is periodically backwashed with a brine solution to regenerate the ion exchange capability of the resin. The brine waste contains high concentrations of contaminants and requires proper disposal as a potentially hazardous waste. Regeneration cycles are typically required once every 12 hours to 3 days depending on the concentrations of contaminants in the raw water supply.

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The presence of certain compounds in the raw water supply, especially sulfate in excess of 50 mg/L, can affect the performance of ion exchange resins. The EPA considers ion exchange to be a BAT for source waters with sulfate concentrations under 50 mg/L. Figure 7 depicts an ion exchange resin treatment system.

Figure 7: Ion Exchange Resin Treatment System

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Oxidation, Coagulation, and Filtration

Oxidation, coagulation, and filtration systems are frequently used to remove iron and manganese from raw groundwater sources. The removal of arsenic occurs as a co-precipitate with iron. The EPA considers oxidation, coagulation, and filtration to be a BAT when the iron to arsenic ratio is 20 to 1 or greater. If iron levels in the groundwater supply are insufficient, supplemental iron in the form of ferric chloride can be added to improve performance.

The process generates a solids residual stream and requires periodic backwashing of the filters. Backwash water can typically be recycled in the system; however, the solid residuals will require hauling to an appropriate disposal facility. Oxidation, coagulation, and filtration systems are typically comprised of a flocculation tank and pressurized filtration vessels. Chemical addition in the form of pre-chlorination and potential supplemental iron occurs upstream of the flocculation tank. Additional chemical addition may be required to improve settling performance. Other ancillary systems such as backwash tank and pump are also required. Figure 8 depicts an oxidation, coagulation, and filtration treatment system.

Figure 8: Oxidation, Coagulation, and Filtration Treatment System

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Disinfection

Disinfection to reduce total and fecal coliform levels is commonly accomplished through application of sodium hypochlorite solution. The solution is applied at the upstream end of the treatment system to allow for sufficient contact time to neutralize pathogens. The system will need to incorporate sufficient detention volume in the form of a contact tank ahead of the distribution system. While a standalone disinfection system would be required to treat for bacteria, it should be noted that each technology will require a pre-chlorination component to oxidize arsenite as well as to disinfect treated effluent. Table 10 presents a summary of the treatment systems considered in this section.

Table 10: Onsite Water Treatment Alternatives Summary

Treatment	Contaminant	Treatment Goal[(a)]	Footprint	Operations and Maintenance
Adsorptive Media	Arsenic	< 8 µg/L	Small process footprint	Simple system operation, requires sampling and possible generation of hazardous waste
	Fluoride	3.2 mg/L		
Ion Exchange	Arsenic	< 8 µg/L	Small process footprint but requires regeneration brine storage tank	Moderately complex system operation, involves regeneration cycle and disposal of hazardous waste
	Fluoride	3.2 mg/L		
	Nitrate	< 8 mg/L		
Oxidation/Filtration	Arsenic	< 8 µg/L	Largest process footprint, includes flocculation tank and filter backwash settling tanks	Most complex system operation, involves chemical addition and backwashing
Disinfection	Bacteria	No positive samples	Small footprint, includes sodium hypochlorite storage and metering	Simple system operation

Notes:
(a) Treatment goals are 80 percent of MCL

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Onsite Wastewater Feasibility

There are a variety of onsite treatment systems available that can remove ammonia and nitrate. For the purpose of this feasibility study, two technologies were reviewed: a packaged activated sludge system combined with packed bed filtration for nutrient removal, and a packaged Membrane Bioreactor (MBR) system.

Packed Bed Filtration

Packed bed filtration treatment consists of a series of unit process and equipment:

- Grease interceptor for kitchen waste
- Primary settling tank
- Anaerobic tank
- Aeration and clarification tank
- Pressurized vessels containing packed bed filters
- Recirculation pump
- Alkalinity addition
- Second stage nitrification tank
- Post anoxic tank with supplement carbon

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Orenco Systems, based in Sutherlin, Oregon, manufacturers the Advantex® packed bed filtration system, as shown on Figure 9.

Figure 9: Orenco Advantex® System

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A process flow diagram is included as Figure 10. Wastewater generated by the kitchen serving the Bar/Deli and kitchen areas will contain fats, oils, and grease which can impair performance of the onsite wastewater treatment system. A grease interceptor is required for drain lines leading from the kitchen area to capture and retain fats, oils, and grease, while allowing wastewater to pass through to the treatment system.

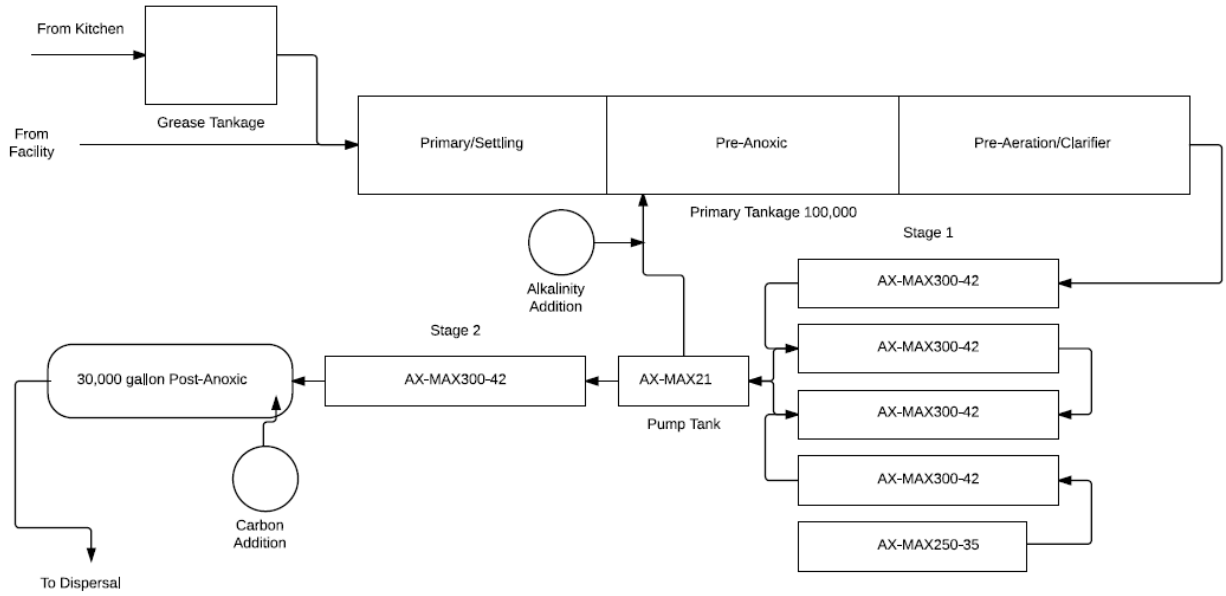

Figure 10: Packed Bed Filtration Process Diagram

The wastewater treatment system consists of a series of treatment tanks followed by a filtration process. A primary/settling tank is located at the upstream end of the process and has similar performance characteristics to a traditional septic tank, in which a portion of influent BOD and TSS is removed. Typical design hydraulic retention time (HRT) for the primary/settling tank is 3 days.

A series of pre-anoxic and pre-aeration tanks follow primary settling. The term anoxic means that the tank is un-aerated and that there is very little dissolved oxygen in the tank. The anoxic tank promotes growth of microorganisms that utilize nitrate to metabolize influent BOD. This process is called denitrification in which nitrate is converted to nitrogen gas, thus removing

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nitrogen from the wastewater. The pre-aeration tank is an aerated tank that promotes growth of microorganisms which convert ammonia to nitrate and remove BOD. At the downstream end of the tank is a quiescent zone to allow for solids settling upstream of the packed bed filters.

The packed bed filters consist of a series of textile-based media filters through which aerated wastewater is re-circulated to further reduce ammonia and BOD concentrations. Filter units are labeled as “AX-MAX” on Figure 10. The filters include an internal recycle stream which is typically operated at a flow rate of three to four times the influent wastewater flowrate. Filters do not require backwashing and the textile filter media is intended for lifetime service without replacement.

Filtered wastewater enters a re-circulation tank where a portion of the treated and filtered wastewater is returned to the anoxic tank for removal of nitrates generated in the aeration and filtration stages. Recirculation rates are typically 1 to 1.5 times the influent flowrate. Alkalinity addition is typically required to replace that consumed in the denitrification process. The remaining portion of the filter effluent is sent to a second filtration stage for additional ammonia removal. A second anoxic tank follows for final denitrification. A supplemental carbon source is required at the second anoxic tank to maintain microbial viability for denitrification. The packed bed filter system can meet BOD, TSS, and ammonia treatment requirements; however, nitrate effluent concentrations for this treatment alternative are typically between 7 and 8 mg/L, and therefore are unable to meet nitrate treatment requirements.

System operation and maintenance would consist of bi-weekly or monthly maintenance to replenish sodium hydroxide (alkalinity addition), and perform routine maintenance on equipment. Tanks will require annual inspection and solids removal. The grease interceptor will require regular inspection and pumping, once every 6 months to 1 year. The second anoxic tank and carbon addition unit processes are anticipated to require 0.25 to 0.5 Full Time Employees (FTE) with proper operator certification to monitor carbon feed rates to ensure system performance with respect to effluent nitrate concentrations.

The footprint for the packed bed filters is approximately 50 by 70 feet. Access to the filters is above grade and, as such, filters cannot be placed underneath parking or driving areas. A 10 by 14-foot support building would be required to house electrical, controls, and chemical addition facilities. The underground treatment tank footprint, including the grease interceptor, is expected to be approximately 70 by 70-feet; however, with proper traffic bearing support, tanks can be located below grade within parking areas.

Given that the packed bed filter system is not capable of meeting nitrate treatment requirements, and that significant operator attention is required to ensure nitrate levels do not exceed drinking water Maximum Contaminant Levels (MCL) of 10 mg/L, packed bed filters are not considered to be a feasible approach to onsite wastewater treatment.

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Membrane Bioreactor

A packaged membrane bioreactor system consists of a series of unit process and equipment:

- Grease interceptor for kitchen waste
- Anoxic tank with coarse bubble mixing and alkalinity addition
- Aerobic tank with aeration blowers and fine bubble diffusers
- Post-anoxic tank with coarse bubble mixing and methanol addition
- Membrane filtration tanks, including membrane filter cassettes, blowers, and recirculation pumps
- Backpulse tank with backpulse pumps
- Effluent pumps
- Solids digestion and storage tank with supernatant pump

General Electric (GE) manufacturers the ZMOD packaged membrane bioreactor system as shown on Figure 11.

Figure 11: GE ZMOD Packaged Membrane Bioreactor

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A process flow diagram is shown as Figure 12. The various elements of the membrane bioreactor system are similar to those of the packed bed reactor. Influent screening is typically provided; however, for applications with less than 50,000 gpd peak influent flow, influent screening is not required. Flows enter the anoxic tank for denitrification, followed by an aeration tank for ammonia and BOD removal. Two process blowers provide oxygen via fine bubble diffusers to the aeration tank. A post-anoxic tank with a supplemental carbon source is provided downstream of the aeration tank for final denitrification.

The two membrane tanks are equipped with hollow, porous fiber filters which provide ultrafiltration of the aerated wastewater. Solids retained in the membrane tanks are recycled back to the anoxic tank. A portion of the solids are periodically directed to a solids digestion and storage tank for eventual removal and landfill disposal. The membrane bioreactor packaged system is expected to meet BOD, TSS, ammonia, and nitrate treatment requirements.

System operation and maintenance would consist of regular system monitoring on a daily basis for solids wasting, and monthly maintenance related to backpulsing (backwashing) of filters. The system requires several chemical applications for filter cleaning including sodium hypochlorite and citric acid. The settling/equalization tank will require regular monitoring for solids and periodic solids removal, typically once every 1 or 2 years. Similar maintenance would be required for the solids storage tank. The grease interceptor will also require regular inspection and pumping, once every 6 months to 1 year. The packaged membrane bioreactor system is anticipated to require 0.25 to 0.5 FTE with proper operator certification.

Onsite Effluent Disposal

The onsite disposal of treated wastewater through construction of pressurized drainfields, also known as large capacity septic system Class V injection wells, is evaluated in this section. Data regarding soil characteristics and water table were obtained from a 2011 DEQ ground water quality study of the Rogue Basin, consultation with the DEQ onsite program staff, as well as Moonshadow Consulting, a local onsite wastewater systems consultant.

A pressurized subsurface drainage system would consist of 4-inch perforated pipe constructed in a well draining trench containing a porous media such as open-graded crushed rock. The drainfield would require approximately 11,600 linear feet of trench and piping. Separation of drainfield lines could potentially be reduced from the standard 8-foot separation to 6-feet. With 6-foot separation, approximately 1.5 acres would need to be allocated for independent, onsite wastewater disposal facilities. Subsurface drainage systems are required to be located within pervious areas. A replacement drainfield area of equal size should also be included in any site plan developed in the future, for a total area of 3 acres.

Subsurface drainage systems are highly dependent on soil conditions to allow for unsaturated zones and proper percolation of effluent through the soil prior to entering the water table. Site specific percolation testing is required in order to confirm exact sizing of a pressurized

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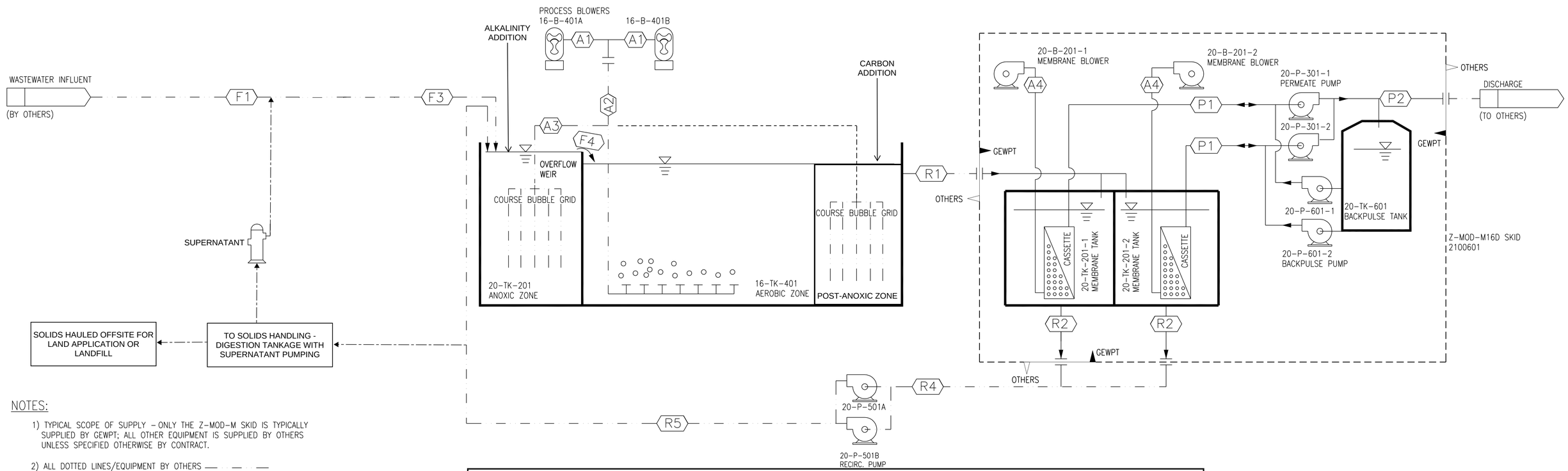
TAG		A1	A2	A3	A4	F1	F2	F3	F4	P1	P2	R1	R2	R3	R4	R5
DESCRIPTION	UoM	PROCESS BLOWER DISCHARGE	COMBINED PROCESS BLOWER DISCHARGE	ANOXIC ZONE COARSE BUBBLE DIFFUSER AIR SUPPLY	MEMBRANE BLOWER DISCHARGE	FEED WATER TO EQUALIZATION TANK	EQUALIZATION PUMP DISCHARGE	FEED FLOW TO BIOREACTOR	OVERFLOW FROM ANOXIC TO AEROBIC BIOREACTOR ZONES	PERMEATE/BACKPULSE FROM/TO MEMBRANE CASSETTE	COMBINED PERMEATE DISCHARGE	FEED TO MEMBRANE TANK(S)	RETURN FLOW FROM MEMBRANE TANK TO BIOREACTOR	NOT USED	RECIRCULATION PUMP DISCHARGE	COMBINED RECIRCULATION FLOW FROM MEMBRANE TANK TO BIOREACTOR
AERATION FLOW, CONSTANT	SCFM	250	500	25	150	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A
	m^3/hr	425	850	42	255	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A
AVERAGE FLOW	USGPM	N/A	N/A	N/A	N/A	56	80	80	330	56	56	550	550		250	250
	L/s	N/A	N/A	N/A	N/A	4	5	5	21	4	4	35	35		16	16
MAXIMUM HYDRAULIC FLOW	USGPM	N/A	N/A	N/A	N/A	111	80	160	660	56	56	1100	250		250	500
	L/s	N/A	N/A	N/A	N/A	7	5	10	42	4	4	69	16		16	32
AVERAGE BACKPULSE FLOW	USGPM	N/A	N/A	N/A	N/A	56	80	80	330	56	0	550	550		250	250
	L/s	N/A	N/A	N/A	N/A	4	5	5	21	4	0	35	35		16	16
MAXIMUM HYDRAULIC BACKPULSE FLOW	USGPM	N/A	N/A	N/A	N/A	111	80	160	660	56	0	1100	250		250	500
	L/s	N/A	N/A	N/A	N/A	7	5	10	42	4	0	69	16		16	32
PRESSURE (MAX)	PSIG	7	7	7	6	1	25	25	1	8	8	1	4		17	17
	kPa	45	45	45	38	7	172	172	7	55	55	7	28		117	117
VELOCITY (MAX)	FT/SEC	48	42	19	51	N/A	8	7	N/A	6	11	3	14		11	12
	m/sec	15	13	6	16	N/A	2	2	N/A	2	3	1	4		3	4
PIPE SIZE	NPS (in.)	4	6	2	3	N/A	2	3	N/A	2	2	8	4		6	6
	DN (mm)	100	150	50	80	N/A	50	80	N/A	50	50	200	100		150	150
PIPE MATERIAL		CS	CS	PVC	CS	PVC	PVC	PVC	N/A	PVC	PVC	PVC	PVC		PVC	PVC



NOTES:

1) TYPICAL SCOPE OF SUPPLY – ONLY THE Z-MOD-M SKID IS TYPICALLY SUPPLIED BY GEWPT; ALL OTHER EQUIPMENT IS SUPPLIED BY OTHERS UNLESS SPECIFIED OTHERWISE BY CONTRACT.

2) ALL DOTTED LINES/EQUIPMENT BY OTHERS

Figure 12: Membrane Bioreactor Process Diagram

REV	DESCRIPTION	ECO	DWN	APVD	DATE	CHKD
A	INITIAL RELEASE		M.S.K.		11Sep09	J.D.

TOLERANCES UNLESS NOTED
DECIMALS .X ± .030 .XX ± .015 .XXX ± .010
ANGLES ±.5°
FRAC ± 1/8

DRAWN BY	M.S.K.	DATE	11Sep09
CHECKED BY	J.D.	DATE	11Sep09
APPROVED BY		DATE	
APPROVED BY		DATE	

GE Water & Process Technologies
GLOBAL HEADQUARTERS : TREVOSE, PA USA +1-215-355-3300 WWW.GEWATER.COM

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CLIENT/JOB: Z-MOD-M

DWG DESCRIPTION: PROCESS FLOW DIAGRAM, Z-MOD-M16D-PF WASTEWATER TREATMENT PLANT ('PUMP FROM' CONFIGURATION)

FILE: 2100601 PF 001.dwg

MATERIAL/BOM NO.

SIZE	DRAWING NO.	REV
D	2100601-PF-001	A

PROJECT: 2100601

SCALE: N.T.S. SHEET: 1 OF 1

P/N 1161662-RGP01

subsurface drainage system for effluent disposal. A 2011 DEQ groundwater quality study indicates soils to have severe limitations with respect to onsite septic systems.

A local onsite wastewater systems consultant, Moonshadow Consulting, also indicated soil conditions to be extremely poor for subsurface drainage systems. The area is dominated by Coker Clay lying 2 to 20 feet below ground surface which severely impacts the soils ability to drain. The proximity of Bear Creek to the northeast also suggests a high groundwater table in the area potentially requiring groundwater pumping and conveyance facilities to create unsaturated zones beneath the subsurface drainage system. Such measures however may not be feasible depending on the local hydrological conditions. Discharge of diverted groundwater to surface waters will also require regulatory planning and permitting as part of any future preliminary design work.

Although construction of a subsurface drainage system is technically feasible, further testing and construction of percolation test pits would need to be completed. If soil permeability is not sufficient for subsurface drainage, the native material would be removed and imported material brought in. After letting the imported material settle for a period of time, the percolation tests would be repeated and a subsurface drainage system could be installed.

Opinion of Feasibility

Existing data indicates an onsite potable water supply to be a feasible alternative to connection to the Medford Water Commission. Groundwater appears to be available in sufficient quantity and quality to meet the needs of the proposed project. The onsite alternative for the proposed project would include construction of two wells (one duty, one redundant), pumping and conveyance systems, a treatment system, and distribution and storage facilities.

Existing data indicates an onsite wastewater treatment system to be a feasible approach to satisfactorily treating wastewater. Packaged membrane bioreactor systems are capable of producing some of the highest quality effluents attainable. Onsite disposal of wastewater, although feasible, would appear to present significant design challenges, potentially including groundwater diversion and a considerable amount of native soil replacement.

Groundwater diversion measures may be required to lower the water table in the vicinity of the subsurface discharge system. An unsaturated percolation zone between the subsurface piping and seasonal high groundwater level is needed to ensure a properly functioning system capable of providing sufficient treatment. The minimum depth of the unsaturated zone, and the resulting degree of groundwater diversion that may be required, is dependent on the soil conditions in which the system is installed. Further investigation of site groundwater conditions and soil percolation testing is recommended to evaluate potential groundwater diversion measures.

Groundwater diversion measures such as hydraulic barrier curtains can be installed to control the water table in a particular area. Hydraulic barrier curtains are subgrade installations of impermeable materials such as bentonite grout that are pressure injected into the soil to form a watertight vertical wall for the purpose of controlling the flow of groundwater. Hydraulic barrier curtains could potentially be installed upstream of the onsite disposal area to divert the hydraulic gradient around the subsurface system; however, additional site investigation and groundwater modeling is recommended to evaluate such an approach.

Figure 13 presents an overall layout of onsite water and wastewater treatment improvements. All facilities are located within Tax Lot 4701. Given the required area for onsite wastewater disposal and the separation requirements indicated on Figure 13, onsite wastewater disposal facilities will be located elsewhere within the project boundaries. Figure 14 depicts potential locations for wastewater disposal facilities. Minimum setback requirements between wastewater disposal and water supply facilities would need to be maintained within wastewater disposal areas. Please note that sizes and locations of treatment and effluent disposal systems are conceptual and do not represent design work.

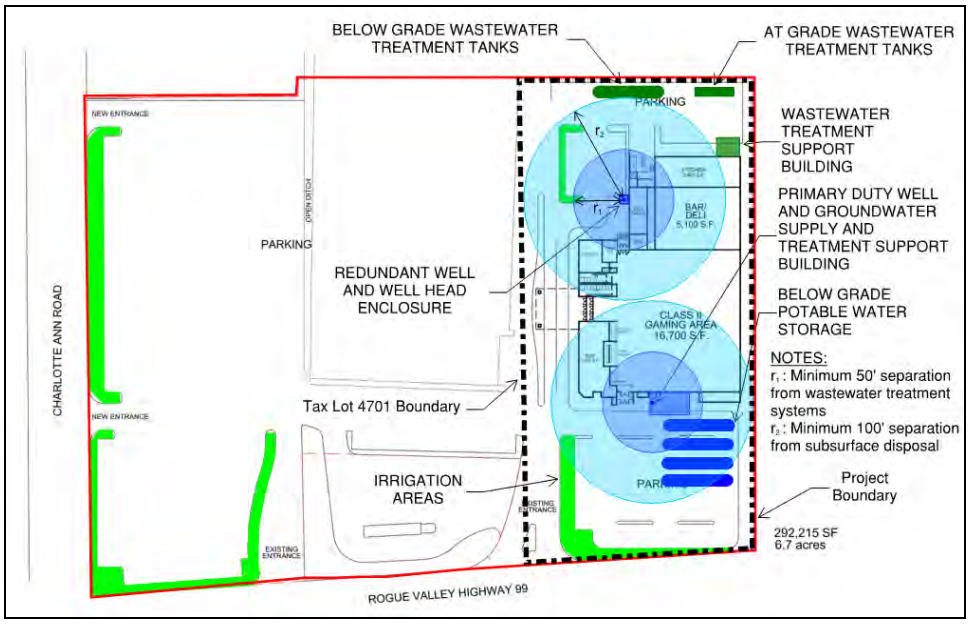

Figure 13: Onsite Water and Wastewater Treatment Site Layout

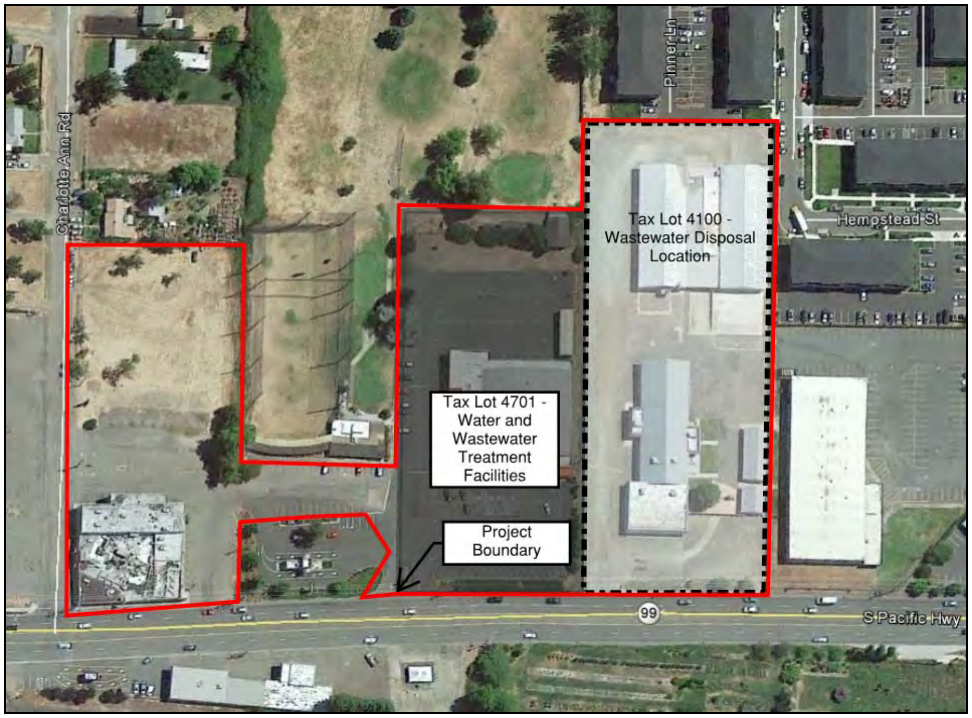

Figure 14: Onsite Wastewater Disposal Areas

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Appendix B: Medford Water Commission Potable Water Rates

SECTION X

RATE SCHEDULES

The rate schedules for the different customer groups for the 2010 Cost of Service Study period are included on this page and in the following pages.

SCHEDULE 1

Effective March 1, 2015

FIRE STANDBY SERVICE
INSIDE CITY OF MEDFORD

APPLICATION: This rate schedule shall apply to all fire standby services within the City of Medford as permitted under the Regulations Governing Water Service.

Base Charges

1) Normal Monthly Fee	Detector Check Size	Charges
Per Service by Detector Check Size; per month	2"	$ 8.75
	4"	$ 19.72
	6"	$ 35.98
	8"	$ 54.23
	10"	$ 81.69

SCHEDULE 2C

Water Rates Effective March 1, 2015

NONRESIDENTIAL & MULTIFAMILY INSIDE CITY OF MEDFORD

APPLICATION: This rate schedule shall apply to all accounts within the city limits of Medford except single family residential; shall apply to all schools, hospitals, churches, commercials and industrials.

Base Charges

1) Normal Monthly Fee

Service Charge per Month

Meter Size	Water
5/8" x 3/4"	$ 8.00
1"	$ 12.54
1½"	$ 25.68
2"	$ 38.34
3"	$ 76.11
4"	$ 119.05
6"	$ 228.06
8"	$ 350.54
10"	$ 534.67

2) Special Fees

a) **High Elevation Water Service Charge:** Charge surcharge where booster pumping is provided; per month, per meter $ 3.68

Consumption Charges

1) Water Gallonage Charges per Month:

All gallonage, per 1,000 gallons

Summer Season - Water billed during May through September	$ 0.81
Winter Season - Water billed during October through April	$ 0.60

2) High Elevation Water Gallonage Surcharge per 1,000 gallons: $ 0.05

For service above elevation 1,500 feet where booster pumping is provided by the utility, for each 150 feet in elevation or additional fraction thereof.

Appendix C: Oregon Land Conservation and Development Commission Land Use Goals

Oregon's Statewide Planning Goals & Guidelines

Department of Land Conservation and Development
635 Capitol St. NE, Suite 150
Salem, Oregon 97301-2540
(503) 373-0050
www.oregon.gov/lcd

OREGON'S STATEWIDE PLANNING PROGRAM

Introduction

The Statewide Planning Goals

Since 1973, Oregon has maintained a strong statewide program for land use planning. The foundation of that program is a set of 19 statewide planning goals. The goals express the state's policies on land use and related topics, such as citizen involvement, housing, and natural resources.

Most of the goals are accompanied by "guidelines," which are suggestions about how a goal may be applied. As noted in Goal 2, guidelines are not mandatory. The goals are, however, adopted as administrative rules (Oregon Administrative Rules Chapter 660, Division 015).

City and County Planning

Oregon's statewide goals are achieved through local comprehensive planning. State law requires each city and county to have a comprehensive plan and the zoning and land-division ordinances needed to put the plan into effect.

The local comprehensive plans must be consistent with the statewide planning goals. Plans are reviewed for such consistency by the state's Land Conservation and Development Commission (LCDC). When LCDC officially approves a local government's plan, the plan is said to be "acknowledged." It then becomes the controlling document for land use in the area covered by that plan.

Oregon's planning laws apply not only to local governments but also to special districts and state agencies. The laws strongly emphasize coordination — keeping plans and programs consistent with each other, with the goals, and with acknowledged local plans.

A Partnership

Oregon's planning program is a partnership between state and local governments. The state requires cities and counties to plan, and it sets the standards for such planning. Local governments do the planning and administer most of the land-use regulations. The resulting mosaic of state-approved local comprehensive plans covers the entire state.

The state does not write comprehensive plans. It doesn't zone land or administer permits for local planning actions such as variances and conditional uses. And unlike some other states, Oregon does not require environmental impact statements.

The Land Conservation and Development Commission

Oregon's statewide planning program is directed by the Land Conservation and Development Commission (LCDC). The commission's seven members are unsalaried volunteers, appointed by the governor, and confirmed by the state senate. The term of appointment is four years.

The Department of Land Conservation and Development

LCDC's administrative arm is the Department of Land Conservation and Development (DLCD). DLCD is a small state agency with its main office in Salem. The department has regional

offices in Portland, Springfield, Newport, Central Point Bend and La Grande.

The Land Use Board of Appeals

The state has a special "court" — the Land Use Board of Appeals (LUBA). LUBA has three members, known as "referees," which review appeals of land use decisions. LUBA is based in Salem.

Citizen Involvement

It's no coincidence that *Citizen Involvement* is the first among Oregon's 19 statewide planning goals. Extensive citizen participation has been the hallmark of the state's planning program from the outset. Every city and county has a Committee for Citizen Involvement (CCI) to monitor and encourage active citizen participation. The state's Citizen Involvement Advisory Committee (CIAC) also encourages such participation in all aspects of planning.

The Local Comprehensive Plan

The local comprehensive plan guides a community's land use, conservation of natural resources, economic development, and public facilities. Each plan has two main parts. One is a body of data and information called the inventory, background report, or factual base. It describes a community's resources and features. It must address all of the topics specified in the applicable statewide planning goals. The other part is the policy element. That part of the plan sets forth the community's long-range objectives and the policies by which it intends to achieve them. The policy element of each community's plan is adopted by ordinance and has the force of law.

Local plans may be changed through *plan amendments* or *periodic review*. Plan amendments are smaller, unscheduled adjustments to a plan. Periodic reviews are broad evaluations of an entire plan that occur every four to 10 years. A plan may be modified extensively after such a review.

Each plan is accompanied by a set of *implementing measures*. There are many different kinds. The two most common measures are zoning and land-division ordinances. Every city and county in Oregon has adopted such land-use controls.

Need More Information?

If you need information about a certain community's comprehensive plan or its zoning and land-division ordinances, please contact the appropriate city or county planning department.

If you would like more information about Oregon's statewide planning program, please contact DLCD.

Oregon's Statewide Planning Goals & Guidelines

GOAL 1: CITIZEN INVOLVEMENT

OAR 660-015-0000(1)

To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process.

The governing body charged with preparing and adopting a comprehensive plan shall adopt and publicize a program for citizen involvement that clearly defines the procedures by which the general public will be involved in the on-going land-use planning process.

The citizen involvement program shall be appropriate to the scale of the planning effort. The program shall provide for continuity of citizen participation and of information that enables citizens to identify and comprehend the issues.

Federal, state and regional agencies, and special- purpose districts shall coordinate their planning efforts with the affected governing bodies and make use of existing local citizen involvement programs established by counties and cities.

The citizen involvement program shall incorporate the following components:

1. Citizen Involvement -- To provide for widespread citizen involvement.

The citizen involvement program shall involve a cross-section of affected citizens in all phases of the planning process. As a component, the program for citizen involvement shall include an officially recognized committee for citizen involvement (CCI) broadly representative of geographic areas and interests related to land use and land-use decisions. Committee members shall be selected by an open, well-publicized public process.

The committee for citizen involvement shall be responsible for assisting the governing body with the development of a program that promotes and enhances citizen involvement in land-use planning, assisting in the implementation of the citizen involvement program, and evaluating the process being used for citizen involvement.

If the governing body wishes to assume the responsibility for development as well as adoption and implementation of the citizen involvement program or to assign such responsibilities to a planning commission, a letter shall be submitted to the Land Conservation and Development Commission for the state Citizen Involvement Advisory Committee's review and recommendation stating the rationale for selecting this option, as well as indicating the mechanism to be used for an evaluation of the citizen involvement program. If the planning commission is to be used in lieu of an independent CCI, its members shall be selected by an open, well-publicized public process.

2. Communication -- To assure effective two-way communication with citizens.

Mechanisms shall be established which provide for effective communication between citizens and elected and appointed officials.

3. Citizen Influence -- To provide the opportunity for citizens to be involved in all phases of the planning process.

Citizens shall have the opportunity to be involved in the phases of the planning process as set forth and defined in the goals and guidelines for Land Use Planning, including Preparation of Plans and Implementation Measures, Plan Content, Plan Adoption, Minor Changes and Major Revisions in the Plan, and Implementation Measures.

4. Technical Information -- To assure that technical information is available in an understandable form.

Information necessary to reach policy decisions shall be available in a simplified, understandable form. Assistance shall be provided to interpret and effectively use technical information. A copy of all technical information shall be available at a local public library or other location open to the public.

5. Feedback Mechanisms -- To assure that citizens will receive a response from policy-makers.

Recommendations resulting from the citizen involvement program shall be retained and made available for public assessment. Citizens who have participated in this program shall receive a response from policy-makers. The rationale used to reach land-use policy decisions shall be available in the form of a written record.

6. Financial Support -- To insure funding for the citizen involvement program.

Adequate human, financial, and informational resources shall be allocated for the citizen involvement program. These allocations shall be an integral component of the planning budget. The governing body shall be responsible for obtaining and providing these resources.

A. CITIZEN INVOLVEMENT

1. A program for stimulating citizen involvement should be developed using a range of available media (including television, radio, newspapers, mailings and meetings).

2. Universities, colleges, community colleges, secondary and primary educational institutions and other agencies and institutions with interests in land-use planning should provide information on land-use education to citizens, as well as develop and offer courses in land-use education which provide for a diversity of educational backgrounds in land-use planning.

3. In the selection of members for the committee for citizen involvement, the following selection process should be observed: citizens should receive notice they can understand of the opportunity to serve on the CCI; committee appointees should receive official notification of their selection; and committee appointments should be well publicized.

B. COMMUNICATION

Newsletters, mailings, posters, mail-back questionnaires, and other

available media should be used in the citizen involvement program.

C. CITIZEN INFLUENCE

1. Data Collection - The general public through the local citizen involvement programs should have the opportunity to be involved in inventorying, recording, mapping, describing, analyzing and evaluating the elements necessary for the development of the plans.

2. Plan Preparation - The general public, through the local citizen involvement programs, should have the opportunity to participate in developing a body of sound information to identify public goals, develop policy guidelines, and evaluate alternative land conservation and development plans for the preparation of the comprehensive land-use plans.

3. Adoption Process - The general public, through the local citizen involvement programs, should have the opportunity to review and recommend changes to the proposed comprehensive land-use plans prior to the public hearing process to adopt comprehensive land-use plans.

4. Implementation - The general public, through the local citizen involvement programs, should have the opportunity to participate in the development, adoption, and application of legislation that is needed to carry out a comprehensive land-use plan.

The general public, through the local citizen involvement programs, should have the opportunity to review each proposal and application for a land conservation and development action prior to the formal consideration of such proposal and application.

5. Evaluation - The general public, through the local citizen involvement programs, should have the opportunity to be involved in the evaluation of the comprehensive land use plans.

6. Revision - The general public, through the local citizen involvement programs, should have the opportunity to review and make recommendations on proposed changes in comprehensive land-use plans prior to the public hearing process to formally consider the proposed changes.

D. TECHNICAL INFORMATION

1. Agencies that either evaluate or implement public projects or programs (such as, but not limited to, road, sewer, and water construction, transportation, subdivision studies, and zone changes) should provide assistance to the citizen involvement program. The roles, responsibilities and timeline in the planning process of these agencies should be clearly defined and publicized.

2. Technical information should include, but not be limited to, energy, natural environment, political, legal, economic and social data, and places of cultural significance, as well as those maps and photos necessary for effective planning.

E. FEEDBACK MECHANISM

1. At the onset of the citizen involvement program, the governing body should clearly state the mechanism through which the citizens will receive a response from the policy-makers.

2. A process for quantifying and synthesizing citizens' attitudes should be developed and reported to the general public.

F. FINANCIAL SUPPORT

1. The level of funding and human resources allocated to the citizen involvement program should be sufficient to make citizen involvement an integral part of the planning process.

Oregon's Statewide Planning Goals & Guidelines

GOAL 2: LAND USE PLANNING

OAR 660-015-0000(2)

PART I -- PLANNING

To establish a land use planning process and policy framework as a basis for all decision and actions related to use of land and to assure an adequate factual base for such decisions and actions.

City, county, state and federal agency and special district plans and actions related to land use shall be consistent with the comprehensive plans of cities and counties and regional plans adopted under ORS Chapter 268.

All land use plans shall include identification of issues and problems, inventories and other factual information for each applicable statewide planning goal, evaluation of alternative courses of action and ultimate policy choices, taking into consideration social, economic, energy and environmental needs. The required information shall be contained in the plan document or in supporting documents. The plans, supporting documents and implementation ordinances shall be filed in a public office or other place easily accessible to the public. The plans shall be the basis for specific implementation measures. These measures shall be consistent with and adequate to carry out the plans. Each plan and related implementation measure shall be coordinated with the plans of affected governmental units.

All land-use plans and implementation ordinances shall be adopted by the governing body after public hearing and shall be reviewed and, as needed, revised on a periodic cycle to take into account changing public policies and circumstances, in accord with a schedule set forth in the plan. Opportunities shall be provided for review and comment by citizens and affected governmental units during preparation, review and revision of plans and implementation ordinances.

Affected Governmental Units -- are those local governments, state and federal agencies and special districts which have programs, land ownerships, or responsibilities within the area included in the plan.

Comprehensive Plan -- as defined in ORS 197.015(5).

Coordinated -- as defined in ORS 197.015(5). Note: It is included in the definition of comprehensive plan.

Implementation Measures -- are the means used to carry out the plan. These are of two general types: (1) management implementation measures such as ordinances, regulations or project plans, and (2) site or area specific implementation measures such as permits and grants for construction, construction of public facilities or provision of services.

Plans -- as used here encompass all plans which guide land-use decisions, including both comprehensive and single-purpose plans of cities, counties, state and federal agencies and special districts.

PART II -- EXCEPTIONS

A local government may adopt an exception to a goal when:

(a) The land subject to the exception is physically developed to the extent that it is no longer available for uses allowed by the applicable goal;

(b) The land subject to the exception is irrevocably committed to uses not allowed by the applicable goal because existing adjacent uses and other relevant factors make uses allowed by the applicable goal impracticable; or

(c) The following standards are met:

(1) Reasons justify why the state policy embodied in the applicable goals should not apply;

(2) Areas which do not require a new exception cannot reasonably accommodate the use;

(3) The long-term environmental, economic, social and energy consequences resulting from the use of the proposed site with measures designed to reduce adverse impacts are not significantly more adverse than would typically result from the same proposal being located in areas requiring a goal exception other than the proposed site; and

(4) The proposed uses are compatible with other adjacent uses or will be so rendered through measures designed to reduce adverse impacts.

Compatible, as used in subparagraph (4) is not intended as an absolute term meaning no interference or adverse impacts of any type with adjacent uses.

A local government approving or denying a proposed exception shall set forth findings of fact and a statement of reasons which demonstrate that the standards for an exception have or have not been met.

Each notice of a public hearing on a proposed exception shall specifically note that a goal exception is proposed and shall summarize the issues in an understandable manner.

Upon review of a decision approving or denying an exception:

(a) The commission shall be bound by any finding of fact for which there is substantial evidence in the record of the local government proceedings resulting in approval or denial of the exception;

(b) The commission shall determine whether the local government's findings and reasons demonstrate that the standards for an exception have or have not been met; and

(c) The commission shall adopt a clear statement of reasons which sets forth the basis for the determination that the standards for an exception have or have not been met.

Exception means a comprehensive plan provision, including an amendment to an acknowledged comprehensive plan, that;

(a) Is applicable to specific properties or situations and does not establish a planning or zoning policy of general applicability;

(b) Does not comply with some or all goal requirements applicable to the subject properties or situations; and

(c) Complies with standards for an exception.

PART III -- USE OF GUIDELINES

Governmental units shall review the guidelines set forth for the goals and either utilize the guidelines or develop alternative means that will achieve the

goals. All land-use plans shall state how the guidelines or alternative means utilized achieve the goals.

Guidelines -- are suggested directions that would aid local governments in activating the mandated goals. They are intended to be instructive, directional and positive, not limiting local government to a single course of action when some other course would achieve the same result. Above all, guidelines are not intended to be a grant of power to the state to carry out zoning from the state level under the guise of guidelines. (Guidelines or the alternative means selected by governmental bodies will be part of the Land Conservation and Development Commission's process of evaluating plans for compliance with goals.)

GUIDELINES

A. PREPARATION OF PLANS AND IMPLEMENTATION MEASURES

Preparation of plans and implementation measures should be based on a series of broad phases, proceeding from the very general identification of problems and issues to the specific provisions for dealing with these issues and for interrelating the various elements of the plan. During each phase opportunities should be provided for review and comment by citizens and affected governmental units.

The various implementation measures which will be used to carry out the plan should be considered during each of the planning phases.

The number of phases needed will vary with the complexity and size of the area, number of people involved, other governmental units to be consulted, and availability of the necessary information.

Sufficient time should be allotted for:

(1) collection of the necessary factual information

(2) gradual refinement of the problems and issues and the alternative solutions and strategies for development

(3) incorporation of citizen needs and desires and development of broad citizen support

(4) identification and resolution of possible conflicts with plans of affected governmental units.

B. REGIONAL, STATE AND FEDERAL PLAN CONFORMANCE

It is expected that regional, state and federal agency plans will conform to the comprehensive plans of cities and counties. Cities and counties are expected to take into account the regional, state and national needs. Regional, state and federal agencies are expected to make their needs known during the preparation and revision of city and county comprehensive plans. During the preparation of their plans, federal, state and regional agencies are expected to create opportunities for review and comment by cities and counties. In the event existing plans are in conflict or an agreement cannot be reached during the plan preparation process, then the Land Conservation and Development Commission expects the affected government units to take steps to resolve the issues. If an agreement cannot be reached, the appeals procedures in ORS Chapter 197 may be used.

C. PLAN CONTENT

1. Factual Basis for the Plan

Inventories and other forms of data are needed as the basis for the policies and other decisions set forth in the plan. This factual base should include data on the following as they relate to the goals and other provisions of the plan:

(a) Natural resources, their capabilities and limitations

(b) Man-made structures and utilities, their location and condition

(c) Population and economic characteristics of the area

(d) Roles and responsibilities of governmental units.

2. Elements of the Plan

The following elements should be included in the plan:

(a) Applicable statewide planning goals

(b) Any critical geographic area designated by the Legislature

(c) Elements that address any special needs or desires of the people in the area

(d) Time periods of the plan, reflecting the anticipated situation at appropriate future intervals.

All of the elements should fit together and relate to one another to form a consistent whole at all times.

D. FILING OF PLANS

City and county plans should be filed, but not recorded, in the Office of the County Recorder. Copies of all plans should be available to the public and to affected governmental units.

E. MAJOR REVISIONS AND MINOR CHANGES IN THE PLAN AND IMPLEMENTATION MEASURES

The citizens in the area and any affected governmental unit should be given an opportunity to review and comment prior to any changes in the plan and implementation ordinances. There should be at least 30 days notice of the public hearing on the proposed change.

1. Major Revisions

Major revisions include land use changes that have widespread and significant impact beyond the immediate area, such as quantitative changes producing large volumes of traffic; a qualitative change in the character of the land use itself, such as conversion of residential to industrial use; or a spatial change that affects large areas or many different ownerships.

The plan and implementation measures should be revised when public needs and desires change and when development occurs at a different rate than contemplated by the plan. Areas experiencing rapid growth and development should provide for a frequent review so needed revisions can be made to keep the plan up to date; however, major revisions should not be made more frequently than every two years, if at all possible.

2. Minor Changes

Minor changes, i.e., those which do not have significant effect beyond the immediate area of the change, should be based on special studies or other information which will serve as the factual basis to support the change. The public need and justification for the particular change should be established. Minor changes should not be made more frequently than once a year, if at all possible.

F. IMPLEMENTATION MEASURES

The following types of measure should be considered for carrying out plans:

1. Management Implementation Measures

(a) Ordinances controlling the use and construction on the land, such as building codes, sign ordinances, subdivision and zoning ordinances. ORS Chapter 197 requires that the provisions of the zoning and subdivision ordinances conform to the comprehensive plan.

(b) Plans for public facilities that are more specific than those included in the comprehensive plan. They show the size, location, and capacity serving each property but are not as detailed as construction drawings.

(c) Capital improvement budgets which set out the projects to be constructed during the budget period.

(d) State and federal regulations affecting land use.

(e) Annexations, consolidations, mergers and other reorganization measures.

2. Site and Area Specific implementation Measures

(a) Building permits, septic tank permits, driveway permits, etc; the review of subdivisions and land partitioning applications; the changing of zones and granting of conditional uses, etc.

(b) The construction of public facilities (schools, roads, water lines, etc.).

(c) The provision of land-related public services such as fire and police.

(d) The awarding of state and federal grants to local governments to provide these facilities and services.

(e) Leasing of public lands.

G. USE OF GUIDELINES FOR THE STATEWIDE PLANNING GOALS

Guidelines for most statewide planning goals are found in two sections-planning and implementation. Planning guidelines relate primarily to the process of developing plans that incorporate the provisions of the goals. Implementation guidelines should relate primarily to the process of carrying out the goals once they have been incorporated into the plans. Techniques to carry out the goals and plans should be considered during the preparation of the plan.

Oregon's Statewide Planning Goals & Guidelines

GOAL 3: AGRICULTURAL LANDS

OAR 660-015-0000(3)

To preserve and maintain agricultural lands.

Agricultural lands shall be preserved and maintained for farm use, consistent with existing and future needs for agricultural products, forest and open space and with the state's agricultural land use policy expressed in ORS 215.243 and 215.700.

USES

Counties may authorize farm uses and those nonfarm uses defined by commission rule that will not have significant adverse effects on accepted farm or forest practices.

IMPLEMENTATION

Zoning applied to agricultural land shall limit uses which can have significant adverse effects on agricultural and forest land, farm and forest uses or accepted farming or forest practices.

Counties shall establish minimum sizes for new lots or parcels in each agricultural land designation. The minimum parcel size established for farm uses in farmland zones shall be consistent with applicable statutes. If a county proposes a minimum lot or parcel size less than 80 acres, or 160 acres for rangeland, the minimum shall be appropriate to maintain the existing commercial agricultural enterprise within the area and meet the requirements of ORS 215.243.

Counties authorized by ORS 215.316 may designate agricultural land as marginal land and allow those uses and land divisions on the designated marginal land as allowed by law.

LCDC shall review and approve plan designations and revisions to land use regulations in the manner provided by ORS Chapter 197.

DEFINITIONS

Agricultural Land -- in western Oregon is land of predominantly Class I, II, III and IV soils and in eastern Oregon is land of predominantly Class I, II, III, IV, V and VI soils as identified in the Soil Capability Classification System of the United States Soil Conservation Service, and other lands which are suitable for farm use taking into consideration soil fertility, suitability for grazing, climatic conditions, existing and future availability of water for farm irrigation purposes, existing land-use patterns, technological and energy inputs required, or accepted farming practices. Lands in other classes which are necessary to permit farm practices to be undertaken on adjacent or nearby lands, shall be included as agricultural land in any event.

More detailed soil data to define agricultural land may be utilized by local governments if such data permits achievement of this goal.

Agricultural land does not include land within acknowledged urban growth boundaries or land within acknowledged exceptions to Goals 3 or 4.

Farm Use -- is as set forth in ORS 215.203.

High-Value Farmlands -- are areas of agricultural land defined by statute and Commission rule.

GUIDELINES

A. PLANNING

1. Urban growth should be separated from agricultural lands by buffer or transitional areas of open space.
2. Plans providing for the preservation and maintenance of farm land for farm use, should consider as a major determinant the carrying capacity of the air, land and water resources of the planning area. The land conservation and development actions provided for by such plans should not exceed the carrying capacity of such resources.

B. IMPLEMENTATION

1. Non-farm uses permitted within farm use zones under ORS 215.213(2) and (3) and 215.283(2) and (3) should be minimized to allow for maximum agricultural productivity.
2. Extension of services, such as sewer and water supplies into rural areas should be appropriate for the needs of agriculture, farm use and non-farm uses established under ORS 215.213 and 215.283.
3. Services that need to pass through agricultural lands should not be connected with any use that is not allowed under ORS 215.203, 215.213, and 215.283, should not be assessed as part of the farm unit and should be limited in capacity to serve specific service areas and identified needs.
4. Forest and open space uses should be permitted on agricultural land that is being preserved for future agricultural growth. The interchange of such lands should not be subject to tax penalties.

Oregon's Statewide Planning Goals & Guidelines

GOAL 4: FOREST LANDS

OAR 660-015-0000(4)

To conserve forest lands by maintaining the forest land base and to protect the state's forest economy by making possible economically efficient forest practices that assure the continuous growing and harvesting of forest tree species as the leading use on forest land consistent with sound management of soil, air, water, and fish and wildlife resources and to provide for recreational opportunities and agriculture.

Forest lands are those lands acknowledged as forest lands as of the date of adoption of this goal amendment. Where a plan is not acknowledged or a plan amendment involving forest lands is proposed, forest land shall include lands which are suitable for commercial forest uses including adjacent or nearby lands which are necessary to permit forest operations or practices and other forested lands that maintain soil, air, water and fish and wildlife resources.

USES

Forest operations, practices and auxiliary uses shall be allowed on forest lands subject only to such regulation of uses as are found in ORS 527.722.

Uses which may be allowed subject to standards set forth in this goal and administrative rule are: (1) uses related to and in support of forest operations; (2) uses to conserve soil, water and air quality, and to provide for fish and wildlife resources, agriculture and recreational opportunities appropriate in a forest environment; (3) locationally dependent uses;
(4) dwellings authorized by law.

IMPLEMENTATION

Comprehensive plans and zoning provide certainty to assure that forest lands will be available now and in the future for the growing and harvesting of trees. Local governments shall inventory, designate and zone forest lands. Local governments shall adopt zones which contain provisions to address the uses allowed by the goal and administrative rule and apply those zones to designated forest lands.

Zoning applied to forest land shall contain provisions which limit, to the extent permitted by ORS 527.722, uses which can have significant adverse effects on forest land, operations or practices. Such zones shall contain numeric standards for land divisions and standards for the review and siting of land uses. Such land divisions and siting standards shall be consistent with the applicable statutes, goal and administrative rule. If a county proposes a minimum lot or parcel size less than 80 acres, the minimum shall meet the requirements of ORS 527.630 and conserve values found on forest lands. Siting standards shall be designed to make allowed uses compatible with forest operations, agriculture and to conserve values found on forest lands.

Local governments authorized by ORS 215.316 may inventory, designate

and zone forest lands as marginal land, and may adopt a zone which contains provisions for those uses and land divisions authorized by law.

GUIDELINES

A. PLANNING

1. Forest lands should be inventoried so as to provide for the preservation of such lands for forest uses.
2. Plans providing for the preservation of forest lands for forest uses should consider as a major determinant the carrying capacity of the air, land and water resources of the planning area. The land conservation and development actions provided for by such plans should not exceed the carrying capacity of such resources.

B. IMPLEMENTATION

1. Before forest land is changed to another use, the productive capacity of the land in each use should be considered and evaluated.
2. Developments that are allowable under the forest lands classification should be limited to those activities for forest production and protection and other land management uses that are compatible with forest production. Forest lands should be available for recreation and other uses that do not hinder growth.
3. Forestation or reforestation should be encouraged on land suitable for such purposes, including marginal agricultural land not needed for farm use.
4. Road standards should be limited to the minimum width necessary for management and safety.
5. Highways through forest lands should be designed to minimize impact on such lands.
6. Rights-of-way should be designed so as not to preclude forest growth whenever possible.
7. Maximum utilization of utility rights-of-way should be required before permitting new ones.
8. Comprehensive plans should consider other land uses that are adjacent to forest lands so that conflicts with forest harvest and management are avoided.

Oregon's Statewide Planning Goals & Guidelines

GOAL 5: NATURAL RESOURCES, SCENIC AND HISTORIC AREAS, AND OPEN SPACES

OAR 660-015-0000(5)
(Please Note: Amendments Effective 08/30/96)

To protect natural resources and conserve scenic and historic areas and open spaces.

Local governments shall adopt programs that will protect natural resources and conserve scenic, historic, and open space resources for present and future generations. These resources promote a healthy environment and natural landscape that contributes to Oregon's livability.

The following resources shall be inventoried:

a. Riparian corridors, including water and riparian areas and fish habitat;
b. Wetlands;
c. Wildlife Habitat;
d. Federal Wild and Scenic Rivers;
e. State Scenic Waterways;
f. Groundwater Resources;
g. Approved Oregon Recreation Trails;
h. Natural Areas;
i. Wilderness Areas;
j. Mineral and Aggregate Resources;
k. Energy sources;
l. Cultural areas.

Local governments and state agencies are encouraged to maintain current inventories of the following resources:

a. Historic Resources;
b. Open Space;
c. Scenic Views and Sites.

Following procedures, standards, and definitions contained in commission rules, local governments shall determine significant sites for inventoried resources and develop programs to achieve the goal.

GUIDELINES FOR GOAL 5

A. PLANNING

1. The need for open space in the planning area should be determined, and standards developed for the amount, distribution, and type of open space.

2. Criteria should be developed and utilized to determine what uses are consistent with open space values and to evaluate the effect of converting open space lands to inconsistent uses. The maintenance and development of open space in urban areas should be encouraged.

3. Natural resources and required sites for the generation of energy (i.e. natural gas, oil, coal, hydro, geothermal, uranium, solar and others) should be conserved and protected;

reservoir sites should be identified and protected against irreversible loss.

4. Plans providing for open space, scenic and historic areas and natural resources should consider as a major determinant the carrying capacity of the air, land and water resources of the planning area. The land conservation and development actions provided for by such plans should not exceed the carrying capacity of such resources.

5. The National Register of Historic Places and the recommendations of the State Advisory Committee on Historic Preservation should be utilized in designating historic sites.

6. In conjunction with the inventory of mineral and aggregate resources, sites for removal and processing of such resources should be identified and protected.

7. As a general rule, plans should prohibit outdoor advertising signs except in commercial or industrial zones. Plans should not provide for the reclassification of land for the purpose of accommodating an outdoor advertising sign. The term "outdoor advertising sign" has the meaning set forth in ORS 377.710(23).

B. IMPLEMENTATION

1. Development should be planned and directed so as to conserve the needed amount of open space.

2. The conservation of both renewable and non-renewable natural resources and physical limitations of the land should be used as the basis for determining the quantity, quality, location, rate and type of growth in the planning area.

3. The efficient consumption of energy should be considered when utilizing natural resources.

4. Fish and wildlife areas and habitats should be protected and managed in accordance with the Oregon Wildlife Commission's fish and wildlife management plans.

5. Stream flow and water levels should be protected and managed at a level adequate for fish, wildlife, pollution abatement, recreation, aesthetics and agriculture.

6. Significant natural areas that are historically, ecologically or scientifically unique, outstanding or important, including those identified by the State Natural Area Preserves Advisory Committee, should be inventoried and evaluated. Plans should provide for the preservation of natural areas consistent with an inventory of scientific, educational, ecological, and recreational needs for significant natural areas.

7. Local, regional and state governments should be encouraged to investigate and utilize fee acquisition, easements, cluster developments, preferential assessment, development rights acquisition and similar techniques to implement this goal.

8. State and federal agencies should develop statewide natural resource, open space, scenic and historic area plans and provide technical assistance to local and regional agencies. State and federal plans should be reviewed and coordinated with local and regional plans.

9. Areas identified as having non-renewable mineral and aggregate resources should be planned for interim,

transitional and "second use" utilization
as well as for the primary use.

Oregon's Statewide Planning Goals & Guidelines

GOAL 6: AIR, WATER AND LAND RESOURCES QUALITY

OAR 660-015-0000(6)

To maintain and improve the quality of the air, water and land resources of the state.

All waste and process discharges from future development, when combined with such discharges from existing developments shall not threaten to violate, or violate applicable state or federal environmental quality statutes, rules and standards. With respect to the air, water and land resources of the applicable air sheds and river basins described or included in state environmental quality statutes, rules, standards and implementation plans, such discharges shall not (1) exceed the carrying capacity of such resources, considering long range needs; (2) degrade such resources; or (3) threaten the availability of such resources.

Waste and Process Discharges -- refers to solid waste, thermal, noise, atmospheric or water pollutants, contaminants, or products therefrom. Included here also are indirect sources of air pollution which result in emissions of air contaminants for which the state has established standards.

GUIDELINES

A. PLANNING

1. Plans should designate alternative areas suitable for use in controlling pollution including but not limited to waste water treatment plants, solid waste disposal sites and sludge disposal sites.

2. Plans should designate areas for urban and rural residential use only where approvable sewage disposal alternatives have been clearly identified in such plans.

3. Plans should buffer and separate those land uses which create or lead to conflicting requirements and impacts upon the air, water and land resources.

4. Plans which provide for the maintenance and improvement of air, land and water resources of the planning area should consider as a major determinant the carrying capacity of the air, land and water resources of the planning area. The land conservation and development actions provided for by such plans should not exceed the carrying capacity of such resources.

5. All plans and programs affecting waste and process discharges should be coordinated within the applicable air sheds and river basins described or included in state environmental quality statutes, rules, standards and implementation plan.

6. Plans of state agencies before they are adopted should be coordinated with and reviewed by local agencies with respect to the impact of these plans on the air, water and land resources in the planning area.

7. In all air quality maintenance areas, plans should be based on applicable state rules for reducing indirect pollution and be sufficiently comprehensive to include major transportation, industrial, institutional, commercial recreational and governmental developments and facilities.

B. IMPLEMENTATION

1. Plans should take into account methods and devices for implementing this goal, including but not limited to the following:

(1) tax incentives and disincentives,

(2) land use controls and ordinances,

(3) multiple-use and joint development practices,

(4) capital facility programming,

(5) fee and less-than-fee acquisition techniques, and

(6) enforcement of local health and safety ordinances.

2. A management program that details the respective implementation roles and responsibilities for carrying out this goal in the planning area should be established in the comprehensive plan.

3. Programs should manage land conservation and development activities in a manner that accurately reflects the community's desires for a quality environment and a healthy economy and is consistent with state environmental quality statutes, rules, standards and implementation plans.

Adopted September 28, 2001
Effective June 1, 2002

Oregon's Statewide Planning Goals and Guidelines
GOAL 7: AREAS SUBJECT TO NATURAL HAZARDS

To protect people and property from natural hazards.

A. NATURAL HAZARD PLANNING

1. Local governments shall adopt comprehensive plans (inventories, policies and implementing measures) to reduce risk to people and property from natural hazards.

2. Natural hazards for purposes of this goal are: floods (coastal and riverine), landslides,[1] earthquakes and related hazards, tsunamis, coastal erosion, and wildfires. Local governments may identify and plan for other natural hazards.

B. RESPONSE TO NEW HAZARD INFORMATION

1. New hazard inventory information provided by federal and state agencies shall be reviewed by the Department in consultation with affected state and local government representatives.
2. After such consultation, the Department shall notify local governments if the new hazard information requires a local response.
3. Local governments shall respond to new inventory information on natural hazards within 36 months after being notified by the Department of Land Conservation and Development, unless extended by the Department.

C. IMPLEMENTATION

Upon receiving notice from the Department, a local government shall:

1. Evaluate the risk to people and property based on the new inventory information and an assessment of:
   a. the frequency, severity and location of the hazard;
   b. the effects of the hazard on existing and future development;
   c. the potential for development in the hazard area to increase the frequency and severity of the hazard; and
   d. the types and intensities of land uses to be allowed in the hazard area.
2. Allow an opportunity for citizen review and comment on the new inventory information and the results of the evaluation and incorporate such information into the comprehensive plan, as necessary.
3. Adopt or amend, as necessary, based on the evaluation of risk, plan policies and implementing measures consistent with the following principles:
   a. avoiding development in hazard areas where the risk to people and property cannot be mitigated; and
   b. prohibiting the siting of essential facilities, major structures, hazardous facilities and special occupancy structures, as defined in the state building code (ORS 455.447(1) (a)(b)(c) and (e)), in identified hazard areas, where the risk to public safety cannot be mitigated, unless an essential facility is needed within a hazard area in order to provide essential emergency response services in a timely manner.[2]
4. Local governments will be deemed to comply with Goal 7 for coastal and riverine flood hazards by adopting and

[1] For "rapidly moving landslides," the requirements of ORS 195.250-195.275 (1999 edition) apply.

[2] For purposes of constructing essential facilities, and special occupancy structures in tsunami inundation zones, the requirements of the state building code - ORS 455.446 and 455.447 (1999 edition) and OAR chapter 632, division 5 apply.

implementing local floodplain regulations that meet the minimum National Flood Insurance Program (NFIP) requirements.

D. COORDINATION

1. In accordance with ORS 197.180 and Goal 2, state agencies shall coordinate their natural hazard plans and programs with local governments and provide local governments with hazard inventory information and technical assistance including development of model ordinances and risk evaluation methodologies.

2. Local governments and state agencies shall follow such procedures, standards and definitions as may be contained in statewide planning goals and commission rules in developing programs to achieve this goal.

GUIDELINES

A. PLANNING

1. In adopting plan policies and implementing measures to protect people and property from natural hazards, local governments should consider:

a. the benefits of maintaining natural hazard areas as open space, recreation and other low density uses;

b. the beneficial effects that natural hazards can have on natural resources and the environment; and

c. the effects of development and mitigation measures in identified hazard areas on the management of natural resources.

2. Local governments should coordinate their land use plans and decisions with emergency preparedness, response, recovery and mitigation programs.

B. IMPLEMENTATION

1. Local governments should give special attention to emergency access when considering development in identified hazard areas.

2. Local governments should consider programs to manage stormwater runoff as a means to help address flood and landslide hazards.

3. Local governments should consider nonregulatory approaches to help implement this goal, including but not limited to:

a. providing financial incentives and disincentives;

b. providing public information and education materials;

c. establishing or making use of existing programs to retrofit, relocate, or acquire existing dwellings and structures at risk from natural disasters.

4. When reviewing development requests in high hazard areas, local governments should require site-specific reports, appropriate for the level and type of hazard (e.g., hydrologic reports, geotechnical reports or other scientific or engineering reports) prepared by a licensed professional. Such reports should evaluate the risk to the site as well as the risk the proposed development may pose to other properties.

5. Local governments should consider measures that exceed the National Flood Insurance Program (NFIP) such as:

a. limiting placement of fill in floodplains;

b. prohibiting the storage of hazardous materials in floodplains or providing for safe storage of such materials; and

c. elevating structures to a level higher than that required by the NFIP and the state building code.

Flood insurance policy holders may be eligible for reduced insurance rates through the NFIP's Community Rating System Program when local governments adopt these and other flood protection measures.

Oregon's Statewide Planning Goals & Guidelines
GOAL 8: RECREATIONAL NEEDS
OAR 660-015-0000(8)

To satisfy the recreational needs of the citizens of the state and visitors and, where appropriate, to provide for the siting of necessary recreational facilities including destination resorts.

RECREATION PLANNING

The requirements for meeting such needs, now and in the future, shall be planned for by governmental agencies having responsibility for recreation areas, facilities and opportunities: (1) in coordination with private enterprise; (2) in appropriate proportions; and (3) in such quantity, quality and locations as is consistent with the availability of the resources to meet such requirements. State and federal agency recreation plans shall be coordinated with local and regional recreational needs and plans.

DESTINATION RESORT SITING

Comprehensive plans may provide for the siting of destination resorts on rural lands subject to the provisions of state law, including ORS 197.435 to 197.467, this and other Statewide Planning Goals, and without an exception to Goals 3, 4, 11, or 14.

Eligible Areas

(1) Destination resorts allowed under the provisions of this goal must be sited on lands mapped as eligible by the affected county. A map adopted by a county may not allow destination resorts approved under the provisions of this goal to be sited in any of the following areas:

(a) Within 24 air miles of an urban growth boundary with an existing population of 100,000 or more unless residential uses are limited to those necessary for the staff and management of the resort;

(b) On a site with 50 or more contiguous acres of unique or prime farm land identified and mapped by the United States Natural Resources Conservation Service or its predecessor agency; or within three miles of a High Value Crop Area except that "small destination resorts" may not be closer to a high value crop area than one-half mile for each 25 units of overnight lodging or fraction thereof;

(c) On predominantly Cubic Foot Site Class 1 or 2 forest lands, as determined by the State Forestry Department, that are not subject to an approved goal exception;

(d) In the Columbia River Gorge National Scenic Area as defined by the Columbia River Gorge National Scenic Act, P.L. 99-663;

(e) In an especially sensitive big game habitat as generally mapped by the Oregon Department of Fish and Wildlife in July 1984 and as further refined through development of comprehensive plans implementing this requirement.

(2) “Small destination resorts" may be allowed consistent with the siting requirements of section (1), above, in the following areas:

(a) On land that is not defined as agricultural or forest land under Goal 3 or 4; or

(b) On land where there has been an exception to Statewide Planning Goals 3, 4, 11, or 14.

Siting Standards

(1) Counties shall ensure that destination resorts are compatible with the site and adjacent land uses through the following measures:

(a) Important natural features, including habitat of threatened or endangered species, streams, rivers, and significant wetlands shall be maintained. Riparian vegetation within 100 feet of streams, rivers and significant wetlands shall be maintained. Alterations to important natural features, including placement of structures that maintain the overall values of the feature, may be allowed.

(b) Sites designated for protection in an acknowledged comprehensive plan designated pursuant to Goal 5 that are located on the tract used for the destination resort shall be preserved through conservation easements as set forth in ORS 271.715 to 271.795. Conservation easements adopted to implement this requirement shall be sufficient to protect the resource values of the site and shall be recorded with the property records of the tract on which the destination resort is sited.

(c) Improvements and activities shall be located and designed to avoid or minimize adverse effects of the resort on uses on surrounding lands, particularly effects on intensive farming operations in the area. At a minimum, measures to accomplish this shall include:

(i) Establishment and maintenance of buffers between the resort and adjacent land uses, including natural vegetation and where appropriate, fences, berms, landscaped areas, and other similar types of buffers.

(ii) Setbacks of structures and other improvements from adjacent land uses.

(iii) Measures that prohibit the use or operation in conjunction with the resort of a portion of a tract that is excluded from the site of a destination resort pursuant to ORS 197.435(7). Subject to this limitation, the use of the excluded property shall be governed by otherwise applicable law.

Implementing Measures

(1) Comprehensive plans allowing for destination resorts shall include implementing measures that:

(a) Adopt a map consisting of eligible lands for large destination resorts within the county. The map shall be based on reasonably available information, and shall not be subject to revision or refinement after adoption except in conformance with ORS 197.455, and 197.610 to 197.625, but not more frequently than once every 30 months. The county shall develop a process for collecting and processing concurrently all map amendments made within a 30-

month planning period. A map adopted pursuant to this section shall be the sole basis for determining whether tracts of land are eligible for siting of large destination resorts under the provisions of this goal and ORS 197.435 to 197.467.

(b) Limit uses and activities to those permitted by this goal.

(c) Assure developed recreational facilities and key facilities intended to serve the entire development and visitor oriented accommodations are physically provided or are guaranteed through surety bonding or substantially equivalent financial assurances prior to closure of sale of individual lots or units. In phased developments, developed recreational facilities and other key facilities intended to serve a particular phase shall be constructed prior to sales in that phase or guaranteed through surety bonding.

DEFINITIONS

Destination Resort -- A self-contained development providing visitor-oriented accommodations and developed recreational facilities in a setting with high natural amenities, and that qualifies under the definition of either a “large destination resort” or a “small destination resort” in this goal. Spending required under these definitions is stated in 1993 dollars. The spending required shall be adjusted to the year in which calculations are made in accordance with the United States Consumer Price Index.

Large Destination Resort -- To qualify as a “large destination resort” under this Goal, a proposed development must meet the following standards:

(1) The resort must be located on a site of 160 acres or more except within two miles of the ocean shoreline where the site shall be 40 acres or more.

(2) At least 50 percent of the site must be dedicated as permanent open space excluding yards, streets and parking areas.

(3) At least $7 million must be spent on improvements for onsite developed recreational facilities and visitor-oriented accommodations exclusive of costs for land, sewer, and water facilities and roads. Not less than one-third of this amount shall be spent on developed recreational facilities.

(4) Commercial uses allowed are limited to types and levels necessary to meet the needs of visitors to the development. Industrial uses of any kind are not permitted.

(5) Visitor-oriented accommodations including meeting rooms, restaurants with seating for 100 persons, and 150 separate rentable units for overnight lodging must be provided. Accommodations available for residential use shall not exceed two such units for each unit of overnight lodging, or two and one-half such units on land that is in Eastern Oregon as defined by ORS 321.805. However, the rentable overnight lodging units may be phased in as follows:

(a) On land that is not in Eastern Oregon, as defined in ORS 321.805:

(A) A total of 150 units of overnight lodging must be provided.

(B) At least 75 units of overnight lodging, not including any individually owned homes, lots or units must be constructed or guaranteed through surety

bonding or equivalent financial assurance prior to the closure of sale of individual lots or units.

(C) The remaining overnight lodging units must be provided as individually owned lots or units subject to deed restrictions that limit their use to overnight lodging units. The deed restrictions may be rescinded when the resort has constructed 150 units of permanent overnight lodging as required by this section.

(D) The number of units approved for residential sale may not be more than two units for each unit of permanent overnight lodging provided under this section.

(E) The development approval shall provide for the construction of other required overnight lodging units within five years of the initial lot sales.

(b) On lands in Eastern Oregon, as defined in ORS 321.805:

(A) A total of 150 units of overnight lodging must be provided.

(B) At least 50 units of overnight lodging must be constructed prior to the closure of sale of individual lots or units.

(C) At least 50 of the remaining 100 required overnight lodging units must be constructed or guaranteed through surety bonding or equivalent financial assurance within five years of the initial lot sales.

(D) The remaining required overnight lodging units must be constructed or guaranteed through surety bonding or equivalent financial assurances within 10 years of the initial lot sales.

(E) The number of units approved for residential sale may not be more than 2-1/2 units for each unit of permanent overnight lodging provided under this section.

(F) If the developer of a resort guarantees the overnight lodging units required under paragraphs (C) and (D) of this subsection through surety bonding or other equivalent financial assurance, the overnight lodging units must be constructed within four years of the date of execution of the surety bond or other equivalent financial assurance.

(6) When making a land use decision authorizing construction of a “large destination resort” in Eastern Oregon, as defined in ORS 321.805, the governing body of the county or its designee shall require the resort developer to provide an annual accounting to document compliance with the overnight lodging standards of this definition. The annual accounting requirement commences one year after the initial lot or unit sales. The annual accounting must contain:

(a) Documentation showing that the resort contains a minimum of 150 permanent units of overnight lodging or, during the phase-in period, documentation showing the resort is not yet required to have constructed 150 units of overnight lodging.

(b) Documentation showing that the resort meets the lodging ratio described in section (5)(b) of this definition.

(c) For a resort counting individually owned units as qualified overnight lodging units, the number of weeks that each overnight lodging unit is available for rental to the general public as described in section (2) of the definition for “overnight lodgings” in this goal.

Small Destination Resort -- To qualify as a **"**small destination resort**"** under Goal 8, a proposed development must meet standards (2) and (4) under the definition of "large destination resort" and the following standards:

(1) The resort must be located on a site of 20 acres or more.

(2) At least $2 million must be spent on improvements for onsite developed recreational facilities and visitor-oriented accommodations exclusive of costs for land, sewer, and water facilities and roads. Not less than one-third of this amount must be spent on developed recreation facilities.

(3) At least 25 but not more than 75 units of overnight lodging shall be provided.

(4) Restaurant and meeting rooms with at least one seat for each unit of overnight lodging must be provided.

(5) Residential uses must be limited to those necessary for the staff and management of the resort.

(6) The county governing body or its designee must review the proposed resort and determine that the primary purpose of the resort is to provide lodging and other services oriented to a recreational resource that can only reasonably be enjoyed in a rural area. Such recreational resources include, but are not limited to, a hot spring, a ski slope or a fishing stream.

(7) The resort shall be constructed and located so that it is not designed to attract highway traffic. Resorts shall not use any manner of outdoor advertising signing except:

(a) Tourist oriented directional signs as provided in ORS 377.715 to 377.830; and

(b) Onsite identification and directional signs.

Developed Recreation Facilities -- are improvements constructed for the purpose of recreation and may include but are not limited to golf courses, tennis courts, swimming pools, marinas, ski runs and bicycle paths.

High-Value Crop Area -- an area in which there is a concentration of commercial farms capable of producing crops or products with a minimum gross value of $1,000 per acre per year. These crops and products include field crops, small fruits, berries, tree fruits, nuts, or vegetables, dairying, livestock feedlots, or Christmas trees as these terms are used in the 1983 County and State Agricultural Estimates prepared by the Oregon State University Extension Service. The High-Value Crop Area Designation is used for the purpose of minimizing conflicting uses in resort siting and is not meant to revise the requirements of Goal 3 or administrative rules interpreting the goal.

Map of Eligible Lands -- a map of the county adopted pursuant to ORS 197.455.

Open Space -- means any land that is retained in a substantially natural condition or is improved for recreational uses such as golf courses, hiking or

nature trails or equestrian or bicycle paths or is specifically required to be protected by a conservation easement. Open spaces may include ponds, lands protected as important natural features, land preserved for farm or forest use and lands used as buffers. Open space does not include residential lots or yards, streets or parking areas.

Overnight Lodgings -- are permanent, separately rentable accommodations that are not available for residential use. Overnight lodgings include hotel or motel rooms, cabins, and time-share units. Tent sites, recreational vehicle parks, manufactured dwellings, dormitory rooms, and similar accommodations do not qualify as overnight lodgings for the purpose of this definition. Individually owned units may be considered overnight lodgings if:

(1) With respect to lands not in Eastern Oregon, as defined in ORS 321.805, they are available for overnight rental use by the general public for at least 45 weeks per calendar year through a central reservation and check-in service, or

(2) With respect to lands in Eastern Oregon, as defined in ORS 321.805, they are available for overnight rental use by the general public for at least 38 weeks per calendar year through a central reservation system operated by the destination resort or by a real estate property manager, as defined in ORS 696.010.

Recreation Areas, Facilities and Opportunities -- provide for human development and enrichment, and include but are not limited to: open space and scenic landscapes; recreational lands; history, archaeology and natural science resources; scenic roads and travelers; sports and cultural events; camping, picnicking and recreational lodging; tourist facilities and accommodations; trails; waterway use facilities; hunting; angling; winter sports; mineral resources; active and passive games and activities.

Recreation Needs -- refers to existing and future demand by citizens and visitors for recreations areas, facilities and opportunities.

Self-contained Development -- means a development for which community sewer and water facilities are provided onsite and are limited to meet the needs of the development or are provided by existing public sewer or water service as long as all costs related to service extension and any capacity increases are borne by the development. A "self-contained development" must have developed recreational facilities provided on-site.

Tract -- means a lot or parcel or more than one contiguous lot or parcel in a single ownership. A tract may include property that is not included in the proposed site for a destination resort if the property to be excluded is on the boundary of the tract and constitutes less than 30 percent of the total tract.

Visitor-Oriented Accommodations -- are overnight lodging, restaurants, meeting facilities which are designed to and provide for the needs of visitors rather than year-round residents.

GUIDELINES FOR GOAL 8

A. PLANNING

1. An inventory of recreation needs in the planning area should be made based upon adequate research and analysis of public wants and desires.

2. An inventory of recreation opportunities should be made based upon adequate research and analysis of the resources in the planning area that are available to meet recreation needs.

3. Recreation land use to meet recreational needs and development standards, roles and responsibilities should be developed by all agencies in coordination with each other and with the private interests. Long range plans and action programs to meet recreational needs should be developed by each agency responsible for developing comprehensive plans.

4. The planning for lands and resources capable of accommodating multiple uses should include provision for appropriate recreation opportunities.

5. The *State Comprehensive Outdoor Recreation Plan* could be used as a guide when planning, acquiring and developing recreation resources, areas and facilities.

6. When developing recreation plans, energy consequences should be considered, and to the greatest extent possible non-motorized types of recreational activities should be preferred over motorized activities.

7. Planning and provision for recreation facilities and opportunities should give priority to areas, facilities and uses that

(a) Meet recreational needs requirements for high density population centers,

(b) Meet recreational needs of persons of limited mobility and finances,

(c) Meet recreational needs requirements while providing the maximum conservation of energy both in the transportation of persons to the facility or area and in the recreational use itself,

(d) Minimize environmental deterioration,

(e) Are available to the public at nominal cost, and

(f) Meet needs of visitors to the state.

8. Unique areas or resources capable of meeting one or more specific recreational needs requirements should be inventoried and protected or acquired.

9. All state and federal agencies developing recreation plans should allow for review of recreation plans by affected local agencies.

10. Comprehensive plans should be designed to give a high priority to enhancing recreation opportunities on the public waters and shorelands of the state especially on existing and potential state and federal wild and scenic waterways, and Oregon Recreation Trails.

11. Plans that provide for satisfying the recreation needs of persons in the planning area should consider as a major determinant, the carrying capacity of the air, land and water resources of the planning area. The land conservation and development actions provided for by such plans should not exceed the carrying capacity of such resources.

B. IMPLEMENTATION

Plans should take into account various techniques in addition to fee acquisition such as easements, cluster developments, preferential assessments, development rights acquisition, subdivision park land dedication that benefits the subdivision, and similar techniques to meet recreation requirements through tax policies, land leases, and similar programs.

C. RESORT SITING

Measures should be adopted to minimize the adverse environmental effects of resort development on the site, particularly in areas subject to natural hazards. Plans and ordinances should prohibit or discourage alterations and structures in the 100 year floodplain and on slopes exceeding 25 percent. Uses and alterations that are appropriate for these areas include:

1. Minor drainage improvements that do not significantly impact important natural features of the site;
2. Roads, bridges and utilities where there are no feasible alternative locations on the site; and
3. Outdoor recreation facilities including golf courses, bike paths, trails, boardwalks, picnic tables, temporary open sided shelters, boating facilities, ski lifts and runs. Alterations and structures permitted in these areas should be adequately protected from geologic hazards or of minimal value and designed to minimize adverse environmental effects.

Oregon's Statewide Planning Goals & Guidelines

GOAL 9: ECONOMIC DEVELOPMENT

OAR 660-015-0000(9)

To provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare, and prosperity of Oregon's citizens.

Comprehensive plans and policies shall contribute to a stable and healthy economy in all regions of the state. Such plans shall be based on inventories of areas suitable for increased economic growth and activity after taking into consideration the health of the current economic base; materials and energy availability and cost; labor market factors; educational and technical training programs; availability of key public facilities; necessary support facilities; current market forces; location relative to markets; availability of renewable and non-renewable resources; availability of land; and pollution control requirements.

Comprehensive plans for urban areas shall:

1. Include an analysis of the community's economic patterns, potentialities, strengths, and deficiencies as they relate to state and national trends;
2. Contain policies concerning the economic development opportunities in the community;
3. Provide for at least an adequate supply of sites of suitable sizes, types, locations, and service levels for a variety of industrial and commercial uses consistent with plan policies;
4. Limit uses on or near sites zoned for specific industrial and commercial uses to those which are compatible with proposed uses.

In accordance with ORS 197.180 and Goal 2, state agencies that issue permits affecting land use shall identify in their coordination programs how they will coordinate permit issuance with other state agencies, cities and counties.

GUIDELINES

A. PLANNING

1. A principal determinant in planning for major industrial and commercial developments should be the comparative advantage of the region within which the developments would be located. Comparative advantage industries are those economic activities which represent the most efficient use of resources, relative to other geographic areas.
2. The economic development projections and the comprehensive plan which is drawn from the projections should take into account the availability of the necessary natural resources to support the expanded industrial development and associated populations. The plan should also take into account the social, environmental, energy, and economic impacts upon the resident population.

3. Plans should designate the type and level of public facilities and services appropriate to support the degree of economic development being proposed.

4. Plans should strongly emphasize the expansion of and increased productivity from existing industries and firms as a means to strengthen local and regional economic development.

5. Plans directed toward diversification and improvement of the economy of the planning area should consider as a major determinant, the carrying capacity of the air, land and water resources of the planning area. The land conservation and development actions provided for by such plans should not exceed the carrying capacity of such resources.

B. IMPLEMENTATION

1. Plans should take into account methods and devices for overcoming certain regional conditions and deficiencies for implementing this goal, including but not limited to

(1) tax incentives and disincentives;
(2) land use controls and ordinances;
(3) preferential assessments;
(4) capital improvement programming; and
(5) fee and less-than-fee acquisition techniques.

2. Plans should provide for a detailed management program to assign respective implementation roles and responsibilities to those private and governmental bodies which operate in the planning area and have interests in carrying out this goal and in supporting and coordinating regional and local economic plans and programs.

Oregon's Statewide Planning Goals & Guidelines

GOAL 10: HOUSING

OAR 660-015-0000(10)

To provide for the housing needs of citizens of the state.

Buildable lands for residential use shall be inventoried and plans shall encourage the availability of adequate numbers of needed housing units at price ranges and rent levels which are commensurate with the financial capabilities of Oregon households and allow for flexibility of housing location, type and density.

Buildable Lands -- refers to lands in urban and urbanizable areas that are suitable, available and necessary for residential use.

Government-Assisted Housing -- means housing that is financed in whole or part by either a federal or state housing agency or a local housing authority as defined in ORS 456.005 to 456.720, or housing that is occupied by a tenant or tenants who benefit from rent supplements or housing vouchers provided by either a federal or state housing agency or a local housing authority.

Household -- refers to one or more persons occupying a single housing unit.

Manufactured Homes -- means structures with a Department of Housing and Urban Development (HUD) label certifying that the structure is constructed in accordance with the National Manufactured Housing Construction and Safety Standards Act of 1974 (42 USC 5401 et seq.), as amended on August 22, 1981.

Needed Housing Units -- means housing types determined to meet the need shown for housing within an urban growth boundary at particular price ranges and rent levels. On and after the beginning of the first periodic review of a local government's acknowledged comprehensive plan, "needed housing units" also includes government-assisted housing. For cities having populations larger than 2,500 people and counties having populations larger than 15,000 people, "needed housing units" also includes (but is not limited to) attached and detached single-family housing, multiple-family housing, and manufactured homes, whether occupied by owners or renters.

GUIDELINES

A. PLANNING

1. In addition to inventories of buildable lands, housing elements of a comprehensive plan should, at a minimum, include: (1) a comparison of the distribution of the existing population by income with the distribution of available housing units by cost; (2) a determination of vacancy rates, both overall and at varying rent ranges and cost levels; (3) a determination of expected housing demand at varying rent ranges and cost levels; (4) allowance for a variety of densities and types of residences in each community; and (5) an inventory of sound housing in urban areas including units capable of being rehabilitated.

2. Plans should be developed in a manner that insures the provision of appropriate types and amounts of land within urban growth boundaries. Such land should be necessary and suitable for housing that meets the housing needs of households of all income levels.

3. Plans should provide for the appropriate type, location and phasing of public facilities and services sufficient to support housing development in areas presently developed or undergoing development or redevelopment.

4. Plans providing for housing needs should consider as a major determinant the carrying capacity of the air, land and water resources of the planning area. The land conservation and development actions provided for by such plans should not exceed the carrying capacity of such resources.

B. IMPLEMENTATION

1. Plans should provide for a continuing review of housing need projections and should establish a process for accommodating needed revisions.

2. Plans should take into account the effects of utilizing financial incentives and resources to (a) stimulate the rehabilitation of substandard housing without regard to the financial capacity of the owner so long as benefits accrue to the occupants; and (b) bring into compliance with codes adopted to assure safe and sanitary housing the dwellings of individuals who cannot on their own afford to meet such codes.

3. Decisions on housing development proposals should be expedited when such proposals are in accordance with zoning ordinances and with provisions of comprehensive plans.

4. Ordinances and incentives should be used to increase population densities in urban areas taking into consideration (1) key facilities, (2) the economic, environmental, social and energy consequences of the proposed densities and (3) the optimal use of existing urban land particularly in sections containing significant amounts of unsound substandard structures.

5. Additional methods and devices for achieving this goal should, after consideration of the impact on lower income households, include, but not be limited to: (1) tax incentives and disincentives; (2) building and construction code revision; (3) zoning and land use controls; (4) subsidies and loans; (5) fee and less-than-fee acquisition techniques; (6) enforcement of local health and safety codes; and (7) coordination of the development of urban facilities and services to disperse low income housing throughout the planning area.

6. Plans should provide for a detailed management program to assign respective implementation roles and responsibilities to those governmental bodies operating in the planning area and having interests in carrying out the goal.

Oregon's Statewide Planning Goals & Guidelines

GOAL 11: PUBLIC FACILITIES AND SERVICES

OAR 660-015-0000(11)

To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.

Urban and rural development shall be guided and supported by types and levels of urban and rural public facilities and services appropriate for, but limited to, the needs and requirements of the urban, urbanizable, and rural areas to be served. A provision for key facilities shall be included in each plan. Cities or counties shall develop and adopt a public facility plan for areas within an urban growth boundary containing a population greater than 2,500 persons. To meet current and long-range needs, a provision for solid waste disposal sites, including sites for inert waste, shall be included in each plan.

Counties shall develop and adopt community public facility plans regulating facilities and services for certain unincorporated communities outside urban growth boundaries as specified by Commission rules.

Local Governments shall not allow the establishment or extension of sewer systems outside urban growth boundaries or unincorporated community boundaries, or allow extensions of sewer lines from within urban growth boundaries or unincorporated community boundaries to serve land outside those boundaries, except where the new or extended system is the only practicable alternative to mitigate a public health hazard and will not adversely affect farm or forest land.

Local governments may allow residential uses located on certain rural residential lots or parcels inside existing sewer district or sanitary authority boundaries to connect to an existing sewer line under the terms and conditions specified by Commission rules.

Local governments shall not rely upon the presence, establishment, or extension of a water or sewer system to allow residential development of land outside urban growth boundaries or unincorporated community boundaries at a density higher than authorized without service from such a system.

In accordance with ORS 197.180 and Goal 2, state agencies that provide funding for transportation, water supply, sewage and solid waste facilities shall identify in their coordination programs how they will coordinate that funding with other state agencies and with the public facility plans of cities and counties.

A Timely, Orderly, and Efficient Arrangement – refers to a system or plan that coordinates the type, locations and delivery of public facilities and services in a manner that best supports the existing and proposed land uses.

Rural Facilities and Services – refers to facilities and services suitable and appropriate solely for the needs of rural lands.

Urban Facilities and Services – Refers to key facilities and to appropriate types and levels of at least the following: police protection; sanitary facilities; storm drainage facilities; planning, zoning and subdivision control; health services; recreation facilities and services; energy and communication services; and community governmental services.

Public Facilities Plan – A public facility plan is a support document or documents to a comprehensive plan. The facility plan describes the water, sewer and transportation facilities which are to support the land uses designated in the appropriate acknowledged comprehensive plan or plans within an urban growth boundary containing a population greater than 2,500.

Community Public Facilities Plan – A support document or documents to a comprehensive plan applicable to specific unincorporated communities outside UGBs. The community public facility plan describes the water and sewer services and facilities which are to support the land uses designated in the plan for the unincorporated community.

Water system – means a system for the provision of piped water for human consumption subject to regulation under ORS 448.119 to 448.285.

Extension of a sewer or water system – means the extension of a pipe, conduit, pipeline, main, or other physical component from or to an existing sewer or water system, as defined by Commission rules.

GUIDELINES

A. PLANNING

1. Plans providing for public facilities and services should be coordinated with plans for designation of urban boundaries, urbanizable land, rural uses and for the transition of rural land to urban uses.
2. Public facilities and services for rural areas should be provided at levels appropriate for rural use only and should not support urban uses.
3. Public facilities and services in urban areas should be provided at levels necessary and suitable for urban uses.
4. Public facilities and services in urbanizable areas should be provided at levels necessary and suitable for existing uses. The provision for future public facilities and services in these areas should be based upon: (1) the time required to provide the service; (2) reliability of service; (3) financial cost; and (4) levels of service needed and desired.
5. A public facility or service should not be provided in an urbanizable area unless there is provision for the coordinated development of all the other urban facilities and services appropriate to that area.
6. All utility lines and facilities should be located on or adjacent to existing public or private rights-of-way to avoid dividing existing farm units.
7. Plans providing for public facilities and services should consider as a major determinant the carrying capacity of the air, land and water resources of the planning area. The land

conservation and development action provided for by such plans should not exceed the carrying capacity of such resources.

B. IMPLEMENTATION

1. Capital improvement programming and budgeting should be utilized to achieve desired types and levels of public facilities and services in urban, urbanizable and rural areas.

2. Public facilities and services should be appropriate to support sufficient amounts of land to maintain an adequate housing market in areas undergoing development or redevelopment.

3. The level of key facilities that can be provided should be considered as a principal factor in planning for various densities and types of urban and rural land uses.

4. Plans should designate sites of power generation facilities and the location of electric transmission lines in areas intended to support desired levels of urban and rural development.

5. Additional methods and devices for achieving desired types and levels of public facilities and services should include but not be limited to the following: (1) tax incentives and disincentives; (2) land use controls and ordinances; (3) multiple use and joint development practices; (4) fee and less-than-fee acquisition techniques; and (5) enforcement of local health and safety codes.

6. Plans should provide for a detailed management program to assign respective implementation roles and responsibilities to those governmental bodies operating in the planning area and having interests in carrying out the goal

Oregon's Statewide Planning Goals & Guidelines

GOAL 12: TRANSPORTATION

OAR 660-015-0000(12)

To provide and encourage a safe, convenient and economic transportation system.

A transportation plan shall (1) consider all modes of transportation including mass transit, air, water, pipeline, rail, highway, bicycle and pedestrian; (2) be based upon an inventory of local, regional and state transportation needs; (3) consider the differences in social consequences that would result from utilizing differing combinations of transportation modes; (4) avoid principal reliance upon any one mode of transportation; (5) minimize adverse social, economic and environmental impacts and costs; (6) conserve energy; (7) meet the needs of the transportation disadvantaged by improving transportation services; (8) facilitate the flow of goods and services so as to strengthen the local and regional economy; and (9) conform with local and regional comprehensive land use plans. Each plan shall include a provision for transportation as a key facility.

Transportation -- refers to the movement of people and goods.

Transportation Facility -- refers to any physical facility that moves or assists in the movement of people and goods excluding electricity, sewage and water.

Transportation System -- refers to one or more transportation facilities that are planned, developed, operated and maintained in a coordinated manner to supply continuity of movement between modes, and within and between geographic and jurisdictional areas.

Mass Transit -- refers to any form of passenger transportation which carries members of the public on a regular and continuing basis.

Transportation Disadvantaged -- refers to those individuals who have difficulty in obtaining transportation because of their age, income, physical or mental disability.

GUIDELINES

A. PLANNING

1. All current area-wide transportation studies and plans should be revised in coordination with local and regional comprehensive plans and submitted to local and regional agencies for review and approval.

2. Transportation systems, to the fullest extent possible, should be planned to utilize existing facilities and rights-of-way within the state provided that such use is not inconsistent with the environmental, energy, land-use, economic or social policies of the state.

3. No major transportation facility should be planned or developed outside urban boundaries on Class 1 and II agricultural land, as defined by the U.S. Soil Conservation Service unless no feasible alternative exists.

4. Major transportation facilities should avoid dividing existing economic farm units and urban social units unless no feasible alternative exists.

5. Population densities and peak hour travel patterns of existing and planned developments should be considered in the choice of transportation modes for trips taken by persons. While high density developments with concentrated trip origins and destinations should be designed to be principally served by mass transit,

low-density developments with dispersed origins and destinations should be principally served by the auto.

6. Plans providing for a transportation system should consider as a major determinant the carrying capacity of the air, land and water resources of the planning area. The land conservation and development actions provided for by such plans should not exceed the carrying capacity of such resources.

B. IMPLEMENTATION

1. The number and location of major transportation facilities should conform to applicable state or local land use plans and policies designed to direct urban expansion to areas identified as necessary and suitable for urban development. The planning and development of transportation facilities in rural areas should discourage urban growth while providing transportation service necessary to sustain rural and recreational uses in those areas so designated in the comprehensive plan.

2. Plans for new or for the improvement of major transportation facilities should identify the positive and negative impacts on: (1) local land use patterns, (2) environmental quality, (3) energy use and resources, (4) existing transportation systems and (5) fiscal resources in a manner sufficient to enable local governments to rationally consider the issues posed by the construction and operation of such facilities.

3. Lands adjacent to major mass transit stations, freeway interchanges, and other major air, land and water terminals should be managed and controlled so as to be consistent with and supportive of the land use and development patterns identified in the comprehensive plan of the jurisdiction within which the facilities are located.

4. Plans should provide for a detailed management program to assign respective implementation roles and responsibilities to those governmental bodies operating in the planning area and having interests in carrying out the goal.

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GOAL 13: ENERGY CONSERVATION

OAR 660-015-0000(13)

To conserve energy.

Land and uses developed on the land shall be managed and controlled so as to maximize the conservation of all forms of energy, based upon sound economic principles.

GUIDELINES

A. PLANNING

1. Priority consideration in land use planning should be given to methods of analysis and implementation measures that will assure achievement of maximum efficiency in energy utilization.
2. The allocation of land and uses permitted on the land should seek to minimize the depletion of non-renewable sources of energy.
3. Land use planning should, to the maximum extent possible, seek to recycle and re-use vacant land and those uses which are not energy efficient.
4. Land use planning should, to the maximum extent possible, combine increasing density gradients along high capacity transportation corridors to achieve greater energy efficiency.
5. Plans directed toward energy conservation within the planning area should consider as a major determinant the existing and potential capacity of the renewable energy sources to yield useful energy output. Renewable energy sources include water, sunshine, wind, geothermal heat and municipal, forest and farm waste. Whenever possible, land conservation and development actions provided for under such plans should utilize renewable energy sources.

B. IMPLEMENTATION

1. Land use plans should be based on utilization of the following techniques and implementation devices which can have a material impact on energy efficiency:
   a. Lot size, dimension, and siting controls;
   b. Building height, bulk and surface area;
   c. Density of uses, particularly those which relate to housing densities;
   d. Availability of light, wind and air;
   e. Compatibility of and competition between competing land use activities; and
   f. Systems and incentives for the collection, reuse and recycling of metallic and nonmetallic waste.

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GOAL 14: URBANIZATION

OAR 660-015-0000(14)

(Amendments effective April 28, 2006)

To provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities.

Urban Growth Boundaries

Urban growth boundaries shall be established and maintained by cities, counties and regional governments to provide land for urban development needs and to identify and separate urban and urbanizable land from rural land. Establishment and change of urban growth boundaries shall be a cooperative process among cities, counties and, where applicable, regional governments. An urban growth boundary and amendments to the boundary shall be adopted by all cities within the boundary and by the county or counties within which the boundary is located, consistent with intergovernmental agreements, except for the Metro regional urban growth boundary established pursuant to ORS chapter 268, which shall be adopted or amended by the Metropolitan Service District.

Land Need

Establishment and change of urban growth boundaries shall be based on the following:

(1) Demonstrated need to accommodate long range urban population, consistent with a 20-year population forecast coordinated with affected local governments; and

(2) Demonstrated need for housing, employment opportunities, livability or uses such as public facilities, streets and roads, schools, parks or open space, or any combination of the need categories in this subsection (2).

In determining need, local government may specify characteristics, such as parcel size, topography or proximity, necessary for land to be suitable for an identified need.

Prior to expanding an urban growth boundary, local governments shall demonstrate that needs cannot reasonably be accommodated on land already inside the urban growth boundary.

Boundary Location

The location of the urban growth boundary and changes to the boundary shall be determined by evaluating alternative boundary locations consistent with ORS 197.298 and with consideration of the following factors:

(1) Efficient accommodation of identified land needs;

(2) Orderly and economic provision of public facilities and services;

(3) Comparative environmental, energy, economic and social consequences; and

(4) Compatibility of the proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB.

Urbanizable Land

Land within urban growth boundaries shall be considered available for urban development consistent with plans for the provision of urban facilities and services. Comprehensive plans and implementing measures shall manage the use and division of urbanizable land to maintain its potential for planned urban development until appropriate public facilities and services are available or planned.

Unincorporated Communities

In unincorporated communities outside urban growth boundaries counties may approve uses, public facilities and services more intensive than allowed on rural lands by Goal 11 and 14, either by exception to those goals, or as provided by commission rules which ensure such uses do not adversely affect agricultural and forest operations and interfere with the efficient functioning of urban growth boundaries.

Single-Family Dwellings in Exception Areas

Notwithstanding the other provisions of this goal, the commission may by rule provide that this goal does not prohibit the development and use of one single-family dwelling on a lot or parcel that:

(a) Was lawfully created;

(b) Lies outside any acknowledged urban growth boundary or unincorporated community boundary;

(c) Is within an area for which an exception to Statewide Planning Goal 3 or 4 has been acknowledged; and

(d) Is planned and zoned primarily for residential use.

Rural Industrial Development

Notwithstanding other provisions of this goal restricting urban uses on rural land, a county may authorize industrial development, and accessory uses subordinate to the industrial development, in buildings of any size and type, on certain lands outside urban growth boundaries specified in ORS 197.713 and 197.714, consistent with the requirements of those statutes and any applicable administrative rules adopted by the Commission.

GUIDELINES

A. PLANNING

1. Plans should designate sufficient amounts of urbanizable land to accommodate the need for further urban expansion, taking into account (1) the growth policy of the area; (2) the needs of the forecast population; (3) the carrying capacity of the planning area; and (4) open space and recreational needs.

2. The size of the parcels of urbanizable land that are converted to urban land should be of adequate dimension so as to maximize the utility of the land resource and enable the logical and efficient extension of services to such parcels.

3. Plans providing for the transition from rural to urban land use should take into consideration as to a major determinant the carrying capacity of the air, land and water resources of the planning area. The land conservation and development actions provided for by such plans should not exceed the carrying capacity of such resources.

4. Comprehensive plans and implementing measures for land inside urban growth boundaries should encourage the efficient use of land and the development of livable communities.

B. IMPLEMENTATION

1. The type, location and phasing of public facilities and services are factors

which should be utilized to direct urban expansion.

2. The type, design, phasing and location of major public transportation facilities (i.e., all modes: air, marine, rail, mass transit, highways, bicycle and pedestrian) and improvements thereto are factors which should be utilized to support urban expansion into urbanizable areas and restrict it from rural areas.

3. Financial incentives should be provided to assist in maintaining the use and character of lands adjacent to urbanizable areas.

4. Local land use controls and ordinances should be mutually supporting, adopted and enforced to integrate the type, timing and location of public facilities and services in a manner to accommodate increased public demands as urbanizable lands become more urbanized.

5. Additional methods and devices for guiding urban land use should include but not be limited to the following: (1) tax incentives and disincentives; (2) multiple use and joint development practices; (3) fee and less-than-fee acquisition techniques; and (4) capital improvement programming.

6. Plans should provide for a detailed management program to assign respective implementation roles and responsibilities to those governmental bodies operating in the planning area and having interests in carrying out the goal.

Oregon's Statewide Planning Goals & Guidelines

GOAL 15: WILLAMETTE RIVER GREENWAY

OAR 660-015-0005

To protect, conserve, enhance and maintain the natural, scenic, historical, agricultural, economic and recreational qualities of lands along the Willamette River as the Willamette River Greenway.

A. GENERAL

1. The qualities of the Willamette River Greenway shall be protected, conserved, enhanced and maintained consistent with the lawful uses present on December 6, 1975. Intensification of uses, changes in use or developments may be permitted after this date only when they are consistent with the Willamette Greenway Statute, this goal, the interim goals in ORS 215.515(1) and the statewide planning goals, as the case may be, and when such changes have been approved as provided in the Preliminary Greenway Plan or similar provisions in the completed plan as appropriate.

2. The Willamette Greenway Program shall be composed of cooperative local and state government plans for the protection, conservation, enhancement and maintenance of the Greenway, and of implementation measures including management through ordinances, rules, regulations, permits, grants as well as acquisition and development of property, etc. It shall also become a part of all other local and state plans and programs within and near the Greenway.

3. The Greenway Program shall include:

a. Boundaries within which special Greenway considerations shall be taken into account;

b. Management of uses on lands within and near the Greenway to maintain the qualities of the Greenway;

c. Acquisition of lands or interests in lands from a donor or willing seller or as otherwise provided by law in areas where the public's need can be met by public ownership.

B. INVENTORIES AND DATA

Information and data shall be collected to determine the nature and extent of the resources, uses and rights associated directly with the Willamette River Greenway. These inventories are for the purpose of determining which lands are suitable or necessary for inclusion within the Willamette River Greenway Boundaries and to develop the plans and management and acquisition programs.

Each of the following items shall be inventoried[1] as it relates to the Greenway objectives:

1. All agricultural lands as provided in Goal 3. This includes all land currently in farm use as defined in ORS Chapter 215.203(2);

2. All current aggregate excavation and processing sites, and all known extractable aggregate sources;

[1] When information on such items is not available through previous studies, information will be maintained by the agencies for those portions of the plan for which they are responsible. This requirement shall not limit units of government from collecting information on other items.

3. All current public recreation sites, including public access points to the river and hunting and fishing areas;

4. Historical and archaeological sites;

5. Timber resources;

6. Significant natural and scenic areas, and vegetative cover;

7. Fish and wildlife habitats;

8. Areas of annual flooding and flood plains;

9. Land currently committed to industrial, commercial and residential uses;

10. The ownership of property, including riparian rights;

11. Hydrological conditions;

12. Ecologically fragile areas;

13. Recreational needs as set forth in Goal 8;

14. Other uses of land and water in or near the Greenway;

15. Acquisition areas which include the identification of areas suitable for protection or preservation through public acquisition of lands or an interest in land. Such acquisition areas shall include the following:

a. Areas which may suitably be protected by scenic easements;

b. Scenic and recreational land for exclusive use of the public;

c. Sites for the preservation and restoration of historic places;

d. Public access corridor;

e. Public parks;

f. Ecologically fragile areas; and

g. Other areas which are desirable for public acquisition may also be identified if the reasons for public acquisition for the Greenway are also identified.

C. CONSIDERATIONS AND REQUIREMENTS

The Oregon Department of Transportation (DOT) Greenway Plan, the portions of each city and county comprehensive plan within the Greenway, and the portions of plans and programs and implementation measures of all special districts, state and federal agencies within the Greenway shall be based on the following factors:

1. **General Considerations and Requirements**

a. Statutory requirements in ORS Chapter 390.010 to 390.220 and in ORS Chapter 390.310 to 390.368;

b. City, county and regional comprehensive plans adopted pursuant to ORS Chapter 197 for jurisdictions along the river;

c. Statewide planning goals and guidelines adopted pursuant to ORS Chapter 197 by LCDC;

d. Interim goals set forth in ORS Chapter 215.515(1).

2. **Boundary Considerations and Requirements**.[2]

The temporary and preliminary Greenway boundaries shall be reviewed as to their appropriateness and refined as needed based on the information contained in the inventories. The refined boundaries shall include such lands along the Willamette River as are necessary to carry out the purpose and intent of the Willamette River Greenway through a coordinated management and acquisition program.

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[2] See ORS Chapter 390.318(1) for specific statutory language…"There shall be include within the boundaries of the Willamette River Greenway all lands situation with 150 feet from the ordinary low water line on each side of each channel of the Willamette River and such other lands along the Willamette River as the development of such Greenway; however, the total area included within the boundaries of such Greenway shall not exceed, on the average, 320 acres per river mile along the Willamette River, however, for the purpose of computing the maximum acreage of lands within such Greenway, the acreage of lands situated on such islands and within state parks and recreation areas shall be excluded."

Within farm areas, consideration shall be given to the ability of agricultural land adjacent to the Willamette River Greenway to enhance and protect the Greenway.

3. Use Management Considerations and Requirements. Plans and implementation measures shall provide for the following:

a. **Agricultural lands** -- The agricultural lands identified in the inventory shall be preserved and maintained as provided in Goal 3 as an effective means to carry out the purposes of the Greenway including those agricultural lands near the Greenway. Lands devoted to farm use which are not located in an exclusive farm use zone shall be allowed to continue in such farm use without restriction as provided in ORS 390.314(2)(c), ORS 390.332(4) and ORS 390.334(2);

b. **Recreation** --

(1) Local, regional and state recreational needs shall be provided for consistent with the carrying capacity of the land;

(2) Zoning provisions shall allow recreational uses on lands to the extent that such use would not substantially interfere with the long-term capacity of the land for farm use are defined in ORS 215.203;

(3) The possibility that public recreation use might disturb adjacent property shall be considered and minimized to the greatest extent practicable;

(4) The public parks established by section 8a of Chapter 558, 1973 Oregon Laws, shall be set forth in Oregon Laws, shall be set forth on the appropriate comprehensive plans and zoning established which will permit their development, use and maintenance;

c. **Access** -- Adequate public access to the river shall be provided for, with emphasis on urban and urbanizable areas;

d. **Fish and wildlife habitat** -- Significant fish and wildlife habitats shall be protected;

e. **Scenic qualities and views** -- identified scenic qualities and viewpoints shall be preserved;

f. **Protection and safety** -- The Willamette River Greenway Program shall provide for the maintenance of public safety and protection of public and private property, especially from vandalism and trespass in both rural and urban areas to the maximum extent practicable;

g. **Vegetative fringe** -- The natural vegetative fringe along the River shall be enhanced and protected to the maximum extent practicable;

h. **Timber resource** -- The partial harvest of timber shall be permitted beyond the vegetative fringes in areas not covered by a scenic easement when the harvest is consistent with an approved plan under the Forest Practices Act, or, if not covered by the Forest Practices Act, then with an approved plan under the Greenway compatibility review provisions. Such plan shall insure that the natural scenic qualities of the Greenway will be maintained to the greatest extent practicable or restored within a brief period of time;

i. **Aggregate extraction** -- Extraction of known aggregate deposits may be permitted when compatible with the purposes of the Willamette River Greenway and when economically feasible, subject to compliance with

ORS 541.605 to 541.695; ORS 517.750 to 517.900 and subject to compliance with local regulations designed to minimize adverse effects on water quality, fish and wildlife, vegetation, bank stabilization, streamflow, visual quality, noise, safety and to guarantee necessary reclamation;

j. **Development away from river** -- Developments shall be directed away from the river to the greatest possible degree; provided, however, lands committed to urban uses within the Greenway shall be permitted to continue as urban uses, including port, industrial, commercial and residential uses, uses pertaining to navigational requirements, water and land access needs and related facilities;

k. **Greenway setback** -- A setback line will be established to keep structures separated from the river in order to protect, maintain preserve and enhance the natural, scenic, historic and recreational qualities of the Willamette River Greenway, as identified in the Greenway Inventories. The setback line shall not apply to water-related or water-dependent uses.

4. Areas to be Acquired -- Considerations and Requirements

Areas to be acquired must:

a. Have potential to serve the purposes of the Greenway;

b. To the maximum extent practicable, be consistent with non-interference or non-interruption of farm uses as defined in ORS Chapter 215.203(2);

c. Be suitable for permitting the enforcement of existing statutes relating to trespass and vandalism along the Greenway, and be suitable for allowing maintenance of the lands or interests acquired.

D. DOT GREENWAY PLAN

The DOT will prepare and keep current, through appropriate revisions, a Greenway Plan setting forth the state interests in the Greenway. The plan will show:

1. The boundaries of the Willamette River Greenway;

2. The boundaries of the areas in which interests in property may be acquired. These shall be depicted clearly on maps or photographs together with the nature of the acquisition such as fee title or scenic easement; the general public purposes of each such area, and the conditions under which such acquisition may occur.

3. Use Intensity Classifications for the areas acquired by the State for Greenway purposes; and

4. The locations of public access, either already existing or to be acquired.

The DOT plan or revision thereto will be reviewed by the Land Conservation and Development Commission (LCDC) as provided in ORS 390.322. When the Commission has determined that the revision is consistent with the statutes and this goal it shall approve the plan for recording.

E. COMPREHENSIVE PLANS OF CITIES AND COUNTIES

Each city and county in which the Willamette River Greenway is located, shall incorporate the portions of the approved DOT Greenway Plan in its comprehensive plan and implementing ordinances and other implementation measures.

1. **Boundaries**: Boundaries of the approved Willamette River Greenway shall be shown on every comprehensive plan.

2. **Uses**: Each comprehensive plan shall designate the uses to be permitted for the rural and urban areas of each jurisdiction, which uses shall be consistent with the approved DOT Greenway Plan, the Greenway Statutes and this Goal.

3. **Acquisition Areas**: Each comprehensive plan shall designate areas identified for possible public acquisition and the conditions under which such acquisition may occur as set forth in the approved DOT Willamette Greenway Plan and any other area which the city or county intends to acquire.

F. IMPLEMENTATION MEASURES

Implementation of the Greenway Program shall occur through the cooperative efforts of state and local units of government and shall be consistent with the approved DOT Greenway Plan and the city and county comprehensive plans, the goals and appropriate statutes.

1. **Boundaries**: Willamette River Greenway boundaries shall be shown on city and county zoning maps and referred to in the zoning ordinance and the subdivision ordinance.

2. **Uses**: Measures for managing uses within the Greenway shall include at least:

a. Exclusive farm use zoning of all agricultural land within and adjacent to the Greenway;

b. Flood plain zoning of all areas subject to flooding;

c. Open space zoning (see ORS Chapter 308.740) of all open space areas; and

d. Provisions for the use management considerations and requirements set forth in C3 of this Goal.

3. **Greenway Compatibility Review**: Cities and counties shall establish provisions by ordinance for the review of intensifications, changes of use or developments to insure their compatibility with the Willamette River Greenway. Such ordinances shall include the matters in ***a*** through ***e*** below:

a. The establishment of Greenway compatibility review boundaries adjacent to the river within which review of developments shall take place. Such boundaries in urban areas shall be not less than 150 feet from the ordinary low water line of the Willamette River; in rural areas such boundaries shall include all lands within the boundaries of the Willamette River Greenway;

b. The review of intensification, changes of use and developments as authorized by the Comprehensive Plan and zoning ordinance to insure their compatibility with the Greenway statutes and to insure that the best possible appearance, landscaping and public access are provided. Such review shall include the following findings, that to the greatest possible degree:

(1) The intensification, change of use or development will provide the maximum possible landscaped area, open space or vegetation between the activity and the river;

(2) Necessary public access will be provided to and along the river by appropriate legal means;

c. Provision is made for at least one public hearing on each application to allow any interested person an opportunity to speak;

d. Provision is made for giving notice of such hearing at least to owners of record of contiguous property and to

any individual or groups requesting notice; and

e. Provision is made to allow the imposing of conditions on the permit to carry out the purpose and intent of the Willamette River Greenway Statutes.

f. As an alternative to the review procedures in subparagraphs 3(a) to 3(e), a city or county governing body may prepare and adopt, after public hearing and notice thereof to DOT, a design plan and administrative review procedure for a portion of the Greenway. Such design plan must provide for findings equivalent to those required in subparagraphs 3(b)(1) and (2) of paragraph F so as to insure compatibility with the Greenway of proposed intensification, changes of use or developments. If this alternative procedure is adopted and approved by DOT and LCDC, a hearing will not be required on each individual application.

G. NOTICE OF PROPOSED INTENSIFICATION, CHANGE OF USE OR DEVELOPMENT

Government agencies, including cities, counties, state agencies, federal agencies, special districts, etc., shall not authorize or allow intensification, change of use or development on lands within the boundaries of the Willamette River Greenway compatibility review area established by cities and counties as required by paragraph F 3.a. without first giving written notice to the DOT by immediately forwarding a copy of any application by certified mail--return receipt requested. Notice of the action taken by federal, state, city, county, and special districts on an application shall be furnished to DOT.

H. AGENCY JURISDICTION

Nothing in this order is intended to interfere with the duties, powers and responsibilities vested by statute in agencies to control or regulate activities on lands or waters within the boundaries of the Greenway so long as the exercise of the authority is consistent with the legislative policy set forth in ORS 390.310 to 390.368 and the applicable statewide planning goal for the Willamette River Greenway, as the case may be. An agency receiving an application for a permit to conduct an activity on lands or waters within the Greenway shall immediately forward a copy of such request to the Department of Transportation.

I. DOT SCENIC EASEMENTS

Nothing in this Goal is intended to alter the authority of DOT to acquire property or a scenic easement therein as set forth in ORS 390.310 to 390.368.

J. TRESPASS BY PUBLIC

Nothing in this Goal is intended to authorize public use of private property. Public use of private property is a trespass unless appropriate easements and access have been acquired in allowance with law to authorize such use.

K. DEFINITIONS FOR WILLAMETTE RIVER GREENWAY GOAL

1. ***Change of Use*** means making a different use of the land or water than that which existed on December 6, 1975. It includes a change which requires construction, alterations of the land, water or other areas outside of existing buildings or structures and which substantially alters or affects the land or water. It does not include a change of use of a building or other structure which does not substantially

alter or affect the land or water upon which it is situated. Change of use shall not include the completion of a structure for which a valid permit had been issued as of December 6, 1975 and under which permit substantial construction has been undertaken by July 1, 1976. The sale of property is not in itself considered to be a change of use. An existing open storage area shall be considered to be the same as a building.

Landscaping, construction of driveways, modifications of existing structures, or the construction or placement of such subsidiary structures or facilities as are usual and necessary to the use and enjoyment of existing improvements shall not be considered a change of use for the purposes of this Goal.

2. ***Lands Committed to Urban Use*** means those lands upon which the economic, developmental and locational factors have, when considered together, made the use of the property for other than urban purposes inappropriate. Economic,developmental and locational factors include such matters as ports, industrial, commercial, residential or recreational uses of property; the effect these existing uses have on properties in their vicinity, previous public decisions regarding the land in question, as contained in ordinances and such plans as the Lower Willamette River Management Plan, the city or county comprehensive plans and similar public actions.

3. ***Intensification*** means any additions which increase or expand the area or amount of an existing use, or the level of activity. Remodeling of the exterior of a structure not excluded below is an intensification when it will substantially alter the appearance of the structure. Intensification shall not include the completion of a structure for which a valid permit was issued as of December 6, 1975 and under which permit substantial construction has been undertaken by July 1, 1976. Maintenance and repair usual and necessary for the continuance of an existing use is not an intensification of use. Reasonable emergency procedures necessary for the safety or the protection of property are not an intensification of use. Residential use of lands within the Greenway includes the practices and activities customarily related to the use and enjoyment of one's home. Landscaping, construction of driveways, modification of existing structures or construction or placement of such subsidiary structures or facilities adjacent to the residence as are usual and necessary to such use and enjoyment shall not be considered an intensification for the purposes of this Goal. Seasonal increases in gravel operations shall not be considered an intensification of use.

Oregon's Statewide Planning Goals & Guidelines

GOAL 16: ESTUARINE RESOURCES

OAR 660-015-0010(1)

To recognize and protect the unique environmental, economic, and social values of each estuary and associated wetlands; and

To protect, maintain, where appropriate develop, and where appropriate restore the long-term environmental, economic, and social values, diversity and benefits of Oregon's estuaries.

Comprehensive management programs to achieve these objectives shall be developed by appropriate local, state, and federal agencies for all estuaries.

To assure diversity among the estuaries of the State, by June 15, 1977, LCDC with the cooperation and participation of local governments, special districts, and state and federal agencies shall classify the Oregon estuaries to specify the most intensive level of development or alteration which may be allowed to occur within each estuary. After completion for all estuaries of the inventories and initial planning efforts, including identification of needs and potential conflicts among needs and goals and upon request of any coastal jurisdiction, the Commission will review the overall Oregon Estuary Classification.

Comprehensive plans and activities for each estuary shall provide for appropriate uses (including preservation) with as much diversity as is consistent with the overall Oregon Estuary Classification, as well as with the biological economic, recreational, and aesthetic benefits of the estuary. Estuary plans and activities shall protect the estuarine ecosystem, including its natural biological productivity, habitat, diversity, unique features and water quality.

The general priorities (from highest to lowest) for management and use of estuarine resources as implemented through the management unit designation and permissible use requirements listed below shall be:

1. Uses which maintain the integrity of the estuarine ecosystem;
2. Water-dependent uses requiring estuarine location, as consistent with the overall Oregon Estuary Classification;
3. Water-related uses which do not degrade or reduce the natural estuarine resources and values;
4. Nondependent, nonrelated uses which do not alter, reduce or degrade estuarine resources and values.

INVENTORY REQUIREMENTS

Inventories shall be conducted to provide information necessary for designating estuary uses and policies. These inventories shall provide information on the nature, location, and extent of physical, biological, social, and economic resources in sufficient detail to establish a sound basis for estuarine management and to enable the identification of areas for preservation and areas of exceptional potential for development.

State and federal agencies shall assist in the inventories of estuarine resources. The Department of Land Conservation and Development, with assistance from local government, state and federal agencies, shall establish common inventory standards and techniques, so that inventory data collected by different agencies or units of government, or data between estuaries, will be comparable.

COMPREHENSIVE PLAN REQUIREMENTS

Based upon inventories, the limits imposed by the overall Oregon Estuary Classification, and needs identified in the planning process, comprehensive plans for coastal areas shall:

1. Identify each estuarine area:
2. Describe and maintain the diversity of important and unique environmental, economic and social features within the estuary;
3. Classify the estuary into management units; and
4. Establish policies and use priorities for each management unit using the standards and procedures set forth below.
5. Consider and describe in the plan the potential cumulative impacts of the alterations and development activities envisioned. Such a description may be general but shall be based on the best available information and projections.

MANAGEMENT UNITS

Diverse resources, values, and benefits shall be maintained by classifying the estuary into distinct water use management units. When classifying estuarine areas into management units, the following shall be considered in addition to the inventories:

1. Adjacent upland characteristics and existing land uses;
2. Compatibility with adjacent uses;
3. Energy costs and benefits; and
4. The extent to which the limited water surface area of the estuary shall be committed to different surface uses.

As a minimum, the following kinds of management units shall be established:

1. ***Natural*** -- in all estuaries, areas shall be designated to assure the protection of significant fish and wildlife habitats, of continued biological productivity within the estuary, and of scientific, research, and educational needs. These shall be managed to preserve the natural resources in recognition of dynamic, natural, geological, and evolutionary processes. Such areas shall include, at a minimum, all major tracts of salt marsh, tideflats, and seagrass and algae beds.

Permissible uses in natural management units shall include the following:

a. undeveloped low-intensity, water-dependent recreation;
b. research and educational observations;
c. navigation aids, such as beacons and buoys;
d. protection of habitat, nutrient, fish, wildlife and aesthetic resources;
e. passive restoration measures;
f. dredging necessary for on-site maintenance of existing functional tidegates and associated drainage channels and bridge crossing support structures;

g. riprap for protection of uses existing as of October 7, 1977, unique natural resources, historical and archeological values; and public facilities; and

h. bridge crossings.

Where consistent with the resource capabilities of the area and the purposes of this management unit the following uses may be allowed:

a. aquaculture which does not involve dredge or fill or other estuarine alteration other than incidental dredging for harvest of benthic species or removable in-water structures such as stakes or racks;

b. communication facilities;

c. active restoration of fish and wildlife habitat or water quality and estuarine enhancement;

d. boat ramps for public use where no dredging or fill for navigational access is needed; and,

e. pipelines, cables and utility crossings, including incidental dredging necessary for their installation.

f. installation of tidegates in existing functional dikes.

g. temporary alterations.

h. bridge crossing support structures and dredging necessary for their installation.

A use or activity is consistent with the resource capabilities of the area when either the impacts of the use on estuarine species, habitats, biological productivity and water quality are not significant or that the resources of the area are able to assimilate the use and activity and their effects and continue to function in a manner to protect significant wildlife habitats, natural biological productivity, and values for scientific research and education.

2. ***Conservation*** -- In all estuaries, except those in the overall Oregon Estuary Classification which are classed for preservation, areas shall be designated for long-term uses of renewable resources that do not require major alteration of the estuary, except for the purpose of restoration. These areas shall be managed to conserve the natural resources and benefits. These shall include areas needed for maintenance and enhancement of biological productivity, recreational and aesthetic uses, and aquaculture. They shall include tracts of significant habitat smaller or of less biological importance than those in (1) above, and recreational or commercial oyster and clam beds not included in (1) above. Areas that are partially altered and adjacent to existing development of moderate intensity which do not possess the resource characteristics of natural or development units shall also be included in this classification.

Permissible uses in conservation management units shall be all uses listed in (1) above except temporary alterations.

Where consistent with the resource capabilities of the area and the purposes of this management unit the following uses may be allowed:

a. High-intensity water-dependent recreation, including boat ramps, marinas and new dredging for boat ramps and marinas;

b. Minor navigational improvements;

c. Mining and mineral extraction, including dredging necessary for mineral extraction;

d. Other water dependent uses requiring occupation of water surface area by means other than dredge or fill;

e. Aquaculture requiring dredge or fill or other alteration of the estuary;

f. Active restoration for purposes other than those listed in 1(d).

g. Temporary alterations.

A use or activity is consistent with the resource capabilities of the area when either the impacts of the use on estuarine species, habitats, biological productivity, and water quality are not significant or that the resources of the area are able to assimilate the use and activity and their effects and continue to function in a manner which conserves long-term renewable resources, natural biologic productivity, recreational and aesthetic values and aquaculture.

3. ***Development*** -- in estuaries classified in the overall Oregon Estuary Classification for more intense development or alteration, areas shall be designated to provide for navigation and other identified needs for public, commercial, and industrial water-dependent uses, consistent with the level of development or alteration allowed by the overall Oregon Estuary Classification. Such areas shall include deep-water areas adjacent or in proximity to the shoreline, navigation channels, subtidal areas for in-water disposal of dredged material and areas of minimal biological significance needed for uses requiring alterations of the estuary not included in (1) and (2) above.

Permissible uses in areas managed for water-dependent activities shall be navigation and water-dependent commercial and industrial uses.

As appropriate the following uses shall also be permissible in development management units:

a. Dredge or fill, as allowed elsewhere in the goal;

b. Navigation and water-dependent commercial enterprises and activities;

c. Water transport channels where dredging may be necessary;

d. Flow-lane disposal of dredged material monitored to assure that estuarine sedimentation is consistent with the resource capabilities and purposes of affected natural and conservation management units.

e. Water storage areas where needed for products used in or resulting from industry, commerce, and recreation;

f. Marinas.

Where consistent with the purposes of this management unit and adjacent shorelands designated especially suited for water-dependent uses or designated for waterfront redevelopment, water-related and nondependent, nonrelated uses not requiring dredge or fill; mining and mineral extraction; and activities identified in (1) and (2) above shall also be appropriate.

In designating areas for these uses, local governments shall consider the potential for using upland sites to reduce or limit the commitment of the estuarine surface area for surface uses.

IMPLEMENTATION REQUIREMENTS

1. Unless fully addressed during the development and adoption of comprehensive plans, actions which would potentially alter the estuarine ecosystem shall be preceded by a clear presentation of the impacts of the proposed alteration. Such activities include dredging, fill, in-water structures, riprap, log storage, application of pesticides and herbicides, water intake

or withdrawal and effluent discharge, flow-lane disposal of dredged material, and other activities which could affect the estuary's physical processes or biological resources.

The impact assessment need not be lengthy or complex, but it should enable reviewers to gain a clear understanding of the impacts to be expected. It shall include information on:

a. The type and extent of alterations expected;

b. The type of resource(s) affected;

c. The expected extent of impacts of the proposed alteration on water quality and other physical characteristics of the estuary, living resources, recreation and aesthetic use, navigation and other existing and potential uses of the estuary; and

d. The methods which could be employed to avoid or minimize adverse impacts.

2. Dredging and/or filling shall be allowed only:

a. If required for navigation or other water-dependent uses that require an estuarine location or if specifically allowed by the applicable management unit requirements of this goal; and,

b. If a need (i.e., a substantial public benefit) is demonstrated and the use or alteration does not unreasonably interfere with public trust rights; and

c. If no feasible alternative upland locations exist; and,

d. If adverse impacts are minimized.

Other uses and activities which could alter the estuary shall only be allowed if the requirements in (b), (c), and (d) are met. All or portions of these requirements may be applied at the time of plan development for actions identified in the plan. Otherwise, they shall be applied at the time of permit review.

3. State and federal agencies shall review, revise, and implement their plans, actions, and management authorities to maintain water quality and minimize man-induced sedimentation in estuaries. Local government shall recognize these authorities in managing lands rather than developing new or duplicatory management techniques or controls.

Existing programs which shall be utilized include:

a. The Oregon Forest Practices Act and Administrative Rules, for forest lands as defined in ORS 527.610-527.730 and 527.990 and the Forest Lands Goal;

b. The programs of the Soil and Water Conservation Commission and local districts and the Soil Conservation Service, for Agricultural Lands Goal;

c. The nonpoint source discharge water quality program administered by the Department of Environmental Quality under Section 208 of the Federal Water Quality Act as amended in 1972 (PL92-500); and

d. The Fill and Removal Permit Program administered by the Division of State Lands under ORS 541.605 - 541.665.

4. The State Water Policy Review Board, assisted by the staff of the Oregon Department of Water Resources, and the Oregon Department of Fish and Wildlife, the Oregon Department of Environmental Quality, the Division of State Lands, and the U.S. Geological Survey, shall consider establishing minimum fresh-water flow rates and standards so that resources and uses of the estuary, including navigation, fish and wildlife

characteristics, and recreation, will be maintained.

5. When dredge or fill activities are permitted in intertidal or tidal marsh areas, their effects shall be mitigated by creation, restoration or enhancement of another area to ensure that the integrity of the estuarine ecosystem is maintained. Comprehensive plans shall designate and protect specific sites for mitigation which generally correspond to the types and quantity of intertidal area proposed for dredging or filling, or make findings demonstrating that it is not possible to do so.

6. Local government and state and federal agencies shall develop comprehensive programs, including specific sites and procedures for disposal and stock-piling of dredged materials. These programs shall encourage the disposal of dredged material in uplands or ocean waters, and shall permit disposal in estuary waters only where such disposal will clearly be consistent with the objectives of this goal and state and federal law. Dredged material shall not be disposed in intertidal or tidal marsh estuarine areas unless part of an approved fill project.

7. Local government and state and federal agencies shall act to restrict the proliferation of individual single-purpose docks and piers by encouraging community facilities common to several uses and interests. The size and shape of a dock or pier shall be limited to that required for the intended use. Alternatives to docks and piers, such as mooring buoys, dryland storage, and launching ramps shall be investigated and considered.

8. State and federal agencies shall assist local government in identifying areas for restoration. Restoration is appropriate in areas where activities have adversely affected some aspect of the estuarine system, and where it would contribute to a greater achievement of the objective of this goal. Appropriate sites include areas of heavy erosion or sedimentation, degraded fish and wildlife habitat, anadromous fish spawning areas, abandoned diked estuarine marsh areas, and areas where water quality restricts the use of estuarine waters for fish and shellfish harvest and production, or for human recreation.

9. State agencies with planning, permit, or review authorities affected by this goal shall review their procedures and standards to assure that the objectives and requirements of the goal are fully addressed. In estuarine areas the following authorities are of special concern:

Division of State Lands

Fill and Removal Law ORS 541.605-541.665

Mineral Resources ORS 273.551; ORS 273.775 - 273.780

Submersible and Submerged Lands ORS 274.005 - 274.940

Economic Development Department

Ports Planning ORS 777.835

Water Resources Department

Appropriation of Water ORS 37.010-537.990; ORS 543.010-543.620

Department of Geology and Mineral Industries

Mineral Extraction ORS 520.005-
Oil and Gas Drilling ORS 520.095

Department of Forestry

Forest Practices Act ORS 527.610-527.730

Department of Energy

Regulation of Thermal Power and Nuclear Installation ORS 469.300-469.570

Department of Environmental Quality

Water Quality ORS 468.700-468.775

Sewage Treatment and Disposal Systems ORS 454.010-454.755

GUIDELINES

The requirements of the Estuarine Resources Goal should be addressed with the same consideration applied to previously adopted goals and guidelines. The planning process described in the Land Use Planning Goal (Goal 2), including the exceptions provisions described in Goal 2, applies to estuarine areas and implementation of the Estuarine Resources Goal.

Because of the strong relationship between estuaries and adjacent coastal shorelands, the inventories and planning requirements for these resources should be closely coordinated. These inventories and plans should also be fully coordinated with the requirements in other state planning goals, especially the Goals for Open Spaces, Scenic and Historic Areas and Natural Resources; Air, Water, and Land Resources Quality; Recreational Needs; Transportation; and Economy of the State.

A. INVENTORIES

In detail appropriate to the level of development or alteration proposed, the inventories for estuarine features should include:

1. Physical characteristics

a. Size, shape, surface area, and contour, including water depths;

b. Water characteristics including, but not limited to, salinity, temperature, and dissolved oxygen. Data should reflect average and extreme values for the months of March, June, September, and December as a minimum; and

c. Substrate mapping showing location and extent of rock, gravel, sand, and mud.

2. Biological characteristic--Location, Description, and Extent of:

a. The common species of benthic (living in or on bottom) flora and fauna;

b. The fish and wildlife species, including part-time residents;

c. The important resting, feeding, and nesting areas for migrating and resident shorebirds, wading birds and wildlife;

d. The areas important for recreational fishing and hunting, including areas used for clam digging and crabbing;

e. Estuarine wetlands;

f. Fish and shellfish spawning areas;

g. Significant natural areas; and

h. Areas presently in commercial aquaculture.

3. Social and economic characteristics--Location, Description, and Extent of:

a. The importance of the estuary to the economy of the area:

b. Existing land uses surrounding the estuary;

c. Man-made alterations of the natural estuarine system;

d. Water-dependent industrial and/or commercial enterprises;

e. Public access;

f. Historical or archaeological sites associated with the estuary; and

g. Existing transportation systems.

B. HISTORIC, UNIQUE, AND SCENIC WATERFRONT COMMUNITIES

Local government comprehensive plans should encourage the maintenance and enhancement of historic, unique, and scenic waterfront communities, allowing for nonwater-dependent uses as appropriate in keeping with such communities.

C. TRANSPORTATION

Local governments and state and federal agencies should closely coordinate and integrate navigation and port needs with shoreland and upland transportation facilities and the requirements of the Transportation Goal. The cumulative effects of such plans and facilities on the estuarine resources and values should be considered.

D. TEMPORARY ALTERATIONS

The provision for temporary alterations in the Goal is intended to allow alterations to areas and resources that the Goal otherwise requires to be preserved or conserved. This exemption is limited to alterations in support of uses permitted by the Goal; it is not intended to allow uses which are not otherwise permitted by the Goal.

Application of the resource capabilities test to temporary alterations should ensure:

1. That the short-term damage to resources is consistent with resource capabilities of the area; and

2. That the area and affected resources can be restored to their original condition.

Oregon s Statewide Planning Goals & Guidelines

GOAL 17: COASTAL SHORELANDS

OAR 660-015-0010(2)
(Please Note: Amended 08/05/99; Effective 08/20/99)

To conserve, protect, where appropriate, develop and where appropriate restore the resources and benefits of all coastal shorelands, recognizing their value for protection and maintenance of water quality, fish and wildlife habitat, water-dependent uses, economic resources and recreation and aesthetics. The management of these shoreland areas shall be compatible with the characteristics of the adjacent coastal waters; and

To reduce the hazard to human life and property, and the adverse effects upon water quality and fish and wildlife habitat, resulting from the use and enjoyment of Oregon's coastal shorelands.

Programs to achieve these objectives shall be developed by local, state, and federal agencies having jurisdiction over coastal shorelands.

Land use plans, implementing actions and permit reviews shall include consideration of the critical relationships between coastal shorelands and resources of coastal waters, and of the geologic and hydrologic hazards associated with coastal shorelands. Local, state and federal agencies shall within the limit of their authorities maintain the diverse environmental, economic, and social values of coastal shorelands and water quality in coastal waters. Within those limits, they shall also minimize man-induced sedimentation in estuaries, near shore ocean waters, and coastal lakes.

General priorities for the overall use of coastal shorelands (from highest to lowest) shall be to:

1. Promote uses which maintain the integrity of estuaries and coastal waters;
2. Provide for water-dependent uses;
3. Provide for water-related uses;
4. Provide for nondependent, nonrelated uses which retain flexibility of future use and do not prematurely or inalterably commit shorelands to more intensive uses;
5. Provide for development, including nondependent, nonrelated uses, in urban areas compatible with existing or committed uses;
6. Permit nondependent, nonrelated uses which cause a permanent or long-term change in the features of coastal shorelands only upon a demonstration of public need.

INVENTORY REQUIREMENTS

Inventories shall be conducted to provide information necessary for identifying coastal shorelands and designating uses and policies. These inventories shall provide information on the nature, location, and extent of geologic and hydrologic hazards and shoreland values, including fish and

wildlife habitat, water-dependent uses, economic resources, recreational uses, and aesthetics in sufficient detail to establish a sound basis for land and water use management.

The inventory requirements shall be applied within an area known as a coastal shorelands planning area. This planning area is not an area within which development or use is prohibited. It is an area for inventory, study, and initial planning for development and use to meet the Coastal Shorelands Goal.

The planning area shall be defined by the following:

1. All lands west of the Oregon Coast Highway as described in ORS 366.235, except that:

(a) In Tillamook County, only the lands west of a line formed by connecting the western boundaries of the following described roadways: Brooten Road (County Road 887) northerly from its junction with the Oregon Coast Highway to Pacific City, McPhillips Drive (County Road 915) northerly from Pacific City to its junction with Sandlake Road (County Road 871), Sandlake-Cape Lookout Road, (County Road 871) northerly to its junction with Cape Lookout Park, Netarts Bay Drive (County Road 665) northerly from its junction with the Sandlake-Cape Lookout Road (County Road 871) to its junction at Netarts with State Highway 131, and northerly along State Highway 131 to its junction with the Oregon Coast Highway near Tillamook.

(b) In Coos County, only the lands west of a line formed by connecting the western boundaries of the following described roadways: Oregon State 240, Cape Arago Secondary (FAS 263) southerly from its junction with the Oregon Coast Highway to Charleston; Seven Devils Road (County Road 33) southerly from its junction with Oregon State 240 (FAS 263) to its junction with the Oregon Coast Highway, near Bandon; and

2. All lands within an area defined by a line measured horizontally

(a) 1000 feet from the shoreline of estuaries; and

(b) 500 feet from the shoreline of coastal lakes.

COMPREHENSIVE PLAN REQUIREMENTS

Based upon inventories, comprehensive plans for coastal areas adjacent to the ocean, estuaries, or coastal lakes shall:

1. Identify coastal shorelands;

2. Establish policies and uses of coastal shorelands in accordance with standards set forth below:

Identification of Coastal Shorelands. Lands contiguous with the ocean, estuaries, and coastal lakes shall be identified as coastal shorelands. The extent of shorelands shall include at least:

1. Areas subject to ocean flooding and lands within 100 feet of the ocean shore or within 50 feet of an estuary or a coastal lake;

2. Adjacent areas of geologic instability where the geologic instability is related to or will impact a coastal water body;

3. Natural or man-made riparian resources, especially vegetation necessary to stabilize the shoreline and to maintain water quality and temperature necessary for the maintenance of fish habitat and spawning areas;

4. Areas of significant shoreland and wetland biological habitats whose habitat quality is primarily derived from or related to the association with coastal water areas;

5. Areas necessary for water-dependent and water-related uses, including areas of recreational importance which utilize coastal water or riparian resources, areas appropriate for navigation and port facilities, dredge material disposal and mitigation sites, and areas having characteristics suitable for aquaculture;

6. Areas of exceptional aesthetic or scenic quality, where the quality is primarily derived from or related to the association with coastal water areas; and

7. Coastal headlands.

Coastal Shoreland Uses

1. Major marshes, significant wildlife habitat, coastal headlands, and exceptional aesthetic resources inventoried in the Identification Section, shall be protected. Uses in these areas shall be consistent with protection of natural values. Such uses may include propagation and selective harvesting of forest products consistent with the Oregon Forest Practices Act, grazing, harvesting, wild crops, and low intensity water-dependent recreation.

2. Water-Dependent Shorelands.

Location. Shorelands in the following areas that are suitable for water-dependent uses shall be protected for water-dependent recreational, commercial, and industrial uses:

(a) urban or urbanizable areas;

(b) rural areas built upon or irrevocably committed to non-resource use; and

(c) any unincorporated community subject to OAR Chapter 660, Division 022 (Unincorporated Communities).

Minimum Acreage. Within each estuary, the minimum amount of shorelands to be protected shall be equivalent to the following combination of factors as they may exist:

(a) Acreage of estuarine shorelands that are currently being used for water-dependent uses; and

(b) Acreage of estuarine shorelands that at any time were used for water-dependent uses and still possess structures or facilities that provide or provided water-dependent uses with access to the adjacent coastal water body. Examples of such facilities or structures that provide water-dependent access would be wharves, piers, docks, mooring piling, boat ramps, water intake or discharge structures, or navigational aids.

Suitability. Any shoreland area within the estuary may be designated to provide the minimum amount of protected shorelands. However, any such designated shoreland area shall be suitable for water dependent uses. At a minimum, such water-dependent shoreland areas shall possess, or be capable of possessing, structures or facilities that provide water-dependent uses with physical access to the adjacent coastal water body. Such designations shall comply with applicable Statewide Planning Goals.

Permissible Nonwater-Dependent Uses. Other uses which may be permitted in these areas are temporary uses which involve minimal capital investment and no permanent

structures, or a use in conjunction with and incidental and subordinate to a water-dependent use.

Applicability. Local cities and counties are not mandated by this requirement to make changes to their acknowledged local comprehensive plans or land use regulations for existing water-dependent shorelands. However, if a local government chooses to revise the boundary of or allowed uses of a designated water-dependent shoreland site, then this requirement shall apply.

3. Local governments shall determine whether there are any existing, developed commercial/industrial waterfront areas which are suitable for redevelopment which are not designated as especially suited for water-dependent uses. Plans shall be prepared for these areas which allow for a mix of water-dependent, water-related, and water oriented nondependent uses and shall provide for public access to the shoreline.

4. Shorelands in rural areas other than those built upon or irrevocably committed to nonresource use and those designated in (1) above shall be used as appropriate for:

(a) farm uses as provided in ORS Chapter 215;

(b) propagation and harvesting of forest products consistent with the Oregon Forest Practices Act;

(c) private and public water-dependent recreation developments;

(d) aquaculture;

(e) water-dependent commercial and industrial uses, water-related uses and other uses only upon a finding by the county that such uses satisfy a need which cannot be accommodated on uplands or in urban and urbanizable areas or in rural areas built upon or irrevocably committed to non-resource use.

IMPLEMENTATION REQUIREMENTS

1. The Oregon Department of Forestry shall recognize the unique and special values provided by coastal shorelands when developing standards and policies to regulate uses of forest lands within coastal shorelands. With other state and federal agencies, the Department of Forestry shall develop forest management practices and policies including, where necessary, amendments to the FPA rules and programs which protect and maintain the special shoreland values and forest uses especially for natural shorelands and riparian vegetation.

2. Local government, with assistance from state and federal agencies, shall identify coastal shoreland areas which may be used to fulfill the mitigation requirement of the Estuarine Resources Goal. These areas shall be protected from new uses and activities which would prevent their ultimate restoration or addition to the estuarine ecosystem.

3. Coastal shorelands identified under the Estuarine Resources Goal for dredged material disposal shall be protected from new uses and activities which would prevent their ultimate use for dredged material disposal.

4. Because of the importance of the vegetative fringe adjacent to coastal waters to water quality, fish and wildlife habitat, recreational use and aesthetic resources, riparian vegetation shall be maintained; and where appropriate ,

restored and enhanced, consistent with water-dependent uses.

5. Land-use management practices and non-structural solutions to problems of erosion and flooding shall be preferred to structural solutions. Where shown to be necessary, water and erosion control structures, such as jetties, bulkheads, seawalls, and similar protective structures; and fill, whether located in the waterways or on shorelands above ordinary high water mark, shall be designed to minimize adverse impacts on water currents, erosion, and accretion patterns.

6. Local government in coordination with the Parks and Recreation Division shall develop and implement a program to provide increased public access. Existing public ownerships, rights of way, and similar public easements in coastal shorelands which provide access to or along coastal waters shall be retained or replaced if sold, exchanged or transferred. Rights of way may be vacated to permit redevelopment of shoreland areas provided public access across the affected site is retained.

GUIDELINES FOR GOAL 17

The requirements of the Coastal Shorelands Goal should be addressed with the same consideration applied to previously adopted goals and guidelines. The planning process described in the Land Use Planning Goal (Goal 2), including the exceptions provisions described in Goal 2, applies to coastal shoreland areas and implementation of the Coastal Shorelands Goal.

Because of the strong relation of estuarine shorelands to adjacent estuaries, the inventory and planning requirements for estuaries and estuarine shorelands should also be fully coordinated. Coastal shoreland inventories and planning should also be fully coordinated with those required in other statewide planning goals, supplementing them where necessary. Of special importance are the plan requirements of the Goals for Agricultural Lands; Forest Lands; Open Spaces, Scenic and Historic Areas and Natural Resources; Air, Water, and Land Resources Quality; Areas Subject to Natural Disasters and Hazards; Recreational Needs; and Economy of the State.

A. INVENTORIES

In coastal shoreland areas the following inventory needs should be reviewed. The level of detail of information needed will differ depending on the development or alteration proposed and the degree of conflict over the potential designation.

1. Hazard areas, including at least:

(a) Areas the use of which may result in significant hydraulic alteration of other lands or water bodies;

(b) Areas of geological instability in, or adjacent to shorelines; and

(c) The 100-Year Floodplain.

2. Existing land uses and ownership patterns, economic resources, development needs, public facilities, topography, hydrography, and similar information affecting shorelands;

3. Areas of aesthetic and scenic importance;

4. Coastal shoreland and wetland biological habitats which are dependent upon the adjacent water body, plus other coastal shoreland and

adjacent aquatic areas of biological importance (feeding grounds, nesting sites, areas of high productivity, etc.) natural areas and fish and wildlife habitats;

5. Areas of recreational importance;

6. Areas of vegetative cover which are riparian in nature or which function to maintain water quality and to stabilize the shoreline;

7. Sedimentation sources;

8. Areas of present public access and recreational use;

9. The location of archaeological and historical sites; and

10. Coastal headlands.

B. FLOODPLAIN

In the development of comprehensive plans, the management of uses and development in floodplain areas should be expanded beyond the minimal considerations necessary to comply with the National Flood Insurance Program and the requirements of the Flood Disaster Protection Act of 1973. Communities may wish to distinguish between the floodway and floodfringe in developing coastal shoreland plans; development in the floodway should be more strictly controlled. Government projects in coastal shorelands should be examined for their impact on flooding, potential flood damage, and effect on growth patterns in the floodplain. Nonwater-dependent emergency service structures (such as hospitals, police, and fire stations) should not be constructed in the floodplain. Although they may be flood-proofed, access and egress may be prevented during a flood emergency.

C. OPEN SPACE, NATURAL AREAS AND AESTHETIC RESOURCES, AND RECREATION

Coastal shorelands provide many areas of unique or exceptional value and benefit for open space, natural areas, and aesthetic and recreational use. The requirements of the Goals for Open Spaces, Scenic and Historic Areas, and Natural Resources (Goal 5) and Recreational Needs (Goal 8) should be carefully coordinated with the coastal shoreland planning effort. The plan should provide for appropriate public access to and recreational use of coastal waters. Public access through and the use of private property shall require the consent of the owner and is a trespass unless appropriate easements and access have been acquired in accordance with law.

D. DEVELOPMENT NEEDS

In coordination with planning for the Estuarine Resources Goal, coastal shoreland plans should designate appropriate sites for water-dependent activities, and for dredged material disposal.

Historic, unique, and scenic waterfront communities should be maintained and enhanced, allowing for nonwater-dependent uses as appropriate in keeping with such communities.

E. TRANSPORTATION

The requirements of the Transportation Goal should be closely coordinated with the Coastal Shorelands Goal. Coastal transportation systems frequently utilize shoreland areas and may significantly affect the resources and values of coastal shorelands and adjacent waters; they should allow appropriate

access to coastal shorelands and adjacent waters, and be planned in full recognition of the protection needs for the special resources and benefits which shorelands provide.

F. EXAMPLES OF INCIDENTAL USES

Examples of uses that are in conjunction with and incidental to a water-dependent use include a restaurant on the second floor of an existing seafood processing plant and a retail sales room as part of a seafood processing plant. Generally, to be in conjunction with and incidental to a water dependent use, a nonwater-dependent use must be constructed at the same time or after the water-dependent use of the site is established and be carried out together with the water-dependent use. Incidental means that the size of nonwater-dependent use is small in relation to the water-dependent operation and that it does not interfere with conduct of the water-dependent use.

Oregon's Statewide Planning Goals & Guidelines

GOAL 18: BEACHES AND DUNES

OAR 660-015-0010(3)

To conserve, protect, where appropriate develop, and where appropriate restore the resources and benefits of coastal beach and dune areas; and

To reduce the hazard to human life and property from natural or man-induced actions associated with these areas.

Coastal comprehensive plans and implementing actions shall provide for diverse and appropriate use of beach and dune areas consistent with their ecological, recreational, aesthetic, water resource, and economic values, and consistent with the natural limitations of beaches, dunes, and dune vegetation for development.

INVENTORY REQUIREMENTS

Inventories shall be conducted to provide information necessary for identifying and designating beach and dune uses and policies. Inventories shall describe the stability, movement, groundwater resource, hazards and values of the beach and dune areas in sufficient detail to establish a sound basis for planning and management. For beach and dune areas adjacent to coastal waters, inventories shall also address the inventory requirements of the Coastal Shorelands Goal.

COMPREHENSIVE PLAN REQUIREMENTS

Based upon the inventory, comprehensive plans for coastal areas shall:

1. Identify beach and dune areas; and
2. Establish policies and uses for these areas consistent with the provisions of this goal.

IDENTIFICATION OF BEACHES AND DUNES

Coastal areas subject to this goal shall include beaches, active dune forms, recently stabilized dune forms, older stabilized dune forms and interdune forms.

USES

Uses shall be based on the capabilities and limitations of beach and dune areas to sustain different levels of use or development, and the need to protect areas of critical environmental concern, areas having scenic, scientific, or biological importance, and significant wildlife habitat as identified through application of Goals 5 and 17.

IMPLEMENTATION REQUIREMENTS

1. Local governments and state and federal agencies shall base decisions on plans, ordinances and land use actions in beach and dune areas, other than older stabilized dunes, on specific findings that shall include at least:

(a) The type of use proposed and the adverse effects it might have on the site and adjacent areas;

(b) Temporary and permanent stabilization programs and the planned

maintenance of new and existing vegetation;

(c) Methods for protecting the surrounding area from any adverse effects of the development; and

(d) Hazards to life, public and private property, and the natural environment which may be caused by the proposed use.

2. Local governments and state and federal agencies shall prohibit residential developments and commercial and industrial buildings on beaches, active foredunes, on other foredunes which are conditionally stable and that are subject to ocean undercutting or wave overtopping, and on interdune areas (deflation plains) that are subject to ocean flooding. Other development in these areas shall be permitted only if the findings required in (1) above are presented and it is demonstrated that the proposed development:

(a) Is adequately protected from any geologic hazards, wind erosion, undercutting, ocean flooding and storm waves; or is of minimal value; and

(b) Is designed to minimize adverse environmental effects.

3. Local governments and state and federal agencies shall regulate actions in beach and dune areas to minimize the resulting erosion. Such actions include, but are not limited to, the destruction of desirable vegetation (including inadvertent destruction by moisture loss or root damage), the exposure of stable and conditionally stable areas to erosion, and construction of shore structures which modify current or wave patterns leading to beach erosion.

4. Local, state and federal plans, implementing actions and permit reviews shall protect the groundwater from drawdown which would lead to loss of stabilizing vegetation, loss of water quality, or intrusion of salt water into water supplies. Building permits for single family dwellings are exempt from this requirement if appropriate findings are provided in the comprehensive plan or at the time of subdivision approval.

5. Permits for beachfront protective structures shall be issued only where development existed on January 1, 1977. Local comprehensive plans shall identify areas where development existed on January 1, 1977. For the purposes of this requirement and Implementation Requirement 7 "development" means houses, commercial and industrial buildings, and vacant subdivision lots which are physically improved through construction of streets and provision of utilities to the lot and includes areas where an exception to (2) above has been approved. The criteria for review of all shore and beachfront protective structures shall provide that:

(a) visual impacts are minimized;

(b) necessary access to the beach is maintained;

(c) negative impacts on adjacent property are minimized; and

(d) long-term or recurring costs to the public are avoided.

6. Foredunes shall be breached only to replenish sand supply in interdune areas, or on a temporary basis in an emergency (e.g., fire control, cleaning up oil spills, draining farm lands, and alleviating flood hazards), and only if the breaching and restoration after breaching is consistent with sound principles of conservation.

7. Grading or sand movement necessary to maintain views or to prevent sand inundation may be allowed for structures in foredune areas only if

the area is committed to development or is within an acknowledged urban growth boundary and only as part of an overall plan for managing foredune grading. A foredune grading plan shall include the following elements based on consideration of factors affecting the stability of the shoreline to be managed including sources of sand, ocean flooding, and patterns of accretion and erosion (including wind erosion), and effects of beachfront protective structures and jetties. The plan shall:

(a) Cover an entire beach and foredune area subject to an accretion problem, including adjacent areas potentially affected by changes in flooding, erosion, or accretion as a result of dune grading;

(b) Specify minimum dune height and width requirements to be maintained for protection from flooding and erosion. The minimum height for flood protection is 4 feet above the 100 year flood elevation;

(c) Identify and set priorities for low and narrow dune areas which need to be built up;

(d) Prescribe standards for redistribution of sand and temporary and permanent stabilization measures including the timing of these activities; and

(e) Prohibit removal of sand from the beach-foredune system.

The Commission shall, by January 1, 1987, evaluate plans and actions which implement this requirement and determine whether or not they have interfered with maintaining the integrity of beach and dune areas and minimize flooding and erosion problems. If the Commission determines that these measures have interfered it shall initiate Goal amendment proceedings to revise or repeal these requirements.

GUIDELINES FOR GOAL 18

The requirements of the Beaches and Dunes Goal should be addressed with the same consideration applied to previously adopted goals and guidelines. The planning process described in the Land Use Planning Goal (Goal 2), including the exceptions provisions described in Goal 2, applies to beaches and dune areas and implementation of the Beaches and Dunes Goal.

Beaches and dunes, especially interdune areas (deflation plains) provide many unique or exceptional resources which should be addressed in the inventories and planning requirements of other goals, especially the Goals for Open Space, Scenic and Historic Areas and Natural Resources; and Recreational Needs. Habitat provided by these areas for coastal and migratory species is of special importance.

A. INVENTORIES

Local government should begin the beach and dune inventory with a review of Beaches and Dunes of the Oregon Coast, USDA Soil Conservation Service and OCCDC, March 1975, and determine what additional information is necessary to identify and describe:

1. The geologic nature and stability of the beach and dune landforms;
2. Patterns of erosion, accretion, and migration;
3. Storm and ocean flood hazards;

4. Existing and projected use, development and economic activity on the beach and dune landforms; and

5. Areas of significant biological importance.

B. EXAMPLES OF MINIMAL DEVELOPMENT

Examples of development activity which are of minimal value and suitable for development of conditionally stable dunes and deflation plains include beach and dune boardwalks, fences which do not affect sand erosion or migration, and temporary open-sided shelters.

C. EVALUATING BEACH AND DUNE PLANS AND ACTIONS

Local government should adopt strict controls for carrying out the Implementation Requirements of this goal. The controls could include:

1. Requirement of a site investigation report financed by the developer;
2. Posting of performance bonds to assure that adverse effects can be corrected; and
3. Requirement of re-establishing vegetation within a specific time.

D. SAND BY-PASS

In developing structures that might excessively reduce the sand supply or interrupt the longshore transport or littoral drift, the developer should investigate, and where possible, provide methods of sand by-pass.

E. PUBLIC ACCESS

Where appropriate, local government should require new developments to dedicate easements for public access to public beaches, dunes and associated waters. Access into or through dune areas, particularly conditionally stable dunes and dune complexes, should be controlled or designed to maintain the stability of the area, protect scenic values and avoid fire hazards.

F. DUNE STABILIZATION

Dune stabilization programs should be allowed only when in conformance with the comprehensive plan, and only after assessment of their potential impact.

G. OFF-ROAD VEHICLES

Appropriate levels of government should designate specific areas for the recreational use of off-road vehicles (ORVs). This use should be restricted to limit damage to natural resources and avoid conflict with other activities, including other recreational use.

H. FOREDUNE GRADING PLANS

Plans which allow foredune grading should be based on clear consideration of the fragility and ever-changing nature of the foredune and its importance for protection from flooding and erosion. Foredune grading needs to be planned for on an area-wide basis because the geologic processes of flooding, erosion, sand movement, wind patterns, and littoral drift affect entire stretches of shoreline. Dune grading cannot be carried out effectively on a lot-by-lot basis because of these areawide processes and the off-site effects of changes to the dunes.

Plans should also address in detail the findings specified in Implementation Requirement (1) of this Goal with special emphasis placed on the following:

- Identification of appropriate measures for stabilization of graded areas and areas of deposition, including use of fire-resistant vegetation;
- Avoiding or minimizing grading or deposition which could adversely affect surrounding properties by changing wind, ocean erosion, or flooding patterns;
- Identifying appropriate sites for public and emergency access to the beach.

Oregon's Statewide Planning Goals & Guidelines

GOAL 19: OCEAN RESOURCES

OAR 660-015-0010(4)

To conserve marine resources and ecological functions for the purpose of providing long-term ecological, economic, and social value and benefits to future generations.

To carry out this goal, all actions by local, state, and federal agencies that are likely to affect the ocean resources and uses of Oregon's territorial sea shall be developed and conducted to conserve marine resources and ecological functions for the purpose of providing long-term ecological, economic, and social values and benefits and to give higher priority to the protection of renewable marine resources—i.e., living marine organisms—than to the development of non-renewable ocean resources.

OCEAN STEWARDSHIP AREA

The State of Oregon has interests in the conservation of ocean resources in an Ocean Stewardship Area, an ocean area where natural phenomena and human uses can affect uses and resources of Oregon's territorial sea. The Ocean Stewardship Area includes the state's territorial sea, the continental margin seaward to the toe of the continental slope, and adjacent ocean areas. Within the Ocean Stewardship Area, the State of Oregon will:

- Use all applicable state and federal laws to promote its interests in management and conservation of ocean resources;
- Encourage scientific research on marine ecosystems, ocean resources and uses, and oceanographic conditions to acquire information needed to make ocean and coastal-management decisions;
- Seek co-management arrangements with federal agencies when appropriate to ensure that ocean resources are managed and protected consistent with the policies of Statewide Planning Goal 19, Ocean Resources, and the Territorial Sea Plan; and
- Cooperate with other states and governmental entities directly and through regional mechanisms to manage and protect ocean resources and uses.

The Ocean Stewardship Area is not intended to change the seaward boundary of the State of Oregon, extend the seaward boundaries of the state's federally approved coastal zone under the federal Coastal Zone Management Act, affect the jurisdiction of adjacent coastal states, alter the authority of federal agencies to manage the resources of the United States Exclusive Economic Zone, or limit or otherwise change federal agency responsibilities to comply with the consistency requirements of the federal Coastal Zone Management Act.

INFORMATION AND EFFECTS ASSESSMENT REQUIRED

Prior to taking an action that is likely to affect ocean resources or uses of Oregon's territorial sea, state and federal agencies shall assess the reasonably foreseeable adverse effects of the action as required in the Oregon Territorial Sea Plan. The effects assessment shall also address reasonably foreseeable adverse effects on Oregon's estuaries and shorelands as required by Statewide Planning Goal 16, Estuarine Resources; Goal 17, Coastal Shorelands; and Goal 18, Beaches and Dunes.

IMPLEMENTATION REQUIREMENTS

1. Uses of Ocean Resources

State and federal agencies shall carry out actions that are reasonably likely to affect ocean resources and uses of the Oregon territorial sea in such a manner as to:

a. maintain and, where appropriate, restore the long-term benefits derived from renewable marine resources;

b. protect:

1. renewable marine resources—i.e., living marine organisms—from adverse effects of development of non-renewable resources, uses of the ocean floor, or other actions;

2. the biological diversity of marine life and the functional integrity of the marine ecosystem;

3. important marine habitat, including estuarine habitat, which are areas and associated biologic communities that are:

a) important to the biological viability of commercially or recreationally caught species or that support important food or prey species for commercially or recreationally caught species; or

b) needed to assure the survival of threatened or endangered species; or

c) ecologically significant to maintaining ecosystem structure, biological productivity, and biological diversity; or

d) essential to the life-history or behaviors of marine organisms; or

e) especially vulnerable because of size, composition, or location in relation to chemical or other pollutants, noise, physical disturbance, alteration, or harvest; or

f) unique or of limited range within the state; and

4. areas important to fisheries, which are:

a) areas of high catch (e.g., high total pounds landed and high value of landed catch); or

b) areas where highly valued fish are caught even if in low abundance or by few fishers; or

c) areas that are important on a seasonal basis; or

d) areas important to commercial or recreational fishing activities, including those of individual ports or particular fleets; or

e) habitat areas that support food or prey species important to commercially and recreationally caught fish and shellfish species.

c. Agencies, through programs, approvals, and other actions, shall

1. protect and encourage the beneficial uses of ocean resources—such as navigation, food production, recreation, aesthetic enjoyment, and uses of the seafloor—provided that such activities do not adversely affect the resources protected in subsection 1.,

above; avoid, to the extent possible, adverse effects on or operational conflicts with other ocean uses and activities; and

2. comply with applicable requirements of the Oregon Territorial Sea Plan.

2. Management Measures

Management measures for ocean resources and uses shall be appropriate to the circumstances and provide flexibility for future actions. Such management measures may include:

a. Adaptive Management: to adapt management programs to account for variable conditions in the marine environment, the changeable status of resources, and individual or cumulative effects of uses;

b. Condition Approvals or Actions: to place conditions or limit actions to protect or shield other uses and resources;

c. Special Management Area Plans: to develop management plans for certain marine areas to address the unique management needs for resource protection, resource utilization, and interagency cooperation in the areas;

d. Intergovernmental Coordination and Cooperation: to coordinate, integrate, and co-manage programs and activities with all levels of government, including Indian tribal governments;

e. Regional Cooperation and Governance: to cooperate with other coastal states, countries, organizations, and federal agencies within the larger marine region to address common or shared ocean resource management issues;

f. Public Involvement: to involve the public and affected groups in the process of protecting ocean resource, especially through public awareness, education, and interpretive programs;

g. Precautionary Approach: to take a precautionary approach to decisions about marine resources and uses when information is limited.

3. Contingency Plans:

State and federal agencies, when approving or taking an action that could, under unforeseen circumstances, result in significant risks to ocean resources and uses, shall, in coordination with any permittee, establish appropriate contingency plans and emergency procedures to be followed in the event that the approved activity results in conditions that threaten to damage the marine or estuarine environment, resources, or uses.

DEFINITIONS

ACCRETION. The build-up of land along a beach or shore by the deposition of waterborne or airborne sand, sediment, or other material

AGRICULTURAL LAND. See definition in Goal 3, "Agricultural Lands."

ANADROMOUS. Referring to fish, such as salmon, which hatch in fresh water, migrate to ocean waters to grow and mature, and return to fresh waters to spawn.

ARCHAEOLOGICAL RESOURCES. Those districts, sites, buildings, structures, and artifacts which possess material evidence of human life and culture of the prehistoric and historic past. (See Historical Resources definition.)

AVULSION. A tearing away or separation by the force of water. Land which is separated from uplands or adjacent properties by the action of a stream or river cutting through the land to form a new stream bed.

BEACH. Gently sloping areas of loose material (e.g., sand, gravel, and cobbles) that extend landward from the low-water line to a point where there is a definite change in the material type or landform, or to the line of vegetation.

BENTHIC. Living on or within the bottom sediments in water bodies.

BRIDGE CROSSINGS. The portion of a bridge spanning a waterway not including supporting structures or fill located in the waterway or adjacent wetlands.

BRIDGE CROSSING SUPPORT STRUCTURES. Piers, piling, and similar structures necessary to support a bridge span but not including fill for causeways or approaches.

CARRYING CAPACITY. Level of use which can be accommodated and continued without irreversible impairment of natural resources productivity, the ecosystem and the quality of air, land, and water resources.

CITIZEN. Any individual within the planning area; any public or private entity or association within the planning area, including corporations, governmental and private agencies, associations, firms, partnerships, joint stock companies and any group of citizens.

CITIZEN ADVISORY COMMITTEE (CAC). A group of citizens organized to help develop and maintain a comprehensive plan and its land use regulations. Local governments usually establish one such group for each neighborhood in a city or each district in a county. CACs may also be known as neighborhood planning organizations, area advisory committees, or other local terms. CACs convey their advice and concerns on planning issues to the planning commission or governing body. CACs also convey information from local officials to neighborhood and district residents.

CITIZEN INVOLVEMENT ADVISORY COMMITTEE (CIAC). A state committee appointed by the Land Conservation and Development Commission to advise that commission on matters of citizen involvement, to promote public participation in the adoption and amendment of the goals and guidelines, and to assure widespread citizen involvement in all phases of the planning process. CIAC is established in accordance with ORS 197.160.

CITIZEN INVOLVEMENT PROGRAM (CIP). A program established by a city or county to ensure the extensive, ongoing involvement of local citizens in planning. Such programs are required by Goal 1, "Citizen Involvement," and contain or address the six components described in that goal.

COASTAL LAKES. Lakes in the coastal zone that are bordered by a dune formation or that have a direct hydrologic surface or subsurface connection with saltwater.

COASTAL SHORELANDS. Those areas immediately adjacent to the ocean, all estuaries and associated wetlands, and all coastal lakes.

COASTAL STREAM. Any stream within the coastal zone.

COASTAL WATERS. Territorial ocean waters of the continental shelf; estuaries; and coastal lakes.

COASTAL ZONE. The area lying between the Washington border on the north to the California border on the south, bounded on the west by the extent of the state's jurisdiction, and in the east by the crest of the coastal mountain range, with the exception of: (a) The Umpqua River basin, where the coastal zone shall extend to Scottsburg; (b) The Rogue River basin, where the coastal zone shall extend to Agness; (c) The Columbia River basin, where the coastal zone shall extend to the downstream end of Puget Island. (Formerly ORS 191.110)

COMMITTEE FOR CITIZEN INVOLVEMENT (CCI). A local group appointed by a governing body for these purposes: assisting the governing body with the development of a program that promotes and enhances citizen involvement in land use planning; assisting in the implementation of the citizen involvement program; and evaluating the process being used for citizen involvement. A CCI differs from a citizen advisory committee (CAC) in that the former advises the local government only on matters pertaining to citizen involvement and Goal 1. A CAC, on the other hand, may deal with a broad range of planning and land use issues. Each city or county has only one CCI, whereas there may be several CACs.

CONSERVE. To manage in a manner which avoids wasteful or destructive uses and provides for future availability.

CONSERVATION. The act of conserving the environment.

CONTINENTAL SHELF. The area seaward from the ocean shore to the distance when the ocean depth is 200 meters, or where the ocean floor slopes more steeply to the deep ocean floor. The area beyond the state's jurisdiction is the OUTER Continental Shelf.

DEFLATION PLAIN. The broad interdune area which is wind-scoured to the level of the summer water table.

DEVELOP. To bring about growth or availability; to construct or alter a structure, to conduct a mining operation, to make a physical change in the use or appearance of land, to divide land into parcels, or to create or terminate rights to access.

DEVELOPMENT. The act, process or result of developing.

DIVERSITY. The variety of natural, environmental, economic, and social resources, values, benefits, and activities.

DUNE. A hill or ridge of sand built up by the wind along sandy coasts.

DUNE, ACTIVE. A dune that migrates, grows and diminishes from the effect of wind and supply of sand. Active dunes include all open sand dunes, active hummocks, and active foredunes.

DUNE, CONDITIONALLY STABLE. A dune presently in a stable condition, but vulnerable to becoming active due to fragile vegetative cover.

DUNE, OLDER STABILIZED. A dune that is stable from wind erosion, and that has significant soil development and that may include diverse forest cover. They include older foredunes.

DUNE, OPEN SAND. A collective term for active, unvegetated dune landforms.

DUNE, RECENTLY STABILIZED. A dune with sufficient vegetation to be stabilized from wind erosion, but with little, if any, development of soil or cohesion of the sand under the vegetation. Recently stabilized dunes include conditionally stable foredunes, conditionally stable dunes, dune complexes, and younger stabilized dunes.

DUNES, YOUNGER STABILIZED. A wind-stable dune with weakly developed soils and vegetation.

DUNE COMPLEX. Various patterns of small dunes with partially stabilized intervening areas.

ECOSYSTEM. The living and non-living components of the environment which interact or function together, including plant and animal organisms, the physical environment, and the energy systems in which they exist. All the components of an ecosystem are inter-related.

ENCOURAGE. Stimulate; give help to; foster.

ESTUARY. A body of water semi-enclosed by land, connected with the open ocean, and within which salt water is usually diluted by freshwater derived from the land. The estuary includes: (a) estuarine water; (b) tidelands; (c) tidal marshes; and (d) submerged lands. Estuaries extend upstream to the head of tidewater, except for the Columbia River Estuary, which by definition is considered to extend to the western edge of Puget Island.

ESTUARINE ENHANCEMENT. An action which results in a long-term improvement of existing estuarine functional characteristics and processes that is not the result of a creation or restoration action.

FILL. The placement by man of sand, sediment, or other material, usually in submerged lands or wetlands, to create new uplands or raise the elevation of land.

FLOODFRINGE. The area of the floodplain lying outside of the floodway, but subject to periodic inundation from flooding.

FLOODPLAIN. The area adjoining a stream, tidal estuary or coast that is subject to regional flooding.

FLOOD, REGIONAL (100-YEAR). A standard statistical calculation used by engineers to determine the probability of severe flooding. It represents the largest flood which has a one-percent chance of occurring in any one year in an area as a result of periods of higher-than-normal rainfall or streamflows, extremely high tides, high winds, rapid snowmelt, natural stream blockages, tsunamis, or combinations thereof.

FLOODWAY. The normal stream channel and that adjoining area of the natural floodplain needed to convey the waters of a regional flood while causing less than one foot increase in upstream flood elevations.

FOREDUNE, ACTIVE. An unstable barrier ridge of sand paralleling the beach and subject to wind erosion, water erosion, and growth from new sand deposits. Active foredunes may include areas with beach grass, and occur in sand spits and at river mouths as well as elsewhere.

FOREDUNE, CONDITIONALLY STABLE. An active foredune that has ceased growing in height and that has become conditionally stable with regard to wind erosion.

FOREDUNE, OLDER. A conditionally stable foredune that has become wind stabilized by diverse vegetation and soil development.

FOREST LANDS. See definition of commercial forest lands and uses in the Oregon Forest Practices Act and the Forest Lands Goal.

GEOLOGIC. Relating to the occurrence and properties of earth. Geologic hazards include faults, land and mudslides, and earthquakes.

HEADLANDS. Bluffs, promontories or points of high shoreland jutting out into the ocean, generally sloping abruptly into the water. Oregon headlands are generally identified in the report on Visual Resource Analysis of the Oregon Coastal Zone, OCCDC, 1974.

HISTORICAL RESOURCES. Those districts, sites, buildings, structures, and artifacts which have a relationship to events or conditions of the human past. (See Archaeological Resources definition.)

HUMMOCK, ACTIVE. Partially vegetated (usually with beach grass), circular, and elevated mounds of sand which are actively growing in size.

HYDRAULIC. Related to the movement or pressure of water. Hydraulic hazards are those associated with erosion or sedimentation caused by the action of water flowing in a river or streambed, or oceanic currents and waves.

HYDRAULIC PROCESSES. Actions resulting from the effect of moving water or water pressure on the bed, banks, and shorelands of water bodies (oceans, estuaries, streams, lakes, and rivers).

HYDROGRAPHY. The study, description and mapping of oceans, estuaries, rivers and lakes.

HYDROLOGIC. Relating to the occurrence and properties of water. Hydrologic hazards include flooding (the rise of water) as well as hydraulic hazards associated with the movement of water.

IMPACT. The consequences of a course of action; effect of a goal, guideline, plan or decision.

INSURE. Guarantee; make sure or certain something will happen.

INTEGRITY. The quality or state of being complete and functionally unimpaired; the wholeness or entirety of a body or system, including its parts, materials, and processes. The integrity of an ecosystem emphasizes the interrelatedness of all parts and the unity of its whole.

INTERDUNE AREA. Low-lying areas between higher sand landforms and which are generally under water during part of the year. (See also Deflation Plain.)

INTERTIDAL. Between the levels of mean lower low tide (MLLT) and mean higher high tide (MHHT).

KEY FACILITIES. Basic facilities that are primarily planned for by local government but which also may be provided by private enterprise and are essential to the support of more intensive development, including public schools, transportation, water supply, sewage and solid waste disposal.

LCDC. The Land Conservation and Development Commission of the State of Oregon. The members appointed by the Governor and confirmed by the Oregon Senate in accordance with the requirements of ORS 197.030.

LITTORAL DRIFT. The material moved, such as sand or gravel, in the littoral (shallow water nearshore) zone under the influence of waves and currents.

MAINTAIN. Support, keep, and continue in an existing state or condition without decline.

MANAGEMENT UNIT. A discrete geographic area, defined by biophysical characteristics and features, within which particular uses and activities are promoted, encouraged, protected, or enhanced, and others are discouraged, restricted, or prohibited.

MINOR NAVIGATIONAL IMPROVEMENTS. Alterations necessary to provide water access to existing or permitted uses in conservation management units, including dredging for access channels and for maintaining existing navigation but excluding fill and in-water navigational structures other than floating breakwaters or similar permeable wave barriers.

MITIGATION. The creation, restoration, or enhancement of an estuarine area to maintain the functional characteristics and processes of the estuary, such as its natural biological productivity, habitats, and species diversity, unique features and water quality (ORS 541.626).

NATURAL AREAS. Includes land and water that has substantially retained its natural character, which is an important habitat for plant, animal, or marine life. Such areas are not necessarily completely natural or undisturbed, but can be significant for the study of natural, historical, scientific, or paleontological features, or for the appreciation of natural features.

NATURAL RESOURCES. Air, land and water and the elements thereof which are valued for their existing and potential usefulness to man.

OCCDC. Oregon Coastal Conservation and Development Commission created by ORS 191; existed from 1971 to 1975. Its work is continued by LCDC.

OCEAN FLOODING. The flooding of lowland areas by salt water owing to tidal action, storm surge, or tsunamis (seismic sea waves). Land forms subject to ocean flooding include beaches, marshes, coastal lowlands, and low-lying interdune areas. Areas of ocean flooding are mapped by the Federal Emergency Management Agency (FEMA). Ocean flooding includes areas of velocity flooding and associated shallow marine flooding.

PLANNING AREA. The air, land and water resources within the jurisdiction of a governmental agency.

POLLUTION. The violation or threatened violation of applicable state or federal environmental quality statutes, rules and standards.

PRESERVE. To save from change or loss and reserve for a special purpose.

PROGRAM. Proposed or desired plan or course of proceedings and action.

PROTECT. Save or shield from loss, destruction, or injury or for future intended use.

PROVIDE. Prepare, plan for, and supply what is needed.

PUBLIC FACILITIES AND SERVICES. Projects, activities and facilities which the planning agency determines to be necessary for the public health, safety and welfare.

PUBLIC GAIN. The net gain from combined economic, social, and environmental effects which accrue to the public because of a use or activity and its subsequent resulting effects.

QUALITY. The degree of excellence or relative goodness.

RECREATION. Any experience voluntarily engaged in largely during leisure (discretionary time) from which the individual derives satisfaction.

Coastal Recreation occurs in offshore ocean waters, estuaries, and streams, along beaches and bluffs, and in adjacent shorelands. It includes a variety of activities, from swimming, scuba diving, boating, fishing, hunting, and use of dune buggies, shell collecting, painting, wildlife observation, and sightseeing, to coastal resorts and water-oriented restaurants.

Low-Intensity Recreation does not require developed facilities and can be accommodated without change to the area or resource. For example, boating, hunting, hiking, wildlife photography, and beach or shore activities can be low-intensity recreation.

High-Intensity Recreation uses specially built facilities, or occurs in such density or form that it requires or results in a modification of the area or resource. Campgrounds, golf courses, public beaches, and marinas are examples of high-intensity recreation.

RESTORE. Revitalizing, returning, or replacing original attributes and amenities, such as natural biological productivity, aesthetic and cultural resources, which have been diminished or lost by past alterations, activities, or catastrophic events. For the purposes of Goal 16 estuarine restoration means to revitalize or reestablish functional characteristics and processes of the estuary diminished or lost by past alterations, activities, or catastrophic events. A restored area must be a shallow subtidal or an intertidal or tidal marsh area after alteration work is performed, and may not have been a functioning part of the estuarine system when alteration work began.

Active Restoration involves the use of specific positive remedial actions, such as removing fills, installing water treatment facilities, or rebuilding deteriorated urban waterfront areas.

Passive Restoration is the use of natural processes, sequences, and timing which occurs after the removal or reduction of adverse stresses without other specific positive remedial action.

RIPARIAN. Of, pertaining to, or situated on the edge of the bank of a river or other body of water.

RIPRAP. A layer, facing, or protective mound of stones randomly placed to prevent erosion, scour or sloughing of a structure or embankment; also, the stone so used. In local usage, the similar use of other hard material, such as concrete rubble, is also frequently included as riprap.

RURAL LAND. Land outside urban growth boundaries that is:

(a) Non-urban agricultural, forest or open space,

(b) Suitable for sparse settlement, small farms or acreage homesites with no or minimal public services, and not suitable, necessary or intended for urban use, or

(c) In an unincorporated community.

SEDENTARY. Attached firmly to the bottom, generally incapable of movement.

SHORELINE. The boundary line between a body of water and the land, measured on tidal waters at mean higher high water, and on non-tidal waterways at the ordinary high-water mark.

SIGNIFICANT HABITAT AREAS. A land or water area where sustaining the natural resource characteristics is important or essential to the production and maintenance of aquatic life or wildlife populations.

SOCIAL CONSEQUENCES. The tangible and intangible effects upon people and their relationships with the community in which they live resulting from a particular action or decision.

STRUCTURE. Anything constructed or installed or portable, the use of which requires a location on a parcel of land.

SUBSTRATE. The medium upon which an organism lives and grows. The surface of the land or bottom of a water body.

SUBTIDAL. Below the level of mean lower low tide (MLLT).

TEMPORARY ALTERATION. Dredging, filling, or another estuarine alteration occurring over a specified short period of time which is needed to facilitate a use allowed by an acknowledged plan. Temporary alterations may not be for more than three years and the affected area must be restored to its previous condition. Temporary alterations include:
(1) alterations necessary for federally authorized navigation projects (e.g., access to dredged material disposal sites by barge or pipeline and staging areas or dredging for jetting maintenance), (2) alterations to establish mitigation sites, alterations for bridge construction or repair and for drilling or other exploratory operations, and (3) minor structures (such as blinds) necessary for research and educational observation.

TERRITORIAL SEA. The ocean and seafloor area from mean low water seaward three nautical miles.

TIDAL MARSH. Wetlands from lower high water (LHW) inland to the line of non-aquatic vegetation.

URBAN LAND. Land inside an urban growth boundary.

URBANIZABLE LAND. Urban land that, due to the present unavailability of urban facilities and services, or for other reasons, either:
(a) Retains the zone designations assigned prior to inclusion in the boundary, or
(b) Is subject to interim zone designations intended to maintain the land's potential for planned urban development until appropriate public facilities and services are available or planned.

WATER-DEPENDENT. A use or activity which can be carried out only on, in, or adjacent to water areas because the use requires access to the water body for water-borne transportation, recreation, energy production, or source of water.

WATER ORIENTED. A use whose attraction to the public is enhanced by a view of or access to coastal waters.

WATER-RELATED. Uses which are not directly dependent upon access to a water body, but which provide goods or services that are directly associated with water-dependent land or waterway use, and which, if not located adjacent to water, would result in a public loss of quality in the goods or services offered. Except as necessary for water-dependent or water-related uses or facilities, residences, parking lots, spoil and dump sites, roads and highways, restaurants, businesses, factories, and trailer parks are not generally considered dependent on or related to water location needs.

WETLANDS. Land areas where excess water is the dominant factor determining the nature of soil development and the types of plant and animal communities living at the soil surface. Wetland soils retain sufficient moisture to support aquatic or semi-aquatic plant life. In marine and estuarine areas, wetlands are bounded at the lower extreme by extreme low water; in freshwater areas, by a depth of six feet. The areas below wetlands are submerged lands.

Department of Land Conservation and Development

THE EVOLUTION OF OREGON'S STATEWIDE PLANNING GOALS

Oregon's statewide planning goals grew out of Senate Bill 10 in 1969. That bill established a basic program for statewide planning. It required local governments to draw up comprehensive plans, and it set forth 10 goals to guide cities and counties in their planning.

In 1973, the legislature replaced that basic program with a much more extensive one. With Senate Bill 100, the 1973 Legislature created the Land Conservation and Development Commission (LCDC) and directed it to establish new statewide planning goals and guidelines by January 1, 1975. The legislation listed 11 areas and activities which were to be given priority consideration as the new commission developed its goals.

After extensive public review, and dozens of public hearings and workshops, LCDC adopted statewide planning goals 1 through 14 in December 1974. The commission later adopted Goal 15 (for the Willamette River Greenway) in 1975, and goals 16 through 19 (on coastal resources) the next year. In the two decades since the goals were adopted, most of them have been amended once or twice. The table on the next page shows when each goal was initially adopted and the dates of any amendments to it.

There are three key dates in adopting or amending a goal:

- When LCDC votes to adopt the goal or amendment;
- When the goal or amendment is filed with the Secretary of State's office;
- When the goal or amendment takes effect.

In most cases, a new goal or an amendment takes effect on the day it is filed with the Secretary of State. That usually occurs a few weeks after LCDC's vote for adoption. Please refer to the *Contents* pages for a complete list of Original Adoption and subsequent Amendment dates for each goal listed.

Appendix D: Medford Water Commission Resolution 1058

RESOLUTION NO. 1058

A RESOLUTION of the City of Medford, Board of Water Commissioners revising Resolution No. 992 regarding the extension of water service outside of city boundaries.

WHEREAS, the Board has determined that Resolution No. 992 which limits the extension of water service outside city boundaries, needs to be revised; and,

WHEREAS, the Board, pursuant to Section 21 of the Medford Charter of 1976 and Chapter 225, Oregon Revised Statutes, is empowered to construct facilities and extend water service outside the corporate limits of the City of Medford; and,

WHEREAS, the Board periodically receives requests to extend facilities and services outside the corporate limits of the city and in responding to such requests finds it useful and desirable to promulgate written policies regarding such extension; and,

WHEREAS, the Board finds there is a need to coordinate actions on such requests with statewide land use planning goals and guidelines, comprehensive plans, cooperative agreements, urban growth boundary policies and annexation policies of the public bodies affected by such requests in order to ensure the planned and orderly provision of all necessary public services, including water; and,

WHEREAS, it is the intention of the Board to observe existing statutory and contractual obligations as well as the policies of affected bodies; and,

WHEREAS, the Board has determined that water is an urban service, and has acquired sufficient water supplies to adequately meet the requirements of the areas within urban growth and urban reserve boundaries of the cities and existing water districts which the Board is presently committed to serve. Such water supplies are not adequate to serve additional areas;

WHEREAS, the Commission desires to clarify that the Commission will not expand water service to any new or existing water districts which are not currently under contract with the Commission,

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF WATER COMMISSIONERS OF THE CITY OF MEDFORD, OREGON, AS FOLLOWS:

SECTION 1. That water districts purchasing water from the Medford water system will be permitted to extend their water system facilities within their boundaries subject to the other provisions contained herein. Such extension of districts' water mains shall be done only with prior written approval of the Water Commission and that such approval shall be based on findings of the Commission that there are provisions for the coordinated development of all other urban facilities and services appropriate for the area to be served by the extension and that such extension is in accordance with the comprehensive plan of the City of Medford as it applies to the area to be served. All extension of water service shall be installed to full "urban" standards as determined by the Water Commission.

SECTION 2. That water districts and similar agencies will not be permitted to annex additional areas beyond their present boundaries without written permission of the Commission. Permission will be granted if all of the conditions of Section 4 or Section 7 of this Resolution have been met and the Commission has no water facilities available to supply service to the

area requesting service. Permission will also be granted if the water districts wish to annex the remaining portion of existing tax lots which are split by the water district's legally described boundary at the time of the adoption date of this resolution provided that the annexations are finalized by March 3, 2001. The Commission will not expand water service to any new or existing water districts which are not currently under contract with the Commission.

SECTION 3. That water service is supplied to other cities in the region by contract. These contracts define those geographic areas where water service maybe supplied based upon the type of water supply contracts ("surplus water" or "treat and transport") and the individual planning processes of each of these cities. The intent of the urbanization standards contained in these contracts is to follow the same general urbanization policies as is defined in this resolution. These standards must not be contrary to the "public interest" of the Medford Water Commission and City of Medford. Granting of any water service outside of the corporate boundaries of any city must be done in accordance to provisions of Chapters 195 and 197 of the Oregon Revised Statutes and Jackson County Comprehensive Plan.

SECTION 4. That water service may be granted to property within the Medford urban growth boundary of the City of Medford providing all of the following conditions have been met:

a) Undeveloped property that is in the urban growth boundary shall not receive water service unless the property is annexed into the City.

b) Developed property that is in the urban growth boundary may receive water service provided the property owners are not proceeding with any land use permits, as follows:

1) Contiguous property owners – are contractually obligated to annex to the City of Medford and have started the annexation process.

2) Non-contiguous property owners – have demonstrated to the City's planning department that they do not have a reasonable chance of successfully completing the annexation process (i.e., due to the location of property, refusal by intervening property to agree to annex, etc.). The property's owners must sign an irrevocable consent binding present and future owners to annex to the City, which will be recorded before water service is provided.

c) The property owner must pay a systems development charge for its proportional share of the cost of treatment and transmission facilities.

d) The water facilities which are needed to supply this property shall be installed to full "urban" standards as determined by the Commission. This shall include minimum main sizes of six inches (6"), fire hydrants spaced according to City of Medford Fire Department standards, high level facilities, etc. as if the property were being developed in an urban area.

e) Water service to property outside city boundaries which is supplied directly by the Commission shall be by special contract. A water rate differential which would provide for a higher rate of return on investment and pay for source water from Lost Creek Reservoir will be charged these customers. Upon change of ownership of the property, a new contract must be signed before water service will be restored. The contract shall also contain the same irrevocable consent to annex provision as was recorded with the property.

SECTION 5. That the Board will grant water service to property within the boundaries of dissolved water districts whose assets have been given to the Commission provided that the property owner signs an irrevocable consent to annex or annexes to the appropriate city, that there are adequate water facilities available to serve the property, and that the property meets all other Regulations Governing Water Service as now exist or may be modified in the future.

SECTION 6. That any proposed extension of water service be in conformance with the Jackson County Comprehensive Plan and will in no way be detrimental to the residents of Medford or the present or future operation, maintenance or construction procedures or requirements of the Commission. New connections to the Big Butte Springs transmission mains above the Coal Mine Pressure Control Station, except to meet contractual obligations, are prohibited under any circumstances. All water service is granted in accordance with the Regulations Governing Water Service as now exist or may be modified in the future.

SECTION 7. Regardless of location, water service will be granted to parties where the Commission has incurred contractual obligations for the extension of service as a part of the consideration for the purchase of rights-of-way, provided such extensions granted these parties meet all standards and regulations as now exist or may be modified in the future. Also, the Board, where it would be in the general public interest, may extend water service for property owned and operated by the United States Government, the State of Oregon, Jackson County, school districts, and the cities of Medford, Central Point, Eagle Point, Jacksonville, Phoenix and Talent.

SECTION 8. That Resolution No. 944 is hereby repealed and that the policy of said Board of Water Commissioners as regards the extension of water service outside of city boundaries is now as stated in this resolution.

PASSED at a regular meeting of the Board of Water Commissioners of the City of Medford, Oregon, and signed by me in authentication thereof this 2nd day of January 2002.

ATTEST: Beverly Sandkoot
City Recorder

Chair

Appendix E: City of Phoenix/Jackson County Urban Growth Boundary and Policy Agreement

PHOENIX/JACKSON COUNTY
URBAN GROWTH BOUNDARY AND POLICY AGREEMENT[1]

This agreement made and entered into this 17th day of May, 1995, by and between the City of Phoenix, a municipal corporation, hereinafter called "City" and Jackson County, a political subdivision of the State of Oregon, hereinafter called "County".

WHEREAS, Under ORS 197, State Land Use Goal 14, Urbanization, the "Establishment and change of the boundary shall be a cooperative process between a city and the county or counties that surround it;" and

WHEREAS, pursuant to authority granted by Oregon Revised Statutes and Charter of the City of Phoenix, the City and County propose to enter into an Agreement to adopt an Urban Growth Boundary, Policies, and Revision Procedures for the Phoenix Urbanizable Area.

THEREFORE, the City and County adopt the following Urban Growth Policies which shall serve as the basis for decisions pertaining to development and land uses in the area between the City limits of Phoenix and its Urban Growth Boundary, and other lands that are of mutual interest or are of significant importance to Phoenix's long-range growth and development.

SECTION I. THE PHOENIX URBANIZABLE AREA

The Phoenix Urbanizable Area includes lands currently within the City and encompasses selected land around the City which are planned for future City growth, and which are likely to require the extension of City services. The area is delineated by an Urban Growth Boundary imposed on the Official Comprehensive Plan and Zoning Map of Jackson County.

The Policies, Revision Procedures, and other discussion noted in this section of the Plan were developed as part of a coordinated process involving the City and County governing bodies, affected agencies, and local citizens' planning advisory groups.

Policies: The following policies will guide the administration of the Urban Growth Boundary for the City of Phoenix:

1) An Urban Growth Boundary adopted herein or hereinafter amended for the Phoenix area will establish the limits of urban growth to the year 2000, and is designed to accommodate a population of 6,465.

   A) City annexation shall occur only within the officially adopted Urban Growth Boundary.

   B) Specific annexation decisions shall be governed by the official annexation policy of the City. The City will provide an opportunity for the County to respond to pending requests for annexation.

   C) Establishment of an Urban Growth Boundary does not imply that all land within the boundary will be annexed to the City.

2) A change in the use of urbanizable land from land uses designated on the Jackson County Comprehensive Plan and Zoning map to uses shown on the City of Phoenix Comprehensive Plan and Zoning Maps shall only occur upon annexation to the City, or a contract of annexation between the City, County, and other involved parties.

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[1] *Adopted by Ordinance 95-20 on May 17, 1995, by the Board of Commissioners and on April 14, 1995, by the City of Phoenix, File 94-3-UGBA.*

A) Development of land for uses designated on the City Comprehensive Plan will be encouraged to occur on underdeveloped lands adjacent to or encompassed by the existing City limits prior to the conversion of other lands within the boundary.

B) Urban facilities and services must be adequate in condition and capacity to accommodate the additional level of growth, as allowed by the City Comprehensive Plan, prior to or concurrent with the land use changes.

3) Except in cases where a contract for annexation has been executed, or after proclamation of an annexation having a delayed effective date pursuant to ORS 222.180(2), Jackson County shall retain jurisdiction over land use decisions within the unincorporated urbanizable area and such decisions shall conform to these adopted policies:

A) Recognizing that unincorporated areas within the Urban Growth Boundary could ultimately become part of Phoenix, the City's recommendations will be given due consideration. It is the intent of the County to administer a mutually adopted City/County policy in the urbanizable area until such time as the area is annexed.

B) The city will be requested to respond to pending applications for land use changes in the unincorporated urbanizable area. If no response is received within fourteen (14) days, the County will assume the City has no objection to the request.

C) The City will request the County to respond to pending applications for land use changes within the incorporated area which could affect land under County jurisdiction. If no response is received within fourteen (14) days, the City will assume the County has no objection to the request.

D) Any application for a subdivision, land partition, or other land division within the established Urban Growth Boundary of Phoenix shall include the City's written approval of a Conversion Plan for the subject property, in accordance with the requirements of Section 14, Conversion Plan Regulations, of the Phoenix Zoning Ordinance.

4) Any land use actions within the unincorporated urbanizable area shall conform to urban standards and public improvement requirements as contained in the City's and County's Land Development Codes, except that in the case of a conflict between the two, those of the City shall apply.

5) Within the unincorporated urbanizable area, execution and recording of an irrevocable consent to annex to the City, pursuant to ORS 222.115, shall be required for:

A) Single-Family Residential permits

B) City sanitary sewer and City water hook-up permits

C) All land use actions subject to County site plan review

6) The City, County and affected agencies shall coordinate the expansion and development of all urban facilities and services within the Phoenix urbanizable area.

A) Provisions for urban facilities and services shall be planned in a manner limiting duplication in an effort to provide greater efficiency and economy of operation.

B) A single urban facility or service extended to the urbanizable area must be coordinated with the planned future development of all other urban facilities and services appropriate to that area, and shall be provided at levels necessary for expected uses, as designated on the City's Comprehensive Plan.

C) The City shall be responsible for adopting and maintaining a public facilities plan for the City and urbanizable area pursuant to OAR 660-11.

D) When development occurs within the unincorporated urbanizable areas subject to a contract for annexation, or after proclamation of an annexation having a delayed effective date, any or all City services may be extended to these areas, pursuant to ORS 222.180(2) and Jackson County Land Development Ordinance Chapter 251. All associated fees and charges which are applicable within the City shall be applicable to these areas and shall be paid to the City pursuant to City regulations.

7) Provision of City sewer and water services may only occur beyond the Urban Growth Boundary after approval by the provider agency and Jackson County, and when a "danger to public health" as defined by ORS 431.705(5) exists. The services thus authorized shall serve only the area in which the danger exists and shall provide a level of service consistent with the County's Comprehensive Plan designation.

8) The Highway 99 area north of the City is designated as an Area of Mutual Concern. The City and County will coordinate their land use and transportation planning activities for the area.

9) Long-range transportation and air quality planning for the urbanizable area shall be a joint City/County process coordinated with all affected agencies.

10) All County road construction and reconstruction resulting from new development, redevelopment, or land division in the urbanizable area shall be to urban standards, except that the term "reconstruction" does not include normal road maintenance by the County.

11) The City and the County acknowledge the importance of permanently protecting agricultural lands that are zoned Exclusive Farm Use (EFU), other than those that may be within the urbanizable area or in the identified direction of urban growth. Both jurisdictions will continue to maintain policies regarding the buffering of said lands. Urban development will be allowed to occur on land adjacent to land zoned EFU when the controlling jurisdiction determines that such development will be compatible with the adjacent farm use. Buffering shall occur on the urbanizable land adjacent to the Urban Growth Boundary. The amount and type of buffering required

will be considered in light of the urban growth and development policies of the City and circumstances particular to the agricultural land. Buffering options may include:

A) Special setbacks for new urban structures adjacent to the Urban Growth Boundary;

B) Acquisition by public agencies;

C) Lower densities at the periphery of the Urban Growth Boundary than allowed elsewhere in the City;

D) Strategic location of roads, golf courses, or other public areas or facilities; and/or,

E) Use of vegetative screens, earthen berms, and fences of sufficient height and substance to help reduce trespass of people, animals, and vehicles.

In addition, a deed declaration recognizing common, customary, and accepted farming practices shall be required for all development that is allowed to occur within three-hundred (300) feet of any land zoned for Exclusive Farm Use. The City shall request the County's recommendations concerning the buffering of any such urban development proposals adjacent to lands zoned EFU.

Definitions:

1) Area of Mutual Planning Concern: A geographical area lying beyond the adopted Urban Growth Boundary in which the City and County have an interest in terms of that area's types and levels of development, land uses, environment, agriculture, and other unique characteristics. The area is not subject to annexation within the current planning period but may be in the path of longer-range urban growth. Therefore, the City and County will fully coordinate land use activity within this area.

2) Contract Annexation: A process whereby the City, County, and other involved parties enter into a contract that permits:

A) The parties to administer urban land use regulations on the development of property following an annexation decision while the property remains under County jurisdiction; and

B) The City to annex property developed to City densities and uses, with the improvement to appear on the County tax rolls prior to the effective date of annexation, resulting in a greater benefit to the tax base of the City.

3) Develop: To bring about growth or create new opportunities for growth, to extend public facilities or services; to construct, alter or expand a structure; to conduct a mining operation; to make a change in the use or appearance of land; to divide into smaller parcels; to create or terminate rights of access; etc.

4) Subdivide or Partition Land: The act of dividing the legal ownership of land into smaller units, as set forth in Oregon Revised Statutes 92.010.

5) Urban/Public Facilities and Services: Basic facilities that are planned for and provided by either the private or public sector, and are essential to the support of development in accordance with the City's Comprehensive Plan. Such facilities and services include, but are not limited to, police and fire protection, sanitary facilities, public water and storm drain facilities, planning, zoning, and subdivision controls, health services, recreation facilities and services, energy and communication services, and community governmental services including schools and transportation.

6) Urban Growth Boundary: A site specific line on the Official Plan and Zoning Map of Jackson County, which identifies and encompasses urban and urbanizable lands within the County, including:

A) Urban Land: Residential areas generally comprised of parcels smaller than one (1) acre, or highly developed commercial and industrial areas which are within incorporated cities or which contain concentrations of persons who reside or work in the areas, including land adjacent to and outside cities, and which have supporting urban/public facilities and services.

B) Urbanizable Land: Areas within an officially adopted Urban Growth Boundary which are needed for the expansion of urban uses, and which have been determined to be necessary and suitable for development as future urban land and which can be served with necessary urban public facilities and services.

Amendments and Corrections: The procedure for joint City and County review and amendment of the Urban Growth Boundary and Urbanization Policies is as follows:

1) Amendment Procedures for UGB and Urbanization Policies:

A) Major revisions in boundary or policies will be considered amendments to both the City and County Comprehensive Plans and, as such, are subject to a legislative review process.

B) A major revision shall include any boundary change that has widespread and significant impact beyond the immediate area, such as quantitative changes allowing for substantial changes in population or significant increases in resource impacts; qualitative changes in the land use itself, such as conversion of residential to industrial use; or spatial changes that affect large areas or many different ownerships. Any change in the Urbanization Policies is considered a major revision.

C) Major revisions will be considered by the City and County at five (5) year intervals from the date of adoption of the Urban Growth Boundary and Urbanization Policies. If the City and County governing bodies find that circumstances prevail which have a significant effect on the public health, safety or general welfare of the community, a major revision could be considered at intervals of less than five (5) years.

D) A request for a major revision can be initiated by an individual or group, citizen advisory committees, affected agencies, and governing bodies. The party who seeks the revision shall be responsible for filing adequate written

documentation with the City and County governing bodies. Final legislative action on major revision requests shall be based on the following factors:

1. Demonstrated need to accommodate long-range urban population growth requirements consistent with LCDC goals;

2. Need for housing, employment opportunities, and livability;

3. Orderly and economic provision for public facilities and services;

4. Maximum efficiency of land uses within and on the fringe of the existing urban area;

5. Environmental, energy, economic and social consequences;

6. Retention of agricultural land as defined, with Class I being the highest priority for retention and Class VI the lowest priority; and,

7. Compatibility of the proposed urban uses with nearby agricultural activities.

E) Major revision proposals shall be subject to a mutual City and County review and an agreement process that involves affected agencies, citizen advisory committees, and the general public.

2) <u>Minor Boundary Line Adjustments:</u>

A) Minor adjustments to an Urban Growth Boundary may be considered subject to similar procedures used by the City and County in hearing zoning requests. A minor amendment is defined as focusing on specific individual properties and not having significant impact beyond the immediate area of the change.

B) Application for a minor boundary line amendment can only be made by property owners, their authorized agents, or by a City or County governing body. Written applications for amendments may be filed in the office of the Jackson County Department of Planning and Development on forms prescribed by the County. The standards for processing an application are as follows:

1. Documentation must exist indicating the minor adjustment is based on:

a) A demonstrated need for the change consistent with the Urbanization Policies of the City and County;

b) Maximum efficiency of land use and urban facilities and services;

c) The effect on the existing land use character in the immediate area of the request; and,

d) Findings of fact addressing the seven urbanization factors required by Goal 14, as listed above for major revisions.

2. Applications will be reviewed by the affected City and County Planning Advisory Committees annually.

3. The City and County may schedule a joint meeting of their respective planning commissions annually for the express purpose of considering minor boundary line adjustment.

4. The Planning Commissions are required to forward a recommendation and findings on each application to the City and County governing bodies for final consideration.

5. Amendments cannot be made to the Urban Growth Boundary unless mutually agreed to by a majority from each governing body. The County governing body shall be responsible for the preparation of the actual legal instrument which officially amends the boundary line.

3) Correction of Errors:

A) An error is generally considered to be a cartographic mistake, or a misprint, omission, or duplication in the text. They are technical in nature and not the result of new information or changing attitudes or policies.

B) If the City Council and Board of County Commissioners become aware of an error in the map(s) or text of this mutually-adopted urbanization program, both bodies may cause an immediate amendment to correct the error, after mutual agreement is reached.

C) Corrections shall be made by ordinance, following a public hearing conducted by both governing bodies. Public hearings before the planning commissions shall not be required when an amendment is intended specifically to correct an error.

SECTION II. An Urban Growth Boundary and Area of Mutual Planning Concern for the City of Phoenix as described in this Agreement shall be established in a manner conforming to exhibit Map "A", attached hereto and by this reference considered a part hereof.

SECTION III. The Urban Growth Boundary and Urbanization Policies contained in this ordinance are hereby declared to be based upon and supported by the Findings of Fact, attached as Exhibit "B" to this Agreement.

SECTION IV: This AGREEMENT is intended to supersede all prior Agreements between the parties on the same subject matter, including the ordinance adopted by the Board of County Commissioners on July 28, 1978. This AGREEMENT shall be made effective upon execution by the representatives of the City and County as authorized by their respective governing bodies. Exhibits A and B are considered as part of this Agreement and have been referenced and made part of adopting ordinances.

Appendix F: Greater Bear Creek Valley Regional Plan, Chapter 5 - Implementation

Chapter 5

Monitoring and Implementation

Chapter 1 of this plan outlined the Problem Statements, Goals, and Policies developed through this process as required by the Regional Problem Solving (RPS) Statute. These Problem Statements, Goals, and Policies were used to provide guidance for decision-making throughout the development of this regional plan. Chapter 2 addressed one of the major inputs considered in defining the Regional Plan, Regional Growth Planning. Chapter 3 identified the methodology and process for establishing the proposed Urban Reserve Areas as well as the implications of Urban Reserve establishment. Chapter 4 then provided specifics regarding the individual cities choices for proposed Urban Reserve Areas.

This Chapter contains the remaining items required for consistency with the RPS statute, specifically ORS 197.656. These items are consistent with those contained in the Participants Agreement, as required by the RPS statute, and will be implemented through amendments to the County's and each participating cities' comprehensive plans, land use ordinances, and associated Urban Growth Management Agreements.

Oregon Revised Statute 197.656 provides that the commission may acknowledge amendments to comprehensive plans and land use regulations, or new land use regulations, that do not fully comply with the rules of the commission, that implement the statewide planning goals without taking an exception, upon a determination that the regional problem solving process has included agreement among the participants on:

> *A) Regional goals for resolution of each regional problem that is the subject of the process;*
>
> *(B) Optional techniques to achieve the goals for each regional problem that is the subject of the process;*
>
> *(C) Measurable indicators of performance toward achievement of the goals for each regional problem that is the subject of the process;*
>
> *(D) A system of incentives and disincentives to encourage successful implementation of the techniques chosen by the participants to achieve the goals;*
>
> *(E) A system for monitoring progress toward achievement of the goals; and*
>
> *(F) A process for correction of the techniques if monitoring indicates that the techniques are not achieving the goals.*

1. RPS IMPLEMENTATION TECHNIQUES — ORS 197.656(2)(b A & (B)

1.1 Optional Implementation Techniques

ORS 197.656(2)(b)(A) B) require that an RPS process must contain regional goals to resolve identified problems as well as optional techniques to achieve the stated goals. This section reiterates the problems and goals, discussed in detail in Chapter 1 of the Regional Plan, and specifies the optional techniques used to achieve the stated goals.

1.1.1 Problem No. 1. Lack of a Mechanism for Coordinated Regional Growth Planning

Goal No. 1. Manage Future Regional Growth for the Greater Public Good

1.1.1.1 ***Coordinated Periodic Review****. On a regular basis, every 10 years starting in 2022, the participating jurisdictions in the Plan may, at their discretion, participate in a process of coordinated Periodic Review. This process may be initiated by any of the participating jurisdictions but requires agreement between all participants to proceed.*

This technique is found in Section 4 of this Chapter and is given effect upon adoption of the Regional Plan. If this technique is executed it will occur as a future action following Regional Plan adoption.

1.1.1.2 ***Regional Plan Progress Report.*** *On a regular basis, every 5 years starting in 2017, all participating jurisdictions shall participate in a regular Regional Plan review process. Jackson County shall initiate the Regional Plan review process by providing notice of the Regional Plan review to each participant and requiring that each participant submit a self-evaluation monitoring report addressing compliance with the performance indicators set out in Section 3 of this Chapter of the Plan, to the County within 60 days after the date of the notice.*

This technique is found in Section 4 of this Chapter and is given effect upon adoption of the Regional Plan. Execution of the technique will occur as a future action following plan adoption.

1.1.1.3 ***Population Allocation.*** *The County's Population Element shall be updated per statute to be consistent with the gradual implementation of the adopted Plan. If changes occur during the update of the County's Population Element that result in substantially different population allocations for the participating jurisdictions of this Regional Plan, then the Plan shall be amended according to Section 5 of this Chapter of the Plan.*

The technique is found in Section 2 of this Chapter. The Regional Plan executes this strategy by extending the existing population allocations in the Jackson County Comprehensive Plan Population Element that end in 2040 out to the RPS Planning Horizon for participating jurisdictions. This is discussed further in Chapter 2 of this Plan.

1.1.1.4 ***Greater Coordination with the RVMPO.*** *The participating jurisdictions shall collaborate with the Rogue Valley Metropolitan Planning Organization (RVMPO to: Prepare the Conceptual Transportation Plans identified in Section 2.7; Designate and protect the transportation infrastructure required in the Conceptual Transportation Plans identified in Section 2.7 to ensure adequate transportation connectivity, multimodal use, and minimize right of*

way costs; Plan and coordinate the regionally significant transportation strategies critical to the success of the adopted Regional Plan including the development of mechanisms to preserve rights-of-way for the transportation infrastructure identified in the Conceptual Transportation Plans; and; Establish a means of providing supplemental transportation funding to mitigate impacts arising from future growth.

The technique is found in Section 2 of this Chapter and is given effect upon adoption of the Regional Plan.

1.1.1.5 Future Coordination with the RVCOG. *The participating jurisdictions shall collaborate with the Rogue Valley Council of Governments on future regional planning that assists the participating jurisdictions in complying with the Regional Plan performance indicators. This includes cooperation in a region-wide conceptual planning process if funding is secured.*

The technique is found in Section 2 of this Chapter and is given effect upon adoption of the Regional Plan.

1.1.2 Problem No. 2. Loss of Valuable Farm and Forest Land Caused by Urban Expansion

Goal No. 2. Conserve resource and open space lands for their important economic, cultural, and livability benefits

1.1.2.1 ***Long-Range Urban Reserves.*** *The establishment of Urban Reserves sufficient to serve the doubling of the Region's urban population will allow long-term production decisions to be made on agricultural land not included in urban reserves.*

The Regional Plan executes this technique directly by establishing Urban Reserves for the participating jurisdictions. These reserves are discussed in Chapters 3 and 4 of this Plan.

1.1.2.2 ***Agricultural Buffering****. Participating jurisdictions designating Urban Reserve Areas shall adopt the Regional Agricultural Buffering program in Volume 2, Appendix III into their Comprehensive Plans as part of the adoption of the Regional Plan. The agricultural buffering standards in Volume 2, Appendix III shall be adopted into their land development codes prior to a UGB amendment.*

This technique is found in Section 2 of this Chapter and is executed after adoption of the Regional Plan through local land development ordinance amendments consistent with the program in Volume 2, Appendix III of the Regional Plan.

1.1.2.3 ***Regional Land Preservation Strategies.*** *Participating jurisdictions have the option of implementing the Community Buffer preservation strategies listed in Volume 2, Appendix V of the Regional Plan or other strategies to preserve land as they develop.*

This problem solving technique is supported but not independently established by the Regional Plan. The Regional Plan establishes a framework that participants may undertake for land preservation as part of future preservation efforts. The strategies are outlined in Volume 2, Appendix V of

this Plan.

1.1.3 Problem No. 3. Loss of Community Identity

Goal No. 3. Recognize and emphasize the individual identity, unique features, and relative competitive advantages and disadvantages of each community within the Region.

1.1.3.1 ***Community Buffers.*** *The establishment of Urban Reserves outside of the areas of critical open space provides for a basic level of preservation for the Region's important areas of community separation.*

The Regional Plan executes this technique directly by establishing Urban Reserves for the participating jurisdictions which do not include areas identified in Volume 2, Appendix V of the Regional Plan as a Community Buffer.

1.1.3.2 ***Allocating to Competitive Advantages****. The Region agrees to a distribution of the calculated need of residential and employment lands among the Implementing Signatories necessary to support a regional doubling of the population. This distribution, which depends on a number of factors that relate to the comparative strengths and weaknesses of Implementing Signatories, allows each community to develop its own balance of viability and individuality within the larger regional matrix.*

This technique is implemented directly by the Regional Plan. This technique refines the regional growth planning into growth planning for population and employment for the individual participants according to the particular characteristics of the individual cities. The technique then extends this growth planning to land need for these individual growth planning activities.

1.1.3.3 ***Regional Land Preservation Startegies.*** *Participating jurisdictions have the option of implementing the Community Buffer preservation strategies listed in Volume 2, Appendix V of the Regional Plan or other strategies to preserve land as they develop.*

This problem solving technique is supported but not independently established by the Regional Plan. The Regional Plan establishes a framework that participants may undertake for land preservation as part of future preservation efforts. The strategies are outlined in Volume 2, Appendix V of this Plan.

2. PERFORMANCE INDICATORS — ORS 197.656(2)(b)(C)

To effectuate the Regional Plan, Jackson County shall adopt the Regional Plan in its entirety into the County Comprehensive Plan. The Participating cities then shall incorporate the portions of the Regional Plan that are applicable to each individual city into that city's comprehensive plan and implementing ordinances, and shall reference the Plan as an adopted element of Jackson County's Comprehensive Plan. After the County and all participating cities have completed the adoptions, the amendments must be submitted to the State of Oregon Department of Land Conservation and Development for acknowledgement by the Land Conservation and Development Commission. Only after acknowledgement does the Regional Plan become effective.

Progress following the acknowledgement of the Greater Bear Creek Valley Regional Plan by the State of Oregon will be measured against a number of performance indicators to determine the level of compliance by participating jurisdictions with the Plan or the need to refine or amend it. The measurable performance indicators listed below are those identified as necessary for the acknowledgement of the Plan and as appropriate for monitoring compliance with the Plan.

2.1 Jackson County shall adopt the Regional Plan in its entirety into the County Comprehensive Plan and implementing ordinance.

2.2 All participating jurisdictions shall incorporate the portions of the Regional Plan that are applicable to each individual city into that city's comprehensive plan and implementing ordinances, and will reference the Plan as an adopted element of Jackson County's Comprehensive Plan.

2.3 **Urban Reserve Management Agreement**. Participating jurisdictions designating an Urban Reserve Area (URA shall adopt an Urban Reserve Management Agreement (URMA between the individual city and Jackson County per Oregon Administrative Rule 660-021-0050. Adoption shall occur prior to or simultaneously with adoption of the URAs.

2.4 **Urban Growth Boundary Management Agreement.** If there is an inconsistency between this Plan and an adopted Urban Growth Boundary Management Agreement (UGBMA), the city and Jackson County shall adopt a revised UGBMA. When an inconsistency arises, provisions in this Plan and associated URMA shall override the provisions in the UGBMA, until the UGBMA is updated.

2.5 **Committed Residential Density**. Land within a URA and land currently within an Urban Growth Boundary UGB) but outside of the existing City Limit shall be built, at a minimum, to the following residential densities. This requirement can be offset by increasing the residential density in the City Limit.

City	Dwelling Units Per Gross Acre 2010-2035	Dwelling Units Per Gross Acre 2036-2060
Central Point	6.9	7.9
Eagle Point	6.5	7.5
Medford	6.6	7.6
Phoenix	6.6	7.6
Talent	6.6	7.6

2.5.1 Prior to annexation, each city shall establish (or, if they exist already, shall adjust minimum densities in each of its residential zones such that if all areas build out to the minimum allowed the committed densities shall be met. This shall be made a condition

of approval of a UGB amendment.

2.6 **Mixed-Use/Pedestrian-Friendly Areas**. For land within a URA and for land currently within a UGB but outside of the existing City Limit, each city shall achieve the 2020 benchmark targets for the number of dwelling units Alternative Measure #5) and employment (Alternative Measure #6) in mixed-use/pedestrian-friendly areas as established in the 2009 Regional Transportation Plan (RTP) or most recently adopted RTP. Beyond the year 2020, cities shall continue to achieve the 2020 benchmark targets, or if additional benchmark years are established, cities shall achieve the targets corresponding with the applicable benchmarks. Measurement and definition of qualified development shall be in accordance with adopted RTP methodology. The requirement is considered met if the city or the region overall is achieving the targets or minimum qualifications, whichever is greater. This requirement can be offset by increasing the percentage of dwelling units and/or employment in the City Limit. This requirement is applicable to all participating cities.

2.7 **Conceptual Transportation Plans.** Conceptual Transportation Plans shall be prepared early enough in the planning and development cycle that the identified regionally significant transportation corridors within each of the URAs can be protected as cost-effectively as possible by available strategies and funding. A Conceptual Transportation Plan for a URA or appropriate portion of a URA shall be prepared by the City in collaboration with the Rogue Valley Metropolitan Planning Organization, applicable irrigation districts, Jackson County, and other affected agencies, and shall be adopted by Jackson County and the respective city prior to or in conjunction with a UGB amendment within that URA.

2.7.1 Transportation Infrastructure. The Conceptual Transportation Plan shall identify a general network of regionally significant arterials under local jurisdiction, transit corridors, bike and pedestrian paths, and associated projects to provide mobility throughout the Region (including intracity and intercity, if applicable).

2.8 **Conceptual Land Use Plans**. A proposal for a UGB Amendment into a designated URA shall include a Conceptual Land Use Plan prepared by the City in collaboration with the Rogue Valley Metropolitan Planning Organization, applicable irrigation districts, Jackson County, and other affected agencies for the area proposed to be added to the UGB as follows:

2.8.1 Target Residential Density. The Conceptual Land Use Plan shall provide sufficient information to demonstrate how the residential densities of Section 2.5 above will be met at full build-out of the area added through the UGB amendment.

2.8.2 Land Use Distribution. The Conceptual Land Use Plan shall indicate how the proposal is consistent with the general distribution of land uses in the Regional Plan, especially where a specific set of land uses were part of the rationale for designating land which was determined by the Resource Lands Review Committee to be commercial agricultural land as part of a URA, which applies to the following URAs: CP-1B, CP- 1C, CP-4D, CP-6A, CP-2B, MD-4, MD-6, MD-7mid, MD-7n, PH-2, TA-2, TA-4.

2.8.3 Transportation Infrastructure. The Conceptual Land Use Plan shall include the transportation infrastructure required in Section 2.7 above.

2.8.4 Mixed Use/Pedestrian Friendly Areas. The Conceptual Land Use Plan shall provide sufficient information to demonstrate how the commitments of Section 2.6 above will be met at full build-out of the area added through the UGB amendment.

2.9 The following conditions apply to specific Urban Reserve Areas:

2.9.1 CP-1B. Prior to the expansion of the Central Point Urban Growth Boundary into the CP-1B area, ODOT, Jackson County and Central Point shall adopt an Interchange Area Management Plan (IAMP for the Seven Oaks Interchange Area.

2.9.2 CP-4D. Use of CP-4D is predominantly restricted to open space and park land with the exception of an existing one acre homesite.

2.9.3 No roadways are to extend North, East, or West from CP-4D.

2.9.4 CP-6B. Development of the portion of CP-6B designated as employment land is restricted to Institutional uses.

2.9.5 CP-1B, CP-1C, CP-2B, CP-3, CP-4D, CP-6A, CP-6B. Prior to the expansion of the Central Point Urban Growth Boundary into any Urban Reserve Area, the City and Jackson County shall adopt an agreement Area of Mutual Planning Concern) for the management of Gibbons/Forest Acres Unincorporated Containment Boundary.

2.9.6 EP-1A. Development of EP-1A is restricted to Light Industrial uses.

2.9.7 PH-2. Truck traffic onto Houston Road is prohibited.

2.9.8 PH-5. Development of the portion of PH-5 designated as employment land is restricted to industrial zoning. Prior to the expansion of the Phoenix Urban Growth Boundary into PH-5, the City shall adopt standards to create visual distinction between the City of Phoenix and the City of Medford.

2.9.9 PH-1, PH-1a, PH-3, PH-5, PH-10. Prior to the expansion of the city of Phoenix Urban Growth Boundary into any Urban Reserve Area to accommodate employment land need, the region shall agree on a mechanism such as a Regional Economic Opportunities Analysis to assist the city of Phoenix in justifying the regional need for urban reserve PH-5.

2.9.10 MD-6. Prior to incorporation into the Urban Growth Boundary, a property line adjustment or land division shall be completed for Tax Lots 38-1W-05-2600 and 381W06-100 so that the tax lot lines coincide with the proposed Urban Growth Boundary.

2.9.11 TA-1. Development of TA-1 is restricted to use as a school or a park/open space/recreational area.

2.9.12 TA-4. Development on the portion of TA-4 east of the railroad shall be restricted to industrial uses.

2.9.13 TA-ROW. Development of TA-ROW is restricted to transportation uses and shall be a maximum of 120' in width.

2.10 **Agricultural Buffering**. Participating jurisdictions designating Urban Reserve Areas shall adopt the Regional Agricultural Buffering program in Volume 2, Appendix III into their Comprehensive Plans as part of the adoption of the Regional Plan. The agricultural buffering standards in Volume 2, Appendix III shall be adopted into their land development codes prior to a UGB amendment.

2.11 **Regional Land Preservation Strategies.** Participating jurisdictions have the option of implementing the Community Buffer preservation strategies listed in Volume 2, Appendix V of

the Regional Plan or other land preservation strategies as they develop.

2.12 **Housing Strategies.** Participating jurisdictions shall create regional housing strategies that strongly encourage a range of housing types throughout the region within 5 years of acknowledgement of the RPS Plan.

2.13 **Urban Growth Boundary Amendment**. Pursuant to ORS 197.298 and Oregon Administrative Rule 660-021-0060, URAs designated in the Regional Plan are the first priority lands used for a UGB amendment by participating cities.

2.13.1 Land outside of a city's URA shall not be added to a UGB unless the general use intended for that land cannot be accommodated on any of the city's URA land or UGB land.

2.14 **Land Division Restrictions.** In addition to the provisions of Oregon Administrative Rule 660-021-0040, **t**he following apply to lots or parcels which are located within a URA until they are annexed into a city:

2.14.1 The minimum lot size shall be ten acres;

2.14.2 Development on newly created residentially zoned lots or parcels shall be clustered to ensure efficient future urban development and public facilities, and this shall be a condition of any land division;

2.14.3 Land divisions shall be required to include the pre-platting of future lots or parcels based on recommendations made by the city government to which the urban reserve belongs;

2.14.4 Land divisions within a URA shall not be in conflict with the transportation infrastructure identified in an adopted Conceptual Transportation Plan; and

2.14.5 As a condition of land division approval, a deed declaration shall be signed and recorded that recognizes public facilities and services will be limited as appropriate to a rural area and transitioned to urban providers in accordance with the adopted URMA.

2.15 **Rural Residential Rule**. Until the City of Ashland adopts an Urban Reserve Area, the minimum lot size for properties within 1 mile of the Urban Growth Boundary of Ashland shall continue to be 10 acres, as outlined in Oregon Administrative Rule 660-004-0040 8)(c .

2.16 **Population Allocation**. The County's Population Element shall be updated per statute to be consistent with the gradual implementation of the adopted Plan. If changes occur during an ~~the~~ update of the County's Population Element that result in substantially different population allocations for the participating jurisdictions of this Regional Plan, then the Plan shall be amended according to Section 5 of this Chapter of the Plan.

2.17 For the purposes of UGB amendments, the amount and type of park land included shall be consistent with the requirements of OAR 660-024-0040 or the park land need shown in the acknowledged plans.

2.18 Future urban growth boundary amendments will be required to utilize the definition of buildable land as those lands with a slope of less than 25 percent, or as consistent with OAR 660-008-0005(2) and other local and state requirements.

2.19 **Greater Coordination with the RVMPO.** The participating jurisdictions shall collaborate with the Rogue Valley Metropolitan Organization (RVMPO) to:

2.19.1 Prepare the Conceptual Transportation Plans identified in Section 2.7.

2.19.2 Designate and protect the transportation infrastructure required in the Conceptual Transportation Plans identified in Section 2.7 to ensure adequate transportation connectivity, multimodal use, and minimize right of way costs.

2.19.3 Plan and coordinate the regionally significant transportation strategies critical to the success of the adopted Regional Plan including the development of mechanisms to preserve rights-of-way for the transportation infrastructure identified in the Conceptual Transportation Plans; and

2.19.4 Establish a means of providing supplemental transportation funding to mitigate impacts arising from future growth.

2.20 **Future Coordination with the RVCOG.** The participating jurisdictions shall collaborate with the Rogue Valley Council of Governments on future regional planning that assists the participating jurisdictions in complying with the Regional Plan performance indicators. This includes cooperation in a region-wide conceptual planning process if funding is secured.

2.21 **EXPO.** During the first Coordinated Periodic Review process for the Regional Plan, Jackson County shall consider including the land occupied by the Jackson County EXPO to the City of Central Point's Urban Reserve Area.

2.22 **Agricultural Task Force.** Within six months of acknowledgement of the Greater Bear Creek Valley Regional Plan, Jackson County shall appoint an Agricultural Task Force made up of persons with expertise in appropriate fields, including but not limited to farmers, ranchers, foresters and soils scientists, representatives of the State Department of Agriculture, the State Forestry Department, the State Department of Land Conservation and Development, Jackson County, and a RPS participating city.

The Agricultural Task Force shall develop a program to assess the impacts on the agricultural economy of Jackson County arising from the loss of agricultural land and/or the ability to irrigate agricultural land, which may result from Urban Growth Boundary Amendments. The Agricultural Task Force shall also identify, develop, and recommend potential mitigation measures, including financial strategies, to offset those impacts. Appropriate mitigation measures shall be applied to Urban Growth Boundary Amendment proposals.

3. INCENTIVES AND DISINCENTIVES- ORS 197.656(2 b)(D)

The state requires that participants in an RPS process delineate the factors, mechanisms, or outcomes that constitute the most compelling reasons for participants to comply with the Regional Plan over the identified planning horizon. Accordingly, the Participants have agreed to the following:

INCENTIVES:

3.1 Continued regional cooperation through the 5-year review process and 10-year coordinated periodic review may improve the region's ability to respond to challenges and opportunities more effectively than it does presently.

3.2 Adherence to the adopted Regional Plan may provide the region with a competitive

advantage, increase the attractiveness of the region to long-term investment, and improve southern Oregon's profile in the state.

3.3 Adherence to the adopted Regional Plan may produce significant reductions in transportation infrastructure costs by minimizing future right-of-way acquisition costs, encouraging mixed-use/pedestrian friendly development, and improving the overall long-range coordination of transportation and land use planning.

3.4 Adherence to the adopted Regional Plan will provide participating jurisdictions with population allocations that are predictable, transparent, and based on the relative strengths of the different participating jurisdictions.

3.5 The adopted Regional Plan offers compelling regional justifications and state agency support for Tolo and the South Valley Employment Center that may not have been available to an individual city proposal.

3.6 Adherence to the adopted Regional Plan will permit jurisdictions to implement the flexibility provided by the concept of the "Regional Community", in which cities, in the role of "regional neighborhoods", enjoy wide latitude in their particular mix, concentration, and intensity of land uses, as long as the sum of the regional parts contributes to a viable balance of land uses that is functional and attractive to residents and employers and in compliance with statewide goals.

DISINCENTIVES:

3.7 The region's failure to adhere to the adopted Regional Plan may damage its competitive advantage, the attractiveness of the region to long-term investment, and southern Oregon's profile in the state.

3.8 Adherence to the Regional plan may be a rating factor for MPO Transportation Funding. Transportation projects of jurisdictions not adhering to the adopted Regional Plan may be assigned a lower priority by the MPO when considered for funding.

3.9 Jackson County may reconsider the population allocations of jurisdictions signatory to the Agreement not adhering to the adopted Regional Plan.

3.10 Participating jurisdictions not adhering to the adopted Regional Plan will need to provide corrective measures in order to have a UGB amendment approved by the County.

3.11 The failure of a participating jurisdiction to adhere to the adopted Regional Plan will compromise its ability to implement the concept of the "Regional Community", and will not provide the participating cities with as wide a latitude in their desired individual mix, concentration, and intensity of land uses.

4. MONITORING — ORS197.656(2)(b)(E)

4.1 **Monitoring**. Participating jurisdictions shall maintain a monitoring system to ensure compliance with the Regional Plan and future amendments. Specific indicators against which performance will be judged are listed in Section 2 of this Chapter. Monitoring to ensure compliance with the adopted Regional Plan will be a shared responsibility.

4.1.1 Regional Plan Progress Report. On a regular basis, beginning in 2017 and every 5 years thereafter, all participating jurisdictions shall participate in a regular Regional Plan review process. Jackson County shall initiate the Regional Plan review process

by providing notice of the Regional Plan review to each participant and requiring that each participant submit a self-evaluation monitoring report addressing compliance with the performance indicators, set out in Section 2 of this Chapter of the Regional Plan, to the County within 60 days after the date of the notice.

A standardized format for the review and report shall be developed by Jackson County and agreed upon by the jurisdictions. The reports shall include descriptions of their jurisdiction's activities pertinent to the Regional Plan for the preceding five-year period, analysis as to whether and how well those activities meet each of the performance indicators, and a projection of activities for the next five-year period. Jackson County will distribute these monitoring reports to all participants and make them available to the public.

4.2 **Coordinated Periodic Review**. On a regular basis, beginning in 2022 and every 10 years thereafter the participating jurisdictions in the Regional Plan may, at their discretion, participate in a process of coordinated Periodic Review. This process may be initiated by any of the participating jurisdictions but requires agreement between all participants to proceed.

5. CORRECTIVE MEASURES AND PLAN ADJUSTMENTS— ORS197.656(2)(b)(F

5.1 Corrective Measures.

5.1.1 If a Regional Plan Progress Report indicates that a particular city is not meeting the performance measures, the city shall propose corrective measures as an addendum to the Regional Plan Progress Report. The corrective measures shall be approved by the Policy Committee.

5.1.2 Cities that choose to expand their UGBs into land not designated as a URA will be required to go through the Regional Plan minor or major amendment process prior to or concurrent with any other process.

5.1.3 If land outside of a URA is included in a UGB while URA land remains available to that city, an equivalent amount of land shall be removed from the remaining URA land. Land removed shall be of equal or higher priority in relation to the land included. Additionally, if land determined part of the region's commercial agricultural base by the RLRC is included, the land removed shall also be land with that designation if available).

5.1.4 A proposal for an UGB amendment will be required to demonstrate how the Regional Plan performance indicators have been met. A UGB amendment will not be approved by the County unless the Regional Plan performance indicators have been met or corrective measures are proposed which demonstrate how the performance indicators will be met.

5.1.5 Approval of a UGB amendment shall be subject to the condition that it be zoned and developed in a manner consistent with the Conceptual Land Use Plan submitted in the UGB amendment proposal. After the UGB Amendment has been approved, all subsequent Comprehensive Plan Amendments by a city to amend land uses which will result in an inconsistency with the Conceptual Land Use Plan shall be reviewed, modified as appropriate, and approved by the county prior to development. The amendment shall be processed as a Type 4 permit.

5.1.6 A UGB amendment to add land not designated as a URA shall only be considered through a quasi-judicial application when the land to be added is industrial.

5.2 Regional Plan Amendments.

5.2.1 **Regional Plan Amendment Responsibility**. Processing amendments to the adopted Regional Plan shall be the responsibility of Jackson County, and shall only be proposed by the governing authority of a participating jurisdiction. In acknowledgement of the collaborative process by which the adopted Regional Plan was created, Jackson County shall have available the assistance of the participating jurisdictions through a Technical Advisory Committee and Policy Committee. Both committees serve on an as-needed basis, and both serve in an advisory capacity to Jackson County as follows:

5.2.1.1 Technical Advisory Committee. The TAC shall be comprised of planners and senior-level staff from signatory jurisdictions and agencies, and each signatory shall have one vote, irrespective of the number of participating representatives. Recommendations to the Policy Committee or directly to Jackson County shall be made by at least a supermajority vote simple majority plus one) of a quorum of signatory jurisdictions and agencies.

5.2.1.2 Policy Committee. The Policy Committee shall be comprised of elected officials or executive staff from signatory jurisdictions and agencies. Each signatory jurisdiction shall designate a voting and alternate voting member, and each signatory jurisdiction will have one vote. Recommendations to Jackson County shall be made by at least a supermajority vote simple majority plus one) of a quorum of jurisdictions. State agencies, the MPO, and Rogue Valley Sewer Services, while Signatories, shall not be voting members of the Policy Committee.

5.2.2 **Regional Plan Amendment Type**. When an amendment to the adopted Regional Plan is proposed, Jackson County shall make a preliminary determination regarding whether the proposed amendment is a Minor Amendment or Major Amendment, as defined below, shall notify signatory jurisdictions and affected agencies of the County's preliminary determination, and shall solicit input. Based on its preliminary determination and input received, Jackson County shall review the proposed amendment according to the procedures for Minor Amendments or Major Amendments set out below. Proposed amendments to the adopted Regional Plan shall adhere to the following provisions:

5.2.3 Minor Amendment. A minor amendment is defined as any request for an amendment to the adopted Regional Plan that does not conflict with the performance indicators and does not propose an addition of more than 50 acres to a city's URA established in the adopted Regional Plan or more than a 50-acre expansion of the UGB into non-URA land.

In the case of Ashland, which did not establish a URA during the development of the Regional Plan process, a proposal to establish a URA or expand its UGB of not more than 50 acres shall be considered a minor amendment.

Should a city exceed its limit of 50 acres for adding to its URAs during the Planning Horizon for the Regional Plan, it may not use the minor amendment process for further additions to its URA. Should a city exceed its limit of 50 acres for expanding its UGB into non-URA land during the planning horizon, it may not use the minor amendment process for further expansions of its UGB into non-URA land.

Any participant jurisdiction may initiate a minor amendment to the adopted

Regional Plan. The proposing jurisdiction must clearly identify the nature of the minor amendment, and specify whether the minor amendment would require any other signatory jurisdiction to amend its comprehensive plan. Should any signatory jurisdiction other than the proposing jurisdiction and Jackson County be required to amend their comprehensive plans as a result of the proposed minor amendment, the affected signatory jurisdiction shall be a party to the minor amendment proceeding.

Jackson County's process and the proposing jurisdiction's process for a minor amendment to the Regional Plan shall be equivalent to the state and local processes required for a comprehensive plan amendment.

Signatories and agencies shall be provided with notice of the County's and proposing jurisdiction's final decision on each minor amendment within five working days of the adoption of the final decision.

5.2.4 Major Amendment. A major amendment is defined as any requested amendment to the adopted Regional Plan that does not meet the definition of a Minor Amendment.

If multiple signatory jurisdictions are involved in a single request for a major amendment, a lead jurisdiction shall be selected by the affected jurisdictions.

Notice containing a detailed description of the proposed change shall be forwarded by Jackson County to all signatories and affected agencies.

Staff from signatory jurisdictions and agencies shall meet as a Technical Advisory Committee and generate a recommendation to the Policy Committee by vote of at least a supermajority of a quorum simple majority plus one).

Decision-makers from signatory jurisdictions and agencies shall meet as a Policy Committee and consider the proposal and the Technical Advisory Committee recommendation. The Policy Committee shall generate a recommendation to Jackson County by vote of at least a supermajority of a quorum (simple majority plus one).

Should an existing city or a newly incorporated city desire to become a participating jurisdiction, increased population shall be added to the regional projected population adequate to accommodate the projected population growth of the newly incorporated city for the remainder of the Planning Horizon for the Regional Plan. The addition of a newly incorporated city to the Regional Plan, the establishment of Urban Reserve Areas and other such actions shall be accomplished through the major amendment process.

Jackson County's process, and the proposing jurisdiction's process, for a minor or major amendment to the Regional Plan shall be equivalent to the state and local required process for a comprehensive plan amendment, in addition to the Regional Plan-specific provisions. Signatories and affected agencies shall be provided with notice of the final decision on each major or minor amendment within five working days of the adoption of the final decision. Jurisdictions or agencies shall be noticed according to Figure 5.1.

Figure 5.1

JURISDICTIONS AND AGENCIES TO RECEIVE NOTIFICATION OF PROPOSED AMENDMENTS TO THE ADOPTED REGIONAL PLAN		
Jurisdiction or Agency	**Routine**	**As Needed**
City of Eagle Point	X	
City of Central Point	X	
City of Medford	X	
City of Phoenix	X	
City of Talent	X	
City of Ashland	X	
Oregon Department of Transportation	X	
Oregon Department of Land Conservation and Development	X	
Oregon Department of Environmental Quality	X	
Oregon Economic and Community Development Department	X	
Oregon Department of Agriculture	X	
Oregon Housing and Community Development Department	X	
Rogue Valley Metropolitan Planning Organization	X	
Rogue Valley Sewer Services	X	
Medford Water Commission	X	
Rogue Valley Council of Governments	X	
Rogue Valley Transit District	X	
Oregon Department of Fish and Wildlife		X
Division of State Lands		X
Ashland School District #5		X
Central Point School District #6		X
Jackson County School District #9		X
Medford School District 549C		X
Phoenix-Talent School District #4		X
Eagle Point Irrigation District		X
Medford Irrigation District		X
Rogue Valley Irrigation District		X
Talent Irrigation District		X
Jackson Soil and Water Conservation District		X

Appendix G: City of Phoenix Potable Water System Development Charges

ORDINANCE NO. 900

AN ORDINANCE BY THE CITY OF PHOENIX ADOPTING A METHODOLOGY AND OTHER PROVISIONS RELATING TO THE IMPOSITION AND COLLECTION OF SYSTEM DEVELOPMENT CHARGES FOR WATER FACILITIES AND DECLARING AN EFFECTIVE DATE.

THE CITY OF PHOENIX ORDAINS AS FOLLOWS:

WHEREAS, the City has authorized the preparation of a methodology for calculation of water related system development charges for the City of Phoenix; and,

WHEREAS, the City intends to use its Water SDCs as a way to balance capital funding needed for improved water facilities between existing customers and future customers of its water utility; and,

WHEREAS. the City Council desires to adopt a System Development Charge program that reflects the current requirements and authorizations of ORS 223.297 through 223 .314.

THEREFORE, BE IT ORDAINED the City Council of the City of Phoenix Oregon hereby ordains as follows:

Section 1 Ordinance NO._ adopted 5s hereby repealed in its entirety.

Section 2 The following System Development Charge program is hereby adopted pursuant to ORS 223.297 through 223.314:

System Development Charge Program

Section

I. Purpose
2. Scope
3. Definitions
4. System Development Charge Established
5. Methodology
6. Authorized Expenditures
7. Expenditures Restrictions
S. Capital Improvement Plan
9. Collection of Charge
10. Exemptions
11. Credits
12. Segregation and Use of SDC Revenue
13. Appeals and Procedure
14. Severability

1. Purpose
This ordinance is intended to implement the authority provided by ORS 223.297 through 223.314 adopting and imposing system development charges (SDC) on new development that create or increase the demand for water supply, treatment and distribution services and facilities. The purpose of the SDC is to create a fund to pay for

the installation, construction, extension and expansion of water capital improvements and to impose an equitable share of the cost of these capital improvements on the developments that create the need for, or increase the demand on them.

2. Scope

The SDC created and imposed by this ordinance is separate from, and in addition to, any applicable tax, assessment, charge, fee in lieu of assessment or fee otherwise provided by law or imposed as a condition of development.

3. Definitions

For purposes of the ordinance, the following definitions apply:

A. Capital Improvements - facilities or assets used for water supply, treatment and distribution.

B. City Recorder - the duly appointed City Recorder of the City of Phoenix or that person's designee.

C. Development - constructing a building or a structure, conducting a mining operation, making a physical change in the use or appearance of a structure or land, dividing land into two or more parcels (including partitions and subdivisions) and creating or terminating a right of access.

D. Improvement Fee - a fee for costs associated with capital improvements to be constructed after the date the fee is adopted pursuant to Section 4 of this ordinance.

E. Parcel of Land - a lot, parcel, block or other tract of land that is occupied or may be occupied by a structure or structures or other use, and that includes the yards and other open spaces required under the zoning, subdivision or other development ordinances.

F. Qualified Public Improvement - a capital improvement that is required as a condition of development approval, identified in the plan adopted pursuant to Section 8 of this ordinance, and is either:

a. Not located on or contiguous to, the property that is the subject of development approval;
or

b. Located in whole or in part on, or contiguous to, the property that is the subject of development approval and is required to be built larger or with greater capacity than is necessary for the particular development project to which the improvement fee is related.

G. Reimbursement Fee - fee for costs associated with capital improvements constructed or under construction on the date the fee is adopted pursuant to Section 4.

H. System Development Charge (SDC) - a reimbursement fee, an improvement fee or a combination thereof assessed or collected at any of the times specified in Section 9. System development charge does not include fees assessed or collected as part of a local improvement district or a charge in lieu of a local improvement district assessment, or the cost of complying with requirements or conditions imposed by a land use decision.

4. System Development Charge Established

A. Water SDCs shall be established and may be revised from time to time by resolution of the council. The resolution shall set the amount of the charge, the type of permit to which the charge applies, the methodology used to set the amount of the charge, and if the charge applies to a geographic area smaller than the entire, the geographic area subject to the charge.

B. Unless otherwise exempted by the provisions of this ordinance or any other applicable local or state law, a SDC is hereby imposed upon all new or re-development within the city, and upon all lands outside the boundary of the city that connect to or otherwise use the water facilities of the city. SDCs shall be due and payable at the point in time at which the development imposes new or increased demand upon these public improvements or upon issuance of a building permit, whichever occurs first.

5. Methodology

A. The methodology used to establish the reimbursement fee shall be based on rulemaking principles employed lo finance publicly owned capital improvements, prior contributions by then-existing users, gifts or grants from federal or state government or private persons. The value of unused capacity available to future system users or the cost of the existing facilities and other relevant factors identified by the city council. The methodology shall promote the objective that future system users shall contribute no more than an equitable share of the cost of then-existing facilities and shall be available for public inspection.

B. The methodology used to establish the improvement fee shall demonstrate consideration of the projected cost of capital improvements identified in the list adopted pursuant to Section 8 that are needed to increase the capacity of the systems to which the fee is related and for which the need for increased system capacity will be required to serve the demands placed on the system by future users. Improvement fees shall be calculated to obtain the cost of capital improvements for the projected need for available system capacity for future users.

C. The methodology shall also provide for a credit as authorized in Section 11.

D. The methodology shall also provide for periodic indexing of system development charges for inflation, as long as the index used is:

(A) A relevant measurement of the average change in prices or costs over an identified time period for materials, labor, real property or a combination of the three;

(B) Published by a recognized organization or agency that produces the index or data source for reasons that are independent of the system development charge methodology;
and

(C) Incorporated as part of the established methodology or identified and adopted in a separate ordinance, resolution or order."

E. Except when authorized in methodology adopted under subsection SC, any fees imposed or required to be paid, assessed or collected as part of a local improvement district or a charge in lieu of a local improvement district assessment, or the cost of complying with requirements or conditions imposed by a land use decision are separate from and in addition to the SDC and shall not be used as a credit against an SDC.

F. The methodology used to establish the improvement fee or the reimbursement fee, or both, shall be adopted by resolution by the council.

G. After the effective date of this ordinance, the city shall maintain a list of persons who have made a written request for notification prior to adoption or amendment of a methodology for any SDC. Written notice shall be mailed to persons on the list at least 90 days prior to the first bearing to establish or modify a SDC and the methodology supporting the adoption or amendment shall be available at least 60 days prior to the first hearing to adopt or amend. The failure of a person on the list to receive a notice that was mailed shall not invalidate the city's subsequent action. The

city may periodically delete names form the list, but at least 30 days prior to removing a name from list the city must notify the person whose name is to be deleted that a new written request for notification is required if the person wishes to remain on the notification list. A change in the amount of a reimbursement fee or ;m improvement fee is not a modification of the SDC methodology if the change in amount is based on a change in cost of materials, labor or real property applied to projects or project capacity as set forth on the list adopted pursuant to Section S or the periodic application of one or more specific cost indices published by a recognized organization or agency and is incorporated as part of the established methodology or identified and adopted in a separate ordinance, resolution or order.

6. Authorized Expenditures

A. Reimbursement fees. Reimbursement fees shall be applied only to capital improvements (and not operating expenses) associated with the water system, including expenditures relating to the repayment of indebtedness.

B. Improvement fees.

a. Improvement fees shall be spent only on capacity increasing capital I improvements, including expenditures relating to repayment of debt for the improvements. An increase in system capacity may be established if a capital improvement increases the level of performance or service provided by existing facilities or provides new facilities. The portion of the improvements funded by improvement fees must be related to the need for increased capacity to provide service for future users.

b. A capital improvement being funded wholly or in part from revenues derived from the improvement fee shall be included in the plan adopted by the city pursuant to Section 8.

c. Notwithstanding subsections 6(B)(I) and (2), SDC revenues may be expended on the costs of complying with the provisions of subsections 6(8)(1), including the costs of developing systems development charge methodologies and providing an annual accounting of systems development charge expenditures.

7. Expenditure Restrictions

SDCs shall not be expended for:

A. Costs associated with the construction of administrative office facilities that are more than an incidental part of other capital improvements; or

B. Costs of the operation or routine maintenance of capital improvements.

8. Capital Improvement Plan

The Council shall adopt a capital improvement plan that:

A. Lists the capital improvements that may funded with improvement fee revenues;

B. Lists the estimated cost and percentage of costs eligible to be funded with revenues from the improvement fee for each improvement;

C. Describes the process for modifying the plan. If a SDC will be increased by a proposed modification of the list to include a capacity increasing capital improvement, the city shall provide, at least 30 days prior to the adoption of the modification. notice of the proposed modification to the persons who have requested written notice under Section 5. The city shall hold a public hearing if a written request for a hearing on the proposed modification is received within seven days of the date the proposed modification is scheduled for adoption.

9. Collection of Charge

A. The SDC is payable upon issuance of:

a. A building or construction permit of any kind, including any pcm1it or permits issued in connection with the set-up or installation of any trailer, mobile or manufactured home;

b. A development permit;

c. A development permit for development not requiring the issuance of a building permit;

d. A permit to connect to water system.

B. If development is commenced or connection is made to the water system without an appropriate permit, the SDC shall be immediately due and payable upon the earliest date that a permit was required.

C. The city recorder shall collect the applicable SDC from the person responsible for or receiving the benefit of the development in accordance with subparagraph A above. The city recorder shall not issue such permit or allow such connection until the charge has been paid in full, or unless an exemption is granted pursuant to Section 10, or unless arrangements for payment of the charge, under such terms as the city recorder deems reasonable, have been made, pursuant to subsection D, which follows.

D. The obligation pay the unpaid SDC and interest thereon shall be secured by property, bond, deposits, letter of credit or other security acceptable to the city recorder. The net value of security accepted, excluding liens and encumbrances thereon, must be at least double the amount of the SDC secured thereby.

E. If the SDC is not paid upon issuance of the applicable pem1it, and the applicant chooses to pay the charge in installments and secure the obligation with security acceptable under subsection 0 above, then there shall be added to the amount owing the following:

a. Interest on the obligation at the prevailing state statutory rate of interest;

b. All costs associated with processing the particular fom1 of security, such as title insurance, escrow fees, recording costs, collection escrow costs and/or any other expense associated with the city accepting such security;

c. Any and all costs, as determined by the city recorder, incurred in establishing payment schedules and administering the collection process;

d. When the charge is secured by bond pursuant to ORS 223.205 through 223.295, any and all costs associated with administering the bond assessment program and issuing the bonds, as determined by the city recorder;

e. The intent of this subsection E is to recognize that the payment of an SDC by installments increases the administrative expense to the city. It is the intent of this subsection to shift that added expense to the applicant, so that the city will not lose SDC revenue by accepting installment payments on such charges. Subject to the provisions of subsection 9(E), all costs added to the SDC will be determined by the city recorder.

10. Exemptions

A. The following are exempt from SDC:

1. Additions to single-family dwellings that do not constitute the addition of a dwelling unit. Dwelling unit means any building or portion thereof that contains living facilities, including provisions for sleeping, eating, cooking and sanitation.

2. An alteration, addition, replacement or change in use that does not increase the parcel's structure's use of the water system.

B. Any enlargement or change and any new connection or utilization of the system to which an SDC applies shall not be exempt.

11. Credits

A. An SDC shall be imposed when a change in use of a parcel or structure occurs, but credit shall be given in an amount equal to the existing SDC as applied to the pre-existing type and level use. The credit so computed shall not exceed the calculated SDC. No refund shall be made on account of such credit.

B. An improvement fee credit shall be given for the cost of a bonded or completed qualified public improvement associated with a development, subject to the following:

a. Such credit shall be only for the improvement fee charged for the type of improvement being constructed and credit for qualified public improvements under Section 3(G) may be granted only for the actual estimated or agreed-upon cost of that portion of such improvement that exceeds the city's minimum standard facility size or capacity needed to serve the particular development property or project. The applicant shall have the burden of demonstrating that a particular improvement qualifies as a Section 3(0) qualified public improvement.

b. When the construction of a qualified public improvement gives rise to a credit amount greater than the improvement lee that would otherwise be levied against the project receiving development approval, the excess credit may be applied against improvement fees that accrue in subsequent phases of the original development project, if any.

c. Credits shall be used within 10 years from the date the credit is given, after which the credit shall expire and be null and void, without the need for the city 10 take any further action.

d. Credit shall not be transferable from one development to another nor from one type of capital improvement to another.

e. Credit given may be in the form of cash reimbursement; however the amount of cash reimbursement shall not exceed SDCs to be collected fom1 buildings, constructions, and installations on the subject development project and subsequent phases of the original development project.

12. Segregation and Use of SDC Revenue

A. All funds derived from a particular type of SDC are to be segregated by accounting practices from all other funds of the city. That portion of the SDC calculated and collected on account of a specific facility system shall be used for no purpose those set forth in Section 6.

B. The city recorder shall provide the city council with an annual accounting for SDCs showing the total amount of system development charge revenues collected for each type of facility and the projects funded from the account.

13. Appeals and Procedures

A person aggrieved by a decision required or allowed to be made by the city recorder under this ordinance or a person challenging the propriety of an expenditure of SDC revenues may appeal the decision or the expenditure to the city council by filing a written request with the city recorder describing with pm1icularity the decision of the city recorder or the expenditure form which the person appeals.

A. Appeal of Expenditure. An appeal of an expenditure must be filed within two years of the date of the alleged improper expenditure. The council shall determine whether the city recorder's decision or the expenditure is in accordance this ordinance and the provisions of ORS 223.297 to 223.314 and may affirm, modify or

overrule the decision. If the council dete1mines that there has been an improper expenditure of SDC revenues, the council shall direct that a sum equal to the misspent amount shall be deposited within one year to the credit of the account or fund from which it was spent.

B. Appeal of an SDC Methodology. Legal action challenging the methodology adopted by the council pursuant to Section 5 shall be filed later than 60 days after the date of adoption and shall be contested according to the procedures set forth in ORS34.0 l 0 to 34. I 00, and not otherwise.

C. Appeal of and SDC Calculation or Credit Determination:

a. A person aggrieved by a decision made by the planning director relating to the calculation of water SDCs may file an appeal within 10 (ten) days of the planning directors action.

b. Appeals must be made by filing a written request with the city recorder and must include a recommended solution to the issue that has initiated the appeal.

c. The city council shall consider all appeals and shall render a decision affirm, modify or override the decision of the planning director.

d. The city council's decision shall be made in accordance with the intent of the provisions of this ordinance.

14. Severability

The invalidity of a section or subsection of this ordinance shall not affect the validity of the remaining sections or subsections.

15. Effective Date

This ordinance shall become effective *July 16th 2008*

Appendix H: City of Phoenix Potable Water Rates

CITY OF PHOENIX
WATER USER INFORMATION

MINIMUM Billed Usage 5,000 Gallons *(Applies to each unit in a multi-family structure or mobile home park)*	
0 - 5,000 Gallons	$35.03
Residential	
5,001 - 10,000 Gallons	$1.92 per thousand gallons over minimum
10,001 - 50,000 Gallons	$2.34 per thousand gallons over 10,000
50,001 Gallons and over	$2.47 per thousand gallons
Commercial and Industrial	
5,001 - 10,000 Gallons	$1.92 per thousand gallons over minimum
10,001 - 50,000 Gallons	$2.34 per thousand gallons over 10,000
50,001 Gallons and over	$2.47 per thousand gallons

Appendix I: City of Medford Wastewater Treatment System Development Charges

3 Systems Development Charges Sewer Collection (3.830 to 3.846)

3.830 Purpose of Sewer Collection System Development Charge

This ordinance establishes a system development charge for capital improvements to the City of Medford's sanitary sewer collection system in accordance with ORS 223.297 to 223.314. The premise upon which the Sewer Collection System Development Charge (SCSDC) is based is that each new development, or changes to an existing development, should provide to the sanitary sewer collection system an additional amount of capacity representative of the demand that it will cause and that the charge to the developer will be representative of the cost of that additional capacity. In actual practice, the rates will be set lower than the amounts needed to fund all the needs generated by the development. These charges will provide a significant portion of the funding needed for capital improvements to effect the impacts new development causes in the downstream sanitary sewer system and each developer will pay a fair share. The SCSDC is an "improvement fee" as defined in ORS 223.299 since the charge to the developer is for costs associated with capital improvements yet to be constructed.
[Added, Sec. 1, Ord. No. 2000-35, Feb. 17, 2000.]

3.831 Establishment of the Charge

There is hereby established a charge to be levied within the City to be known as the Sanitary Sewer Collection System Development Charge (SCSDC), which shall be collected at the time of increased usage of the sanitary sewer collection system. No building permit shall be issued after the effective date of this section unless the SCSDC for the development for which the permit will be issued has been paid in full. As used in this section, "development" means construction, erection, or placement on a site of a building, structure, mobile home or manufactured dwelling pad, golf course, public park, or the construction of any addition to or enlargement of any of the foregoing or any other change in use which causes a site sewer discharge to increase. "Development" does not include setup of a mobile home on an existing pad in a mobile home or manufactured dwelling park.
[Added Sec. 1, Ord. No. 2000-35, Feb. 17, 2000.]

3.832 Administrative Officer Designated

The City Manager shall employ a qualified person as City Engineer. In addition to such other duties and responsibilities as may be assigned to him, the City Engineer shall be responsible for the administration of this ordinance. The City Engineer shall be responsible for developing administrative procedures for calculation and collection of fees, developing and administering capital improvement programs and related activities.
[Added Sec. 1, Ord. No. 2000-35, Feb. 17, 2000.]

3.833 Explanation of SDC Methodology

The methodology of the SCSDC is based on future capacity-increasing capital improvements as identified in the City's Capital Improvement Plan for the Sanitary Sewer Collection System Development Charge Fund, and on planning criteria as identified in the report entitled "City of Medford Sewer Master Plan" dated April 2005 and prepared by Brown and Caldwell Consulting Engineers.

The current design criteria utilized by the Regional Wastewater Treatment Plant in the determination of equivalent residential units (ERU's) and as specified in the engineering report is 350-gallons/day/ERU average dry weather flow (ADWF). This same design criterion of 350 gallons/day/ERU will be utilized in the determination of the ERU's for the sanitary sewer collection system.

The projected cost of future system additions shall be determined on the basis of the capital improvements identified in the "City of Medford Sewer Master Plan." The future system additions required to serve growth will be adjusted to current dollars and divided by the number of ERU's for which these improvements will provide service.

The future costs of compliance with Oregon law in the determination of SDC's shall include the estimated cost of engineering, legal, planning, administrative and accounting services. Compliance costs per ERU shall be determined on the basis of projected population growth.

The calculations shall be done on a city-wide basis so that the charge reflects the cost per ERU throughout the City.

The charge for future system addition and compliance costs shall be designated an improvement fee.

[Added Sec. 1, Ord. No. 2000-35, Feb. 17, 2000; Amd. Ord. No. 2008-200, Oct. 1, 2008]

3.834 Establishment of Values for Calculations of SCSDC

The values to be used in calculating the Sanitary Sewer Collection SDC according to the methodology set forth above shall be set at the rate per equivalent residential unit (ERU) shown in the following table and shall be applied to the Schedule of Charges as found in Section 3.839 to determine the fee charged for the various types of buildings and facilities listed therein. This value may be updated from time to time by the City Council based on available data and planning projections.

The following rates are hereby established for one ERU:

July 1, 2008 - $560

July 1, 2009 - $600

July 1, 2010 - $613

[Added Sec. 1, Ord. No. 2000-35, Feb. 17, 2000; Amd. Sec. 1, Ord. No. 2005-229, Oct. 6, 2005; Amd. Sec. 1, Ord. No. 2009-126, June 4, 2009.]

3.835 Credits

(1) Sewer Main Extensions. When a developer extends an existing sewer main across intervening property to serve the developer's development, the developer may be reimbursed in accordance with Sections 3.900 - 3.913 of this Code.

(2) Oversize Pipe.

(a) Where it is a condition of development approval that a developer construct a sanitary sewer main which is greater than 8 inches in diameter, the developer shall be credited an amount equal to the difference between the calculated cost of the larger pipe (installed) and that of the 8" pipe. The cost differential shall be as follows:

Pipe Size	Calculated Cost Difference
10"	$ 3.20 per foot
12"	$ 6.70 per foot
15"	$11.30 per foot
18"	$20.10 per foot
21"	$28.90 per foot
24"	$38.70 per foot

Compensation for solid rock excavation shall be based and prorated on the developer's actual costs as determined by the City Engineer.

The following table establishes the values used in determining the cost differential between 8" diameter sanitary sewer pipe and larger diameter sanitary sewer pipe.

Pipe Size	Pipe Cost	Trench Cost	Total Cost	Differential Above 8"
8"	$ 2.30/LF	$22.40/LF	$24.70/LF	----------
10"	$ 3.70/LF	$24.40/LF	$27.90/LF	$ 3.20/LF
12"	$ 5.30/LF	$26.10/LF	$31.40/LF	$ 6.70/LF
15"	$ 8.00/LF	$28.00/LF	$36.00/LF	$11.30/LF
18"	$14.00/LF	$30.80/LF	$44.80/LF	$20.10/LF
21"	$20.00/LF	$33.60/LF	$53.60/LF	$28.90/LF
24"	$27.00/LF	$36.40/LF	$63.40/LF	$38.70/LF

These values are based on the following assumptions: PVC sanitary sewer pipe, 6 ft. trench excavation depth, pea gravel bedding, crushed rock backfill, no pavement removal or replacement. No additional adjustments will be made for trench depths below 6 feet.

(b) All credits for oversize pipe construction will be paid in cash in accordance with the parameters identified below. Credits which exceed $50,000 in total value for a development must first be approved by the City Council. All other cash payments will be approved administratively, per applicable expense authority limits of the City's contracting and purchasing code. Payments shall be made to the developer who constructs the improvements unless otherwise provided for in a written agreement between the City and the developer. Such an agreement is also subject to the restrictions of Section 3.723. In calculating credits, no credit shall be given for the time value of money.

(c) The total credit allowed for a single- or multi-family residential land division development shall be calculated following the construction of the improvements, or the recording of the final plat, whichever comes later, and will be prorated across the number of dwelling units to be constructed in the development. The maximum credit to be allocated to each individual dwelling unit shall be no more than the value of the corresponding SCSDC fee which will be due for that same dwelling unit at the time the total credit valued for the development is calculated.

(d) Credits for commercial and industrial land divisions shall be calculated at the same point in the review process as those for residential land divisions. Cash payments shall be made to the developer as each building permit fee is paid which has a SCSDC fee as part of said building permit. The cash payment resulting from a new building permit in a non-residential land division shall be equal to the amount of the SCSDC fee calculated for said building permit. Credits shall be paid out as building permits are issued, on a "first-come, first-served" basis until used up. Total credits for the development shall be reduced by the amount of each payment until: (1) all parcels in the land division are fully developed, (2) the credits are reduced to zero, or (3) the credit period expires, whichever comes first. If credits remain after all parcels are developed, and if the credit period has not expired, the remaining credits shall be paid in cash to the developer.

(e) Credits for other types of developments, such as those approved by the Site Plan and Architectural Commission, shall be determined after the completion of the improvements. Distribution or assignment of these credits shall be in accordance with Section 3.835(2)(b) above.

The value of oversize pipe credits for all developments shall be based on the date of the first submittal of the public improvement drawings to the Engineering Division for review and approval. Oversize pipe credits for developments whose public improvement drawings were submitted to the City for review before the effective date of the change shall be determined using the old credit value. Those submitted on or after the effective date of the change shall be determined using the new credit value.

The length of the credit period shall be ten years. For subdivisions and land partitions, the credit period shall begin with the date the final plat is recorded with the Jackson County Clerk's

office. For other types of development, the credit period shall begin with the date the improvements are accepted by the City.

(3) Former Use.

(a) SCSDC credit will be given for the prior use of a building. This will be based on the type of building and the number of single-family residence equivalent units of the original facility. No refund will be given if the change of use results in a decreased sewer loading. Credit will be given, whether the building has been vacant or occupied, regardless of the length of the vacancy.

(b) Credit may also be given for demolished or destroyed buildings previously existing on a parcel. The burden of proof showing that there was a permitted building on the subject parcel, and the nature of its use, shall fall on the applicant. Said building must have been connected to a City of Medford sanitary sewer main in order to be eligible for credit. No cash credit payments may be made for excess credits due to demolished buildings.

[Added Sec. 1, Ord. 2000-35, Feb. 17, 2000; Amd. Sec. 3, Ord. No. 2003-245, Sept. 4, 2003; Amd. Ord. No. 2004-107, May 20, 2004; Amd. Sec. 2, Ord. No. 2005-229, Oct. 6, 2005; Amd. Ord. No. 2007-104, May 17, 2007; Amd. Sec. 1, Ord. No. 2008-92, May 15, 2008; Amd. Sec. 2, Ord. No. 2009-126, June 4, 2009.]

3.836 Collection of Charges

The charges hereby imposed shall be collected at the time a building permit or sewer connection permit is issued.
[Added Sec. 1, Ord. 2000-35, Feb. 17, 2000.]

3.837 Exemptions

(1) All development discharging directly into RVS maintained sewer mains shall be exempt from the SCSDC.

(2) Additions to single-family and multi-family dwellings that do not constitute the addition of a dwelling unit, as defined by the Uniform Building Code, are exempt from the SCSDC.

[Added Sec. 1, Ord. 2000-35, Feb. 17, 2000; Amd. Sec. 3, Ord. No. 2005-229, Oct. 6, 2005.]

3.838 Appeal Procedure

A person aggrieved by a decision required or permitted to be made by the City Engineer under this ordinance or a person challenging the propriety of an expenditure of systems development charge revenues may appeal the decision or the expenditure as provided in Section 3.729 of the Code of Medford.
[Added Sec. 1, Ord. 2000-35, Feb. 17, 2000.]

3.839 Schedule of Charges

The systems development charge for one ERU shall be the basis for calculating charges for all types of buildings according to the following table (this schedule is, and shall remain, identical to the rate schedule adopted by the Regional Rate Committee for the Sewage Treatment SDC, except for the extra strength factor applied to Wet Industrial Sewage Treatment SDC, except for the extra strength factor applied to Wet Industrial users.):

Type of Building & Sewer Use	ERU	Unit of Measure
(1) Single Family Residence	1.0	Each

(2) Multiple Family Residence/Accessory Dwelling Unit (ADU)	0.65	Per dwelling unit
(3) Manufactured Dwelling Space in Manufactured Dwelling Park (Common building at additional commercial rate and laundry areas at laundry rate.)	0.65	Per space
(4) Recreational Vehicle Waste Dumping Station	0.65	Per station
(5) Schools	0.03	Per student at capacity
(6) Churches (School uses at additional per student capacity rate.)	0.64	Per 100 seats capacity
(7) Hospitals - general	1.00	Per bed
(8) Convalescent Hospitals/Rest Homes/Assisted Living Facilities	0.50	Per bed
(9) Residential Case/Boarding Facilities/Adult Foster Care	0.25	Per room
(10) Lodging Facilities (Additional charges for restaurant or lounge at food prep/serving rate, guest laundry areas at laundry rates, and all meeting room areas and individual room kitchens/kitchenettes with fixtures at commercial rate.)		
a) Hotels and Motels	0.25	Per room or motel unit.
b) B&B's	1.00	Each SFR, plus 0.25 per bedroom greater than 4
c) Homeless shelters, etc.	---	(To be tied directly to the determination made by Region's Technical Advisory Group for sewage treatment on a case-by-case basis.)
(11) Food Preparation and/or Serving Areas	0.15	Per 100 sq. feet
(12) Vehicle Wash		
a) Self-Service Vehicle Wash	1.17	Per bay
b) Full-Service Vehicle Wash	15.66	Per bay
c) All Other Vehicle Washes	---	(See Wet Industrial)
(13) a) Laundries & Laundromats	0.30	Per 100 sq. feet
b) Industrial Laundries	---	(See Wet Industrial)
(14) Commercial, Office, and Dry Industrial	ERUs	for each plumbing fixture to be installed.
Bath tub w/or w/o shower	0.13	
Dental unit or cuspidor	0.10	
Dishwasher	0.10	
Disposal	0.10	
Drinking Fountain	0.05	
Floor Drain	0.013	
Fountain/Backwash	0.10	
Kitchen Sink	0.08	
Laundry Tray	0.08	
Lavatory	0.05	
Service Sink	0.08	
Shower (each head)	0.13	
Swimming Pool/Backwash	0.10	
Urinal	0.17	

Urinal Trough (for each 2-foot section)	0.17	
Wash Sink (for each set of faucets)	0.08	
Washing Machine	0.07	
Water Closet	0.33	
In case of a remodel in types 5-13 which results in no increase in the units on which the charge for a new building is calculated, there will be no additional SDC charge for the remodel even if additional plumbing fixtures are installed.		
(15) Wet Industrial		To be tied directly to the determination made by Region's Technical Committee for sewage treatment, on a case-by-case basis.
(16) Additional Loading or Change of Use		Determined on basis of new use for entire facility less credit for former use. No refunds if new use is less than former use.

[Added Sec. 1, Ord. No. 2000-35, Feb. 17, 2000; Amd. Sec. 1, Ord. No. 2001-232, Dec. 6, 2001; Amd. Sec. 1, Ord. No. 2003-52, Feb. 20, 2003; Amd. Sec. 1, Ord. No. 2009-38, Feb. 19, 2009.]

3.840 Definitions

The following are the definitions of the classifications which will be used in establishing the Sanitary Sewer Collection System Development Charges. These definitions shall remain identical to the Sewage Treatment SDC definitions, except for the extra-strength factor:

(1) A single-family residence (SFR) is defined as a building designed and/or used to provide independent living for not more than one family, including all necessary employees of such family. Mobile homes occupying a separate lot and providing permanent housing with a separate sewer connection shall be classified as an SFR. *A guest house or room* is an accessory building or room designed, constructed and used to provide temporary sleeping accommodations for guests or for members of the same family as that occupying the main structure. A guest house or room contains no kitchen or kitchen facilities. A guest house shall be considered a part of the SFR and no additional fee shall be charged. *Kitchen or kitchen facilities* shall be any area separate from bathing and sanitation facilities which can be utilized for food preparation and which includes a sink or plumbing for a sink, and may include any or all of the following: a dishwasher, stove, oven or space for a refrigerator. Any addition to an existing SFR, which does not result in an additional dwelling unit, will be exempt from additional charge. However, any activity conducted from an SFR which requires a business license may be subject to an additional charge, depending on the nature of the activity.

(2) A multiple family residence (MFR) is defined as a building or a group of buildings housing two or more families, living independently of each other, a family being defined as one or more persons living as a single housekeeping unit or household with sewer service being provided through not more than one sewer connection. Common buildings in an apartment house complex requiring sewer service shall be charged as commercial buildings and that portion of buildings housing common laundry facilities shall be charged as laundries and laundromats. However, laundry facilities located in individual dwelling units shall be considered incidental to the standard multi-family charge. *An Accessory Dwelling Unit (ADU)* is defined as a residential dwelling unit, with a kitchen or kitchen facilities, that is used for independent living and is located on the same lot as a single-family residence (SFR). An ADU may be a separate building or a space within an SFR. An ADU shall be charged the same SDC as an MFR. Any activity conducted from an MFR or ADU which requires a business license may be subject to an additional charge, depending on the nature of the activity.

(3) A Manufactured Dwelling Park, including travel trailer parks, is defined as any area or tract of land having a sewer connection, and where sewerage collection pipes are extended to two or more spaces occupied by, or intended to be occupied by a manufactured dwelling, travel trailer or motor home which are defined as a vehicle with or without motive power which is designed, used or intended for use as a place of human habitation, or as eating, sleeping or living quarters or any combination thereof. A manufactured dwelling space is defined as the individual location having a sewer hookup for each such vehicle. For purposes of determining the Sanitary Sewer Collection Systems Development Charges (SCSDCs) for manufactured dwelling parks' common buildings such as recreation halls, etc., they shall be charged as commercial buildings. Buildings housing laundry facilities shall be charged as laundries and laundromats and food or drink service buildings shall be charged as food preparation and/or serving.

(4) A Recreational Vehicle Waste Dumping Station is defined as a building or structure used for the dumping of sanitary sewer wastes from recreational vehicle holding tanks. This includes gray water from sinks and showers. (This excludes an individual collector installed by a home owner for his/her own use.)

(5) A School is defined as any building or group of buildings used for school purposes more than 12 hours per week, involving assemblage for instruction, education or recreation. A school may be public or private and may include, but is not limited to, day care/pre-schools, kindergartens, elementary schools, middle/junior high schools, senior high schools, junior colleges, continuing education facilities, professional/vocational schools, and beauty colleges. The charge shall be based on student capacity of classrooms. No additional charge shall be made for school gymnasiums, locker rooms, or cafeterias. Unless other supporting data is provided by the applicant, the design capacity of classroom area, per student shall be based on the following:

a) Pre-school through 5th grade: 35 sf per student;

b) 6th grade through 8th grade: 30 sf per student;

c) 9th grade through college: 25 sf per student.

(6) A Church is defined as a building or structure whose principal use is for worship and in which the incidental use for school or recreational purposes is less than 12 hours per week. Church buildings used for school purposes in excess of 12 hours per week shall be charged at the "schools" SDC rate in addition to the charge per 100 seats as a church. No additional charge shall be made for kitchens, multi-purpose rooms, or fellowship halls and related plumbing fixtures. Unless other supporting data is provided by the applicant, the design capacity of a church, per seat, shall be based on 15 sf per seat of sanctuary floor area (including aisles, stage, altar area, etc.)

(7) A General Hospital is defined as a building or structure used for the temporary housing of ill or injured persons and containing facilities for medical and surgical treatment of such persons. No additional charge shall be made for laundry or food and drink preparation and serving facilities included in hospitals.

(8) A Convalescent Hospital. Rest Home, or Assisted Living Facility (ALF) is defined as a building or structure used for housing of persons convalescing from illness or injury or persons requiring close personal care. No additional charge shall be made for laundry or food and drink preparation and serving facilities included in the facility. Rooms or units containing kitchen facilities shall be charged at the MFR rate.

(9) A Residential Care, Boarding, or Adult Foster Care Facility is defined as a residential building or structure, generally located in a residential neighborhood, used for housing of persons requiring either long term supervision and general care, or any type of dependency recovery. The facility shall be considered an SFR for up to four bedrooms, with an additional charge per bedroom above four. No additional charge shall be made for laundry or food and drink preparation or serving facilities included in the facility. Individual bedrooms may not contain kitchen facilities. This language distinguishes between 'assisted living facilities', which tend to be larger-scale 'businesses', and the smaller scale homes which provide more personal care.

(10) A Lodging Facility is defined as a building or group of buildings used for temporary housing of persons containing rooms or units intended for the use of transient persons. Included within this definition are hotels, motels, and bed and breakfast accommodations. SDC fees for homeless shelters and/or dormitory-style housing facilities shall be considered by the Regional TAG on a case-by-case basis.

(a) Hotels/Motels: Any building or group of buildings with guest rooms intended or designed to be rented for temporary occupation by guests. Those areas within hotels and motels to be used for commercial preparation of and serving of food and drink shall be charged at the rate for food preparation and/or serving, including guest breakfast serving and eating areas. Kitchens or kitchenettes in individual rooms shall be charged at commercial rates based upon fixtures. Commercial areas within hotels and motels, including convention facilities and other such common areas other than lobby areas, shall be charged at the rate for commercial and dry industrial areas. Areas used for guest or public laundry facilities in hotels and motels shall be charged at the area rate for laundries and laundromats. In-house laundries for use by staff shall be considered incidental to the per-room SDC rate. Such additional charges for food and drink, commercial areas and laundry shall be in addition to the charge per room or motel unit.

(b) Bed and Breakfast (B&B Accomodations): A B&B is an SFR, or part thereof, other than a hotel, motel, or MFR, where traveler's accommodations and breakfast are provided for a fee on a daily or weekly room rental basis. A B&B shall be charged at the SFR SDC-rate for the first four (4) bedrooms and at the Lodging Facility rate per-unit for each additional bedroom beyond four. No additional charge shall be made for the kitchen unless an existing kitchen is remodeled and new fixtures added, at which time it shall be charged at the rate for commercial and dry industrial areas.

(11) Food preparation and/or serving includes restaurants, lounges, taverns, delicatessens, coffee carts, kiosks, and wholesale and retail bakeries, but does not include outdoor seating areas for the above, nor canneries, dairies, cheese factories, packing houses and similar facilities, which shall be classified as "Wet Industrial" under Item 15 of these Definitions. The entire square footage of the tenant space or building shall be included in the chargeable area. Restroom facilities shall not be segregated out of the chargeable area for those eating and drinking establishments which occupy an entire tenant space or building.

(12) A Vehicle Wash is defined as a commercial building or structure used for washing vehicles.

a) A Self-service vehicle wash is a coin operated facility serving the general public that requires the customer to wash the vehicle.

b) A Full-service vehicle wash is a facility which serves the general public, wherein the vehicle is washed for the customer, either automatically or by attendants.

c) A vehicle wash facility that recycles or reclaims water, and all other vehicle and parts washing or steam cleaning facilities that discharge to the sanitary sewer will be classified as Other Vehicle Washes and will be reviewed on a case-by-case basis by the Regional TAG.

(13) A Laundry or laundromat is defined as a commercial building or structure or part of a commercial building or structure used for housing and operating laundry equipment by the general public to wash clothes and linens for personal use. *An Industrial laundry* is defined as a building or structure or a part of a building or structure used for housing and operating laundry equipment for the large scale washing of uniforms, towels, linens, etc. The anticipated volume and strength of the sewage to be generated from an industrial laundry would be considerably more than that from a commercial laundry or laundromat. Industrial laundries shall be classified as a "Wet Industrial Building".

(14) A Commercial building is defined as a building used for the conducting of wholesale or retail trade. A dry industrial building or structure is that building or structure housing light industrial activities where use of water and subsequent discharge of sewer does not occur in connection with the industrial process. A warehouse or other storage building with sewer connections is classified as a dry industrial building.

(15) A Wet industrial building is defined as a building or structure housing industrial activities where the use of water and subsequent discharge to the sewer occurs in connection with an

industrial process. A facility with a discharge of 10,000 gallons per day or greater is considered to be wet industrial. Those facilities will be reviewed on a case-by-case basis. The anticipated volume of the sewage to be generated from the facility in relation to the volume of sewage from an average single-family residence shall be considered when calculating SDCs.
The Sewer Collection System Development Charge (SCSDC) for the wet industrial classification shall be determined on an individual basis utilizing the formula listed below, and shall be based on the determination of the Region's Technical Advisory Committee for the Sewage Treatment SDC, minus the extra strength factor:

(System Development Charge)

$$\text{SCSDC} = \frac{\text{G.P.D.}}{350} \times \text{SFR}$$

G.P.D. = Anticipated volume of discharge to sewer in gallons per day.
SFR = Current SDC for an SFR.

(16) Additional loading or change of use is defined as an increased demand for capacity from an existing wet industrial building or structure. The additional loading may be the result of replacement or addition to an existing structure or facility, a change in use, or a fifteen percent (15%) or greater increase above the permitted volume of the wastewater constituents being discharged.
The Sewer Collection System Development Charge shall be determined on the basis of the number of single-family residence equivalent units with the additional loading or the new use, with credit being given for the number of single-family residence equivalent units of the original facility. No refund will be given if the change of use results in a decreased sewer loading. Any addition to an existing single-family residence which does not result in an additional dwelling will be exempt from additional charge.

(17) Other Buildings - There may be some buildings or sewer uses which do not fit neatly into one of the above categories. In such cases, the category or classification which most closely fits the building in question shall be used, as determined by the City Engineer.

[Added Sec. 1, Ord. No. 2000-35, Feb. 17, 2000; Amd. Sec. 2, Ord. No. 2001-232, Dec. 6, 2001; Amd. Sec. 2, Ord. No. 2003-52, Feb. 20, 2003; Amd. Sec. 2, Ord. No. 2009-38, Feb. 19, 2009.]

3.841 Segregation and Use of Revenue

All funds collected pursuant to this ordinance shall be deposited in a special revenue fund known as the Sanitary Sewer Collection SDC Fund and shall be used only for capital improvements on the Sanitary Sewer Collection System of the City and costs incidental thereto, and to pay for the equitable share of the cost of accounting, management and government which is attributable to the fund.
[Added Sec. 1, Ord. No. 2000-35, Feb. 17, 2000.]

3.842 Improvement Plan

The City Council shall adopt by resolution a Sanitary Sewer Collection System Improvement Plan, a copy of which shall be kept on file in the office of the City Recorder. This document shall set forth the plan for expenditure of the funds collected pursuant to this ordinance and shall conform to the requirements of ORS 223.309. This plan may be amended from time to time by resolution, whenever the Council deems it necessary to make a change in its capital improvement planning for the Sanitary Sewer Collection System.
[Added Sec. 1, Ord. No. 2000-35, Feb. 17, 2000.]

3.843 Effective Date

All provisions of this ordinance shall go into effect on January 1, 2006 with subsequent rate increases, as identified in Section 3.834 to occur on July 1 of each year, thereafter. Any complete application for a building permit for a development project which has received the required approvals, such as Site Plan and Architectural Commission or Planning Commission approval, and which is already in the City's Building Permit Review System prior to this date will be charged at the rate in effect prior to this date. All building permit applications submitted on or after this date or which have not been entered in the City's Building Permit Review System prior to this date shall be subject to the rate in effect after the effective date.

[Added Sec. 1, Ord. No. 2000-35, Feb. 17, 2000; Amd. Sec. 4, Ord. No. 2005-229, Oct. 6, 2005.]

3.845 Sewage Treatment System Development Charge Imposed

A system development charge (SDC) for the Medford Regional Water Reclamation Facility (RWRF) shall be imposed on sewer users at the time of increased usage of the RWRF in accordance with the resolutions of the Regional Rate Committee establishing a methodology and a schedule of charges, subject to the exemptions set forth in Section 3.846. The charge may consist of a reimbursement fee, an improvement fee or a combination of the two.

[Added, Sec. 4, Ord. No. 2008-98, June 5, 2008.]

3.846 Buildings Subject to the Sewage Treatment SDC

All present and future buildings in the City of Medford which have sewer service now or in the future shall be divided into the following two categories and the SDC shall be applied to each category as stated below:

Category A: Buildings for which building permits were issued or which were occupied prior to January 6, 1980 and were connected to the Regional Water Reclamation Facility. Buildings of Category A are not subject to the SDC, except as described in the resolutions of the Regional Rate Committee.

Category B: Buildings for which building permits were issued on or after January 6, 1980 and will be connected to the Regional Water Reclamation Facility. Buildings in Category B are subject to the SDC.

[Added, Sec. 5, Ord. No. 2008-98, June 5, 2008.]

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Appendix J: City of Medford Wastewater Rates

4 Sewer Rates (4.405 to 4.450)

4.405 Sewer Rates

(1) Monthly rates and charges are hereby established and determined for the use of sewage facilities operated by the City of Medford. Unless otherwise specified, rates are comprised of two components, a base charge and a gallonage charge. The base charge is a flat rate per month. The gallonage charge shall be based upon water consumption from service to the premises by a municipal water supply. Where the premises have an additional water source from a well, the users shall be required to install, and maintain, or permit the installation and maintenance of a meter on the source and the water thus measured shall be added to the amount measured from the municipal water supply to determine total gallonage. Access to the meter shall be a condition of continued water and sewer service to the premises. Where the premises only receives water from an unmetered source, e.g., well, monthly rates are established in accordance with Section 4.405(3) or 4.405(5)(c).

(2) The base and gallonage charges are established by two different entities. The portion of the rate used for the operation and maintenance of the City's sewage collection system is established by the City of Medford. The portion of the rate used for operation and maintenance of the Regional Water Reclamation Facility (RWRF) is established by the Regional Rate Committee. The monthly sewer rate is the sum of these two parts as shown in sub-sections (3) through (8).

(3) Single-Family Residential Sewer Service.
The rate per account per month shall be a flat rate.

	2013	2015	2016	2017	2018	2019
City of Medford	$10.01	$11.51	$12.32	$13.18	$13.18	$13.18
Regional Rate Committee	$ 5.84	$ 6.31	$ 6.78	$ 7.29	$ 7.83	$ 8.42

(4) Multiple-Family Residential Sewer Service.
The rate per account per month shall be the total of the Base and Gallonage charges as follows. The rates per month in (a) and (b) shall also include each mobile home space in a mobile home park.

(a) Base Charge - The rate per month shall be:

	2013	2015	2016	2017	2018	2019
City of Medford	$13.74	$15.80	$16.91	$18.09	$18.09	$18.09
Regional Rate Committee	$ 2.11	$ 2.30	$ 2.47	$ 2.65	$ 2.85	$ 3.05

(b) Gallonage Charge - For each 1,000 gallons of water delivered to the premises as determined in (c), the rate shall be:

	2013	2015	2016	2017	2018	2019
City of Medford	$0.57	$0.66	$0.70	$0.75	$0.75	$0.75
Regional Rate Committee	$0.60	$0.67	$0.72	$0.77	$0.83	$0.89

(c) Gallonage shall be determined once each year during the month of March for each such account and the amount of the charge so determined shall be charged for each month for the following 12-month period. The charge shall be determined for each account by applying the above gallonage rate to the average monthly water consumption during the December, January and February billing periods to the closest 1,000 gallons and using a minimum of 1,000 gallons for each such month for each dwelling unit. In the case of a service which commences after the December billing period, the average shall be determined by a reasonable comparison with the use of water by other customers receiving the same class of

service and under similar circumstances and conditions.

(5) Non-Residential Service.
The rate per account per month shall be total of Base and Gallonage charges as follows:

(a) Base Charge – The rate per month shall be:

	2013	2015	2016	2017	2018	2019
City of Medford	$13.74	$15.80	$16.91	$18.09	$18.09	$18.09
Regional Rate Committee	$ 2.11	$ 2.30	$ 2.47	$ 2.65	$ 2.85	$ 3.05

(b) Gallonage Charge - For each 1,000 gallons of water delivered to the premises with the exceptions described in (d) below, the rate shall be:

	2013	2015	2016	2017	2018	2019
City of Medford	$0.57	$0.66	$0.70	$0.75	$0.75	$0.75
Regional Rate Committee	$0.60	$0.67	$0.72	$0.77	$0.83	$0.89

(c) In the case of an account with no meter, the gallonage charge per month shall be determined by the water usage of similar businesses.

(d) For schools, hospitals, residential care/boarding facilities, parks and churches, the gallonage shall be determined once each year during the month of March for each such account and the amount of the charge so determined shall be charged for each month for the following 12-month period. The charge shall be determined for each account by applying the above gallonage rate to the average monthly water consumption during the December, January and February consumption for each such account. In the case of a service which commences after the December billing period, the average shall be determined by making a reasonable comparison of water usage by other customers receiving the same class of service and under similar circumstances and conditions.

(e) All vehicle and parts washing or steam cleaning facilities that discharge to the sanitary sewer, other than self- or full-service vehicle washes that serve the general public, will have charges determined on a case-by-case basis.

(6) Extra Strength Commercial, Hospital and Industrial Sewer Service Surcharge.

The rate per sewer service per month shall be as follows:

	2013	2015	2016	2017	2018	2019
City of Medford	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Regional Rate Committee	$0.23	$0.28	$0.30	$0.32	$0.34	$0.36

per each 300 ppm of biochemical oxygen demand, (BOD) or suspended solids (SS) or fraction thereof, in excess of the first 300 parts per million (ppm) of BOD or SS, per 1,000 gallons of water delivered to the premises. The rate shall be for the higher concentration of either BOD or SS, but not assessed for both. Such charge shall be in addition to the charge for sewer service listed in Subsection (5) above.

(7) Recreation Vehicle Waste Dumping Station.
The rate for each recreational vehicle waste dumping station shall be as follows:

	2013	2015	2016	2017	2018	2019
City of Medford	$20.86	$23.99	$25.67	$27.47	$27.47	$27.47
Regional Rate Committee	$23.88	$25.70	$27.63	$29.70	$31.93	$34.32

per dumping facility per month, in addition to other sewer charges as prescribed in Subsection

(6) above, for commercial or industrial sewer service to the location.

(8) When Rates Apply.
The sewer charges described shall apply for each month, or part thereof, during which the water services to the premises are active, but shall not apply to any premises not connected to a public sewer. The term "water service" includes a well, supplying water to a system served by the sewer, as well as service from a public water system.

(9) Review of Rates.
The sewer charges established in this section of the City Code shall be reviewed as necessary. The rates may be revised to reflect actual costs of operation, maintenance, replacement and financing of the treatment works and sewage collection system. Charges are to be equitable with regard to each user's contribution to the total wastewater loading rate. The sanitary sewer rate changes listed above shall become effective on March 1, 2013, for single-family residential service and July 1, 2013, for all other service, respectively. In 2015, 2016, 2017, 2018 and 2019 rate changes are effective July 15 for all services.

[Amd. Sec. 1, Ord. No. 5528, Oct. 3, 1985; Amd. Sec. 1, Ord. No. 5537, Oct. 17, 1985; Amd. Ord. No. 7277, Dec. 17, 1992; Amd. Ord. No. 7306; Feb. 4, 1993; Amd. Ord. No. 7388, May 20, 1993; Amd. Ord. No. 7538, Dec. 9, 1993; Amd. Ord. No. 7667, June 16, 1994; Amd. Ord. No. 7937, Aug. 3, 1995; Amd. Ord. No. 8196, Sept. 19, 1996 - Fees Effective Oct. 1, 1996; Amd. Sec. 1, Ord. No. 8544, Nov. 20, 1997; Amd. Sec. 1, Ord. No. 1999-27, Feb. 18, 1999; Amd. Sec. 1, Ord. No. 2000-246, Dec. 21, 2000; Amd. Ord. No. 2003-31, Feb. 6, 2003; Amd. Ord. No. 2004-182, Sept. 2, 2004; Amd. Ord. No. 2005-232, Oct. 6, 2005; Amd. Sec. 3, Ord. No. 2010-46, March 4, 2010 and Ord. No. 2010-47, March 4, 2010; Amd. Ord. No. 2012-194, Dec. 20, 2012; Amd. Sec. 2, Ord. No. 2013-104, July 11, 2013; Amd. Sec. 1, Ord. No. 2014-144, Nov. 20. 2014; Amd. Sec. 2, Ord. No. 2015-48, May 7, 2015.]

4.415 Premises Outside the City Served by Sewer

Properties outside the City served by City sewer shall be served and shall be charged at the same rates as those charged premises within the City in the same classifications.

[Amd. Sec. 3, Ord. No. 2013-104, July 11, 2013.]

4.420 Collection and Payment of Rates

The utility fees provided for in Section 4.405 shall be applied to each user of water from the City's water system that has sewer connections to the sewer system. See Section 4.1200 for billing, collection and enforcement of sewer utility fees.

[Amd. Sec. 1, Ord. No. 2008-55, March 20, 2008; Amd. Sec. 4, Ord. No. 2010-46, March 4, 2010.]

4.425 [Repealed, Sec. 2, Ord. No. 2008-55, March 20, 2008.]

4.450 Septic Tank Sludge

(1) Authority to accept at plant. The city manager or his designated department head is authorized to accept domestic septic tank sludge at the sewage treatment plant between the hours of 8:00 a.m. and 5:00 p.m. daily, subject to the restrictions hereinafter contained. Until otherwise designated by the city manager, the administrative functions hereof shall be carried out by the director of public works and the plant operators in his department, and all such persons are collectively referred to as "the director."

(2) Permit required; bond provisions; forfeiture and cancellation. No person shall be permitted to dump domestic septic tank sludge at the sewage treatment plant without first securing a permit to do so from the director. All such permits shall be issued for a period expiring December 31 next following the issuance of the permit, and shall be subject to general termination or suspension by the director on a finding that the plant is not functioning adequately or its capacity is otherwise committed, and subject to revocation by the director upon breach of any of the conditions found in Subsection (3), or upon cancellation of the bond required hereunder. The application for the permit shall be on a form prescribed by the director and must include a description of the equipment to be used by the permittee, the names and addresses of the owners of such equipment and of all persons who will be operating the same, and a specific undertaking, signed by the owners of such equipment and of all persons who will be operating the same, and a specific undertaking, signed by the owners of the equipment that they, and all their agents and employees, shall keep and perform the conditions set forth herein. The applicant shall also submit surety bond in the penal amount of $10,000 in form and with sureties approved by the city attorney, which bond shall be available to the city for recovery to the extent of any loss caused by permittee's violation of any of his duties hereunder. The bond shall be so written that surety's liability in the aggregate for any and all losses under the bond shall not exceed the total amount of $10,000, and the bond may be cancelable on 90 days' notice; but in the event that the bond is thus cancelable, the director shall, upon receiving notice of cancellation, forthwith revoke the permit on which the bond is based and no further permit shall be issued until a sufficient and effective bond complying with the terms hereof has been substituted therefor. The director may refuse to issue, reissue, or renew a permit to any applicant who has had a previous permit revoked under Subsection (3).

(3) Required conditions. Violation of any of the following by a permittee shall be grounds for revocation of a permit and for the recovery from the sureties on the permittee's bond for any loss to, or amount due, the city by reason thereof: (a) The discharge of any sewage or sludge into any sewer system within the jurisdiction of the cities of Medford, Phoenix, or Central Point, or Rogue Valley Sewer Services, other than at the dumping facility specifically designated by the director for such purpose. (b) The dumping or discharge, or the attempted dumping or discharge, of any sewage or sludge of the following character: caustic, acid, oil tank bottom contents, grease or oil trap sludges, plating or metal finishing waste, digested sewage sludge, animal manure, food processing wastes, including skins, shells, seeds, blood, hair, bones, grease, or feathers, the contents from chemical toilets, industrial sumps, or holding tanks for other than domestic wastes. (c) The dumping or discharge of any sludge or sewage which is known to the permittee, or to his employer or agent, to contain waste other than domestic septic tank sludge, whether or not such material is described in (b) above. (d) The failure to accurately certify the source of the load of sewage or sludge prior to dumping, in the form required by the director. (e) The failure to pay all charges for dumping sewage sludge within 30 days after the end of the calendar month during which such sludge was dumped. (f) The failure to clean the immediate area of the dumping facility after dumping so as to leave the area in a clean and sanitary condition. (g) The failure to conform with the load-handling procedures established by the operator in charge of the plant, approved by the director and posted at the plant.

(4) Dumping fees. The director shall establish the procedure for controlling the dumping process and shall collect from the permittees, on monthly statements, fees for the dumping of septic tank sludge. The fees shall be determined as follows: (a) Typical domestic septic tank sewage: The rates for typical domestic septic tank sewage are: Trunk Capacity up to: Dumping Rate: 1,000 gallons $120.00 1,500 gallons 180.00 2,000 gallons 240.00 2,500 gallons 300.00 3,000 gallons 360.00 3,500 gallons 420.00 4,000 gallons 480.00 (b) Atypical or extra-strength septic tank sludge may be received for treatment, at the discretion of the operator in charge of the plant, and fees computed in ratio of strength of atypical domestic septic tank sludge under (a) above to the atypical or extra-strength sludge as determined by standard tests generally accepted by treatment plant operators. Any misrepresentation of the character or amount of such material shall be basis for revocation of permit.

(5) Funds; priorities. After payment of the cost of constructing a facility for receiving the material, all monies collected by the city shall be paid into the common fund maintained by the City of Medford under Section II, Part B, of the contract of March 1969, which fund is used only for the purposes therein set forth, namely: to pay principal and interest on the bonded indebtedness for the construction of the plant, and for the operation and maintenance of the

sewage treatment plant. A current record of the outstanding permits and the revenues received thereunder shall be maintained by the director and available to the regional rate committee under said agreement for the purpose of carrying out its rate-making function and also for the purpose of keeping the participating entities informed of the volume and nature of the material thus received at the plant for treatment. It is understood that the primary purpose of the plant is to process sewage collected from the sewer systems of the participating entities; that nothing herein is construed to create a vested right or enforceable privilege to use it to process septic tank sludge, and the city acting in its own behalf and in behalf of the other participating entities does not hereby authorize any commitment to any person but retains full right to suspend, terminate, or restrict all septic tank disposal permits at any time. [Amd. Ord. No. 7278, Dec. 17, 1992. Fees effective January 1, 1993; Amd. Ord. No. 7525; Nov. 18, 1993; Amd. Ord. No. 7589, March 17, 1994.]

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Appendix K: Rogue Valley Sewer Services System Development Charges

Summary of Fees and Permits
July 1, 2015 - Update

	RVSS Jackson County	RVSS JaCo No SW	Industrial White City	Central Point	Medford	Talent	Phoenix 5% Franchise Fee	Eagle Point (bills)	Jacksonville (bills)
SERVICE FEES									
Sewer - SFR	$ 18.30	$ 18.30	$ 18.30	$ 18.30	$ 18.30	$ 18.30	$ 18.30	$ 18.30	$ 18.30
Sewer - Comm./1,000 gal**	$ 1.16	$ 1.16	$ 1.16	$ 1.16	$ 1.16	$ 1.16	$ 1.16	$ 1.16	$ 1.16
Storm Water Quality - Oct 1, 2004	$ 1.00	na	na	$ 1.00	na	$ 2.50	$ 2.50	na	na
Franchise Fee per Residence	na	na	na	na	na	na	$ 0.60	na	na
SYSTEM DEVELOPMENT CHARGES--SINGLE FAMILY RESIDENCE									
Regional RWTP SDC - Res 91-15	$ 1,423	$ 1,423	$ 1,423	$ 1,423	$ 1,423	$ 1,423	$ 1,423	$ 1,423	$ 1,423
Interceptor SDC - Res. 04-15	$ 500	$ 500	$ 225	$ 500	$ 500	$ 500	$ 500	$ 750	$ 500
Collection SDC - Res. 04-15	$ 625	$ 625	$ 625	$ 625	$ 625	$ 625	$ 625	$ 625	$ 625
TOTAL SDC	$ 2,548	$ 2,548	$ 2,273	$ 2,548	$ 2,548	$ 2,548	$ 2,548	$ 2,798	$ 2,548
PERMIT INSPECTION FEES									
Tap Fee	$ 100	$ 100	$ 100	$ 100	$ 100	$ 100	$ 100	$ 100	$ 100
Permit Fee - Code 9.10	$ 60	$ 60	$ 60	$ 60	$ 60	$ 60	$ 60	$ 60	$ 60
PERMITS									
Who issues permit?	RVSS	RVSS	RVSS	RVSS	RVSS*	RVSS	RVSS	RVSS	RVSS
Who inspects the pipe?	RVSS	RVSS	RVSS	RVSS	RVSS*	RVSS	RVSS	RVSS	RVSS

Notes:

RVSS Jackson County includes White City Residential (East side of Hwy 62).

RVSS bills Talent and Phoenix storm drain fee of $1.50 on RVSS storm water invoice for a total of $2.50.

*RVSS issues only Tap permits within our service area in the City of Medford. Medford issues service line permits.

**plus $11.42 per connection

Actual fees may be different. Contact RVSS at 541-664-6300 for correct calculation of fees.

Appendix L: Rogue Valley Sewer Services Wastewater Rates

Summary of Fees and Permits
July 1, 2015 - Update

	RVSS Jackson County	RVSS JaCo No SW	Industrial White City	Central Point	Medford	Talent	Phoenix 5% Franchise Fee	Eagle Point (bills)	Jacksonville (bills)
SERVICE FEES									
Sewer - SFR	$ 18.30	$ 18.30	$ 18.30	$ 18.30	$ 18.30	$ 18.30	$ 18.30	$ 18.30	$ 18.30
Sewer - Comm./1,000 gal**	$ 1.16	$ 1.16	$ 1.16	$ 1.16	$ 1.16	$ 1.16	$ 1.16	$ 1.16	$ 1.16
Storm Water Quality - Oct 1, 2004	$ 1.00	na	na	$ 1.00	na	$ 2.50	$ 2.50	na	na
Franchise Fee per Residence	na	na	na	na	na	na	$ 0.60	na	na
SYSTEM DEVELOPMENT CHARGES--SINGLE FAMILY RESIDENCE									
Regional RWTP SDC - Res 91-15	$ 1,423	$ 1,423	$ 1,423	$ 1,423	$ 1,423	$ 1,423	$ 1,423	$ 1,423	$ 1,423
Interceptor SDC - Res. 04-15	$ 500	$ 500	$ 225	$ 500	$ 500	$ 500	$ 500	$ 750	$ 500
Collection SDC - Res. 04-15	$ 625	$ 625	$ 625	$ 625	$ 625	$ 625	$ 625	$ 625	$ 625
TOTAL SDC	$ 2,548	$ 2,548	$ 2,273	$ 2,548	$ 2,548	$ 2,548	$ 2,548	$ 2,798	$ 2,548
PERMIT INSPECTION FEES									
Tap Fee	$ 100	$ 100	$ 100	$ 100	$ 100	$ 100	$ 100	$ 100	$ 100
Permit Fee - Code 9.10	$ 60	$ 60	$ 60	$ 60	$ 60	$ 60	$ 60	$ 60	$ 60
PERMITS									
Who issues permit?	RVSS	RVSS	RVSS	RVSS	RVSS*	RVSS	RVSS	RVSS	RVSS
Who inspects the pipe?	RVSS	RVSS	RVSS	RVSS	RVSS*	RVSS	RVSS	RVSS	RVSS

Notes:

RVSS Jackson County includes White City Residential (East side of Hwy 62).

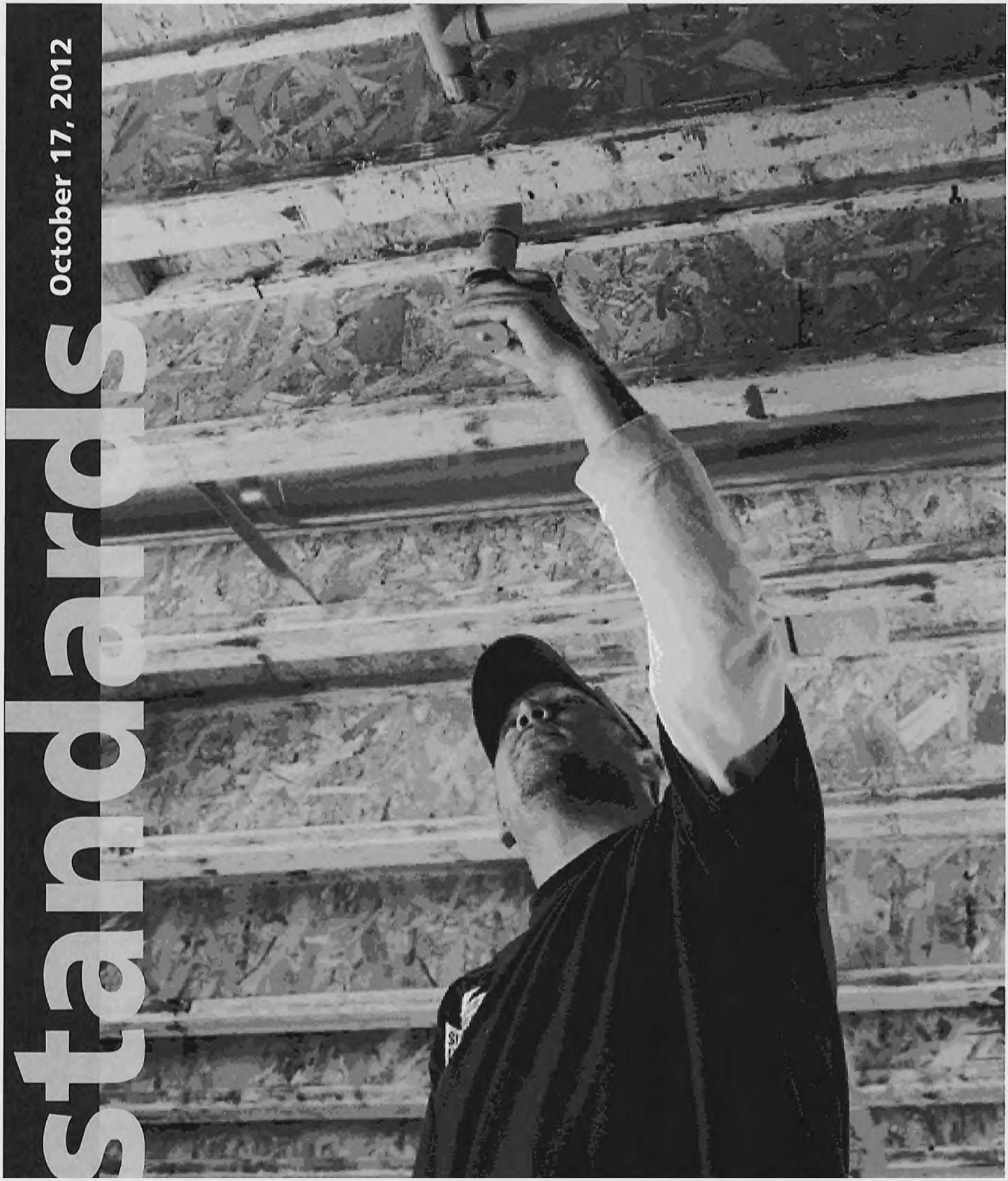
RVSS bills Talent and Phoenix storm drain fee of $1.50 on RVSS storm water invoice for a total of $2.50.

*RVSS issues only Tap permits within our service area in the City of Medford. Medford issues service line permits.

**plus $11.42 per connection

Actual fees may be different. Contact RVSS at 541-664-6300 for correct calculation of fees.

Appendix M: Medford Water Commission Fire Protection Service Standards



Fire Protection Systems

200 S. Ivy St. - Room 177, Medford, Oregon 97501
541-774-2430 • wtrcom@ci.medford.or.us • medfordwater.org

MEDFORD WATER COMMISSION

Standards
For
Fire Protection Systems

Board of Water Commissioners

Jason Anderson, Chair
Cathie Davis, Vice Chair
Leigh Johnson
John Dailey
Lee Fortier

Management

Larry Rains, P.E., Manager
Eric Johnson, P.E., Principal Engineer
Ken Johnson, Operations Superintendent

Approved by Resolution No. 1501
At the Regular Meeting of the Board of Water Commissioners
October 17, 2012

Medford Water Commission
200 S. Ivy St. – Room 177
Medford, OR 97501
Phone: (541) 774-2430 / Fax: (541) 774-2555
Email: wtrcom@ci.medford.or.us / Web: http://www.medfordwater.org

RESOLUTION NO. 1501

A RESOLUTION Adopting the Medford Water Commission's Standards for Water Facilities, Fire Protection Services, and Backflow Prevention Assemblies, as revised October 17, 2012

WHEREAS, the Commission's Standards are generally reviewed by staff every two years; and

WHEREAS, the last revisions to the Standards were approved in 2009; and

WHEREAS, staff has reviewed and evaluated all materials supplied to ensure they meet the standards of the Commission; and

WHEREAS, staff provided a study session on the Standards to the Board prior to their regular meeting on October 3, 2012; and

WHERAS, electronic versions of the three publications were available for review by the Board of Water Commissioners (Board) and the public on the Commission's website prior to the October 3, 2012 board meeting; and

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF WATER COMMISSIONERS OF THE CITY OF MEDFORD, OREGON, AS FOLLOWS:

That the Standards for Water Facilities, Fire Protection Services, and Backflow Prevention Assemblies, as revised October 17, 2012, and as set forth in Exhibits A, B and C, copies of which are on file in the Commission's office and by reference made a part hereof, are hereby approved and become effective immediately.

PASSED at a regular meeting of the Board of Water Commissioners and signed by me in authentication thereof this 17th day of October 2012.

ATTEST: Karen M Spoonts

Karen Spoonts, Deputy City Recorder

Jason Anderson, Chair

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SECTION I

REGULATIONS

I-A. AUTHORITY

1. OAR Chapter 333 Division 061 Rules for Public Water Systems require water suppliers to conduct an active program for systematically identifying and controlling cross connections. The standards set forth for Fire Protection Systems are minimum requirements for safe practice in the delivery of water. They are to be interpreted as meeting only the minimum requirements of design, construction, maintenance, and operation of the water utility system.

2. As set forth in Medford Water Commission's (MWC's) *Regulations Governing Water Service* and *Standards for Fire Protection Systems*, compliance with cross connection control rules is mandatory.

   a) MWC may immediately discontinue service to any premises where actual or potential cross connections exist.

3. As a condition of water service, customers shall install, maintain, and operate their piping and plumbing systems in accordance with the State of Oregon Plumbing Specialty Code and the Oregon Administrative Rules Chapter 333, Division 061, Public Water Systems addressing cross connection control and backflow prevention assemblies and, if applicable, in accordance with the City of Medford Plumbing Code.

   a) Plumbing permits are required by the City of Medford or Jackson County when installing backflow prevention assemblies. Please contact these agencies for information about plumbing permits.

I-B. GENERAL STATEMENT

For the purpose of these minimum requirements, the word "shall" indicates a mandatory requirement and the word "should" indicates a recommendation for good waterworks practice.

I-C. WATER SYSTEM

1. The water system shall be considered as made up of two parts: the utility system and the customer system.

2. The utility system shall consist of the source of facilities and the distribution system, and shall include all those facilities of the water system under the complete control of the utility, up to the point where the customer system begins, generally at the water meter, which is at the easement line or property line.

3. The customer system shall include those parts of the facilities which convey domestic water to points of use beyond the termination of the utility system. The term "customer system" is that of any user whether or not a charge is made.

I-D. SIZE AND ARRANGEMENT

Subject to approval of plans for each installation, MWC will approve standby fire protection service connections of the size and location requested by the applicant

but not less than two (2) inches or more than twelve (12) inches in size. Such service connections will be approve only if adequate provisions are made to prevent the use of water from such services for purposes other than fire extinguishing and if a main exists of adequate size to supply the requested service. Approved backflow prevention assemblies must be installed to prevent the re-entry of water into the public water system from back-siphonage or back-pressure and shall be installed on all standby fire protection service connections for any fire sprinkler system and to those to which hose lines, hydrants, or any other water outlets for fire extinguishing are connected.

I-E. CHARGES FOR SERVICE AND INSTALLATION

Charges for standby fire protection service shall be in accordance with MWC's regularly scheduled charges and rates. No charge will be made for water used to extinguish accidental fires or routine testing of a fire protection system. The customer shall pay the full cost of the installation of the standby fire protection service connections, any required meters or backflow prevention assemblies and any special water mains installed solely for service to the standby connections. Maintenance of any required facility shall be the sole responsibility of the customer. MWC shall only maintain the bypass meter and the water main from the connection to the existing water main to the front of the fire service vault.

I-F. VIOLATION OF REGULATIONS

If water is used from a fire service in violation of these regulations, an estimate of the amount used will be computed by MWC, and the customer shall pay for the water used at the regular metered rates, including the monthly service charge. MWC may also require that future service for such connection be through a meter at regularly scheduled metered rates, after notice, or MWC may discontinue the service.

I-G. PRESSURE AND SUPPLY

MWC assumes no responsibility for loss or damage because of lack of water or pressure and merely agrees to furnish such quantities and pressures as are available in its general distribution system. The service is subject to shut-downs and variations required by the operation of the system.

I-H. BACKFLOW PROTECTION

The type of backflow protection installed between the municipal system and the private fire system shall depend upon the private system configuration and the degree of hazard as follows:

1. Approved Reduced Pressure Principle Backflow Prevention Assembly (RP):

    a) Any system with antifreeze, corrosion inhibitor, or other chemicals added to a fire protection system supplied from the potable water supply, and is not isolated with approved backflow protection at the service connection.

b) Any system where an auxiliary water source may be connected to the private fire system.

2. Approved Reduced Pressure Principle-Detector Backflow Prevention Assembly (RPDA):

   This device may be utilized for a reduced pressure principle assembly in all installations where detector metering is required.

3. Approved Double Check Valve Backflow Prevention Assembly (DC):

   a) Any system with pumper connection.

   b) Any system with private fire hydrants.

   c) Any looped system (immediately downstream of each meter to prevent circulating flow).

   d) Any system containing non-potable water piping.

   e) Any "Stand-Alone" residential fire sprinkler systems as defined below.

4. Approved Double Check-Detector Backflow Prevention Assembly (DCDA):

   This device may be utilized for an approved double check valve assembly in all installations where detector metering is required.

5. No Backflow Protection Required:

   a) Any residential "multipurpose" or "Combination" fire sprinkler system as defined below.

6. Residential Fire Sprinkler Systems (NFPA 13D):

   a) "Stand-Alone" Fire Sprinkler Systems have a separate water supply that is tapped off the domestic water service to the house. Such a system contains standing water and may be installed using non-potable piping. A Double Check Valve Backflow Prevention Assembly is required at the branch to the fire system.

   b) "Multipurpose" or "Combination" Fire Sprinkler Systems share common piping with the domestic water supply inside the home. These systems are part of the customer's potable water line, are constructed of materials approved for potable water systems, and end at a routinely used plumbing fixture (allowing for periodic flow during each 24-hour period). There are no dead end lines containing standing water.

I-J. TESTING

All Assemblies must be tested upon installation and at least once per year thereafter by an approved certified tester. Records of such tests and repairs will be maintained by MWC, and it is the responsibility of any backflow prevention assembly tester performing

tests and maintenance on backflow prevention assemblies to submit records of such tests and repairs to MWC.

It shall be the responsibility of the owner of the property served to keep backflow prevention assemblies in good working condition at all times. It shall also be the responsibility of the owner of the property at any premise where backflow prevention assemblies are installed to have thorough inspections and assembly performance/ leakage tests made at least once a year. In those instances, as determined by MWC, where successive inspections indicate failure or where there are facilities that pose extreme health risks, more frequent testing will be required. These inspections and tests shall, at the expense of the owner of the property, be performed by a State certified person approved by MWC as a competent backflow assembly tester. It is the responsibility of MWC's representative to see that these tests are made. At the discretion of MWC, approved backflow assembly testers may be required to notify MWC in advance when the test is to be undertaken so that a MWC representative may witness the test. Backflow prevention assemblies shall be repaired, overhauled or replaced promptly at the expense of the owner of the property whenever they are found to be defective. Non-compliance may cause water service to be denied or discontinued. Records of such tests and repairs will be maintained by MWC, and it is the responsibility of any backflow prevention assembly tester performing tests and maintenance on backflow prevention assemblies to submit records of such tests and repairs, to MWC.

I-K. LOCATION

Backflow prevention assemblies shall be in an outside enclosure at the property line or on the private side of a Public Utility Easement (P.U.E). Backflow prevention assemblies shall not be located in the P.U.E. unless written authorization is obtain from all utility companies governing the use of the P.U.E. Backflow prevention assemblies shall not be located in the Public Right of Way unless written authorization is obtain from City of Medford Public Works Department. No fences or gates will be allowed to obstruct access to the device. All assemblies shall be set a maximum of 36 inches from the top of vault to the top of mainline pipe.

All backflow prevention assemblies for fire systems shall be located as stated previously unless special permission to locate such assemblies elsewhere in existing building situations is granted by MWC.[1]

The backflow prevention assemblies, when and if allowed inside existing buildings, must meet all of the following conditions:

1. Special permission must be granted by MWC and any special requirements followed.

2. The maximum length of service line from the backflow prevention assembly to the property line and/or MWC easement line shall not exceed fifteen feet (15').

I-L. UNDERGROUND PIPING

[1] It is the policy of MWC not to allow fire service backflow prevention assemblies inside buildings.

All water mains serving the fire service that are maintained by MWC shall be ductile iron pipe in accordance with MWC's *Standard Specifications for Ductile Iron Pipe and Cast Iron Fittings*.

I-M. INSTALLATION REQUIREMENTS

All backflow protection installed shall comply with the installation guidelines included in Section IV of "Standards for Fire Protection Systems" and defined as follows:

IV-A. Reduced Pressure Principle Backflow Prevention Assembly (RP)

IV-B. Double Check Valve Backflow Prevention Assembly (DC)

IV-C. Double Check-Detector Backflow Prevention Assembly (DCDA)

IV-D. Reduced Pressure Principle-Detector Backflow Prevention Assembly (RPDA)

I-N. RESPONSIBILITY FOR FIRE SERVICE

For those places where the assembly is placed within the building, the owner shall be responsible for the maintenance and repair of the fire service, and damage caused by the fire service in all areas outside public right-of-way or MWC easement.

I-O. FIRE SERVICE ABANDONMENT

Any active service account electing to permanently disconnect an existing standby fire service will be required to pay all costs involved with the full abandonment of the fire service at the main. Written approval/acknowledgement from the jurisdictional fire department and the insurance company insuring the property must be submitted to MWC prior to abandonment of the fire service.

SECTION II

GENERAL REQUIREMENTS

II-A. GENERAL

1. These guidelines are for the purpose of establishing standard procedures for developing designs for fire protection systems to conform with MWC's *Regulations Governing Water Service*. No approval of variances from these guidelines or estimates of costs will be given prior to submittal of plans for review.

2. Whenever the following terms are used in these requirements, specifications and special provisions, they are to be interpreted as being synonymous with the accompanying full title:

TERMS	FULL TITLE
MWC	Medford Water Commission
City	City of Medford
Contractor	Firm or corporation contracting with the developer to perform the work; Contractor and the person installing the pipe must be prequalified.
Council	City Council of Medford, Oregon
County	County of Jackson
Developer	Individual, partnership, firm or corporation proposing construction of water facilities which are a planned extension to the existing Medford Water Commission system
Engineer	Consulting engineer for the developer
Engineering Division	Engineering Division of MWC
Inspector	Inspector for the MWC
Manager	Manager of the MWC
Responsible Party	Individual, partnership, firm or corporation proposing construction of water facilities which are a planned extension to the existing MWC system
State	State of Oregon
Surveyor	Surveyor for the developer

1.00.01 RESPONSIBLE PARTY

The "Responsible Party" form (Appendix H, *Standards for Water Facilities*) shall be filled out completely and on file with MWC prior to any work starting on the project.

II-B. PLAN SUBMITTAL

1. The developer shall submit one (1) set of prints of the proposed installation for first plan check. The Engineering Division will check the drawings and return the drawings (redlines) to the Engineer for corrections. The Engineer will address the corrections and resubmit the corrected drawings and the first plan check

comments to MWC for further plan check if required. All previous redlines must be submitted to MWC at time of resubmittal for plan check.

2. Upon completion of plan check, the Engineering Division will issue a fee letter with an estimate of charges for plan check, work to be performed by MWC (such as tapping, inspection, flushing, testing, disinfection, sampling, and record drawings, etc.), and notify the developer via their Engineer of the amount to be deposited. The plans must be approved and signed by the City of Medford, Public Works Department, and City Engineer prior to MWC approving the plans (if applicable). If the project lies in the County and/or ODOT right of way, then the plans must be approved by those agencies (if applicable) prior to MWC approval.

3. The Developer and Engineer will incorporate any necessary corrections and furnish MWC with an electronic disk of the final drawings using a CD, AUTOCAD Release 2008 format, and two (2) full printed sets of final drawings and four (4) additional sets of prints of the water improvement plans only. Final printed plans shall be at full scale on 24" by 36" paper.

4. Signed and notarized easement shall be provided for recordation.

5. The fee deposit as outlines in the development agreement shall be paid in full to MWC.

6 The owner will be requested at this point to sign a development agreement, acknowledging those responsibilities required of them for finalization and acceptance of the water facilities.

7. Upon receipt of the plans, easements, fees and development agreement, the Engineering Division will initiate a work order, and return two (2) sets of drawings marked "Approved" to the contractor at a pre-construction meeting.

8. Approval of plans by MWC shall expire one year from the approval date. Approved plans become void if the design changes. Changes to the approved designed requires resubmittal of the plans for review and approval. Plans that have been approved (fees not paid and work order not issued) by MWC, but have not been constructed within one year of approval will be returned to the Engineer of record. Resubmittals of updated plans are required for the project to move forward.

II-C. PLAN DETAILS

The following standards are outlined for general use in preparing plan and profile drawings of water facilities for MWC.

1. All plans are to be prepared and signed by a registered engineer in the State of Oregon.

2. All plans are to be drawn on 24" by 36" sheet. All plans shall be drawn to scale. The scales for the plan view shall be engineering scales of: 1" to 50', 1" to 40', 1" to 30', 1" to 20' and 1" to 10'. The scales for the profile view shall be engineering scales of: 1" to 5', 1" to 4', 1" to 3', 1" to 2" and 1" to 1'. Details on the plans may

use smaller scales if required. Architectural scales are not allowed for engineering drawings.

3. Vicinity Map of the project area shall be provided showing proposed installations in relation to nearest cross streets.

4. Project name, north arrow and bar scales shall be shown on the plans.

5. Plan View: Sizes and materials of existing and proposed water mains, valves, fitting, service lines, meter, fire hydrants and all other water appurtenances shall be shown in plan views. Stationing and offsets of all water facilities shall be shown on the plans. Easements shall be shown and dimensioned on the plans. Lot numbers and street names shall be shown on the plans. All existing and proposed utilities shall be shown and dimensioned on the plans. Street improvements including driveway approaches shall be shown on the plans.

   Street centerline stations shall be used as reference stationing for water mains, fire hydrants, valves, fittings, and water service connections. Where water mains cannot be referenced to or deviate from street centerline stationing, dimensions for length shall be indicated on the plan view.

   The backflow prevention device and enclosure shall be provided indicating dimensions, piping connections ties to existing water facilities, thrust anchorage, vault type and size, backflow prevention assembly type and size, other utility locations, and elevation.

   Pressure zones and pad elevations shall be shown on plans when there are multiply pressure zones in a project.

   MWC general notes shall be shown on all plans.

   Construction notes shall be shown on all plans. Construction notes shall address both existing and proposed water facilities and any item effecting water facilities.

   Any item that would add to the clarity and constructability to the plan should be shown.

6. Profile View: Profiles of pipeline invert and soffit are to be plotted directly below the plan views. The existing and/or proposed street profile shall be used for final grade to base the water main profile on.

   Sizes of water mains, types of classes of pipes, air release valves, length or restraint pipe, casings and backfill classifications are to be shown in the profile view.

   Stationing and grades of pipes are to be shown in the profile view.

   All utility crossings (i.e., sanitary sewer, storm drain, irrigation pipes, existing water mains, electrical, natural gas, telephone, fiber optic, and etc.) are to be shown and labeled in the profile view.

Any item that would add to the clarity and constructability to the plan should be shown in the profile view.

II-D. GENERAL NOTES

1. The following general note shall appear on the plans:

"All water works shall be constructed in accordance with the current version of Medford Water Commission's Standards and Regulations."

2. The following notes should appear once on the plans, but in any case apply to all sheets:

   a) Service connections are to be installed for each parcel per MWC standards (Standard Details Nos. 100 and 101).

   b) Cover over existing mains shall not be changed without written authorization of MWC.

   c) New mains are to be pressure tested, disinfected and proven to be bacteriologically safe prior to placing new mains in service by MWC. Pressure testing shall not be done until all excavation and backfill up to subgrade has been established.

   d) Initial backfill to top of water mains and fire hydrants runs shall be compacted in accordance with MWC's "Standard Specification for Trench Excavation and Backfill," or backfill material and compaction shall meet the requirements of the controlling agency.

   e) Water mains and fire hydrants are to be installed with reference alignment and grade status and only upon notification of the MWC Inspector.

   f) Water mains are to be installed <u>after</u> sewers.

   g) Fire hydrant runs are to be installed before curbs and gutters. In the event a water main is installed larger than eight (8) inches, or if the main has more than three (3) feet of cover, the contractor will be required to install an offset similar to "Standard Drawing 105" to permit use of a standard 3'-6" bury fire hydrant.

   h) Stubs service runs shall be installed prior to curb and gutter and after PUEs are graded to curb levels.

   i) <u>Approved plans and specification shall be available at site of construction at all times during construction of water facilities.</u>

   j) <u>Copies of the MWC's "Standard Specifications" should be obtained at the office of MWC.</u>

   k) Separation of water main, including service lines and sanitary sewer, shall be in accordance with current Oregon State Health Division Rules and/or as

modified in Section IV, Item II, C-8 of these Standards except in all cases running parallel with each other, there shall be a 10-foot separation center line to center line.

l) No above-ground appurtenances or physical structures of any kind shall be within five (5) feet of any water facility whether that water facility is above or below ground. This distance shall be ten (10) feet when water and sanitary sewer facilities are concerned.

m) No below-ground utility lines or other service of any kind shall be within five (5) feet of any water facility when running parallel to the water facility.

n) No below-ground utility lines or other service of any kind shall be within six (6) inches of any water facility when running parallel or approximately perpendicular to the water facility. This distance shall be eighteen (18) inches when water and sanitary sewer facilities are concerned.

o) Blasting or explosive work will not be allowed within 30 feet of existing water facilities and only then using proper industry standards and through a permit process with the Fire Department or other agency jurisdiction.

p) MWC requires "poly pigs" to be used on all newly laid water lines.

q) All dry tap water services and air release valves shall be installed by a MWC-pre-qualified installer.

SECTION III

GENERAL SPECIFICATIONS

III-A. SCOPE OF WORK

1. It is the developer's responsibility to have all work done in accordance with approved plans and MWC's "Standard Specifications."

2. Any change or alteration in approved plans will require written consent of the Engineering Division.

3. MWC will assist in marking and locating MWC facilities through the Oregon Utility Notification Center system.

III-B. CONTROL OF WORK

1. The Engineering Division will decide all questions which may arise as to the quality of acceptability of materials furnished and work performed. The Engineering Division will have the authority to decide on the acceptable fulfillment of all phases of work.

2. Finished construction shall conform with grades and dimensions shown on approved plans. Deviations from approved plans, as may be required by the necessities of construction, will be determined in all cases by the Engineering Division and significant deviations must first be authorized in writing.

3. Construction not included as part of the original plans must first be given written approval by the Engineering Division.

4. Failure to comply with the aforementioned requirements will be cause for rejection of the work.

III-C. INSPECTION

1. MWC's Inspector shall at all reasonable times have access to the work during construction and shall be furnished every reasonable facility for ascertaining full knowledge regarding adherence to approved plans, workmanship and type, and quality of materials used in the work.

2. Work which is defective in its construction or deficient in any of the specified requirements shall be removed and replaced to the satisfaction of MWC.

3. Failure to comply with any part of the approved plans may be sufficient cause to reject the work. Deviations will be called to the attention of the developer or contractor at the time it is noted. Failure to comply by making the necessary corrections will result in sending of a written notification to both the contractor and the developer and the work thereafter will not be accepted until after corrections have been made to the satisfaction of MWC.

4. The fire service will be turned on only by MWC's Inspector for testing of backflow prevention assemblies and after final inspection.

III-D. APPROVAL OF CONTRACTOR, PIPE INSTALLER

The contractor and person installing the pipe and water facilities shall be approved by MWC. Calendar year prequalification information shall be submitted on MWC's "Contractor Prequalification Application" forms.

The Contractor must list previous work related to "Ductile Iron Pipe Installation" or other items related to particular projects, with references and telephone numbers.

The Contractor may be required to attend a meeting with MWC field personnel with their service truck and explain their planned approach to the project as well as knowledge of our printed standards. Determination of prequalification may be based solely on this information.

It must be understood that MWC inspects waterline work for acceptance into the public system but does not teach the techniques for proper installation. Having the knowledge of techniques for proper installation is the responsibility of the contractor to already possess. New persons wanting to learn the process should work under an experience Contractor and then apply for prequalification keeping in mind their first few jobs will necessitate increased inspection time until a sense of confidence is achieved by MWC.

Work performed by other than approved contractors and people installing the pipe will not be accepted.

III-E. CONSTRUCTION

1. All material and workmanship utilized in the construction of facilities that MWC assumes ownership of shall be in accordance with the attached "Standard Specifications for Trench Excavation, Backfill and Shoring" and "Ductile Iron Pipe, Cast Iron Fittings, Valves, and Fire Hydrants."

2. Facilities shall be installed in strict accordance with plans.

3. MWC shall be notified 48 hours in advance of construction.

4. All materials and workmanship utilities in the construction of facilities that MWC assumes ownership of shall be guaranteed for a period of one year following date of acceptance by MWC.

5. Approved plans shall be available at the site of construction at all times during construction.

6. Prior to backfill operations, water facilities installation shall be inspected by the MWC Inspector to ensure compliance with the plans and specification. Contractors shall notify MWC 48 hours in advance for inspections.

7. It shall be the contractor's responsibility to arrange for inspection prior to backfilling operations.

8. Contractor shall provide excavation, backfill, shoring, surfacing, trench plates, traffic control and etc. when assisting MWC forces.

9. Work activities on water projects shall be confined to normal MWC working hours (8 a.m. to 5 p.m. – Monday to Friday).

III-F. MATERIALS

1. All materials shall be new and meet the specified requirements. No other materials will be accepted. All materials shall be new and meet the specified requirements. All materials shall be as listed in the "Standard Specifications" or as approved by MWC.

2. MWC will refuse to accept for use any materials which are defective or damaged. Installation of any such materials will result in rejection and subsequent request for removal and replacement before acceptance.

III-G. PERMITS

It is the obligation of the developer or contractor to obtain whatever permits may be legally required prior to the start of construction.

III-H. BACKFLOW PREVENTION ASSEMBLIES

Approved backflow prevention assemblies shall be furnished by the applicant where required and installed in accordance with the appropriate schedules contained herein.

The types of assemblies approved by MWC are identified in the current "Approved Backflow Prevention Assembly Listing" provided by the Oregon Health Authority. In case of discrepancies, the most recent Health Division listing or addenda will prevail (see **Section V: APPROVED BACKFLOW ASSEMBLIES PREVENTION ASSEMBLIES** for more information).

All assemblies must be tested upon installation and at least once per year thereafter by an approved certified tester. Records of such tests and repairs will be maintained by MWC, and it is the responsibility of any backflow prevention assembly tester performing tests and maintenance on backflow prevention assemblies to submit records of such tests and repairs to MWC.

III-I. BYPASS METER

The touch/read bypass meter shall be 5/8" x 3/4" in size, and shall be used on double check detector assemblies or reduced pressure principal detector assemblies and must be purchased from MWC. MWC shall also set the bypass meter at current charges for special services.

III-J. VAULTS

Vaults and lids shall be approved*[1] pre-cast type. All vaults shall be well drained, constructed of suitable materials, and sized to allow for the minimum clearances established.

MWC provides only initial inspection and approval of vaults and appurtenances. Vaults, lids, and the backflow assemblies are owned by the property owner, and they incur all responsibility and liability of these items. These items shall be maintained by the property owner. Vault owners must recognize that many vaults can be considered a "confined space" where oxygen deficiency or toxic atmosphere may exist. The Oregon Occupational Safety and Health Administration (OSHA) mandate specific requirements for confined space entry.

No fire department pumper connections shall be installed through vault lids.

Vaults shall be provided with a sump pump when in potential groundwater installations. Brass or plastic plugs are required in all assembly test ports when assemblies are installed in a vault below grade.

III-K. SAFETY

Safety is the sole responsibility of the contractor. It is the contractor's responsibility to conform to all OSHA or other safety regulations. MWC inspector is not responsible for patrolling safety issues.

III-L. COMPLETION

1. Upon completion of the project, the contractor will notify MWC 48 hours in advance of a desired final inspection.

2. MWC will in turn furnish a "Dedication and Declaration of Acceptance of Water System Facilities" form to be executed by the owner and MWC. The owner's Dedication provides for a one (1) year guarantee from the date of acceptance in which the owner agrees to indemnify and hold harmless MWC from any and all defects appearing or developing in the workmanship or material performed or furnished in the construction of the described water system facility.

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[1] * See Section VII – Standard Detail Drawings – No. 800

3. The owner/contractor is required to supply a statement of actual cost of the project on the "Dedication and Declaration" form.

SECTION IV

INSTALLATION STANDARDS

INSTALLATION STANDARDS

Only assemblies approved for vertical installation by Oregon Department of Human Services and MWC, including the proper direction of flow, may be installed vertically.

(Refer to Section VI, "Standard Detail Drawings" for backflow assembly installations)

IV-A. REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY (RP)

RPs may be utilized at premises where the substance which could backflow is hazardous to health. The RP is normally used in locations where an air gap is impractical and is effective against both backsiphonage and backpressure.

1. RPs must be sized to provide an adequate supply of water and pressure for the premises being served. Flow characteristics are not standard. Consult manufacturer's specifications for specific performance data.

2. Premises where interruption of the water supply is critical should be provided with two assemblies installed in parallel. They should be sized in such a manner that either assembly will provide the minimum water requirements while the two together will provide the maximum flow required.

3. Bypass lines are not permitted. Pipe fittings which could be used for connecting a by-pass line must not be installed.

4. The assembly must be readily accessible for testing and maintenance and must be located in an area where water damage to building or furnishings would not occur from relief valve discharge. An approved air gap funnel assembly may be used to direct minor discharges away from the assembly; the air gap funnel will not control flow in a continuous relief situation. Drain lines to accommodate full relief valve discharge flow should be considered. Relief valves shall not be extended or plugged.

   RPs are typically installed above grade in well drained areas, but may be installed below grade if an adequate drain to daylight is provided.

   Enclosures shall be designed for easy access and sized to allow for the minimum clearances established below. Removable protective enclosures are typically installed on smaller assemblies. Daylight drain port must be provided to accommodate full pressure discharge from the assembly.

   All assemblies shall have a minimum of 12 inches on the back side, 24 inches on the test cock side, and the relief valve opening shall be at least 12 inches plus nominal size of assembly above the floor or highest possible water level.

   Minimum clearances for assemblies 2 inches or smaller may be reduced provided that they are accessible for testing and repairing and approved by the water purveyor. The 12-inch minimum clearance below the relief valve must be maintained.

Maximum height of installation shall not exceed 5 feet for assemblies unless there is a permanently installed platform meeting Occupational Safety and Health (OSHA) standards to facilitate servicing the assembly.

5. The assembly must be protected from freezing and other severe weather conditions.

6. Vertical installation is not permitted.

7. Lines should be thoroughly flushed prior to installation. A strainer with blow out tapping is recommended ahead of the assembly.

8. The property owner assumes all responsibility for leaks and damage.

9. All RPs must be tested upon installation and at least once per year thereafter by an approved certified tester. Records of such tests and repairs will be maintained by MWC, and it is the responsibility of any backflow prevention assembly tester performing tests and maintenance on backflow prevention assemblies to submit records of such tests and repairs to MWC.

10. RPs shall be installed above the 100-year flood level.

11. Variances from these specifications will be evaluated on a case by case basis. Any deviations must have prior written approval of the MWC.

IV-B. DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLY (DC)

DCs may be installed at premises where the substance which could backflow is objectionable but not hazardous to health.

1. DCs must be sized to provide an adequate supply of water and pressure for the premises being served. Flow characteristics are not standard. Consult manufacturer's specifications for specific performance data.

2. Premises where interruption of water supply is critical should be provided with two assemblies installed in parallel. They should be sized in such a manner that either assembly will provide the minimum water requirements while the two together will provide the maximum flow required.

3. Bypass lines are not permitted. Pipe fittings which could be used for connecting a bypass line shall not be installed.

4. The assembly shall be readily accessible with adequate room for testing and maintenance. DCs may be installed below grade in a vault, provided water-tight brass or plastic plugs are installed in the test cocks. The assembly shall not, however, be subject to continuous immersion. All vaults shall be well drained, meet MWC vault standards, and be sized to allow for the established minimum clearances.

   Assemblies 2 inches and smaller shall have at least 12-inch clearance below and 3-inch clearance on both sides of the assembly. All assemblies larger than two

(2) inches shall have a minimum clearance of 12 inches on the back side, 24 inches on the test cock side, and 12 inches below the assembly.

Maximum height of installation shall not exceed 5 feet for assemblies unless there is a permanently installed platform meeting Occupational Safety and Health (OSHA) standards to facilitate servicing the assembly.

5. DCs may be installed vertically as well as horizontally provided that the assembly is approved for vertical installation by Oregon Department of Human Services and MWC, including the proper direction of flow.

6. The assembly must be protected from freezing and other severe weather condition.

7. Lines should be thoroughly flushed prior to installation. A strainer with blow out tapping is recommended ahead of the assembly.

8. The property owner assumes all responsibility for foundation or basement wall penetration, leaks, and damage. The owner shall also see that the vault is kept reasonable free of silt and debris.

9. All DCs must be tested upon installation and at least once per year thereafter by an approved certified tester. Records of such tests and repairs will be maintained by MWC, and it is the responsibility of any backflow prevention assembly tester performing tests and maintenance on backflow prevention assemblies to submit records of such tests and repairs to MWC.

10. Variances form these specification will be evaluated on a case by case basis. Any deviations must have prior written approval of MWC.

IV-C. DOUBLE CHECK-DETECTOR BACKFLOW PREVENTION ASSEMBLY (DCDA)

DCDAs may be utilized in all installations requiring a double check valve assembly and detector metering.

1. DCDAs shall comply with the installation requirements applicable for double check valve assemblies.

2. Bypass meters for DCDAs must be purchased from MWC.

IV-D. REDUCED PRESSURE PRINCIPLE-DETECTOR BACKFLOW PREVENTION ASSEMBLY (RPDA)

RPDAs may be utilized in all installations requiring a reduced pressure backflow assembly and detector metering.

1. RPDAs shall comply with the installation requirements applicable for reduced pressure backflow assemblies.

2. Bypass meter for RPDAs must be purchased from MWC.

SECTION V

APPROVED BACKFLOW PREVENTION ASSEMBLIES

V. APPROVED BACKFLOW PREVENTION ASSEMBLIES

Under current Oregon Administrative Rule 333-061-0070 Oregon Health Authority-approved *testable* backflow prevention assemblies shall be assemblies approved by the University of Southern California (USC), Foundation for Cross Connection Control and Hydraulic Research. Membership to the Foundation is required for access to this list of approved assemblies. The Oregon Health Authority has limited permission from USC to provide this reformatted list to public water systems and water system consultants working within Oregon. New assemblies approved by USC are available on cumulative addendums prepared throughout the year.

For information on approved backflow prevention assemblies contact:

Oregon Health Authority Drinking Water Program
Cross Connection/Backflow Prevention Program (DWP CC/BPP)
PO Box 14450
Portland, OR 97293-0450

Phone: (971) 673-1220
Phone: (971) 673-0405
Fax: (971) 673-0694
TTY: (971) 673-0372

Web site:
http://public.health.oregon.gov/HealthyEnvironments/DrinkingWater/CrossConnection/Pages/index.aspx

OR

Medford Water Commission
200 S. Ivy St. – Room 177
Medford, OR 97501

Phone: (541) 774-2450 or (541) 774-2447

Web site: www.medfordwater.org

SECTION VI

STANDARD SPECIFICATIONS

VI. STANDARD SPECIFICATIONS

Refer to MWC's *Standards for Water Facilities* (Green Book), latest edition.

I Standard Specifications for Trench Excavation, Backfill and Shoring

II Standard Specifications for Ductile Iron Pipe, Ductile Iron Fittings, Valves, and Fire Hydrants

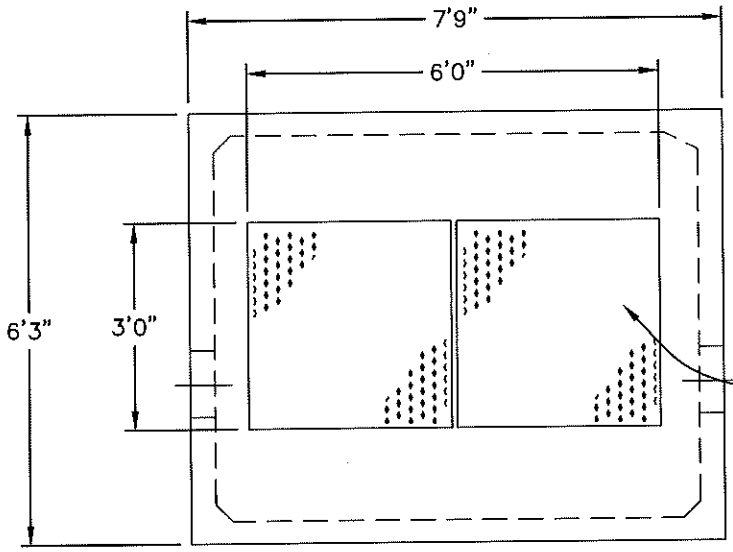
SECTION VII

STANDARD DETAIL DRAWINGS

VII. STANDARD DETAIL DRAWINGS (October 2009)

Standard Detail No.	Description
800	Pre-cast Non-Traffic Vault and Lid
802	Reduced Pressure Principle Assembly (RP)
803	Reduced Pressure Principle Detector Assembly (RPDA)
805	Double Check Valve Assembly (DC)
807	Double Check Detector Assembly (DCDA)

NOTE: Medford Water Commission Standard Detail Drawings are adopted from OAR 333-61-099 "Backflow Device Installation Standards."



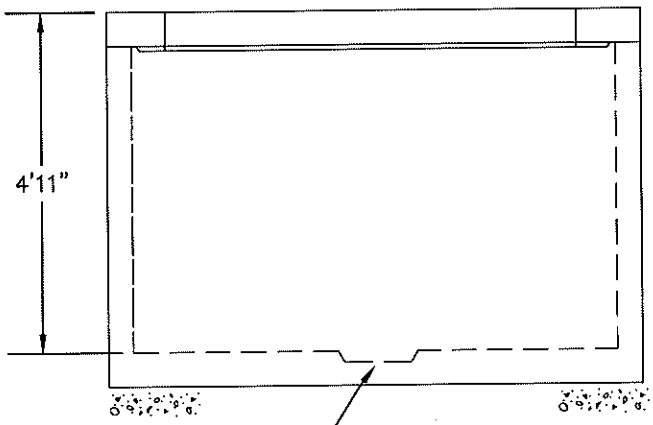
NOTE:

1. THIS IS A GENERAL DRAWING FOR MINIMUM REQUIREMENTS.
2. FIRE DEPARTMENT CONNECTION AND CHECK VALVE MAY BE IN VAULT, BUT NOT THROUGH LID OR TOP.

HOT-DIPPED GALVANIZED, HINGED, LOCKING LATCH, H-20 TRAFFIC RATED, FULL OPENING, TORSION SPRING ASSISTED, DOUBLE DIAMOND PLATE DOOR, 3'x6' CLEAR OPENING

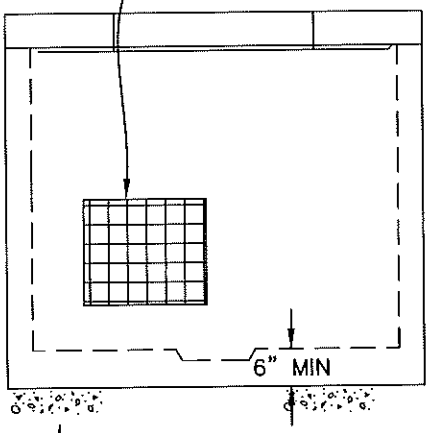
PLAN
NTS

18"x24" KNOCKOUTS – BOTH ENDS, TO BE LOCATED AS REQUIRED



12" DIAMETER SUMP (OPTIONAL)

SIDE
NTS



3" MIN $\frac{3}{4}$" MINUS CRUSHED ROCK COMPACTED TO STANDARDS

END
NTS

APPROVED VAULTS AND LIDS

1. ALLIANCE CONCRETE ENCLOSURES INC ACE-468 OR ACE-468S FIRE SERVICE VAULT
2. UTILITY VAULT CO. 675-WA VAULT WITH 675-TW-2-332P LID (4" OR 6" DEVICE)
3. UTILITY VAULT CO. 5106-LA VAULT WITH 5106-TL-2-332P LID (8" OR 10" DEVICE)

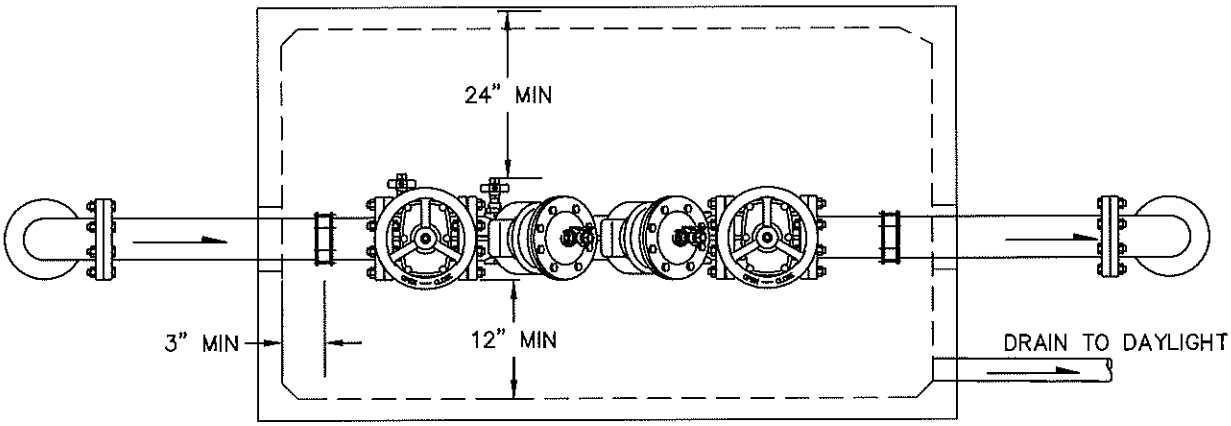
STRUCTURAL NOTES:

1. CONCRETE: 28-DAY STENGTH F'C=4500 PSI
2. REBAR: ASTM A615 GRADE 60
3. MESH: ASTM A-185 GRADE 65
4. MINIMUM DESIGN PARAMETERS: ASTM C-857 – MINIMUM DESIGN, ACI-318 BUILDING CODE LOADING FOR UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES

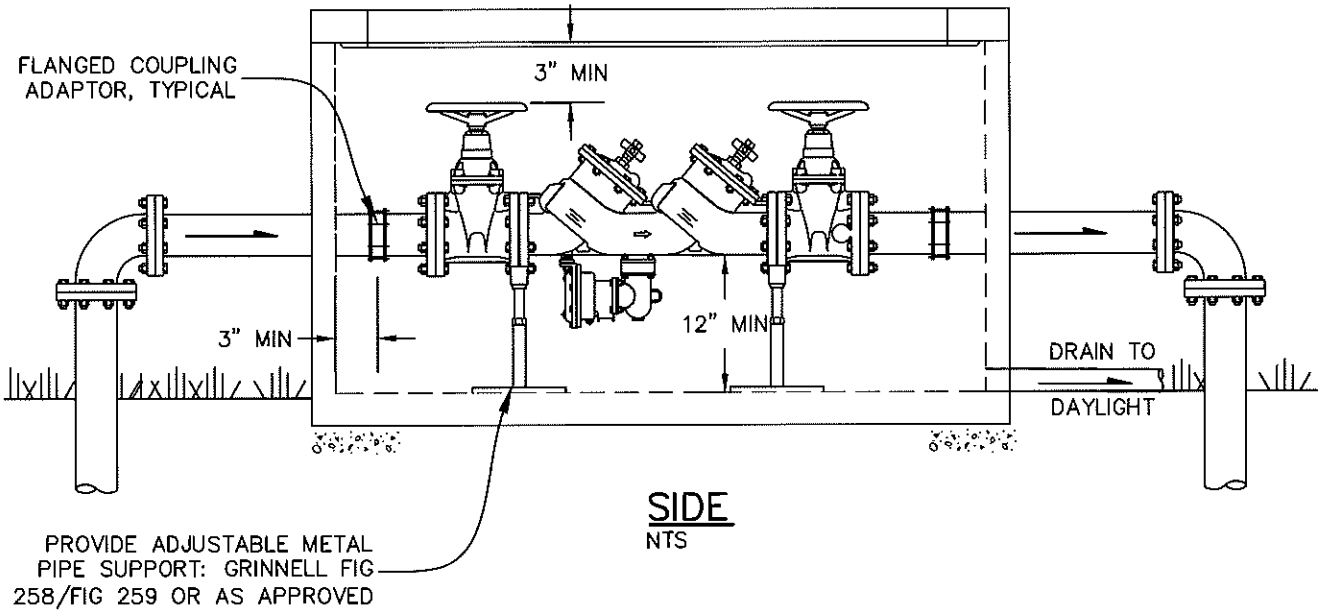
MEDFORD WATER COMMISSION

REV	PRECAST NON-TRAFFIC VAULT AND LID
10/09	STANDARD DETAIL NO. 800

800.DWG
9/22/09



PLAN
NTS



SIDE
NTS

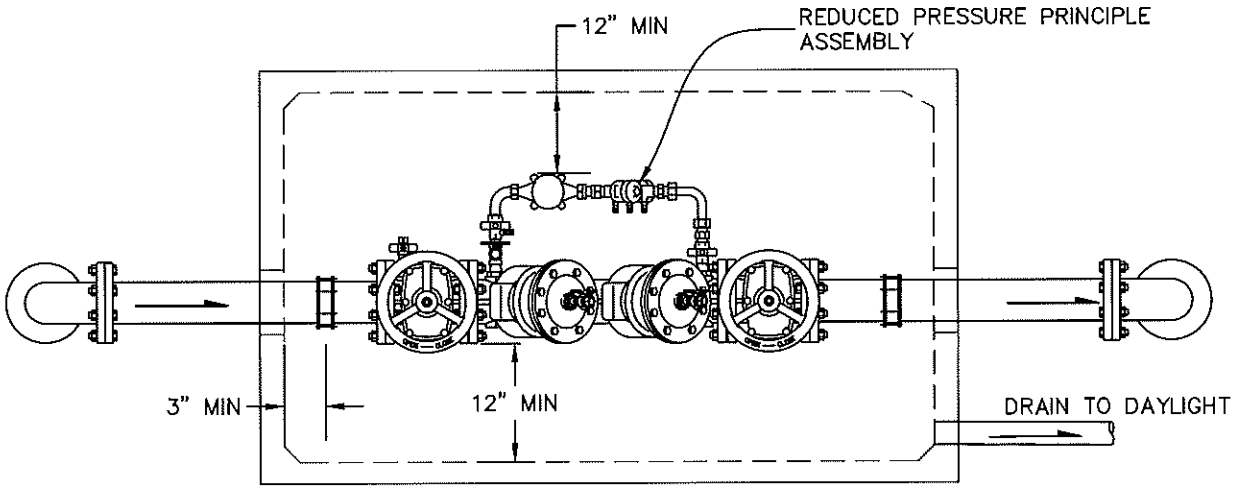
NOTE:

1. LARGE ASEMBLIES ARE THOSE 2½" AND LARGER.
2. ASSEMBLY SHALL NOT BE SUBJECT TO FLOODING.
3. DRAIN LINES SHALL BE SIZED TO ACCOMODATE FULL RELIEF VALVE DISCHARGE FLOW.
4. RP's ARE TYPICALLY INSTALLED ABOVE-GRADE IN WELL-DRAINED AREAS, BUT MAY BE INSTALLED BELOW-GRADE IF AN ADEQUATE DRAIN TO DAYLIGHT IS PROVIDED.
5. RP's SHALL BE INSTALLED ABOVE THE 100 YEAR FLOOD LEVEL, UNLESS OTHERWSIE APPROVED BY MWC.
6. BRASS OR PLASTIC PLUGS ARE REQUIRED FOR ALL VAULT INSTALLATIONS.

9/22/09 802.dwg

MEDFORD WATER COMMISSION

REV	REDUCED PRESSURE PRINCIPLE ASSEMBLY (RP)
10/09	STANDARD DETAIL NO. 802



PLAN
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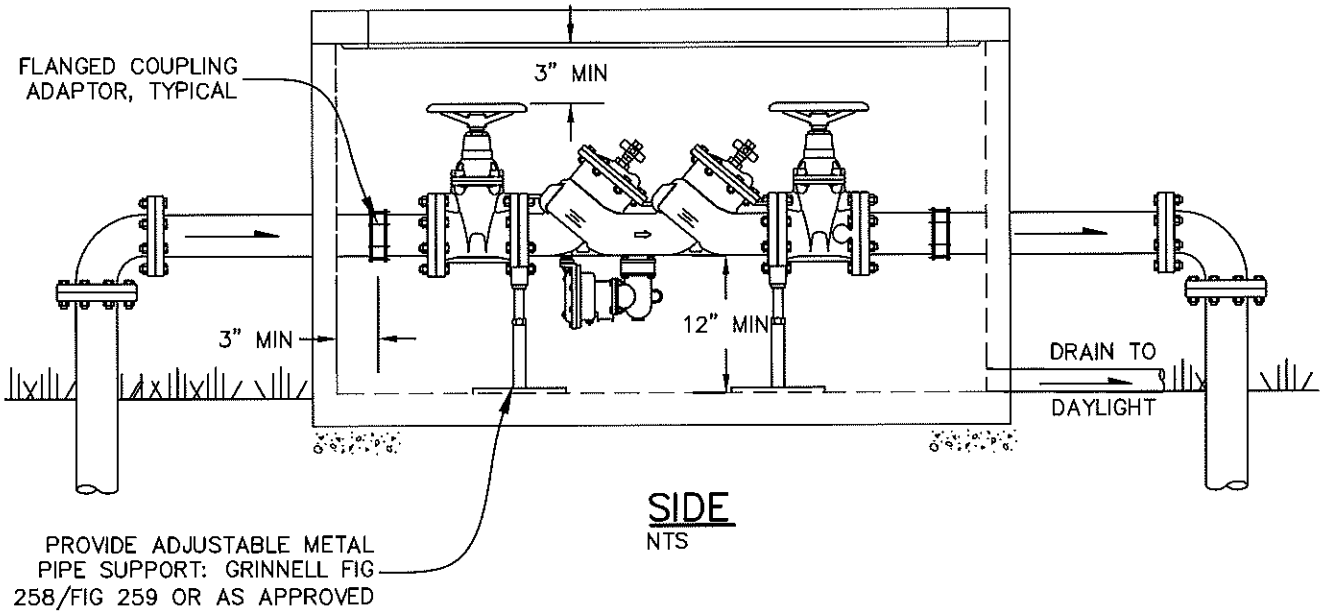


SIDE
NTS

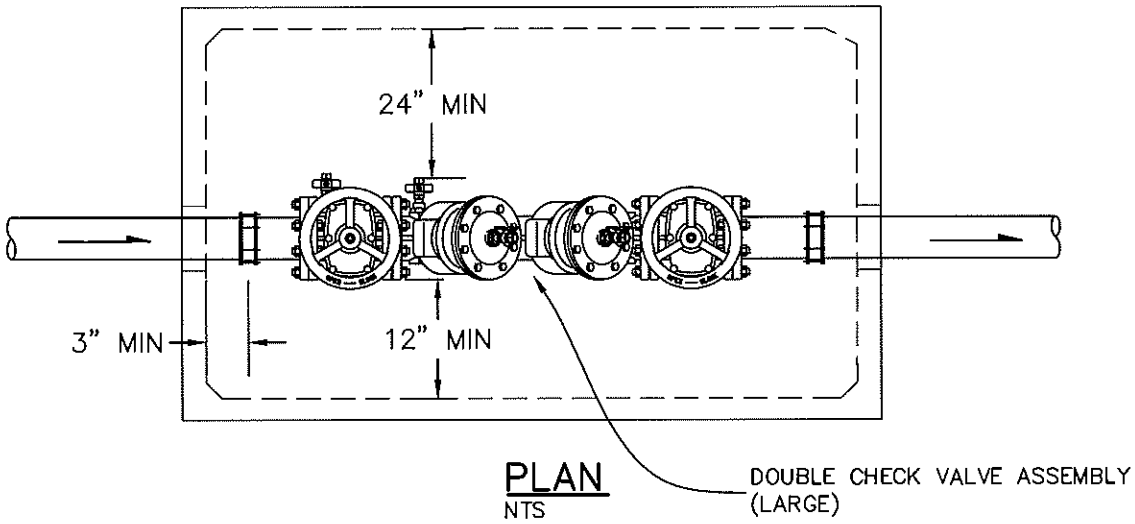
NOTE:

1. LARGE ASEMBLIES ARE THOSE $2\frac{1}{2}$" AND LARGER.
2. ASSEMBLY SHALL NOT BE SUBJECT TO FLOODING.
3. DRAIN LINES SHALL BE SIZED TO ACCOMODATE FULL RELIEF VALVE DISCHARGE FLOW.
4. RPDA's ARE TYPICALLY INSTALLED ABOVE-GRADE IN WELL-DRAINED AREAS, BUT MAY BE INSTALLED BELOW-GRADE IF AN ADEQUATE DRAIN TO DAYLIGHT IS PROVIDED.
5. RPDA's SHALL BE INSTALLED ABOVE THE 100 YEAR FLOOD LEVEL, UNLESS OTHERWSIE APPROVED BY MWC.
6. BRASS OR PLASTIC PLUGS ARE REQUIRED FOR ALL VAULT INSTALLATIONS.

9/22/09 803.DWG

MEDFORD WATER COMMISSION

REV	REDUCED PRESSURE PRINCIPLE DETECTOR ASSEMBLY (RPDA)
10/09	STANDARD DETAIL NO. 803



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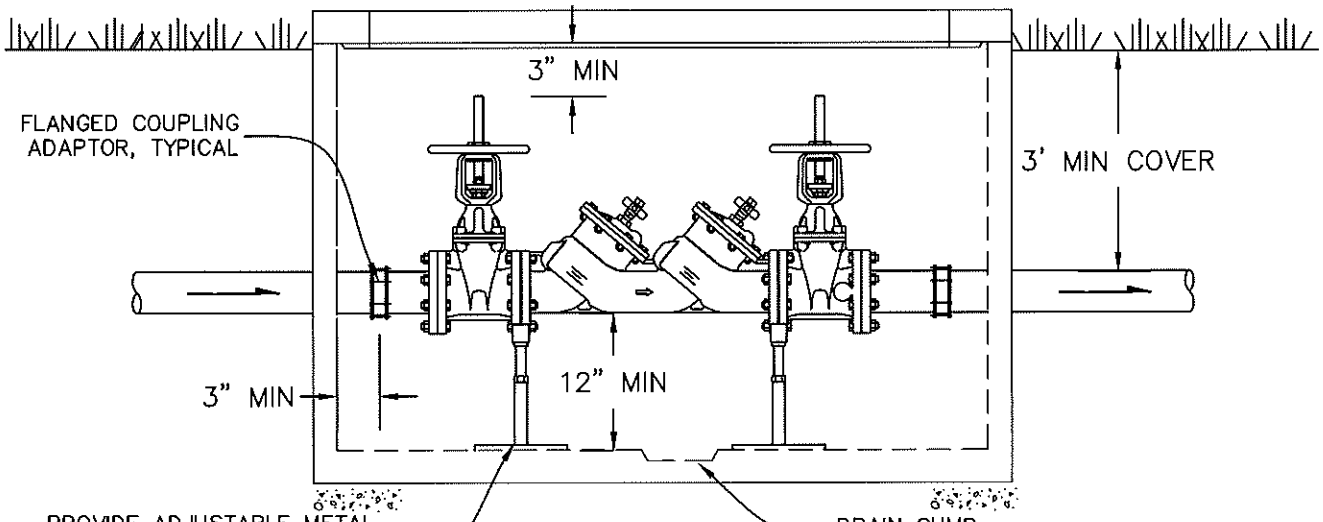


SIDE
NTS

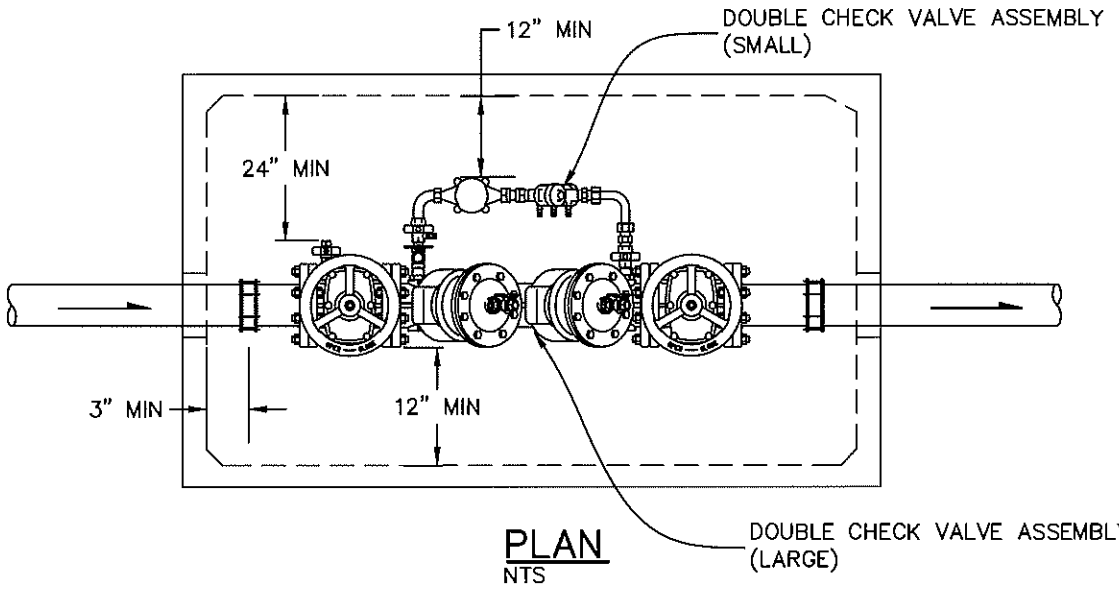
NOTE:

1. LARGE ASEMBLIES ARE THOSE 2½" AND LARGER.
2. ASSEMBLY SHALL NOT BE SUBJECT TO FLOODING.
3. DC's ARE TYPICALLY INSTALLED BELOW-GRADE.
4. DC's SHALL BE INSTALLED ABOVE THE 100 YEAR LEVEL, UNLESS OTHERWISE APPROVED BY MWC.
5. BRASS OR PLASTIC PLUGS ARE REQUIRED FOR ALL TESTING PORTS.

9/22/09 805.DWG

MEDFORD WATER COMMISSION

REV	DOUBLE CHECK VALVE ASSEMBLY (DC)
10/09	STANDARD DETAIL NO. 805



PLAN
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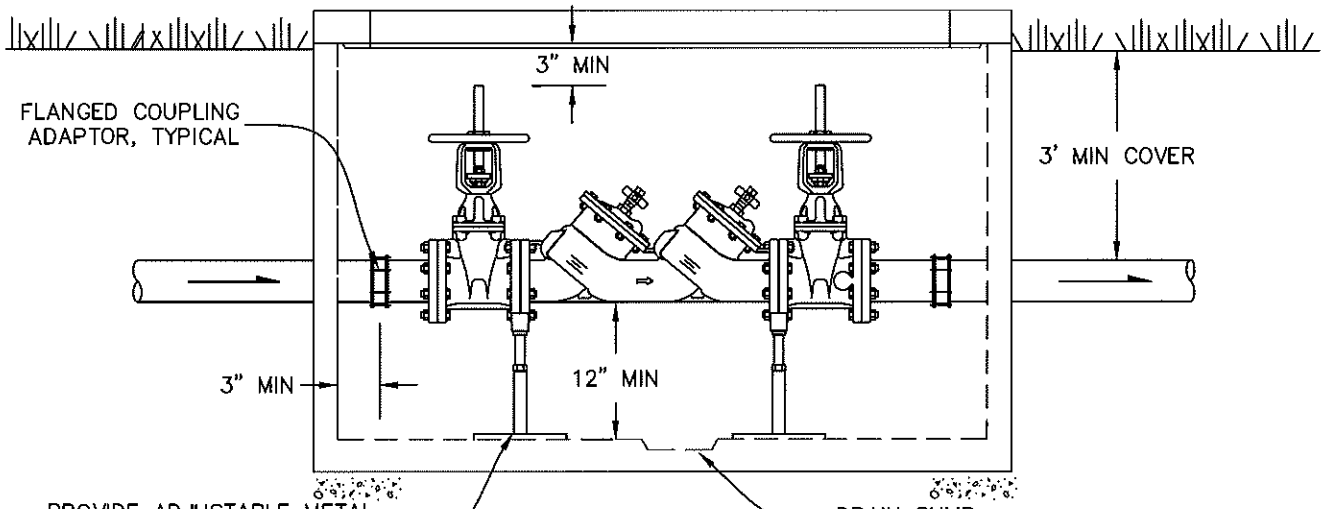

SIDE
NTS

NOTE:

1. LARGE ASEMBLIES ARE THOSE 2½" AND LARGER.
2. ASSEMBLY SHALL NOT BE SUBJECT TO FLOODING.
3. DCDAs ARE TYPICALLY INSTALLED BELOW-GRADE.
4. DCDAs SHALL BE INSTALLED ABOVE THE 100 YEAR FLOOD LEVEL, UNLESS OTHERWISE APPROVED BY MWC.
5. BRASS OR PLASTIC PLUGS ARE REQUIRED FOR ALL TESTING PORTS.
6. IF DOMESTIC SERVICE IS INSTALLED OFF THE FIRE SERVICE, A SECOND GATE VALVE SHALL BE INSTALLED OUTSIDE THE VAULT. RESTRAINED JOINTS MUST BE PROVIDED BETWEEN THE VALVE AND THE MAIN.
7. APPROVED DEVICE ASSEMBLIES: ALLIANCE CONCRETE ENCLOSURES, INC. ACE-468 FIRE SERVICE BACKFLOW ASSEMBLY.

9/22/09 807.DWG

MEDFORD WATER COMMISSION

REV	DOUBLE CHECK DETECTOR ASSEMBLY (DCDA)
10/09	STANDARD DETAIL NO. 807

Appendix N: Medford Water Commission 2015 Water Quality Report

the water we drink

ISSUED MAY 2015
BASED ON 2014 WATER QUALITY DATA

ANNUAL WATER QUALITY REPORT FOR:
Medford Water Commission
and the cities of:
Central Point · Eagle Point
Jacksonville · Medford · Phoenix

Este informe contiene información muy importante sobre su agua potable. Para obtener una copia de este reporte en español, por favor llame al 541-774-2430 o visite medfordwater.org/CalidadDelAgua.pdf

About This Report

Environmental Protection Agency (EPA) rules require that drinking water systems provide specific water quality information to their customers each year. This report includes water quality testing results for the year 2014, along with information explaining what the results mean.

We support our customers' right to know results of our water testing, though we also realize that this can be quite technical. Much of the content of this report must follow strict guidelines, but if you have additional questions, see the "water connections" section for contacts to whom further questions can be asked. This report is being provided by the Medford Water Commission, along with the cities of Central Point, Eagle Point, Jacksonville and Phoenix, each of whom receive and distribute water provided by the Commission.

Our Water Sources:

The majority of the water used within our water system comes from the Big Butte Springs, which flow from the lower slopes of Mt. McLoughlin near Butte Falls. Its quality is exceptional, requiring no treatment besides disinfection. Considered a groundwater supply, this clear, cold water is utilized year round.

When water usage more than triples during the summer months, water from the Rogue River is used in combination with the springs supply. While also high in quality, as is true of most surface water sources, it requires full treatment, which is accomplished at the Robert A. Duff Water Treatment Plant utilizing ozonation, flocculation/sedimentation, filtration and disinfection.

The Big Butte Springs drainage is within undeveloped forested areas, and the upper Rogue watershed is relatively undeveloped.

While we therefore don't face many of the water quality challenges associated with highly developed watersheds, our supplies can be impacted by farm and forest practices, natural disasters, and urban uses upstream of our water sources.

Medford Water Commission is actively involved in activities aimed at preserving the quality of our water supplies. Additionally, the Oregon Department of Environmental Quality (DEQ) has developed a source water assessment for the Rogue River supply. This identifies potential contamination sources within the watershed, and ranks the potential for pollutants to enter the water supply. Summary tables and maps of this assessment are available for review on the DEQ website http://www.deq.state.or.us/wq/dwp/results.htm.

Doing Your Part:

As your water suppliers, it is our duty to continuously provide clean water for our communities. How carefully it is used is then up to you, the customer.

A huge amount of the water we supply is used for landscape sprinkling. Some of this increase is reasonable, but much of it exceeds the water needs of the plants, runs off, or is misdirected.

Following are five main water wasters with easy fixes:

- **Sprinkling cycles that are too long.** Split sprinkling times into short cycles separated by only about an hour. By enabling water to soak in before more is applied, you'll get deep watering without runoff.
- **Too much total watering time.** Make a copy of the ***Sample Lawn Watering Schedule*** from the MWC website for approximate run times. For even more accurate watering times based on current weather, call the Lawn Watering Infoline at 541-774-2460.
- **Sprinkling at the wrong time of day.** It's best to water between dusk and 6 am, when there is the least heat and wind, as well as less competition with other water uses.
- **Broken, blocked or misdirected sprinklers.** View all sprinkler zones running at least once a month to see if any adjustments or repairs are needed. Sprinklers that are leaning, broken, too low, or out of adjustment will have distorted spray patterns. Most fixes are easy to make.
- **Too much pressure.** Significant water is wasted when the water pressure is higher than the sprinklers are designed for. If you have sprinklers that are hissing or spraying fine mist, it's a sure sign that pressure regulation should be added.

The Medford Water Commission's website has many more ***conservation tips***. Check them out!

Water Connections

MEDFORD WATER COMMISSION (PWID: 41-00513)
Rosie Pindilli, Water Quality Administrator: 541-774-2728
Email: wtrcom@ci.medford.or.us
www.medfordwater.org
Board Meetings: 1st and 3rd Wednesday at 12:30 pm
Lausmann Annex, 200 S. Ivy St., Room 151

CITY OF CENTRAL POINT (PWID: 41-00178)
Max Woody, Public Works Operations Manager: 541-664-3321 (ext. 241)
Email: max.woody@centralpointoregon.gov
Council Meetings: 2nd and 4th Thursday at 7:00 pm
City Hall, 140 S. 3rd Street

CITY OF EAGLE POINT (PWID: 41-00267)
Gary Shipley, Public Works Supervisor: 541-826-4212 (ext. 136)
Email: garyshipley@cityofeaglepoint.org
Council Meetings: 2nd and 4th Tuesday at 7:00 pm
City Hall, 17 S. Buchanan Street

CITY OF JACKSONVILLE (PWID: 41-00405)
Jeffrey Alvis, City Administrator: 541-899-1231
Email: administrator@jacksonvilleor.us
Council Meetings: 1st and 3rd Tuesdays at 6:00 pm
Old City Hall, 215 W. Main Street

CITY OF PHOENIX (PWID: 41-00625)
Kevin Caldwell, Public Works Superintendent: 541-535-2226
Email: kevin.caldwell@phoenixoregon.gov
www.phoenixoregon.gov
Council Meetings: 1st and 3rd Monday at 6:30 pm
Public Works Office, 1000 South 'B' Street

JACKSON COUNTY HEALTH DEPARTMENT
Environmental Health: 541-774-8206

OREGON HEALTH AUTHORITY
Drinking Water Program: 1-971-673-0405
http://public.health.oregon.gov/HealthyEnvironments/DrinkingWater

EPA SAFE DRINKING WATER HOTLINE
1-800-426-4791
www.epa.gov/safewater

2014 Water Quality Test Results For Treated Water

Regulated Contaminants Analyses

Substance	MCL (Maximum Allowed)	MCLG (Ideal Goal)	Source	Average Amount Detected	Range	Complies?	Typical Source
Barium (ppm)	2	2	Big Butte Springs	0.004	N/A	YES	Erosion of Natural Deposits
			Rogue River	0.004			

Microbiological Contaminants

Substance	MCL (Maximum Allowed)	MCLG (Ideal Goal)	Detected Level	Complies?	Typical Source
Coliform bacteria	MWC - Present in ≤ 5% of Monthly Samples; Eagle Point - Present in ≤ 1 sample per month	0% Presence	MWC - Present in 1% of Sept. samples; Eagle Point - Present in 1 May sample	YES	Naturally present in the environment
E.coli	0	0	0	YES	Human and animal fecal waste

Other Analyses

Substance	TT (Maximum Allowed)	% of Samples Meeting Standard	Highest Measurement	Complies?	Typical Source
Turbidity	Rogue River: 95% < 0.3 NTU Big Butte Springs: N/A	100%	Rogue River: 0.074 NTU	YES	Soil erosion and stream sediments

Unregulated Contaminants Analyses (Round 3 data from 2013-14)*

Substance	Water Source	Average Amount Detected	Range	Complies?	Typical Source
Chromium 6 (ppb)	Big Butte Springs	0.20	0.19 - 0.20	Not Regulated	Erosion of Natural Deposits
	Rogue River	0.12	0.11 - 0.13		
Chlorate (ppb)	Big Butte Springs	37	20 - 56	Not Regulated	Byproduct of Disinfection
	Rogue River	378	150 - 610		
Strontium (ppb)	Big Butte Springs	71	68 - 73	Not Regulated	Erosion of Natural Deposits
	Rogue River	54	52 - 55		
Vanadium (ppb)	Big Butte Springs	13.0	12.0 - 13	Not Regulated	Erosion of Natural Deposits
	Rogue River	2.3	2.0 - 2.5		

* Unregulated contaminants are monitored for the EPA to assess the prevalence and detection levels of substances being considered for future regulation.

UNDERSTANDING THE RESULTS:

Hundreds of tests are run on our drinking water each year to ensure that no substances are present at harmful levels. Contaminants can now be detected at truly minuscule levels due to continuously improving testing techniques. Nonetheless, most of the contaminants we test for have never been found in our water. Those we do detect are at levels well below health standards, as shown in the adjacent tables.

Testing is required according to specific schedules. During 2014, Central Point received a violation for failure to submit one quarter's disinfection by-products test results. Given that all of the other entities' test results were in normal ranges during the quarter in question, it is unlikely that there were any adverse health affects that went undetected due to this lapse, and Central Point returned to compliance the following quarter.

If you wish to view additional monitoring results, a "***Water Quality Analysis***" can be obtained at the Medford Water Commission's offices or on the Commission's website (medfordwater.org).

TESTING FOR MICROBES:

Unlike most contaminants, microscopic organisms can appear suddenly and cause immediate illness. Testing for bacteria is therefore done on a frequent basis by the Medford Water Commission and each of the cities participating in this report. This includes looking for coliform bacteria as well as confirming that adequate chlorine is present in the water to provide ongoing disinfection. While most coliforms do not pose a health threat, they are a good indicator of whether other bacteria might be present. If found, further testing is conducted for harmful forms of bacteria. In 2014, 1554 samples taken from 108 sampling points, of which 2 samples showed coliform bacteria. Further testing confirmed that no harmful bacteria were present.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV / AIDS or other immune system disorders, some elderly, and infants can particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA / CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

CHLORINE RESIDUAL:

Chlorine is the only disinfectant that remains in water to provide continuous protection to customers' taps. Therefore, some chlorine is typically utilized even if another primary disinfectant is also used. Sampling throughout the distribution system confirms that the amount of chlorine present is neither too low nor too high. Our water is effectively disinfected with much less chlorine than is allowed, and residual testing is similarly low.

DISINFECTION BY-PRODUCTS:

Disinfection to inactivate harmful microbes is extremely important to protect public health. However, by-products can form from this process, some of which can be harmful if they occur at sufficient levels over a long time period. Various measures are taken to keep these by-products to a minimum while insuring that disinfection is achieved.

LEAD AND COPPER:

Because lead and copper can enter drinking water through contact with household plumbing or water system pipes, additional testing is conducted at residences considered to be at greatest risk for elevated amounts of lead and copper. Our water is not prone to high levels of these metals, but if present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children.

Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Medford Water Commission and each of the cities are responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your drinking water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available form the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

TURBIDITY:

Turbidity is a measure of how clear water is. Turbidity itself does not necessarily indicate that water is unhealthy, but it can interfere with disinfection and can be an indicator of microorganisms. Turbidity measurement is not required of our spring water, though we continuously monitor it for our own review.

Medford Water Commission and Cities' Disinfection and Disinfection By-Product Analyses

Substance	Entity	Average for Highest Location	Range	MCL (maximum allowed)	MCLG (ideal goal)	Complies?	Typical Source
Total Trihalomethanes (ppb)	M.W.C	8.63	ND - 17.5	80	0	Yes	By-products of chlorination used in the water treatment process
	Central Point	7.93	ND - 29.7				
	Eagle Point	16.8	15.3 - 16.8				
	Jacksonville	4.93	ND - 19.0				
	Phoenix	ND	ND				
Haloacetic Acids (ppb)	M.W.C	6.23	ND - 19.5	60	0	Yes	By-products of chlorination used in the water treatment process
	Central Point	3.15	ND - 12.6				
	Eagle Point	16.4	15.8 - 16.4				
	Jacksonville	3.13	ND - 12.5				
	Phoenix	ND	ND				
Chlorine Residual (ppm)	M.W.C	0.55	0.33 - 0.73	4.0 (MRDL)	4.0 (MRDLG)	Yes	Treatment additive for disinfection
	Central Point	0.49	0.14 - 0.77				
	Eagle Point	0.37	0.07 - 0.51				
	Jacksonville	0.38	0.04 - 0.55				
	Phoenix	0.45	0.25-0.61				

Lead and Copper Sampling from Residential Water Taps

Substance	Entity	Amount Detected (90th percentile value)	Date of most recent test	Action Level	MCLG (ideal goal)	Complies?	Typical Source
Lead (ppb)	M.W.C	1.4	2013	90% of homes tested must have lead levels less than 15 ppb	0	Yes (One (1) Jacksonville sample exceeded action level)	Corrosion of household plumbing
	Central Point	3.7	2014				
	Eagle Point	2.8	2013				
	Jacksonville	3.3	2013				
	Phoenix	1.4	2012				
Copper (ppm)	M.W.C	0.783	2013	90% of homes tested must have copper levels less than 1.3 ppm	1.3	Yes (No sample exceeded action level)	Corrosion of household plumbing
	Central Point	0.352	2014				
	Eagle Point	0.230	2013				
	Jacksonville	0.573	2013				
	Phoenix	0.843	2012				

Radioactive Contaminants

Substance	MCL	MCLG	Amount Detected	Typical Source
Radon-222 (pCi/L)	Proposed: 4,000 pCi/L	Proposed: 0 pCI/L	Big Butte Springs - 155 pCi/L	Erosion of Natural Deposit

RADON TESTING:

The most common source of this colorless, odorless gas is from the soil, but a small amount of exposure can come from tap water. We conduct testing, but radon is not currently regulated. Radon is considered to be a cause of cancer.

INFORMATION FROM THE EPA:

As water travels over the land and through the ground, it dissolves naturally occurring minerals and may pick up substances resulting from human activity or the presence of animals. This may include microbial organisms such as viruses and bacteria, inorganic substances such as minerals and salts, pesticides and herbicides, organic chemicals such as petroleum products and radioactive substances. Any substances found in water are referred to as contaminants, whether or not they are harmful.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

DEFINITIONS

AL (Action Level)
The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

MCL (Maximum Contaminant Level)
The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG (Maximum Contaminant Level Goal)
The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MRDL (Maximum Residual Disinfectant Level)
The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal)
The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

ND (Non Detect)
Not detected at an established minimum reporting level

pCi/L (Picocuries per Liter)
A measure of radioactivity in a one-liter volume.

ppm / ppb (Parts Per Million / Parts per Billion)
One part per million or per billion means that one part of a particular substance is present for every million or billion parts of water. One part per million compares to one penny in $10,000, and a part per billion is equivalent to a penny in $10 million.

TT (Treatment Technique)
A required process intended to reduce the level of a contaminant in drinking water.

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Appendix O: Stormwater Modeling and Analyses

1.1.1 Roxy Ann Site Model Description

Treatment sizing for the Roxy Ann Site was developed based on both flow control and pollutant removal requirements outlined in the Manual. In accordance with the Manual, the Santa Barbara Urban Hydrograph (SBUH) method was used for the design of pollution removal systems, assuming a rainfall of 1 inch in 24 hours. Similarly, the Rational Method was used for sizing and design of flow controls, using a 10-year, 24-hour storm based on the Medford rainfall intensity-duration-frequency (IDF) curve provided in Appendix E of the Manual. Time of concentration was estimated using the NRCS TR-55 method. Drainage for the entire Roxy Ann Site was modeled in Autodesk Storm and Sanitary Analysis (SSA). However, not all drainage basins will be affected by the proposed redevelopment. The predevelopment model layout is shown in Figure 7-5.

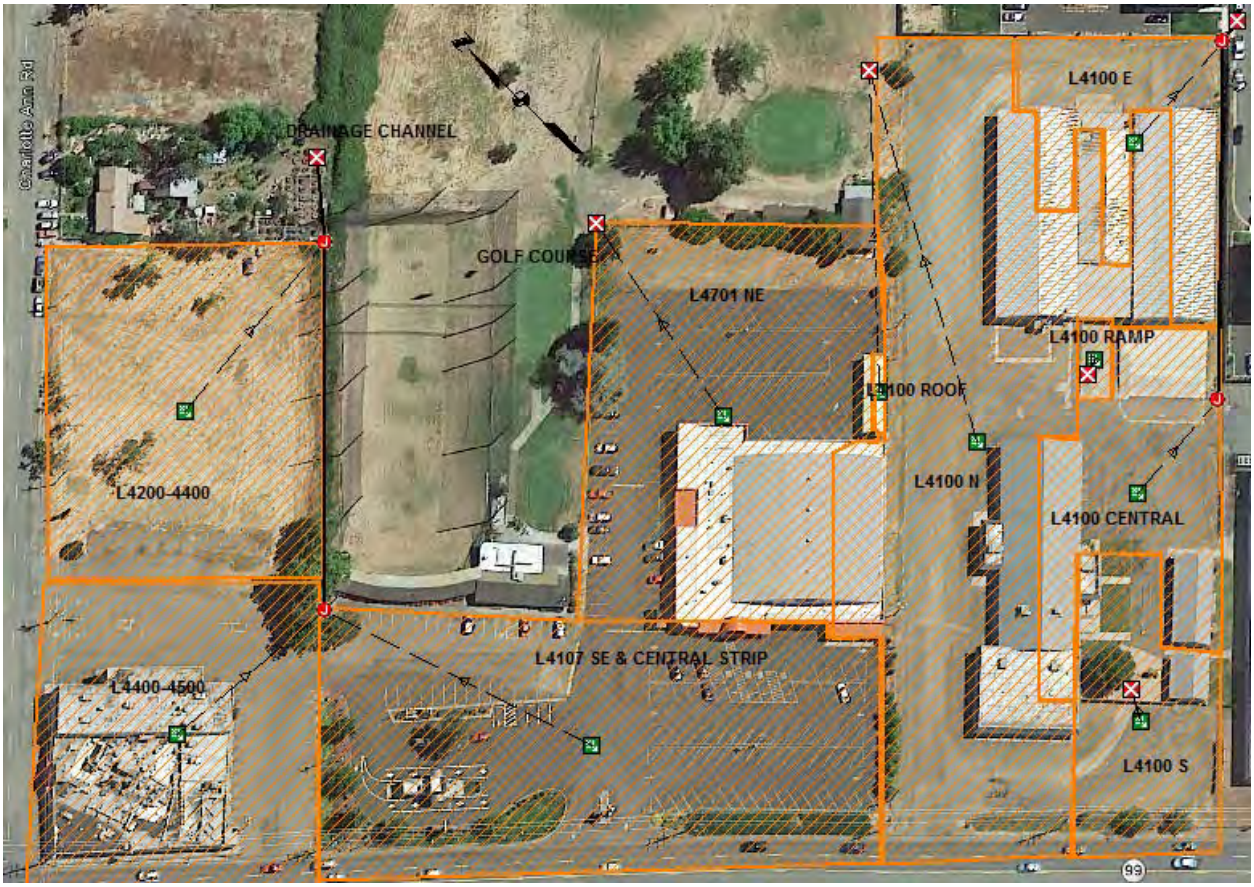

Figure 7-5: Roxy Ann Project Site Model Layout

Descriptions of the various subbasins included in the Roxy Ann Site model are as follows:

- L4100 basins – located within tax lot 4100. These basins will not be affected by redevelopment efforts, with the exception of L4100 roof, which will become part of the L4701NE drainage basin after development. As these basins are unaffected by redevelopment, treatment and flow control were not evaluated for these basins.

- L4701NE – building roofs and parking in the central portion of the site, (the existing bowling alley to be remodeled into a gaming facility, and parking between the building and golf course.) The proposed remodel includes the addition of 14,600 SF to the existing building footprint, which will replace existing paved parking in this subbasin.

- L4701 SW & Central Strip – existing parking areas, the adjacent coffee shop and landscaping along the southwestern portion of the site, as well as the central strip. Although this basin is not being redeveloped, it will contribute runoff to the central drainage channel.

- L4500 – the northwest parking area in the northern portion of the site, including the area of the demolished building, which will be replaced with new paved parking.

- L4200-4400 – the open grass area in the northern portion of the site, which is proposed to be converted to new paved parking.

The golf course driving range was not included in the model because it is assumed to infiltrate or discharge downstream of the project site and it will not be altered by the proposed project. The impact of contribution of runoff from the highway to flow in the central drainage channel is further evaluated in Section 3.

The areas and characteristics associated with each of the modeled subbasins are presented in Table 7-1. The subbasin areas do not change following redevelopment, except for L5701NE, which will incorporate the L4100 Roof basin, an area of .01 acres. The subbasin cover type and percent impervious cover does change as noted previously in the subbasin descriptions. The post-development impervious percentage presented in Table 7-1 does not include areas associated with proposed stormwater treatment systems.

Table 7-1: Roxy Ann Site Subbasin Characteristics

Subbasin Name	Area (acres)	Current % Impervious	Post-development % Impervious
L4701NE	1.54	84	84[(a)]
L4701SW & Central Strip	1.85	91	91
L4500	1.00	100	100
L4200-4400	1.47	0	100
L4100 (combined basins)	4.04	99[(b)]	99

Notes:

(a) 14,600 square feet of existing parking is replaced with new impervious surfaces associated with the redeveloped building.

(b) Compacted gravel is included as impervious surface.

The various site conditions modeled for the Roxy Ann Site are defined as follows:

- Pre-development – All areas for which redevelopment is proposed were modeled as producing a runoff of 0.25 cfs per acre as specified in the Manual. The peak runoff from this scenario is the target for the proposed flow control systems.

- Current – The entire project site is modeled in its current condition, with the grassy fields on-site represented as pasture in fair hydrologic condition.

- Post-development – The project site is modeled assuming that L4200-4400 has been paved and redevelopment has been implemented at L4701NE.

- Post-development with treatment and flow control – Storage nodes were added to the post-development model to represent the proposed treatment systems.

Impervious areas were assumed to have a curve number of 98 in the SBUH method. Paved parking areas were modeled with a runoff coefficient of 0.86 in the Rational Method based on guidance in the SSA software. A runoff coefficient of 0.95 was used for metal building roofs in the Rational Method to represent expected higher runoff. Gravel was modeled with a runoff coefficient of .85. Pervious areas in their present condition were assumed to have a curve number of 76 in the SBUH method. Runoff coefficients of 0.18 and 0.12 were assumed for Groups B and A soils, respectively, representing grassy pasture in fair hydrologic condition.

L4701NE was assumed to discharge to the golf course, where runoff appears to infiltrate readily. L4200-4400, L4500, and L4701SW & the Central Strip were assumed to flow into the central drainage channel, which was represented as an open, rectangular channel with a width of 4 feet, a depth of 3 feet, and a Manning's roughness coefficient of 0.035.

To model the pre-developed hydrologic condition of the site, areas that will be redeveloped in the proposed project were modeled using the rational method. Runoff coefficients and times of concentration representative of pre-development conditions were selected to reproduce a pre-development peak runoff that is the equivalent of 0.25 cfs per acre, as specified in the Manual. Redeveloped areas include the grass field to the north of the site and the location of the proposed building redevelopment. Areas of the site that will not be altered in the proposed redevelopment were modeled using their present condition, as either building roof or paved parking.

For the post-developed site, two alternative treatment and flow control strategies were developed. The two alternatives, which are described in detail in Section 4, are vegetated swales and distributed pervious strips. Both alternatives were modeled using storage nodes in SSA using the Rational Method with a storm based on the Medford IDF curve for sizing and the SBUH method with a 1-inch, 24-hour storm to assess treatment capacity. Storage nodes were assigned an infiltration rate of 0.7 in/hr based on soil characteristics as described in Section 7.1.1 of the report.

The swales were modeled as storage nodes, one receiving runoff from the L4200-4400, L4500, and L4701SW & the Central Strip and the other receiving runoff from the 4701NE. These storage nodes were given a side slope of three horizontal feet to one vertical foot and limited to a depth of two feet, as recommended in the Manual. The area of each storage node was set to provide sufficient storage to keep the peak flow to its pre-development level. The distributed pervious strips were modeled as 6-inch deep storage nodes that infiltrate collected runoff and discharge overflow over long, shallow weirs. The total area of pervious strips required to maintain the peak flow at pre-development flows was set to ensure adequate flow control.

1.1.2 Phoenix Site Model Description

As described for the Roxy Ann Site, the SBUH method was used for the design of pollution removal systems, assuming a rainfall of 1-inch in 24 hours. Similarly, the Rational Method was used for sizing and design of flow controls. However, the ODOT Zone 6 IDF curve was used instead of the Medford IDF curve as specified in the Manual for areas outside the City of Medford. Time of concentration was estimated using the NRCS TR-55 method.

The various model scenarios are as follows:

- Pre-development – The 7.8 acre area to be developed was treated as two 3.9 acre, 100% pervious undeveloped basins that produce a runoff of 0.25 cfs per acre as specified in the Manual. The peak pre-development discharge from each basin was calculated as 0.98 cfs, which is the target for the proposed flow control systems.

- Post-development, unmitigated – The project site was modeled as two 3.9 acre basins that are 100% impervious and each drain to a single discharge point.

- Post development with treatment and flow control – The site was subdivided into subbasins that represent drainage to curb cuts within a distance of 150 feet perpendicular to the edge of the parking lot and to catch basins within the interior of the site. The building roof is assumed to be collected and directed through roof drains to the catch basin pipe system. These structures discharge to vegetated swales that convey runoff to storage nodes that represent vegetated detention basins. The basins discharge through flow-control orifices or over a weir. The layout of the post development model is shown in Figure 7-7. Note that the model representation in Figure 7-7 is not to scale, and the northern half of the site was modeled with less detail because it is essentially a mirror image of the southern half of the site, except for soil type in the detention basin.

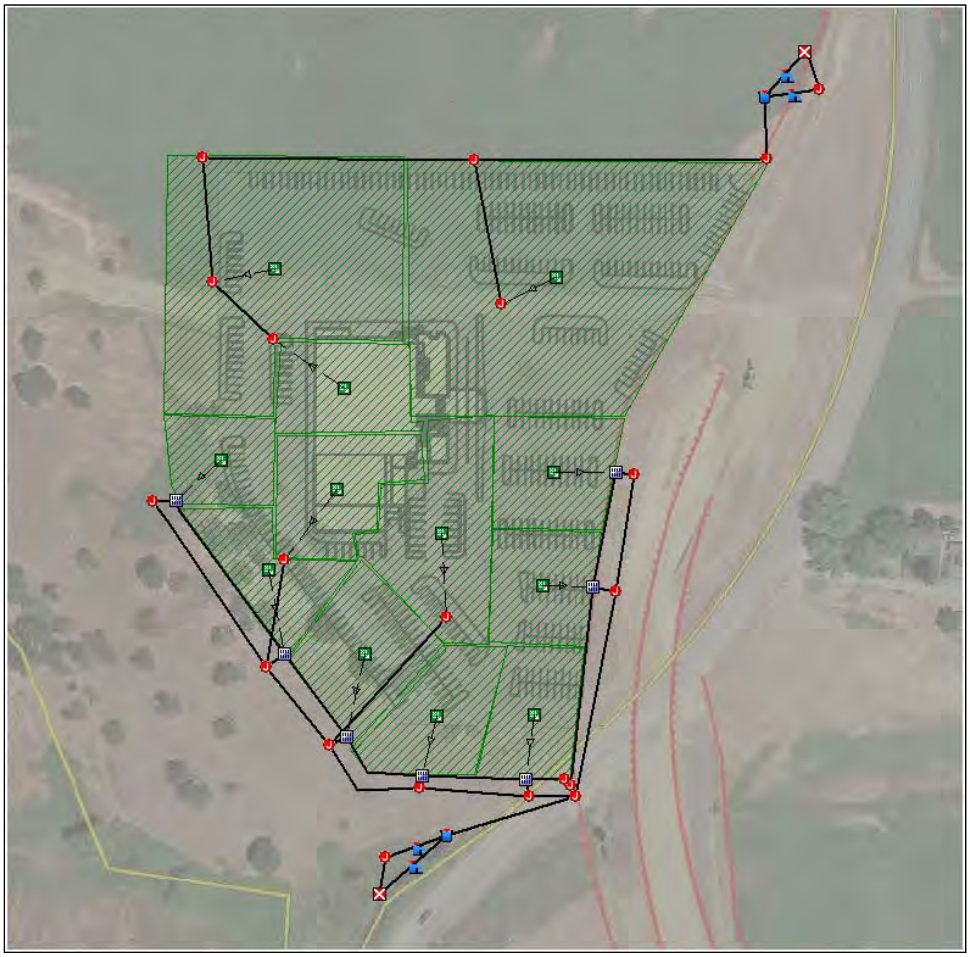

Figure 7-7: Phoenix Project Site Post Development Model Layout

The treatment and flow control system proposed for the Phoenix Site consists of vegetated swales along the outer edges of the parking area that lead to detention ponds on the northeastern and southeastern corners of the site. The swales reduce the runoff flow rate and provide treatment through vegetative filtration and settling. The detention ponds provide further opportunity for settling, and control discharge through an orifice to below the predevelopment peak runoff.

The vegetated swales were modeled as trapezoidal channels with a bottom width of 1 foot, a slope of 0.5 percent in the direction of flow, and a Manning's roughness coefficient of 0.033, which is typical for grassy open channels. The detention ponds were modeled as simple storage nodes that discharge through 6-inch orifices through weirs, which are intended to safely bypass storms that exceed the design capacity of the systems.

1.2 Modeling Results

1.2.1 Roxy Ann Site Modeling Results

The peak runoff results for the pre-development, current, and post-development conditions of the Roxy Ann Site as predicted by the Rational Method for a storm based on the Medford IDF curve are presented in Table 7-2. These peak runoff values are for the areas to be redeveloped only, which does not include L4100.

Table 7-2: Roxy Ann Site Modeled Peak Runoff

Site Condition	Peak runoff to Golf Course (cfs)	Peak runoff to Central Drainage Channel (cfs)
Current	4.4	7.8
Post-development, no treatment	4.4	11.8
Predevelopment	3.5	6.9
Post-development, with swales	0.0	4.8
Post-development, with distributed pervious strips	1.2	4.8

The goal of the mitigation procedures presented in this Study is to restore the post-development peak runoff from each discharge to its pre-development level and meet the sizing requirements of the Manual. Because there is no increase in impervious area draining to the golf course, the addition of bioretention swales sized to provide treatment reduces the peak runoff to zero.

The post-development options were also modeled using the SBUH method with a 1-inch, 24-hour storm to assess treatment performance. Treatment systems were sized to infiltrate the 1-inch 24-hour storm with minimal overflow. Five-foot grassy filter strips were added to the design to provide treatment for runoff that may not be treated in the primary treatment system.

To determine whether the drainage channel would be surcharged as a result of the proposed redevelopment, the maximum impervious area that could safely discharge to the ditch without causing flooding in a 10-year, 24-hour storm was also modeled using the SBUH method. Based on the model results, the entire project site and an additional impervious area of 14 acres could discharge to the ditch without surcharging. The amount of area that drains to the drainage ditch from South Pacific Highway is unknown. Fourteen acres is approximately equivalent to 4.3 miles assuming the road from the centerline to the curb drains to the ditch. Because other discharge points are visible on aerial photos within 4.3 miles of the on-site drainage channel, surcharged conditions are not anticipated as a result of the proposed redevelopment.

1.2.2 Phoenix Site Modeling Results

The peak runoff results for the Phoenix Site for the pre-development, unmitigated post-development, and post-development with treatment and flow control scenarios as predicted by the Rational Method for a storm based on the ODOT Zone 6 IDF curve are presented in Table 7-3.

Table 7-3: Phoenix Site Modeled Peak Runoff

Site Condition	Peak runoff to North discharge (cfs)	Peak runoff to South discharge (cfs)
Predevelopment	0.97	0.97
Unmitigated Post-development	7.96	8.05
Post-development, mitigated	0.94	0.92

The Post-development, mitigated system was also modeled using the SBUH method with a 1-year, 24-hour storm to design and size the treatment systems following the guidance in the Manual. The proposed stormwater treatment and flow control systems reduce the peak flow from the post development site to below the predevelopment level for the 10-year storm event, modeled using the Rational Method with an ODOT Zone 6 IDF curve. These systems are also designed to bypass the 25-year storm without increasing the peak flow to the downstream conveyance systems over existing conditions, and therefore meet the destination requirements.

APPENDIX E

Socioeconomic Impact Reports

APPENDIX D – SOCIOECONOMIC IMPACT REPORTS

- **Attachment 1:** Impact Study for the Coquille Development Project - August 2019
- **Attachment 2:** Gaming Market Assessment, The Mill Casino Expansion – January 2016
- **Attachment 3:** Executive Summary Memorandum, The Mill Casino Expansion Gaming Market Assessment Summary Results – September 2019
    - This memorandum was provided as an update to Attachment 2. The memorandum used the same methodology as Attachment 2 to provide updated information regarding the effect of The Mill Casino Expansion on the Coquille Indian Tribe.

Impact Study For the Coquille Development Project – August 2019

Global Market Advisors

Impact Study
For the Coquille Development Project
August 2019

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IMPACT STUDY OVERVIEW

Global Market Advisors ("GMA" or "Consulting Team") was engaged by Analytical Environment Services ("AES") to prepare an Impact Study for the Coquille Development Project. Coquille is considering three alternative sites for the development or expansion of casino gaming in southwestern Oregon. **This impact study consists of four reports that examine various impacts:**

1. **The Socioeconomic Analysis** examines relevant demographic data and social impacts that a casino may have on a community.

2. **The Economic Impact Statement** examines the local economic impact, in terms of total output, employment, and labor income on the respective host counties. For the three gaming expansion alternatives, impacts were completed for the construction phase of the subject facility and the ongoing operational phase once the subject facility is open.

3. **The Competitive Effects Study** examines the projected substitution effects on other regional gaming facilities.

4. **The Impact on Oregon Lottery Study** examines how the introduction of casino gaming in comparable jurisdictions impacted lottery performance and how the assumed facility program in each alternative may impact the Oregon Lottery.

The three alternative scenarios evaluated within these reports include:

1. **Medford Site ("Alternative A")**: Commercial site in the City of Medford, on commercial land in a building previously utilized as a bowling center. The site is adjacent to Highway 99 near the Garfield Street Exit on Interstate 5. The casino development would include 650 slot machines, a restaurant, and bar.

2. **Phoenix Site ("Alternative B")**: Agricultural site south of the City of Medford approximately one mile from Interstate 5 off of North Phoenix Road. The casino development would include 650 slot machines, a restaurant, and bar.

3. **The Mill Casino Expansion ("Alternative C")**: Similar sized expansion of gaming and non-gaming amenities at the existing Mill Casino in North Bend, OR. The casino expansion would include an additional 650 slot machines, a quick-serve dining outlet, and bar.

SOCIOECONOMIC ANALYSIS

I. SOCIOECONOMIC OVERVIEW

A socioeconomic analysis is necessary to gain a full understanding of the economic and social effects that a development may have on the surrounding area in each alternative scenario. As such, GMA researched population data for Jackson County, OR (the surrounding area in Alternatives A and B) and Coos County, OR (the surrounding area in Alternative C). Additionally, the Consulting Team quantified regional income levels to illustrate the relative affluence of the regions surrounding the alternative sites. Regional average annual household income levels ("AAHI") were quantified for 2019 and 2023. Given that educational levels are directly correlated to income levels, the Consulting Team additionally evaluated educational attainment levels for the two selected regions. Various metrics were also examined for the State of Oregon as a whole to determine how these two counties compare against a broader measure.

Along with these statistics, other key economic indicators were analyzed. Historical housing values were evaluated to illustrate the effects of the recession and how the selected regions have recovered from the decline in home values. In addition to housing values, GMA compared housing vacancy rates and total housing units within the regions.

GMA also evaluated empirical evidence regarding the social impact that a casino would have on its customers, employees, and the community. Casinos are generally believed to impose social costs such as increased crime, bankruptcies, and problem or pathological gambling. These issues cause measurable economic costs to the host community. These costs may offset some of the benefits with respect to increased economic activity and tax revenues.

Despite the volume of research that this subject has generated, it is still difficult to draw clear conclusions about many of the social costs addressed in gaming research literature. Part of this difficulty stems from the nature of the subject. Many studies attempt to measure complex intangibles, which result in a wide array of conclusions. In addition, the majority of work has been written by proponents or opponents of casino gambling, resulting in skewed methodologies and biased conclusions. When reading the literature, such differences in perspectives must be kept in mind.

The Consulting Team identified those research studies that appeared to offer conclusions that were not predisposed to bias. In addition, the Consulting Team interviewed key constituents in communities that currently host casinos to better understand the impact those casinos have had on those communities. The goal was to present to the reader a reasonably clear view of the social impact of casinos on their host communities.

II. ECONOMIC ANALYSIS

REGIONAL POPULATION

The Consulting Team analyzed regional population estimates and projections to illustrate regional growth potential and trends within the analyzed areas. The Consulting Team also evaluated the region's total adult population (age 21 or older) to illustrate the number of potential gaming customers within the market area. Statistics in this report were derived primarily from PCensus/Claritas demographic mapping software, along with other publicly available and reliable sources.

COOS COUNTY, OREGON

Coos County, OR, is home to an estimated total population of 63,942 in 2019. Of that total, 50,397 are adults aged 21 or older, representing 79% of the county's total population. The total population is expected to gradually increase over the next four years to reach 65,281 in 2023. This represents a projected compound annual growth rate ("CAGR") of 0.46%. The adult population is expected to grow at a similar yet marginally higher rate, with a projected CAGR of 0.49% over the next four years. The adult population of Coos County is expected to reach 51,527 in 2023.

JACKSON COUNTY, OREGON

The total population of Jackson County, OR, is estimated at 218,644 in 2019. The total population is expected to steadily increase over the next four years at a projected CAGR of 0.97%, resulting in a projected total population of 228,364 in 2023. Jackson County's adult population is estimated at 165,640 in 2019, which represents 76% of the total population. The adult population is expected to grow at a slightly higher rate of 1.03%, reaching 173,478 in 2023.

Total Population			
	2019	2023	CAGR
Coos County, OR	63,942	65,281	0.46%
Jackson County, OR	218,644	228,364	0.97%
Source: PCensus, GMA			

Adult Population (Age 21+)			
	2019	2023	CAGR
Coos County, OR	50,397	51,527	0.49%
Jackson County, OR	165,640	173,478	1.03%
Source: PCensus, GMA			

HOUSING

GMA analyzed historical housing values to better understand the region's economic activity and trends. Housing values are key economic indicators that allude to the strength and stability of a regional economy. Housing value fluctuation often impacts expected population growth and disposable income. GMA also evaluated this data to understand how the most recent recession impacted the local economy and how the region has recovered. The Consulting Team also analyzed the number of total housing units and the associated housing vacancy rates to understand the overall health of the housing market. GMA utilized statistics collected by the U.S. Census Bureau to understand these housing market trends.

HOUSING VALUES, HOUSING UNITS & VACANCY RATES

COOS COUNTY, OR

The median housing value for Coos County was estimated at $193,081 in 2018. This represents an increase of 8.0% from the previous year's median housing value of $178,844. Currently, housing values in Coos County are significantly higher than their pre-recession levels. Additionally, housing values have rebounded by 44.9% from 2012, when housing values reached their lowest level. In comparison to Jackson County and the State of Oregon as a whole, the housing values in Coos County are considerably lower and have recovered at a much slower pace since the recession.

Overall, comparatively low housing values, a markedly slower recovery, and higher vacancy rates indicate a weak housing market in Coos County. In 2000, total housing units were quantified at 29,247, which was substantially lower than total housing units reported in Jackson County. Additionally, the amount of housing units in the region has remained relatively static in Coos County from 2000 to 2017, the latest year for which U.S. Census data were available. Over that time, the number of housing units has increased by only 5.5% to reach 30,870 units in 2017. Vacancy rates held steady from 2000 to 2010, listed at 10.4% and 10.6% respectively. However, vacancy rates in 2017 increased to 14.2%. Vacancy rates in Coos County have been consistently higher than those of both Jackson County and the State of Oregon as a whole.

JACKSON COUNTY, OREGON

The median housing value for Jackson County was estimated at $294,670 in 2018. This represents an increase of 5.9% from the previous year median housing value of $278,327. Currently, housing values in Jackson County are significantly higher than 2008 levels and have rebounded by 72.3% since 2011, when housing values reached their lowest level. Since then, housing value recovery in Jackson County has also outperformed both Coos County and the State of Oregon as a whole. A combination of strong growth in both housing values and housing units, coupled with relatively low vacancy rates, indicates that Jackson County has a healthy housing market overall.

In 2000, total housing units were quantified at 75,797. This was more than 2.5 times higher than the total housing units in Coos County in the same year. The amount of housing units has increased by 23.6% from 2000 to 2017, reflecting a substantial increase relative to Coos County and the State of Oregon overall. Vacancy rates increased slightly from 2000 to 2010 and were quantified at 5.6% and 7.1%, respectively, in those years. In 2017, vacancy rates increased to 8.0%, which was still lower than vacancy rates for Coos County and the State of Oregon in that year.

The following tables show annual median housing values in each analyzed region since 2012, as well as the number of total housing units and accompanying vacancy rates in each region.

Median Housing Values by Market Segment

	2012	2013	2014	2015	2016	2017	2018	1H 2019
Coos County, OR	$133,207	$142,342	$149,149	$159,072	$169,806	$178,844	$193,081	$202,909
Jackson County, OR	$174,020	$189,416	$210,125	$228,501	$249,686	$278,327	$294,670	$304,178
State of Oregon	$194,003	$211,147	$230,519	$251,544	$283,118	$314,060	$334,767	$346,924

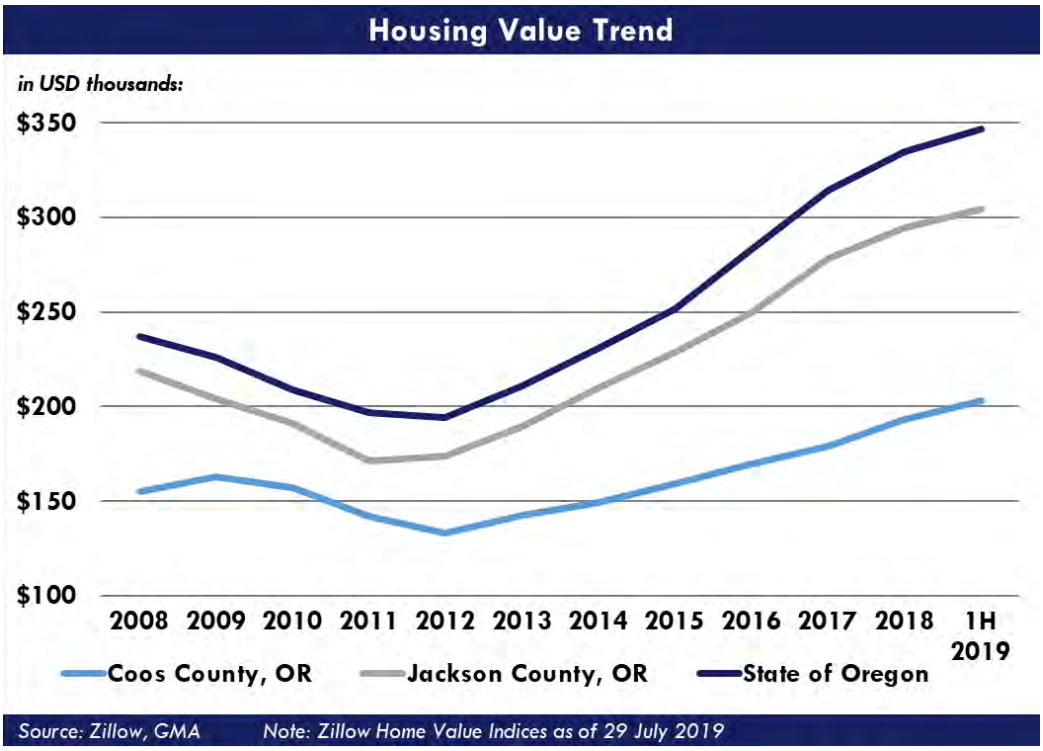
Source: Zillow, GMA *Note: Zillow Home Value Indices as of 29 July 2019*

Total Units and Housing Vacancy Rates

	2000		2010		2017	
	Total Units	% Vacant	Total Units	% Vacant	Total Units	% Vacant
Coos County, OR	29,247	10.4%	30,487	10.6%	30,870	14.2%
Jackson County, OR	75,797	5.6%	89,717	7.1%	93,704	8.0%
State of Oregon	1,452,709	8.2%	1,651,063	9.2%	1,571,631	9.3%

Source: U.S. Census Bureau, GMA

The following graph illustrates trends in housing value growth and decline from 2008 through 2018, as well as the first half of 2019. Median housing values in both counties and the State of Oregon reached their lowest levels between 2011 and 2012. While housing values for Jackson County and the State of Oregon have followed a similar trend, housing values in Coos County have achieved a noticeably slower recovery during this period.



EMPLOYMENT

GMA analyzed employment data for Coos County, Jackson County, and the State of Oregon as a whole. The Consulting Team focused on evaluating regional unemployment rates, as this key economic indicator characterizes the strength and stability of a local economy. Additionally, GMA evaluated the largest employers in each respective county to understand the regional population's reliance on certain industries.

UNEMPLOYMENT RATE

COOS COUNTY

The unemployment rate in Coos County in 2018 was quantified at 5.4%, which represents a slight improvement over the prior year unemployment rate of 5.5%. The county's unemployment rate has steadily declined from the recessionary high of 13.0% in 2009. Unemployment levels in Coos County reached a ten-year low in 2018 and have remained at pre-recession levels over the past several months. When examining the trailing 24-month period, unemployment levels have fluctuated between 4.4% and 6.6%, with higher levels being reported during the winter months of January through March. Coos County unemployment rates have historically followed a similar trend to Jackson County, although Jackson County achieved slightly lower levels of unemployment during this time period.

JACKSON COUNTY

Jackson County reported an unemployment rate of 4.8% in both 2017 and 2018, which represents a ten-year low. The county's unemployment rate has steadily declined from the recessionary high of 12.8% in 2009. Similar to Coos County, unemployment levels have fluctuated over the past 24 months, with the highest levels being reported during the winter. Jackson County's unemployment rates have historically been slightly lower when compared to Coos County but have lagged behind the State of Oregon as a whole.

The following tables illustrate unemployment rates for Coos County, Jackson County, and the State of Oregon from 2009 through 2018, as well as the trailing 24-month period through May 2019. Each analyzed region reported their lowest unemployment levels in the most recent month of May 2019, with Jackson County and the State of Oregon both reporting less than 4.0% unemployment.

Annual Unemployment Rates

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Coos County, OR	13.0%	12.7%	11.6%	11.1%	10.2%	9.0%	7.4%	6.4%	5.5%	5.4%
Jackson County, OR	12.8%	12.5%	11.7%	11.1%	9.7%	8.4%	6.8%	5.7%	4.8%	4.8%
State of Oregon	11.3%	10.6%	9.5%	8.8%	7.9%	6.8%	5.6%	4.8%	4.1%	4.2%

Source: U.S. Bureau of Labor Statistics, GMA Note: accessed 29 July 2019

Trailing 24-Month Unemployment Rates

	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19
Coos County, OR	5.1%	5.2%	5.1%	4.6%	5.1%	5.5%	5.8%	6.6%	6.1%	6.0%	5.2%	4.4%
Jackson County, OR	4.6%	4.8%	4.7%	4.1%	4.3%	4.5%	4.8%	5.9%	5.5%	5.4%	4.7%	3.9%
State of Oregon	4.0%	4.0%	4.0%	3.6%	3.9%	4.0%	4.3%	5.0%	4.7%	4.6%	3.9%	3.3%
	Jun-17	**Jul-17**	**Aug-17**	**Sep-17**	**Oct-17**	**Nov-17**	**Dec-17**	**Jan-18**	**Feb-18**	**Mar-18**	**Apr-18**	**May-18**
Coos County, OR	5.6%	5.9%	6.0%	5.2%	5.3%	5.4%	5.3%	5.8%	5.7%	5.6%	5.2%	4.6%
Jackson County, OR	4.9%	5.3%	5.2%	4.4%	4.3%	4.3%	4.2%	5.0%	5.2%	5.2%	4.5%	4.1%
State of Oregon	4.3%	4.5%	4.5%	4.0%	4.0%	3.9%	3.8%	4.3%	4.4%	4.3%	3.8%	3.5%

Source: U.S. Bureau of Labor Statistics, GMA Note: accessed 29 July 2019

MAJOR EMPLOYERS

The following table lists the top employers for Coos County and Jackson County. Both counties' workforces are employed in a similar composition of industries, with government, healthcare, and education related fields combining for over 40% of the workforce in each county. Other significant industry sectors in both counties include hospitality/leisure, transportation, manufacturing, and retail.

Major Employers	
Coos County	**Jackson County**
Bandon Dunes Golf Resort	Asante Health System
Bay Area Hospital	Harry & David Operations Inc.
North Bend Medical Center	U.S. Government (Federal)
North Bend School District	Amy's Kitchen
Roseburg Forest Products	Medford School District
SW Oregon Community College	Providence Medical Center
South Coast Education Services	Jackson County
The Mill Casino	State of Oregon
Walmart Stores	Walmart Stores
Source: Jackson County CAFR, Medford Chamber, SCDC, GMA	

REGIONAL INCOME

Average annual household income ("AAHI") was evaluated for Coos County, Jackson County, and the State of Oregon as a whole. By evaluating regional AAHI, the Consulting Team can better understand a market's economic expectations and evaluate a region's economy. Typically, higher income levels correlate to higher disposable income levels, leading to a greater spend on entertainment, which may include gambling. GMA analyzed AAHI estimates for 2019, projections for 2023, and projected annual growth rates.

COOS COUNTY

Coos County AAHI is currently estimated at $57,209, and it is expected to grow somewhat significantly over the next four years at a projected CAGR of 1.74%. Overall, AAHI in Coos County lags behind that of both Jackson County and the State of Oregon overall, both in terms of their value and in terms of expected growth. In 2019, it is estimated that Coos County residents earn less than 75% of the average household income for the State of Oregon as a whole, and the expected annual growth rate for Coos County is 13.8% lower than the statewide average.

JACKSON COUNTY

Jackson County AAHI is currently estimated at $66,461. Jackson County AAHI is expected to undergo significant growth over the next four years at a projected CAGR of 2.32%. Jackson County households on average earn $9,252 more than the average household in Coos County, and this gap is expected to widen as AAHI growth in Jackson County outpaces that of Coos County. Jackson County AAHI still lags slightly behind the statewide average of $76,504, but to a lesser degree than Coos County. The average household in Jackson County earns just under 87% of the statewide average household income. However, AAHI in Jackson County is expected to grow 15.2% faster than the overall State of Oregon over the next four years.

The following table summarizes the estimated and projected AAHI for each of the analyzed regions in 2019 and 2023.

Average Annual Household Income			
	2019	2023	CAGR
Coos County, OR	$57,209	$61,816	1.74%
Jackson County, OR	$66,461	$73,688	2.32%
State of Oregon	$76,504	$83,686	2.01%
Source: PCensus, GMA			

EDUCATIONAL ATTAINMENT

Understanding the educational attainment of the local populace is useful in order to define the types of potential gaming customers in a specific region. GMA analyzed the estimated educational attainment data for Coos County, Jackson County, and the State of Oregon as a whole in 2019.

In Coos County, 43.5% of the adult population has obtained a high school degree or less, while 18.3% has earned a bachelor's degree or higher. In Jackson County, 37.4% of residents have obtained a high school degree or less, and 26.3% have earned a bachelor's degree or higher. The educational attainment in Jackson County is more aligned with the State of Oregon overall, although Jackson County still reports a higher share of its population with no education past high school, as well as a lower share with a bachelor's degree or higher. For the State of Oregon as a whole, only 33.1% of residents have not achieved any post-secondary education, and 32.3% of residents have earned at least a bachelor's degree. When compared to Coos County, more residents possess some form of higher education in both Jackson County and the State of Oregon as a whole.

The following table details educational attainment statistics for Coos County, Jackson County, and the State of Oregon as a whole.

2019 Educational Attainment (Est. Population Aged 25+)						
	Coos County, OR		Jackson County, OR		State of Oregon	
	Total	% Total	Total	% Total	Total	% Total
Less than 9th grade	1,140	2.4%	6,077	3.8%	111,960	3.8%
Some High School, no diploma	4,153	8.7%	11,457	7.3%	179,695	6.1%
High School Graduate (or GED)	15,505	32.4%	41,546	26.3%	688,146	23.2%
Some College, no degree	14,179	29.6%	45,944	29.1%	771,527	26.1%
Associate Degree	4,138	8.7%	11,420	7.2%	253,849	8.6%
Bachelor's Degree	5,230	10.9%	26,010	16.5%	590,251	19.9%
Master's Degree	2,488	5.2%	10,384	6.6%	252,791	8.5%
Professional School Degree	625	1.3%	3,254	2.1%	65,950	2.2%
Doctorate Degree	407	0.9%	1,987	1.3%	47,692	1.6%
TOTAL (Age 25+)	**47,865**	**100.0%**	**158,079**	**100.0%**	**2,961,861**	**100.0%**
Source: PCensus, GMA						

The following table shows the size of the education systems in each county. The overall size of Coos County's education system is much smaller than Jackson County's, which is attributable to the difference in the size of each county's population.

Educational Facilities					
	School Districts	High Schools	Middle Schools	Elementary Schools	Charter Schools
Coos County, OR	6	7	5	10	4
Jackson County, OR	9	11	10	36	8
Source: The Oregonian (OregonLive.com), GMA			*Note: last updated 24 January 2019*		

III. SOCIAL IMPACT ANALYSIS

METHODOLOGY

Understanding the social impact of gaming on a community is a difficult task and one that is not easily measured. Despite the growth and magnitude of the gaming industry and the widespread participation of the general population in gaming activities, there is not a large amount of scientific research on the subject. Much of what exists is not rigorous because of insufficient data, under-developed methodologies or suffers from researchers' biases.[1]

To better understand the impact of a casino project on a community, the GMA Consulting Team employed the following research methodology.

LITERATURE REVIEW

The GMA Consulting Team conducted an extensive review of literature including studies conducted for the U.S. government, industry-sponsored research, university research and research sponsored by political and religious institutions. GMA then attempted to identify those research studies that offered the most thorough analysis and could provide the host community with an understanding of how a casino would impact the region.

After careful review of various reports, the Consulting Team ultimately relied on the findings presented in the National Gambling Impact Study Commission ("NGISC") in its Report to the U.S. Congress and President that was completed in 1999[2] as well as a report entitled "The Impact of Gambling: Economic Effects More Measurable Than Social Effects," prepared by the General Accounting Office and presented to the Honorable Frank Wolf of the U.S. House of Representatives.[3] The latter report was viewed with a certain degree of skepticism by the gaming industry when it was released, since Representative Wolf had been an ardent opponent to the expansion of gaming in the United States. Nevertheless, the Consulting Team found that it was a well-researched study that both questioned and validated the findings of the NGISC report. In addition, the report titled "Economic and Social Impact of Introducing Casino Gaming," prepared by The Federal Reserve Bank of Philadelphia[4] and the study titled "Putting Problem Gambling in

[1] "Gambling's Impacts on People and Places," National Gambling Impact Study Commission, June 1999, pp. 7-1.
[2] National Gambling Impact Study Commission, June 1999.
[3] "The Impact of Gambling: Economic Effects More Measurable Than Social Effects," General Accounting Office.
[4] "Economic and Social Impact of Introducing Casino Gambling," Federal Reserve Bank of Philadelphia.

Perspective"[5] by industry expert Andrew Klebanow, were used in the analysis of problem gambling.

UNDERSTANDING CASINO CUSTOMER BEHAVIOR

Gambling, in one form or another, is now legal in every state except Hawaii and Utah. A NGISC contractor stated that about 86% of Americans reported having gambled at least once during their lifetimes and 63% of Americans reported having gambled at least once during the previous year.[6] This estimate is based on participation in all forms of gambling including lotteries, poker, internet gambling, pari-mutuel wagering as well as casino gambling.

Before examining problem gambling, the Consulting Team believes it is best to first understand the various kinds of people who visit casinos and their motivations for doing so. Industry expert Andrew M. Klebanow recently published an article on the subject and the article's findings are summarized in the following paragraphs.[7] Its purpose is to give the reader an understanding of casino customers from a psychographic standpoint.

THE FIVE BEHAVIORAL SEGMENTS OF CASINO CUSTOMERS

The notion of examining gaming customers based on behavior was first broached by casino operators in Atlantic City in the mid-1980's. Casinos wanted to better understand what motivated people to visit their properties and how to better meet their needs. This behavior-based approach to customer segmentation was refined by the author to include five distinct behavior segments.

Early studies identified three basic behavioral segments among casino customers: Recognition Seekers, Escapists, and Reward Seekers. With the proliferation of local casinos throughout the United States over the past decade, additional behavioral segments have become evident. These include Socializers and Professionals.

RECOGNITION SEEKERS

Recognition Seekers represent a small share of total players, yet they command a considerable amount of attention from the casino. These players have a high expectation of recognition from the property they patronize. They expect floor supervisors, restaurant maître D's and dealers to quickly recognize them and acknowledge their presence. They expect hosts to promptly greet

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[5] "Putting Problem Gambling in Perspective," Andrew M. Klebanow, Indian Gaming Magazine, September, 2010, pp. 50-51.

[6] GAO Report, p. 4.

[7] "A Behavior Based Approach to Market Segmentation," Andrew M. Klebanow, Indian Gaming Magazine, October, 2003, pp. 62-63.

them when they appear on the property. Player Development departments are designed, in large part, to provide the recognition and service that this segment demands. The reward to the casino property is an intensely loyal and frequent visitor.

ESCAPISTS

Escapists seek a getaway that does not resemble their everyday routine. Gambling invigorates them and awakens senses not normally stimulated in their everyday routines. By their nature Escapists prefer to remain anonymous. In other words, they enjoy coming into a casino and playing with minimal interaction with casino personnel. They share their loyalty among a small number of properties and require minimal maintenance in the form of personal attention and complimentary services.

REWARD SEEKERS

Reward Seekers are driven to visit a property by the casino's player rewards program or promotions that compensate them for their play. They believe they have a vested interest in the promotions and bonuses that casinos have to offer. It is their ability to identify the best "gaming value" that validates their superiority over other players and the casino in which they play. Reward seekers are also capricious in that they will patronize the casino that has the best monthly offer. Their gaming play goes to the casino with the best deal.

SOCIALIZERS

Socializers visit a casino to be around others. Even though gambling is often portrayed as un-social form of behavior requiring concentration and little distraction, it is the social environment of casinos that attracts these people to a particular property. They are intensely loyal and build relationships with change people, floor personnel and other gamblers. Once they identify with a particular property, they become a very loyal segment with high levels of visitation.

PROFESSIONALS

With the proliferation of liberal table game rules and full-pay video poker machines, a small cadre of players makes a living gambling in casinos. They pay very close attention to the types of games casinos offer. They closely scrutinize the pay tables on video poker games, the value of the cash-back component of a casino's player rewards program and casino complimentary policies.

Professionals generate large coin handle volume and accumulate voluminous amounts of slot club points. While an analysis of their theoretical win may indicate a profitable customer, more often than not their actual win/loss is difficult to gauge. Professionals readily pull their cards from reader boxes in the middle of a video poker hand if the outcome looks favorable in order to hide the true payout. This segment understands how reward programs work and how casino managers evaluate play.

Professionals will employ a variety of techniques to defend their position in a casino. They brag to hosts about the friends they bring who are not knowledgeable gamers. They readily turn to hosts for upgraded rooms and meals without debiting their comp dollar balances. This segment also poses the greatest threat to local gaming properties seeking to broaden their destination gambler segment. They prey on unsuspecting hosts eager to demonstrate their ability to bring in "big players."

Professionals also share their knowledge in internet discussion groups. Since their goal when visiting a casino is to consistently make money, they become resentful when a casino tightens up their promotional policies. Casinos do not make money off of professionals and their loyalty goes to the casino where they can make the most money.

SUMMARY OF CUSTOMER BEHAVIORS

Gaming customers are motivated to visit a casino for a variety of reasons. Some of those reasons may be viewed as criteria that define one as a problem gambler. However, as will be revealed in succeeding sections, the psychiatric community, in attempting to identify the characteristics of problem gamblers, sometimes misinterprets certain behaviors that are normal to people who participate in casino gaming activities. While the author of the article and the Consulting Team do not challenge those definitions, the reader is asked to keep an open mind to the subject and understand that, to many people who participate in gaming activities, their behaviors are not viewed as problems. Behavioral scientists and the psychiatric community's understanding of people's behavior with regards to casino gambling is evolving as casinos continue to open across the United States.

DEFINITION OF PATHOLOGICAL GAMBLING

There are several terms used to describe "pathological gamblers." Currently, the American Psychiatric Association in its Diagnostic and Statistical Manual of Mental Disorders ("DSM-IV") classifies pathological gambling as an impulse control disorder and describes ten criteria to guide diagnoses. These range from repeated unsuccessful efforts to control, cut back or stop gambling to committing illegal acts such as forgery, fraud, theft or embezzlement to finance gambling.[8] The diagnostic criteria and their associated behavior patterns are listed in the following table.

[8] National Gambling Impact Study Commission, p. 4-1-4-2.

Criteria for Pathological Gambling	
Diagnostic Criteria	**Behavior Pattern**
Pre-Occupation	Is pre-occupied with gambling (e.g. pre-occupied with reliving past gambling experiences, handicapping or planning the next venture, or thinking of ways to get money with which to gamble.
Tolerance	Needs to gamble with increasing amounts of money in order to achieve the desired excitement.
Withdrawal	Is restless or irritable when attempting to cut down or stop gambling.
Escape	Gambles as a way of escaping from problems or relieving dysphoric mood (e.g. feelings of helplessness, guilt, anxiety or depression).
Chasing	After losing money gambling, often returns another day in order to get even ("chasing one's losses").
Lying	Lies to family members, therapists or others to conceal the extent of involvement with gambling.
Loss of Control	Has made repeated unsuccessful efforts to control, cut back or stop gambling.
Illegal Acts	Has committed illegal acts (e.g. forgery, fraud, theft or embezzlement) in order to finance gambling.
Risked Significant Relationship	Has jeopardized or lost a significant relationship, job, educational or career opportunity because of gambling.
Bailout	Has relied on others to provide money to relieve a desperate financial situation caused by gambling.
Source: National Gambling Impact Study Commission Report, p. 4-2 *American Psychiatric Association Diagnostic and Statistic Manual of Medical Disorders (DSM-IV)*	

The American Psychiatric Association uses the following criteria to classify gaming behaviors based on the previously listed criteria.

Classification of Gaming Behaviors	
# of Behavior Criteria	**Diagnosis**
1 to 2	At risk
3 to 4	Problem Gambler
5 to 10	Pathological Gambler
Source: DSM-IV	

The NGISC Study reported on three studies completed in 1997 and 1998 that estimated the percentage of US adults classified as pathological gamblers, which ranged from 1.2% to 1.6%. An NGISC contractor, who conducted one of the three studies, estimated that about 2.5 million adults are pathological gamblers and another 3.0 million adults should be considered problem

gamblers. The GAO study estimated that in 1990, 1.2% of New Jersey residents were probable pathological gamblers.[9]

BI-PRODUCTS OF PATHOLOGICAL GAMBLING

The social effects of gambling on communities are more difficult to measure than the economic effects, primarily because of the limited quality of data on social effects, the complexity of identifying and measuring the social effects and the difficulty of establishing a cause-effect relationship between gambling and social problems.[10]

The NGISC reported that pathological gambling often occurs in conjunction with other behavioral problems, including substance abuse, mood disorders and personality disorders. The NGISC further noted that mood disorders such as depression, suicidal thoughts, and anti-social hyperactivity often co-exist with pathological gambling. Joint occurrences are referred to as "co-morbidity."

Co-morbidity presents a wealth of challenges to the medical researcher. How does one isolate the effects of pathological gambling on say, marital stability, from the effects of co-existing conditions like substance abuse? Is pathological gambling a bi-product of say, substance abuse? Is substance abuse a bi-product of problem gambling or is the combination of disorders caused by a more fundamental personality disorder? Is the severity of one disorder related to the other?

Even if one were able to isolate the effects of problem gambling in people who suffer from co-morbidity, how does one then isolate the effects of casino gambling from other forms of gambling? Casino gambling is only one form of gaming that also includes lotteries, internet gambling, pari-mutuel gaming and card clubs. In fact, the most prevalent forms of gambling are the ones found in most neighborhoods: lottery scratch cards, lotto and video lottery terminals. For the researcher, the challenge is to first identify the preferred gaming venue and then to determine that venue's effects on the pathological gambler.[11]

The Consulting Team presents these issues to the reader to better illustrate the challenges that medical and social researchers face when attempting to identify the social costs of gaming and the effects that pathological gamblers have on their communities. It is simply not an easy task to quantify their effects.

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[9] GAO Report, p. 4.

[10] GAO Report, p 26.

[11] National Gambling Impact Study Commission, p. 7-4.

MEASURING SOCIAL COSTS

In its report, the Federal Reserve Bank of Philadelphia categorizes social costs from problem gambling or other socially undesirable behaviors potentially triggered by casinos, into three specific categories:

(1) Costs borne by the individual exhibiting that behavior
(2) Costs borne by the family and friends of that individual
(3) Costs borne by society

The first category is considered to be private expenses of the individual. In other words, if a gambler knowingly, or rationally, undertakes certain behavior and subsequently assumes the full cost of his or her behavior, there are no social costs associated with that behavior. Gambling losses, even if they are disproportionately borne by some individuals in a society, are not social costs any more than the cost of a ticket to a concert or sports event.[12]

The second and third categories are both external costs, but those that affect only the individual's family and friends may fall outside the scope of measurable costs. To the extent that we can quantify the increase in crime associated with a casino, we can then quantify the police, judicial, and penal costs associated with that crime. If problem gambling increases the suffering of the gambler's family, that cost is as real as the cost of the police time needed to apprehend a criminal but may be impossible to quantify.[13]

Finally, the question of how much of any given cost is actually attributable to the casino is not straight-forward. Simply observing that gambling is correlated with such problems does not imply that gambling causes them. If gambling were not an option, a person who has a pathological disorder may still find ways to cause harm to the community. This idea of co-morbidity was addressed in the previous section and enforces the difficulty in measuring the different social costs. The following list addresses specific social issues and the impact that casino gaming has on the host community.

SUICIDE

The NGISC reported that the suicide rate among pathological gamblers is higher than for any other addictive disorder but questioned whether a link existed between gambling and suicide in

[12] "Economic and Social Impact of Introducing Casino Gambling," Federal Reserve Bank of Philadelphia p. 19
[13] "Economic and Social Impact of Introducing Casino Gambling," Federal Reserve Bank of Philadelphia p. 20

general. The report stated that it heard repeated testimony and received various reports about suicide and attempted suicide on the part of individuals suffering from pathological gambling.

The GAO report stated that the suicide rate in Atlantic County, the county where Atlantic City's casinos are located, was higher than the overall suicide rate in New Jersey, but lower than the national rate.[14]

DIVORCE

An assumed byproduct of pathological gambling is divorce. Marriages, under financial and emotional strains when one or both spouses are pathological gamblers, often end in divorce. Both the NGISC and GAO reports examined divorce rates among pathological gamblers. The NGISC reported that, in one survey it examined, 53.5% of pathological gamblers reported having a divorce versus 18.2% for non-gamers and 29.2% for low-risk gamblers. The GAO report examined divorce rates in Atlantic County and found that the county's divorce rate was lower than the national average, but higher than New Jersey's rate in 1977, 1980 and 1990.[15]

CRIME

There is a general belief that the introduction of legalized gambling in a community will increase crime within that community. Another belief is that legalized gaming reduces crime because it eliminates incentives for illegal gambling.[16] Both these beliefs are based more on anecdotal rather than empirical evidence.

Destination casinos, by their nature, increase the volume of people into a given community. A 2,000-machine casino can easily attract and service 10,000 people in a day. Whenever that volume of people is introduced into a community, the volume of crime is expected to increase. This holds true for any large-scale development, whether it is a shopping mall, family-oriented water park or destination casino. While more people bring more crime, for most communities, the crime rate stays the same or declines.

The NGISC Report investigated the causal relationship between casinos and crime. It stated:

> Jeremy Margolis, a former director of the Illinois State Police, who also served as assistant US attorney for the Northern District of Illinois and was the Illinois inspector general, published a comprehensive review of available information on gambling and crime. His study, "Casinos and Crime, an Analysis of the Evidence," was based upon ten jurisdictions

[14] GAO, p. 34.

[15] GAO, p. 31.

[16] National Gambling Impact Study Commission p. 7-42.

> that have commercial casinos. In testimony before the Commission, he stated that he found little documentation of a causal relationship between the two. Taken as a whole, the literature shows that communities with casinos are just as safe as communities that do not have casinos.[17]

Despite the statements made in the NGISC Report, the Consulting Team believes it is important to further understand the relationship of crime and casinos. In order to understand that relationship, it is first necessary to define the types of crime typically associated with destination casino gambling. These are generally divided into petty crime, violent crime, white collar crime and prostitution.

PETTY CRIME

Petty crime includes vandalism, burglaries, purse snatching, pick-pocketing, and other non-violent crimes. These are the types of crime that are typically exhibited in any high-traffic development. They are common wherever large volumes of people gather, whether at an outdoor concert, water park, shopping mall or casino. Part of the reason is that within any large group of people there is a segment that is prone to commit petty crimes. Also, any gathering of people creates opportunities for petty crimes for people who are predisposed towards crime.

Casinos are slightly more susceptible to petty crimes due to the type of customers they attract. Casinos are attractive environments to mature adults who may have limited or reduced mobility. Women who leave their handbags near gaming devices are attractive targets for purse snatchers. People who display or count cash may also be targets for “grab and dash” thieves.

Petty crime is sometimes associated with pathological gambling. Petty thieves, having exhausted their money, may see a crime as an opportunity. However, the NGISC found little empirical data to support this argument. Nevertheless, the Consulting Team believes that a casino, regardless of its size, will experience petty crimes solely because of the volume of people that will visit the facility.

VIOLENT CRIME

Violent crime is criminal behavior that involves physical violence on victims. Such crime is often associated with gangs and other forms of organized crime as well as armed robberies by individuals. Despite the large amounts of cash that are normally stored in casinos, there is a surprisingly limited amount of violent crime inside casino properties. The highly visible security presence coupled with sophisticated surveillance systems that are normally found in casinos, preclude would be robbers from targeting casinos. Nonetheless, casinos are periodic targets of

[17] National Gambling Impact Study Commission, p. 7-14.

armed robberies and casinos in both Las Vegas and regional markets as these markets have been attacked by these types of criminals. Violent criminal behavior is not normally associated with pathological gamblers. Rather, these types of crime exist within the broader society.

WHITE COLLAR CRIME

White collar crime is one form of crime that is often associated with pathological gambling. Pathological gamblers, having exhausted savings, may resort to fraud and embezzlement to support their gambling compulsion. These types of crime do not occur in a casino but at the workplace. However, the NGISC Report stated the following:

> An examination of arrest trends for embezzlement, forgery and fraud in nine of the largest casino markets shows no consistent pattern, although more jurisdictions report more decreases than increases in arrests.[18]

The GAO report came to a different conclusion. It analyzed the Atlantic City market and stated that embezzlement arrests in Atlantic City were higher in the city than New Jersey or the United States and presented the following table as evidence.

Embezzlement Arrests Per 10,000 Population
Atlantic City Market

Year	United States	New Jersey	Atlantic City
1977	0.36	0.58	0.23
1978	0.38	0.55	0.92
1979	0.40	0.52	0.94
1980	0.42	0.25	0.00
1981	0.42	0.17	0.00
1982	0.39	0.16	0.00
1983	0.38	0.21	0.26
1984	0.40	0.23	0.00
1985	0.48	0.15	0.00
1986	0.52	0.18	0.27
1987	0.53	0.29	0.55
1988	0.61	0.22	4.36
1989	0.65	0.20	0.85
1990	0.61	0.20	0.00
1991	0.55	0.15	0.00
1992	0.55	0.16	0.00
1993	0.56	0.12	0.00
1994	0.57	0.09	0.00
1995	0.60	0.12	2.44
1996	0.65	0.15	0.00

Source: GAO Report p. 39

[18] National Gambling Impact Study Commission, p. 7-14.

The table indicates that, during certain years, embezzlement arrests in Atlantic City increased over both the statewide average and national average. However, in most other years, there were no arrests in Atlantic City for such crimes.

It is impossible for a casino operator to determine which patrons participate in such forms of criminal behavior. However, the casino operator can provide valuable information to law enforcement personnel if an individual is suspected of fraud or embezzlement. A casino operator can investigate a suspect's spending patterns including check cashing habits, payment of markers and general spending patterns through the casino's player tracking system.

PROSTITUTION

Prostitution is endemic in both Nevada and Atlantic City. In Nevada, prostitution is legal in certain rural counties through state sanctioned brothels. Prostitution also occurs illegally in urban counties through escort services, call girls, street prostitutes and prostitutes that loiter in casino bars. While the latter is limited by casino security and surveillance, the former forms do operate with only minimal hindrance by law enforcement. Demand for prostitution is probably greater in Las Vegas since the city attracts a large proportion of male visitors attending conventions. Prostitution also exists in Atlantic City, primarily in the form of street prostitution and the city suffers from a higher prostitution rate than the state or the U.S. as a whole.

Prostitution Arrests Per 10,000 Population Atlantic City Market				
Year	United States	New Jersey	Atlantic City Pop Adjusted(1)	Atlantic City Pop Unadjusted(2)
1977	4.34	1.44	14.26	20.89
1978	4.49	1.07	31.08	53.08
1979	4.49	1.03	20.73	42.61
1980	4.24	1.18	12.89	37.13
1981	5.07	1.34	15.67	55.52
1982	5.93	2.30	31.76	122.88
1983	5.94	2.27	23.88	100.27
1984	5.66	1.91	23.54	107.60
1985	5.53	3.15	36.35	169.33
1986	5.23	3.66	28.33	138.67
1987	4.99	2.31	16.82	88.89
1988	4.25	2.41	19.97	106.15
1989	4.42	2.56	14.12	76.58
1990	4.64	3.44	18.02	92.40
1991	4.53	3.33	21.20	105.69
1992	4.37	3.33	20.80	102.94
1993	4.43	3.99	19.55	96.97
1994	4.17	3.29	18.90	95.60
1995	4.46	2.97	12.93	69.38
1996	4.25	3.02	11.36	61.43
1997	4.19	3.91	9.59	52.08
Avg	**4.74**	**2.57**	**20.08**	**85.53**

(1) Population was adjusted to include visitors and nonresident workers.
(2) Population was not adjusted and is based solely on the local resident population.

The prostitution rate in Atlantic City is high for a number of reasons. First, the casinos are bordered to the east by large, poor residential neighborhoods where the incidence of substance abuse and street crime has historically been very high. Second, dark and poorly lit side streets to the west of the casinos create ideal conditions for street prostitution. Third, the casinos serve a purely adult market and attract male customers who may be predisposed to participating in street prostitution. While prostitution is found on the streets near the casino, casino security and surveillance systems are able to monitor and evict prostitutes from their properties.

The three casino scenarios under examination in this report do not lend themselves to street prostitution. Each of the proposed casinos is isolated from urban areas and/or is surrounded by rural or major roads. There are few sidewalks, buildings or other edifices that would lend themselves to street prostitution and a vigilant security presence on property will deter these crimes on property.

SOCIAL SERVICES

According to a PricewaterhouseCoopers survey titled, "Gaming Industry Employee Impact Survey," the introduction of casino gaming eliminated the need for specific social services offered to local residents.[19] The survey polled nearly 178,000 employees, which represented more than half of the commercial casino industry workforce in the United States. The results of the survey indicated that 16% had used their casino jobs to replace unemployment benefits, 63% had improved their access to health care benefits and 43% had better access to day care for their children. In addition, 65% had developed new job skills as a result of their employment, and 78% indicated that their employer provided them with training to perform their job.

BANKRUPTCY

On the issue of bankruptcy, there have been conflicting reports regarding the connection with casino gaming. The NGISC established that there was a connection in the location of a casino and the rate of bankruptcy filings in that area.[20] This was measured by either jurisdiction or proximity, for example, a 50-mile radius. However, this study has its share of opponents who say that the report did not factor in the additional number of visitors that the casino draws in.

The NGISC also acknowledged a counter argument made by Rudy Cerone, an active member of the American Bankruptcy Institute and the immediate past chair of the Bankruptcy Section of the Louisiana State Bar Association. Cerone told the Commission:

> The increase in consumer bankruptcies has little or nothing to do with gambling in the gross amount. It's mainly credit card companies pushing their products on the consumers and the ease of the bankruptcy laws allowing consumers an easy way out. Those are the two main factors for the great rise in bankruptcies, not only here in Louisiana, but across the country.[21]

Furthermore, the National Opinion Research Center at the University of Chicago performed a survey for the commission, compiling and examining information from 100 randomly selected communities as well as 10 communities within 50 miles of a casino. This survey found that casino proximity did not contribute to increased bankruptcy.[22]

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[19] PricewaterhouseCoopers, 1997

[20] National Gambling Impact Study Commission

[21] National Gambling Impact Study Commission

[22] National Opinion Research Center (NORC)

IV. PUTTING SOCIAL COSTS IN PERSPECTIVE

Although casino gaming comes with its share of social costs, it is important to put these costs in perspective when compared to other social problems. Industry expert Andrew Klebanow compares these numbers to other social problems in his report titled, "Putting Problem Gambling in Perspective."[23] A summary of his findings are listed in the following paragraphs.

> In August of 2010 the U.S. Center for Disease Control issued a report stating that 27% of the U.S. population (72.5 million Americans) are now classified as obese. Unlike problem gambling, where the costs on society are hard to measure, obesity has some very real and significant costs. On average, an obese person incurs $1,400 more a year in medical costs than a person of normal weight. The U.S. Centers for Disease Control report estimates the costs to U.S. society at $147 billion a year. And unlike problem gambling, whose physical effects are for the most part, unknown, obesity is known to lead to heart disease, stroke, diabetes, cancer and premature death.
>
> Restaurant companies and food manufacturers have essentially adopted strategies developed by the tobacco industry, which is to deny their responsibility to the epidemic and oppose policies that would limit or tax consumption. It is common knowledge now that for over a half century, U.S. tobacco companies denied that their products were unhealthy and funded scientific studies to support their claims. Only in the face of overwhelming scientific evidence have tobacco companies modified those strategies. Nevertheless, tobacco companies continue to lobby against initiatives, such as bans on indoor smoking that would restrict exposure to second-hand smoke. Today, roughly 20% of adults smoke and their costs, both social and economic, are a significant burden on society.
>
> To put problem gambling in perspective, one must only look at three numbers: 1.4% (the percent of adults who are problem gamblers, 27% (the percent of adults who are obese) and 20% (the percent of adults who smoke). Problem gambling is real, and the casino industry acknowledges it, but its impact on society and on the lives of Americans is relatively small when compared to obesity and tobacco use.

[23] "Putting Problem Gambling in Perspective," Andrew M. Klebanow, Indian Gaming Magazine, pp. 50-51, September 2010.

ECONOMIC IMPACT STATEMENT

I. ECONOMIC IMPACT STATEMENT OVERVIEW

The Economic Impact Statement ("EIS") examines economic impact projections that each alternative would be expected to generate. In doing so, it is first necessary to define an impacted region in order to calculate the economic impacts of development and operations in each of the alternative scenarios. There is no rule of thumb for this definition, as impacts would likely extend throughout Oregon and parts of northern California or could be examined more finitely at the host city level. For the purposes of this analysis, GMA focused its impact analysis on two separate geographic areas (as Alternatives A and B are assumed to impact a different region than Alternative C). For Alternatives A and B, GMA utilized Jackson County, OR, as the defined subject region. For Alternative C, GMA utilized Coos County, OR, as the defined subject region. For Alternatives A, B, and C, these specified regions would likely serve as the source of approximately 95% of the Project's employees and vendors. The expected impacts in each alternative are measured in terms of the net change in total spending (output), household incomes (labor income), and full-time equivalent job creation (employment) in the subject regions. The statistical information contained in this document's Socioeconomic Analysis report was further utilized to understand relative effects on employment, housing, schools, and select municipal services under each respective alternative.

II. METHODOLOGY

GMA employed IMPLAN's Input-Output/Social Accounting Matrix Model ("I-O/SAM") to determine the economic impact of each alternative scenario.[24] The Input-Output economic model depicts how the total output of each industry in an economy depends on inter-industry demands and final demands by putting transactions in a matrix framework. In other words, a tourism project, like a casino, has significant effects on other industries in its trade area. The I-O/SAM model measures those effects by using a series of multipliers. These multipliers consider all aspects of the input-output framework, including which inputs and outputs will come from the subject region. GMA defined Jackson County as the subject region being impacted for Alternatives A and B, as well as Coos County as the subject region being impacted for Alternative C, although GMA notes that the degree of impact will depend on where the developer/operator ultimately hires employees, construction firms, and vendors. These are, of course, unknowns at this time, and from an operational standpoint, would likely vary over time.

For each alternative, the impacts will be felt in two phases. The first phase is the construction impact. These impacts are temporary in that they only are experienced during the construction phase of the project, with some ripple effects in the local economy for a short period after construction is completed. Ripple effects are essentially a multiplier effect, meaning that money earned by construction employees and materials suppliers will then be re-spent in the local economy, further benefiting other businesses in the region, as well as the benefits resulting from the incremental spending ability of those businesses, and so on. The second phase will result from operations and have an annual, ongoing impact to the subject regional economy.

For each alternative, GMA calculated the impacts on Output, Employment, and Labor Income for the construction phase and operations phase. Throughout the Economic Impact Statement, GMA refers to three types of effects: the Direct Effect, the Indirect Effect, and the Induced Effect. The Direct, Indirect and Induced effects are used to describe the types of output generated by the Project and these terms are best defined in the context in which they are used. The effect on employment (jobs created) offers a very clear example.

DIRECT EFFECT ON EMPLOYMENT

In this context Direct Effect refers to jobs created by patron expenditures in the study region. As an example, if 10,000 people a day visit a casino or casino-hotel, those people would be served

[24] IMPLAN, which stands for "IMpact Analysis for PLANning," was developed by the USDA Forest Service. The Minnesota Implan Group (MIG) began work on the IMPLAN database in 1987 at the University of Minnesota. The MIG was formed as a private entity to develop and maintain IMPLAN data and software.

by employees working at the property. In addition, some people may choose to spend the night at an area motel, eat at a nearby restaurant, shop in a local store or purchase fuel at a nearby service station or convenience store. Their demand for goods and services at these businesses would create additional employment. Direct Effect on Employment includes those jobs created by the casino as well as jobs created by businesses around the Project that service the casino's patrons.

INDIRECT EFFECT ON EMPLOYMENT

Technically, the Indirect Effect is caused by *inter-industry transactions*. Simply put, in providing goods and services to its customers, the casino needs inputs from other sources such as utilities, food suppliers, laundry and janitorial supplies. A local food distributor will have to hire additional delivery drivers and warehouse personnel to properly serve the casino or casino-hotel. A local laundry provider will have to hire additional staff to keep up with the demands of the resort's restaurants and hotel. The demands of the Project for other industries' goods and services create jobs in other industrial sectors. This is the Indirect Effect on Employment.

INDUCED EFFECT ON EMPLOYMENT

Induced Effects are the *factor-institution interactions of labor and capital*. Simply put, when newly employed people receive their paychecks, they go out and spend money. They shop at the local supermarket and buy products and services from other local and regional businesses. That consumption, which obviously has nothing to do with casino's customers' expenditures, creates another set of jobs at retail stores and service establishments. In addition, those new workers hired by merchants to service the casino's employees in turn spend their money at other area merchants, creating more jobs. This is the Induced Effect on Employment.

GMA based the construction impact forecasts on the construction and development costs prepared by respective consultants hired by Coquille. These development costs were appropriately adjusted to reflect the development plan in each alternative. GMA based the operating impact forecasts on a financial ProForma Income Statement analysis and projections developed by GMA. In GMA's analysis of impacts from operations, GMA considered the impacts of casino resort revenues, staffing, and employee earnings as the Direct impacts, in addition to small amounts of spending by casino patrons in the county that would take place as a result of the casino trip. Indirect impacts are calculated based on the projected spending by the proposed Project on goods and services, as well as the ripple effects that result from this spending. Induced impacts are calculated through the IMPLAN model based on changes in consumption, driven off the casino employee earnings and the earnings of businesses benefiting from the indirect expenditures.

III. ALTERNATIVE SCENARIO ECONOMIC IMPACT ANALYSIS

This chapter illustrates the projected economic impacts of construction and operations of three gaming expansion development alternative scenarios. Alternative A is the proposed new Class II gaming development at the Medford Site. Alternative B is the proposed new Class II gaming development at the Phoenix Site. Alternative C considers the potential expansion of the existing Mill Casino. In Alternative A and Alternative B, GMA assumed the new facility would feature 650 gaming machines, a new restaurant, and a bar. In Alternative C, GMA assumed the expanded facility would feature an additional 650 gaming machines, a new quick-serve dining outlet, and a new bar.

ALTERNATIVE A: MEDFORD SITE

Alternative A addresses the economic impact associated with developing a Class II gaming facility in an old bowling center adjacent to Highway 99 on the south side of the City of Medford. This alternative's economic impact was measured for the defined subject region of Jackson County. In makings its impact projections, GMA assumed the gaming facility would be able to adequately and attractively serve 650 Class II gaming machines, a restaurant, and bar.

CONSTRUCTION IMPACTS

The first phase of the economic impact will be the construction phase. As discussed above, construction employment and spending is only temporary, but it can have substantial impacts on the economy. GMA anticipates the construction phase will last for a period of approximately twelve months in each alternative scenario. GMA notes that employment counts below are presented in terms of man-years of employment.

CONSTRUCTION BUDGET

The impacts of construction are provided in the following section. In order to ensure a conservative analysis, investments in construction activities are anticipated to remain within the region at the same proportion that similar investments have historically remained within the region as calculated by IMPLAN. Construction expenditures generally fall into several different categories, each of which has some local and non-local components. Hard costs reflect the actual construction materials and labor. Soft costs reflect architectural services, other professional services, financing costs, start-up expenses, and other non-material expenses. Additionally Furnishing, Fixtures and Equipment (FF&E) are included, as are Operating Supplies and Equipment (OS&E). Notably, FF&E expenses include purchased or leased gaming equipment, which typically would be a non-local purchase. As such, GMA did not include any gaming equipment as an input in its analysis. Similarly, soft costs for professional services such as architects may not have a regional economic impact. Additionally, the project in Alternative A

assumes that current water and wastewater services are maintained from the Medford Water Commission but will need some fire suppression work and road repair to accomplish maintained service. As such, GMA included water and wastewater cost estimates provided by a consultant to Coquille in the amount of $0.2 million.

Based on inputs provided to GMA by consultants to Coquille, the total project cost for Alternative A is estimated at $31.9 million in 2021 dollars. Based on the cost breakdown by element, GMA estimates that $13.9 million of the $31.9 million total construction costs will be spent regionally, with the balance of $18.0 million being imported FF&E, non-local professional fees or financing costs, and labor from outside of the county.

TOTAL OUTPUT

Total output measures the value of goods and services that go into the construction of the gaming facility, together with the induced and indirect impacts in the regional economy. The direct impact from construction related activities and local procurement of FF&E and OS&E is estimated at $13.9 million. The indirect outputs resulting from development are estimated at $3.5 million. The generation of direct and indirect employment will increase household incomes in the region. As a result, there will be an increase in consumption for the region. The increase in consumption, or induced output, is estimated at $5.0 million. Overall, GMA projects that a total of approximately $22.4 million in economic output would be generated within the Jackson County region during the construction phase of Alternative A. The following table below summarizes these benefits, in 2021 dollars.

Alternative A: Total Output from Construction				
	Direct	Indirect	Induced	TOTAL*
11 Ag, Forestry, Fish & Hunting	$0	$7,012	$9,362	$16,373
21 Mining	$0	$29,937	$3,226	$33,163
22 Utilities	$0	$36,484	$49,446	$85,930
23 Construction	$12,208,278	$41,157	$73,991	$12,323,426
31-33 Manufacturing	$0	$669,805	$71,898	$741,703
42 Wholesale Trade	$0	$718,935	$241,819	$960,754
44-45 Retail trade	$0	$75,487	$561,761	$637,247
48-49 Transportation & Warehousing	$0	$323,991	$145,577	$469,568
51 Information	$0	$114,808	$172,909	$287,716
52 Finance & insurance	$0	$174,549	$420,000	$594,548
53 Real estate & rental	$0	$455,841	$1,124,885	$1,580,726
54 Professional- scientific & tech svcs	$0	$389,982	$158,925	$548,907
55 Management of companies	$0	$99,674	$46,132	$145,806
56 Administrative & waste services	$0	$147,531	$132,034	$279,565
61 Educational svcs	$0	$278	$39,568	$39,847
62 Health & social services	$0	$20	$1,016,762	$1,016,781
71 Arts- entertainment & recreation	$833,609	$29,394	$98,859	$961,863
72 Accommodation & food services	$833,609	$52,345	$349,586	$1,235,540
81 Other services	$0	$71,116	$241,865	$312,982
92 Government & non NAICs	$0	$30,926	$54,040	$84,966
TOTAL*	**$13,875,496**	**$3,469,271**	**$5,012,645**	**$22,357,411**

Source: IMPLAN, GMA
**Totals may not sum correctly due to IMPLAN rounding*

TOTAL JOBS (MAN YEARS)

The following table summarizes the number of man-years of employment that could be generated as a result of development of the Medford Site Project in Alternative A. The direct impact of construction is expected to generate 120 man-years of employment. An additional 23 man-years of employment are projected to be generated through indirect impacts and 40 man-years through induced impacts. In total, the construction phase is projected to create 183 man-years of employment in Alternative A.

Alternative A: Total Employment from Construction				
	Direct	Indirect	Induced	TOTAL*
11 Ag, Forestry, Fish & Hunting	0	0	0	0
21 Mining	0	0	0	0
22 Utilities	0	0	0	0
23 Construction	97	0	0	98
31-33 Manufacturing	0	2	0	3
42 Wholesale Trade	0	5	2	7
44-45 Retail trade	0	1	7	7
48-49 Transportation & Warehousing	0	2	1	3
51 Information	0	0	1	1
52 Finance & insurance	0	1	2	3
53 Real estate & rental	0	2	3	5
54 Professional- scientific & tech svcs	0	4	2	5
55 Management of companies	0	0	0	1
56 Administrative & waste services	0	2	2	4
61 Educational svcs	0	0	1	1
62 Health & social services	0	0	9	9
71 Arts- entertainment & recreation	7	1	1	9
72 Accommodation & food services	17	1	6	23
81 Other services	0	1	4	5
92 Government & non NAICs	0	0	0	0
TOTAL*	**120**	**23**	**40**	**183**

Source: IMPLAN, GMA
**Totals may not sum correctly due to IMPLAN rounding*

As a result of the indirect and induced expenditures, the jobs created during the construction process will be in a variety of industries. The construction industry is expected to experience the largest impact on employment.

TOTAL LABOR INCOME

The total labor income that will be generated during the construction phase in Alternative A is summarized in the following table. As a result of the creation of the direct jobs, $5.6 million in labor income is projected to accrue to Jackson County residents. Indirect wages are projected at approximately $1.1 million. Incremental regional consumption attributable to these earnings is projected to create an induced impact of $1.7 million in regional earnings, for a total regional labor income growth of $8.4 million.

Alternative A: Total Labor Income from Construction				
	Direct	Indirect	Induced	TOTAL*
11 Ag, Forestry, Fish & Hunting	$0	$3,698	$4,074	$7,772
21 Mining	$0	$6,655	$500	$7,155
22 Utilities	$0	$8,019	$12,325	$20,344
23 Construction	$4,976,951	$14,674	$25,542	$5,017,168
31-33 Manufacturing	$0	$158,211	$10,614	$168,824
42 Wholesale Trade	$0	$158,157	$53,197	$211,354
44-45 Retail trade	$0	$36,705	$252,847	$289,552
48-49 Transportation & Warehousing	$0	$130,792	$52,383	$183,175
51 Information	$0	$23,044	$29,931	$52,975
52 Finance & insurance	$0	$52,009	$94,683	$146,692
53 Real estate & rental	$0	$100,081	$68,203	$168,285
54 Professional- scientific & tech svcs	$0	$174,235	$75,854	$250,088
55 Management of companies	$0	$43,246	$20,015	$63,261
56 Administrative & waste services	$0	$75,832	$66,605	$142,437
61 Educational svcs	$0	$165	$27,845	$28,010
62 Health & social services	$0	$11	$572,536	$572,547
71 Arts- entertainment & recreation	$167,489	$9,653	$27,591	$204,732
72 Accommodation & food services	$421,721	$22,050	$136,554	$580,326
81 Other services	$0	$37,698	$159,803	$197,500
92 Government & non NAICs	$0	$18,871	$21,941	$40,812
TOTAL*	**$5,566,161**	**$1,073,806**	**$1,713,042**	**$8,353,009**

Source: IMPLAN, GMA
**Totals may not sum correctly due to IMPLAN rounding*

OPERATIONAL IMPACTS

Based on visitation and demand projections for Alternative A, GMA estimated the economic impacts from ongoing operations. Operational projections were prepared for 2023, the assumed first year of fully stabilized operations of each alternative evaluated. This analysis took into consideration potential substitution effects in Jackson County with respect to casino visitation, as some of the visitation may come at the expense of existing video lottery terminal ("VLTs") operations in the area. GMA does not anticipate net substitution effects with respect to retail or food & beverage ("F&B"), as there will likely be some spillover benefits from gamers and gaming facility workers patronizing local businesses, resulting in revenue growth for each of those venues.

In 2023, the Project is projected to generate approximately $48.7 million in gross facility revenues, not including gratuities or taxes. Based on these figures, patronage at the facility is projected at 660,000 visitors annually. The Medford market segment is projected to drive approximately 90% of total patronage. In preparing impact projections, GMA evaluated the percentage of net revenues (defined as gross revenues less promotional credits) that will have an impact on the subject county, in comparison to those that will be distributed outside of the county. Additionally, GMA considered the amount of ancillary revenue the Project could expect

to generate inside and outside of the casino. This portion of the analysis also evaluated the Project's potential impact on hotel expenditure, food & beverage expenditure, retail expenditure and gas/local transport expenditure in the subject region. To forecast revenues for these items, the Consulting Team evaluated projected gross revenue and visitation levels at the facility and their potential impact on the subject region's generation of the aforementioned expenditure items.

GMA evaluated the prepared ProForma income statements for the casino, which estimated total salaries, employment, and other expenses. A portion of these incomes, along with the other development expenditures made possible by the casino resort revenues, and other direct spending by out of region customers constitute the gross direct impacts of operations. This section of the report outlines the total output, jobs, labor income, and fiscal impact of Alternative A operations as calculated using the IMPLAN model.

TOTAL OUTPUT

Direct output measures the total spending by the gaming facility patrons, including labor income from gratuities, less expenditures that occur outside of the county study area. The net direct impact from gaming facility operation is estimated at $18.6 million. The indirect output resulting from operation, which emanates from economic activities of casino suppliers and has a ripple effect in the regional economy, is estimated at $7.7 million. The induced spending, reflecting increased consumption attributable to the direct and indirect earnings, is projected to result in $8.6 million of output. Overall, GMA projects that approximately $35.0 million in economic output would be generated within the Jackson County region annually once the gaming facility is operational, in 2023 dollars. The following table demonstrates the industries that are impacted as a result of operational spending and employee spending, or the ripple effects in the economy.

Alternative A: Total Annual Output from Operations				
	Direct	Indirect	Induced	TOTAL*
11 Ag, Forestry, Fish & Hunting	$0	$2,313	$16,168	$18,481
21 Mining	$0	$4,922	$5,782	$10,704
22 Utilities	$0	$95,799	$84,788	$180,587
23 Construction	$0	$169,054	$128,520	$297,574
31-33 Manufacturing	$0	$130,314	$123,352	$253,666
42 Wholesale Trade	$0	$203,331	$412,417	$615,748
44-45 Retail trade	$272,043	$51,250	$956,691	$1,279,984
48-49 Transportation & Warehousing	$0	$274,381	$250,259	$524,640
51 Information	$0	$371,851	$293,730	$665,581
52 Finance & insurance	$0	$692,013	$719,032	$1,411,044
53 Real estate & rental	$0	$2,648,641	$1,934,635	$4,583,277
54 Professional- scientific & tech svcs	$0	$1,625,622	$274,301	$1,899,922
55 Management of companies	$0	$223,704	$78,918	$302,621
56 Administrative & waste services	$0	$550,085	$226,012	$776,096
61 Educational svcs	$0	$1,074	$68,689	$69,763
62 Health & social services	$0	$68	$1,751,870	$1,751,938
71 Arts- entertainment & recreation	$14,981,598	$284,530	$169,903	$15,436,031
72 Accommodation & food services	$3,366,011	$133,459	$601,995	$4,101,465
81 Other services	$0	$183,411	$416,706	$600,117
92 Government & non NAICs	$0	$82,401	$92,806	$175,206
TOTAL*	**$18,619,652**	**$7,728,220**	**$8,606,572**	**$34,954,445**

Source: IMPLAN, GMA

**Totals may not sum correctly due to IMPLAN rounding*

TOTAL JOBS (FULL-TIME EQUIVALENT)

The following table summarizes the total employment in terms of jobs that is estimated to be generated as a result of the operation for the Project in Alternative A. Based on staffing models provided by Coquille, the direct impact of operations reflects the staffing level of the casino that will create incremental jobs to the county, which equates to 229 jobs primarily in the entertainment, hospitality, and food & beverage industries. An additional 63 jobs are projected to be generated through indirect impacts and 68 jobs through induced impacts.

Alternative A: Total Annual Employment from Operations				
	Direct	Indirect	Induced	TOTAL*
11 Ag, Forestry, Fish & Hunting	0	0	0	0
21 Mining	0	0	0	0
22 Utilities	0	0	0	0
23 Construction	0	1	1	2
31-33 Manufacturing	0	1	0	1
42 Wholesale Trade	0	1	3	4
44-45 Retail trade	4	1	11	16
48-49 Transportation & Warehousing	0	1	1	3
51 Information	0	1	1	2
52 Finance & insurance	0	4	3	7
53 Real estate & rental	0	16	4	21
54 Professional- scientific & tech svcs	0	15	3	18
55 Management of companies	0	1	0	1
56 Administrative & waste services	0	8	3	12
61 Educational svcs	0	0	2	2
62 Health & social services	0	0	15	15
71 Arts- entertainment & recreation	160	7	2	169
72 Accommodation & food services	65	2	9	77
81 Other services	0	3	7	10
92 Government & non NAICs	0	0	0	1
TOTAL*	**229**	**63**	**68**	**360**

Source: IMPLAN, GMA
**Totals may not sum correctly due to IMPLAN rounding*

As evident from the table above, there are approximately 131 jobs that will be created outside of the casino through indirect and induced spending. Based on the IMPLAN results, the major industries indirectly impacted are expected to be professional services related to scientific and technology fields, real estate related businesses, administrative and waste services, health and social services, and retail trade.

TOTAL LABOR INCOME

The net total labor income that is expected to be generated annually as a result of the Project's operations in Alternative A is summarized in the following table. As a result of the creation of the net new direct jobs, $9.1 million in annual labor income is projected to accrue to Jackson County residents. Net indirect wages in other sectors are projected at $2.4 million, while incremental regional consumption attributable to these direct and indirect earnings are projected to create an induced impact of $2.9 million. As a result, the gaming facility is projected to be able to sustain growth in total regional labor income of $14.4 million.

Alternative A: Total Annual Labor Income from Operations				
	Direct	Indirect	Induced	TOTAL*
11 Ag, Forestry, Fish & Hunting	$0	$970	$7,020	$7,990
21 Mining	$0	$595	$860	$1,456
22 Utilities	$0	$21,427	$21,266	$42,692
23 Construction	$0	$59,470	$43,968	$103,438
31-33 Manufacturing	$0	$28,004	$18,274	$46,278
42 Wholesale Trade	$0	$45,162	$91,602	$136,763
44-45 Retail trade	$138,600	$25,210	$435,205	$599,014
48-49 Transportation & Warehousing	$0	$94,326	$90,086	$184,412
51 Information	$0	$87,391	$51,548	$138,939
52 Finance & insurance	$0	$227,624	$163,165	$390,789
53 Real estate & rental	$0	$362,630	$117,642	$480,272
54 Professional- scientific & tech svcs	$0	$720,244	$130,541	$850,784
55 Management of companies	$0	$97,694	$34,464	$132,158
56 Administrative & waste services	$0	$283,259	$114,635	$397,894
61 Educational svcs	$0	$642	$47,564	$48,206
62 Health & social services	$0	$39	$986,251	$986,290
71 Arts- entertainment & recreation	$6,473,553	$94,941	$47,361	$6,615,854
72 Accommodation & food services	$2,465,573	$60,615	$235,009	$2,761,197
81 Other services	$0	$104,755	$275,349	$380,105
92 Government & non NAICs	$0	$39,861	$37,805	$77,666
TOTAL*	**$9,077,725**	**$2,354,858**	**$2,949,613**	**$14,382,196**

Source: IMPLAN, GMA

**Totals may not sum correctly due to IMPLAN rounding*

FISCAL IMPACT

There will be fiscal impacts resulting from the construction and operation of the gaming facility at the local, county, state, and federal levels from a variety of taxes. At the state and local level, adjustments were made to sales taxes, property taxes, and State/Local non-taxes by the ratio of indirect and induced output to total output to reflect the likely exemption status of direct spending occurring at the facility. In some cases, there may be tax exemptions due to purchases by Coquille. The IMPLAN model creates a projection of the total taxes, such that these discounts are not reflected in the resulting tables. The state and local taxes during the construction phase are projected at $1.0 million, the majority of which would be taxes on construction materials and property taxes. An additional $1.8 million would be paid in federal taxes. The following tables detail tax revenues during the construction phase for Alternative A.

Alternative A: State and Local Tax Revenue During Construction Phase						
	Employee Compensation	Proprietor Income	Production & Imports	Households	Corporations	TOTAL*
Dividends	$0	$0	$0	$0	$2,477	$2,477
Social Ins Tax- Employee Contribution	$8,239	$0	$0	$0	$0	$8,239
Social Ins Tax- Employer Contribution	$16,483	$0	$0	$0	$0	$16,483
Tax on Production and Imports: Sales Tax	$0	$0	$198,998	$0	$0	$198,998
Tax on Production and Imports: Property Tax	$0	$0	$336,007	$0	$0	$336,007
Tax on Production and Imports: Motor Vehicle Lic	$0	$0	$13,628	$0	$0	$13,628
Tax on Production and Imports: Severance Tax	$0	$0	$958	$0	$0	$958
Tax on Production and Imports: Other Taxes	$0	$0	$55,892	$0	$0	$55,892
Tax on Production and Imports: S/L NonTaxes	$0	$0	$2,325	$0	$0	$2,325
Corporate Profits Tax	$0	$0	$0	$0	$14,714	$14,714
Personal Tax: Income Tax	$0	$0	$0	$287,862	$0	$287,862
Personal Tax: NonTaxes (Fines- Fees)	$0	$0	$0	$32,840	$0	$32,840
Personal Tax: Motor Vehicle License	$0	$0	$0	$12,455	$0	$12,455
Personal Tax: Property Taxes	$0	$0	$0	$3,142	$0	$3,142
Personal Tax: Other Tax (Fish/Hunt)	$0	$0	$0	$6,584	$0	$6,584
Total State and Local Tax*	**$24,722**	**$0**	**$607,808**	**$342,883**	**$17,191**	**$992,604**
Source: IMPLAN, GMA						
**Totals may not sum correctly due to IMPLAN rounding*						

Alternative A: Federal Tax Revenue During Construction Phase						
	Employee Compensation	Proprietor Income	Production & Imports	Households	Corporations	TOTAL*
Social Ins Tax- Employee Contribution	$507,512	$68,389	$0	$0	$0	$575,901
Social Ins Tax- Employer Contribution	$481,459	$0	$0	$0	$0	$481,459
Tax on Production and Imports: Excise Taxes	$0	$0	$52,031	$0	$0	$52,031
Tax on Production and Imports: Custom Duty	$0	$0	$21,579	$0	$0	$21,579
Tax on Production and Imports: Fed NonTaxes	$0	$0	$3,377	$0	$0	$3,377
Corporate Profits Tax	$0	$0	$0	$0	$86,636	$86,636
Personal Tax: Income Tax	$0	$0	$0	$600,014	$0	$600,014
Total Federal Tax*	**$988,971**	**$68,389**	**$76,987**	**$600,014**	**$86,636**	**$1,820,997**
Source: IMPLAN, GMA						
**Totals may not sum correctly due to IMPLAN rounding*						

Annually during the operations phase, $1.4 million in state and local taxes and $2.9 million in federal taxes resulting from direct, indirect, and induced spending are projected. At the state and local level, adjustments were made to sale taxes, property taxes, and State/Local non-taxes by the ratio of indirect and induced output to total output to reflect the likely exemption status of direct spending occurring at the facility. It is important to note that as the Coquille Tribe is a sovereign nation, they are afforded certain tax benefits. However, a portion of these benefits are often offset by a Memorandum of Understanding signed with the host community. As such, the actual tax benefits will likely vary from those presented in the following tables addressing tax revenues during the operations phase for Alternative A.

Alternative A: State and Local Tax Revenue During Operations Phase						
	Employee Compensation	Proprietor Income	Production & Imports	Households	Corporations	TOTAL*
Dividends	$0	$0	$0	$0	$6,121	$6,121
Social Ins Tax- Employee Contribution	$14,906	$0	$0	$0	$0	$14,906
Social Ins Tax- Employer Contribution	$29,822	$0	$0	$0	$0	$29,822
Tax on Production and Imports: Sales Tax*	$0	$0	$221,870	$0	$0	$221,870
Tax on Production and Imports: Property Tax*	$0	$0	$374,627	$0	$0	$374,627
Tax on Production and Imports: Motor Vehicle Lic	$0	$0	$32,515	$0	$0	$32,515
Tax on Production and Imports: Severance Tax	$0	$0	$2,286	$0	$0	$2,286
Tax on Production and Imports: Other Taxes*	$0	$0	$62,316	$0	$0	$62,316
Tax on Production and Imports: S/L NonTaxes*	$0	$0	$2,592	$0	$0	$2,592
Corporate Profits Tax	$0	$0	$0	$0	$36,353	$36,353
Personal Tax: Income Tax	$0	$0	$0	$493,066	$0	$493,066
Personal Tax: NonTaxes (Fines- Fees)	$0	$0	$0	$56,251	$0	$56,251
Personal Tax: Motor Vehicle License	$0	$0	$0	$21,334	$0	$21,334
Personal Tax: Property Taxes*	$0	$0	$0	$2,515	$0	$2,515
Personal Tax: Other Tax (Fish/Hunt)*	$0	$0	$0	$5,270	$0	$5,270
Total State and Local Tax**	**$44,728**	**$0**	**$696,206**	**$578,436**	**$42,474**	**$1,361,844**

Source: IMPLAN, GMA
**Adjusted by the ratio of indirect and induced output to total output in order to reflect the exemption status of direct spending occurring at the facility*
***Totals may not sum correctly due to IMPLAN rounding*

Alternative A: Federal Tax Revenue During Operations Phase						
	Employee Compensation	Proprietor Income	Production & Imports	Households	Corporations	TOTAL*
Social Ins Tax- Employee Contribution	$918,226	$94,115	$0	$0	$0	$1,012,341
Social Ins Tax- Employer Contribution	$871,089	$0	$0	$0	$0	$871,089
Tax on Production and Imports: Excise Taxes	$0	$0	$124,137	$0	$0	$124,137
Tax on Production and Imports: Custom Duty	$0	$0	$51,484	$0	$0	$51,484
Tax on Production and Imports: Fed NonTaxes	$0	$0	$8,057	$0	$0	$8,057
Corporate Profits Tax	$0	$0	$0	$0	$214,051	$214,051
Personal Tax: Income Tax	$0	$0	$0	$1,027,736	$0	$663,499
Total Federal Tax*	**$1,789,315**	**$94,115**	**$183,678**	**$1,027,736**	**$214,051**	**$2,944,658**

Source: IMPLAN, GMA
***Totals may not sum correctly due to IMPLAN rounding*

ALTERNATIVE B: PHOENIX SITE

This scenario addresses the economic impact associated with the development of a similarly scaled project at the Phoenix Site. This site is located near the intersection of North Phoenix and Campbell Roads, which has proximate access to Interstate 5. As such, this economic impact was also measured for the defined subject region of Jackson County. The Project is proposed to offer the same set of gaming and non-gaming amenities as the Project in Alternative A, including 650 Class II electronic gaming machines, a restaurant, and bar. In this alternative, however, the Project would be a new development and would require the construction of a new building and associated amenities.

CONSTRUCTION IMPACTS

As discussed previously, construction employment and spending are only temporary but can have substantial impacts on the economy. The following analysis details the project budget and resulting spending, jobs, and earnings impacts of development of the Project at the Phoenix Site

in Alternative B. GMA notes that employment counts below are presented in terms of man-years of employment.

CONSTRUCTION BUDGET

Based on input provided to GMA by consultants to Coquille, the total project cost for Alternative B is estimated at $32.6 million in 2021 dollars. Additionally, the project in Alternative B is located north of the City of Phoenix and lies outside of existing public water and wastewater service areas. As such, GMA included the costs (approximately $0.4 million) associated with extending the existing water and wastewater facilities beyond current service area boundaries to provide service to the Phoenix Site. Based on the cost breakdown by element, GMA estimates a total construction cost of $32.6 million, of which approximately $15.5 million will be spent regionally, with the balance being imported FF&E, non-local professional fees or financing costs.

TOTAL OUTPUT

The direct impact from construction related activities and local procurement of FF&E and OS&E is estimated at $15.5 million. The indirect outputs resulting from development are estimated at $3.9 million. The induced output is estimated at $5.6 million. Overall, GMA projects that a total of approximately $25.0 million in economic output would be generated within the Jackson County region during the construction phase of Alternative B, in 2021 dollars. The following table summarizes the benefits for the Jackson County region.

Alternative B: Total Output from Construction				
	Direct	Indirect	Induced	TOTAL*
11 Ag, Forestry, Fish & Hunting	$0	$7,723	$10,447	$18,170
21 Mining	$0	$31,107	$3,600	$34,708
22 Utilities	$0	$41,564	$55,177	$96,742
23 Construction	$13,401,875	$47,139	$82,570	$13,531,583
31-33 Manufacturing	$0	$734,138	$80,234	$814,372
42 Wholesale Trade	$0	$795,472	$269,856	$1,065,328
44-45 Retail trade	$0	$87,009	$626,897	$713,906
48-49 Transportation & Warehousing	$0	$359,844	$162,460	$522,304
51 Information	$0	$130,440	$192,954	$323,394
52 Finance & insurance	$0	$198,364	$468,687	$667,051
53 Real estate & rental	$0	$530,655	$1,255,327	$1,785,982
54 Professional- scientific & tech svcs	$0	$441,521	$177,353	$618,874
55 Management of companies	$0	$114,987	$51,481	$166,468
56 Administrative & waste services	$0	$168,468	$147,344	$315,812
61 Educational svcs	$0	$320	$44,162	$44,481
62 Health & social services	$0	$22	$1,134,635	$1,134,658
71 Arts- entertainment & recreation	$1,042,010	$34,930	$110,327	$1,187,267
72 Accommodation & food services	$1,042,010	$58,894	$390,122	$1,491,026
81 Other services	$0	$80,573	$269,905	$350,478
92 Government & non NAICs	$0	$35,392	$60,304	$95,696
TOTAL*	**$15,485,895**	**$3,898,562**	**$5,593,843**	**$24,978,300**

Source: IMPLAN, GMA
**Totals may not sum correctly due to IMPLAN rounding*

TOTAL JOBS (MAN-YEARS)

The following table summarizes the number of man-years of employment that could be generated as a result of the construction of the Project at the Phoenix Site in Alternative B. The direct impact of construction is expected to generate 135 man-years of employment. An additional 26 man-years of employment are projected to be generated through indirect impacts and 45 man-years through induced impacts. In total, the construction phase is projected to create 206 man-years of employment.

Alternative B: Total Employment from Construction				
	Direct	Indirect	Induced	TOTAL*
11 Ag, Forestry, Fish & Hunting	0	0	0	0
21 Mining	0	0	0	0
22 Utilities	0	0	0	0
23 Construction	106	0	1	107
31-33 Manufacturing	0	3	0	3
42 Wholesale Trade	0	6	2	7
44-45 Retail trade	0	1	7	8
48-49 Transportation & Warehousing	0	2	1	3
51 Information	0	0	1	1
52 Finance & insurance	0	1	2	3
53 Real estate & rental	0	3	3	6
54 Professional- scientific & tech svcs	0	4	2	6
55 Management of companies	0	1	0	1
56 Administrative & waste services	0	2	2	5
61 Educational svcs	0	0	1	1
62 Health & social services	0	0	10	10
71 Arts- entertainment & recreation	8	1	2	11
72 Accommodation & food services	21	1	6	28
81 Other services	0	1	5	6
92 Government & non NAICs	0	0	0	1
TOTAL*	**135**	**26**	**45**	**206**

Source: IMPLAN, GMA
**Totals may not sum correctly due to IMPLAN rounding*

As was the case in Alternative A, as a result of the indirect and induced expenditures, the jobs created during the construction process will be in a variety of industries, naturally led by construction-related employment. Based on the IMPLAN model results, GMA projects similar industry impacts to Alternative A.

TOTAL LABOR INCOME

The total labor income that will be generated during the construction phase in Alternative B is summarized in the following table. As a result of the creation of the direct jobs, $6.2 million in labor income is projected to accrue to Jackson County residents. Indirect wages in other sectors are projected to total $1.2 million. Incremental regional consumption attributable to these earnings is projected to create an induced impact of $1.9 million in regional earnings, for a projected total regional labor income growth of $9.3 million.

Alternative B: Total Labor Income from Construction				
	Direct	Indirect	Induced	TOTAL*
11 Ag, Forestry, Fish & Hunting	$0	$4,065	$4,546	$8,611
21 Mining	$0	$7,016	$558	$7,574
22 Utilities	$0	$9,137	$13,754	$22,891
23 Construction	$5,465,158	$16,805	$28,504	$5,510,467
31-33 Manufacturing	$0	$173,939	$11,844	$185,783
42 Wholesale Trade	$0	$174,994	$59,365	$234,359
44-45 Retail trade	$0	$42,259	$282,165	$324,424
48-49 Transportation & Warehousing	$0	$145,175	$58,457	$203,632
51 Information	$0	$26,365	$33,401	$59,766
52 Finance & insurance	$0	$59,259	$105,659	$164,918
53 Real estate & rental	$0	$114,494	$76,109	$190,603
54 Professional- scientific & tech svcs	$0	$197,416	$84,649	$282,065
55 Management of companies	$0	$49,889	$22,336	$72,225
56 Administrative & waste services	$0	$86,518	$74,328	$160,846
61 Educational svcs	$0	$189	$31,077	$31,267
62 Health & social services	$0	$13	$638,913	$638,926
71 Arts- entertainment & recreation	$209,361	$11,481	$30,791	$251,633
72 Accommodation & food services	$527,151	$24,853	$152,388	$704,392
81 Other services	$0	$42,768	$178,329	$221,097
92 Government & non NAICs	$0	$21,530	$24,485	$46,014
TOTAL*	**$6,201,670**	**$1,208,166**	**$1,911,658**	**$9,321,494**

Source: IMPLAN, GMA
**Totals may not sum correctly due to IMPLAN rounding*

OPERATIONAL IMPACTS

Based on year 2023 (the assumed first full year of stabilized operations) visitation and demand projections for Alternative B, GMA estimated the economic impacts from ongoing operations. This analysis took into consideration potential substitution effects in Jackson County with respect to casino visitation, as some of the visitation may come at the expense of existing video lottery terminal operations in the area. GMA does not anticipate net substitution effects with respect to retail or F&B, as there will likely be some spillover benefits from gamers and gaming facility workers patronizing local businesses, resulting in revenue growth for each of those venues.

In 2023, the Project is projected to generate approximately $47.5 million in gross facility revenues, not including gratuities or taxes. Based on these figures, patronage at the facility is projected to be 643,000 visitors annually. The Medford market segment is also projected to drive roughly 90% of patronage. In preparing impact projections, GMA evaluated the percentage of net revenues (defined as gross revenues less promotional credits) that will have an impact on the subject county, in comparison to those that will be distributed outside of the county. Additionally, GMA considered the amount of ancillary revenue the Project could expect to generate inside and outside of the casino. This portion of the analysis also evaluated the Project's potential impact on hotel expenditure, food & beverage expenditure, retail expenditure and

gas/local transport expenditure in the subject region. To forecast revenues for these items, the Consulting Team evaluated projected gross revenue and visitation levels at the facility and their potential impact on the subject region's generation of the aforementioned expenditure items.

GMA evaluated the prepared ProForma income statements for the casino, which estimated total salaries, employment, and other expenses. A portion of these incomes, along with the other development expenditures made possible by the casino revenues, and other direct spending by out of region customers constitute the gross direct impacts of operations. This section of the report outlines the total output, jobs, labor income, and fiscal impact of Alternative B operations, as calculated using the IMPLAN model.

TOTAL OUTPUT

Direct output measures the total spending by the gaming facility patrons, including labor income from gratuities, less expenditures that occur outside of the county study area. The net direct impact from gaming facility operation is estimated at $18.2 million. The indirect output resulting from operation, which emanates from economic activities of casino suppliers and has a ripple effect in the regional economy, is estimated at $7.6 million. The induced spending, reflecting increased consumption attributable to the direct and indirect earnings, is projected to result in $8.4 million of output. Overall, GMA projects that approximately $34.3 million in economic output would be generated within the Jackson County region annually once the gaming facility is operational, in 2023 dollars. The following table demonstrates the industries that are impacted as a result of operational spending and employee spending, or the ripple effects in the economy.

Alternative B: Total Annual Output from Operations				
	Direct	Indirect	Induced	TOTAL*
11 Ag, Forestry, Fish & Hunting	$0	$2,261	$15,869	$18,130
21 Mining	$0	$4,817	$5,675	$10,492
22 Utilities	$0	$93,800	$83,218	$177,018
23 Construction	$0	$165,593	$126,140	$291,733
31-33 Manufacturing	$0	$127,520	$121,068	$248,588
42 Wholesale Trade	$0	$198,978	$404,779	$603,758
44-45 Retail trade	$267,388	$50,134	$938,972	$1,256,494
48-49 Transportation & Warehousing	$0	$268,733	$245,622	$514,355
51 Information	$0	$364,274	$288,291	$652,566
52 Finance & insurance	$0	$678,050	$705,720	$1,383,769
53 Real estate & rental	$0	$2,594,926	$1,898,797	$4,493,723
54 Professional- scientific & tech svcs	$0	$1,592,859	$269,220	$1,862,079
55 Management of companies	$0	$218,724	$77,456	$296,180
56 Administrative & waste services	$0	$538,897	$221,825	$760,722
61 Educational svcs	$0	$1,054	$67,414	$68,468
62 Health & social services	$0	$66	$1,719,432	$1,719,499
71 Arts- entertainment & recreation	$14,681,622	$278,800	$166,754	$15,127,176
72 Accommodation & food services	$3,286,347	$130,732	$590,844	$4,007,923
81 Other services	$0	$179,635	$408,990	$588,624
92 Government & non NAICs	$0	$80,663	$91,088	$171,751
TOTAL*	**$18,235,357**	**$7,570,514**	**$8,447,174**	**$34,253,046**

Source: IMPLAN, GMA

**Totals may not sum correctly due to IMPLAN rounding*

TOTAL JOBS (FULL-TIME EQUIVALENT)

The following table summarizes the net total FTE employment growth that could be generated as a result of the operation of the Project in Alternative B. As the Project would have the same size/scope and similar revenue generation, GMA projects direct FTE employment to equate to 225 jobs primarily in the entertainment, hospitality, and food & beverage industries. An additional 62 jobs are projected to be generated through indirect impacts and 66 jobs through induced impacts. In total, the operation of the Project in Alternative B is projected to generate 353 jobs.

Alternative B: Total Annual Employment from Operations				
	Direct	Indirect	Induced	TOTAL*
11 Ag, Forestry, Fish & Hunting	0	0	0	0
21 Mining	0	0	0	0
22 Utilities	0	0	0	0
23 Construction	0	1	1	2
31-33 Manufacturing	0	1	0	1
42 Wholesale Trade	0	1	3	4
44-45 Retail trade	4	1	11	15
48-49 Transportation & Warehousing	0	1	1	3
51 Information	0	1	1	2
52 Finance & insurance	0	3	3	7
53 Real estate & rental	0	16	4	20
54 Professional- scientific & tech svcs	0	14	3	17
55 Management of companies	0	1	0	1
56 Administrative & waste services	0	8	3	11
61 Educational svcs	0	0	1	2
62 Health & social services	0	0	14	14
71 Arts- entertainment & recreation	157	7	2	166
72 Accommodation & food services	64	2	9	75
81 Other services	0	3	7	10
92 Government & non NAICs	0	0	0	1
TOTAL*	**225**	**62**	**66**	**353**

Source: IMPLAN, GMA
**Totals may not sum correctly due to IMPLAN rounding*

As evident from the table above, there are approximately 128 jobs that will be created outside of the casino through indirect and induced spending. Based on the IMPLAN results, the major industries indirectly impacted are expected to be professional services related to scientific and technology fields, real estate related businesses, administrative and waste services, health and social services, and retail trade.

TOTAL LABOR INCOME

The total new labor income that could be generated annually as a result of the Project's operations in Alternative B is summarized in the following table. As a direct result of operations, $8.9 million in net annual labor income growth is projected to accrue to Jackson County residents. Net indirect wages in other sectors are projected to total $2.3 million, while incremental regional consumption attributable to these direct and indirect earnings are projected to create an induced impact of $2.9 million. As a result, the Project in Alternative B could sustain growth in total regional labor income of $14.1 million.

Alternative B: Total Annual Labor Income from Operations				
	Direct	Indirect	Induced	TOTAL*
11 Ag, Forestry, Fish & Hunting	$0	$949	$6,890	$7,839
21 Mining	$0	$583	$844	$1,427
22 Utilities	$0	$20,979	$20,872	$41,851
23 Construction	$0	$58,252	$43,153	$101,406
31-33 Manufacturing	$0	$27,413	$17,936	$45,349
42 Wholesale Trade	$0	$44,195	$89,905	$134,100
44-45 Retail trade	$136,258	$24,660	$427,144	$588,062
48-49 Transportation & Warehousing	$0	$92,375	$88,417	$180,792
51 Information	$0	$85,611	$50,594	$136,205
52 Finance & insurance	$0	$223,037	$160,144	$383,181
53 Real estate & rental	$0	$355,278	$115,464	$470,742
54 Professional- scientific & tech svcs	$0	$705,718	$128,123	$833,841
55 Management of companies	$0	$95,519	$33,826	$129,345
56 Administrative & waste services	$0	$277,502	$112,512	$390,014
61 Educational svcs	$0	$630	$46,681	$47,311
62 Health & social services	$0	$39	$967,988	$968,027
71 Arts- entertainment & recreation	$6,351,203	$93,030	$46,483	$6,490,716
72 Accommodation & food services	$2,426,630	$59,381	$230,656	$2,716,667
81 Other services	$0	$102,603	$270,251	$372,854
92 Government & non NAICs	$0	$39,006	$37,105	$76,111
TOTAL*	**$8,914,091**	**$2,306,761**	**$2,894,987**	**$14,115,839**

Source: IMPLAN, GMA

**Totals may not sum correctly due to IMPLAN rounding*

FISCAL IMPACT

There will be fiscal impacts resulting from the construction and operation of the gaming facility at the local, county, state, and federal levels from a variety of taxes. At the state and local level, adjustments were made to sale taxes, property taxes, and State/Local non-taxes by the ratio of indirect and induced output to total output to reflect the likely exemption status of direct spending occurring at the facility. In some cases, there may be tax exemptions due to purchases by Coquille. The IMPLAN model creates a projection of total taxes, such that these discounts are not reflected in the resulting tables. The state and local tax during the construction phase is projected at $1.1 million, the majority of which would be taxes on construction materials and property taxes. An additional $2.0 million would be paid in federal taxes. The following tables detail tax revenues during the construction phase for Alternative B.

Alternative B: State and Local Tax Revenue During Construction Phase						
	Employee Compensation	Proprietor Income	Production & Imports	Households	Corporations	TOTAL*
Dividends	$0	$0	$0	$0	$2,779	$2,779
Social Ins Tax- Employee Contribution	$9,186	$0	$0	$0	$0	$9,186
Social Ins Tax- Employer Contribution	$18,379	$0	$0	$0	$0	$18,379
Tax on Production and Imports: Sales Tax	$0	$0	$223,590	$0	$0	$223,590
Tax on Production and Imports: Property Tax	$0	$0	$377,530	$0	$0	$377,530
Tax on Production and Imports: Motor Vehicle Lic	$0	$0	$15,313	$0	$0	$15,313
Tax on Production and Imports: Severance Tax	$0	$0	$1,077	$0	$0	$1,077
Tax on Production and Imports: Other Taxes	$0	$0	$62,799	$0	$0	$62,799
Tax on Production and Imports: S/L NonTaxes	$0	$0	$2,612	$0	$0	$2,612
Corporate Profits Tax	$0	$0	$0	$0	$16,508	$16,508
Personal Tax: Income Tax	$0	$0	$0	$321,266	$0	$321,266
Personal Tax: NonTaxes (Fines- Fees)	$0	$0	$0	$36,651	$0	$36,651
Personal Tax: Motor Vehicle License	$0	$0	$0	$13,900	$0	$13,900
Personal Tax: Property Taxes	$0	$0	$0	$3,506	$0	$3,506
Personal Tax: Other Tax (Fish/Hunt)	$0	$0	$0	$7,348	$0	$7,348
Total State and Local Tax*	**$27,565**	**$0**	**$682,921**	**$382,671**	**$19,287**	**$1,112,444**

Source: IMPLAN, GMA

**Totals may not sum correctly due to IMPLAN rounding*

Alternative B: Federal Tax Revenue During Construction Phase						
	Employee Compensation	Proprietor Income	Production & Imports	Households	Corporations	TOTAL*
Social Ins Tax- Employee Contribution	$565,873	$76,575	$0	$0	$0	$642,448
Social Ins Tax- Employer Contribution	$536,824	$0	$0	$0	$0	$536,824
Tax on Production and Imports: Excise Taxes	$0	$0	$58,461	$0	$0	$58,461
Tax on Production and Imports: Custom Duty	$0	$0	$24,246	$0	$0	$24,246
Tax on Production and Imports: Fed NonTaxes	$0	$0	$3,794	$0	$0	$3,794
Corporate Profits Tax	$0	$0	$0	$0	$97,200	$97,200
Personal Tax: Income Tax	$0	$0	$0	$669,640	$0	$669,640
Total Federal Tax*	**$1,102,697**	**$76,575**	**$86,501**	**$669,640**	**$97,200**	**$2,032,613**

Source: IMPLAN, GMA

**Totals may not sum correctly due to IMPLAN rounding*

Annually during the operations phase, $1.3 million in state and local taxes and $3.2 million in federal taxes resulting from direct, indirect, and induced spending are projected. At the state and local level, adjustments were made to sale taxes, property taxes, and State/Local non-taxes by the ratio of indirect and induced output to total output to reflect the likely exemption status of direct spending occurring at the facility. It is important to note that as the Coquille Tribe is a sovereign nation, they are afforded certain tax benefits. However, a portion of these benefits are often offset by a Memorandum of Understanding signed with the host community. As such, the actual tax benefits will likely vary from those presented in the following tables addressing tax revenues during the operations phase for Alternative B.

Alternative B: State and Local Tax Revenue During Operations Phase						
	Employee Compensation	Proprietor Income	Production & Imports	Households	Corporations	TOTAL*
Dividends	$0	$0	$0	$0	$6,001	$6,001
Social Ins Tax- Employee Contribution	$14,633	$0	$0	$0	$0	$14,633
Social Ins Tax- Employer Contribution	$29,277	$0	$0	$0	$0	$29,277
Tax on Production and Imports: Sales Tax*	$0	$0	$217,603	$0	$0	$217,603
Tax on Production and Imports: Property Tax*	$0	$0	$367,422	$0	$0	$367,422
Tax on Production and Imports: Motor Vehicle Lic	$0	$0	$31,869	$0	$0	$31,869
Tax on Production and Imports: Severance Tax	$0	$0	$2,240	$0	$0	$2,240
Tax on Production and Imports: Other Taxes*	$0	$0	$61,117	$0	$0	$61,117
Tax on Production and Imports: S/L NonTaxes*	$0	$0	$2,542	$0	$0	$2,542
Corporate Profits Tax	$0	$0	$0	$0	$35,639	$35,639
Personal Tax: Income Tax	$0	$0	$0	$483,921	$0	$483,921
Personal Tax: NonTaxes (Fines- Fees)	$0	$0	$0	$55,208	$0	$55,208
Personal Tax: Motor Vehicle License	$0	$0	$0	$20,938	$0	$20,938
Personal Tax: Property Taxes*	$0	$0	$0	$2,470	$0	$2,470
Personal Tax: Other Tax (Fish/Hunt)*	$0	$0	$0	$5,176	$0	$5,176
Total State and Local Tax**	**$43,910**	**$0**	**$682,793**	**$567,713**	**$41,640**	**$1,336,056**

Source: IMPLAN, GMA
**Adjusted by the ratio of indirect and induced output to total output in order to reflect the exemption status of direct spending occurring at the facility*
***Totals may not sum correctly due to IMPLAN rounding*

Alternative B: Federal Tax Revenue During Operations Phase						
	Employee Compensation	Proprietor Income	Production & Imports	Households	Corporations	TOTAL*
Social Ins Tax- Employee Contribution	$901,450	$92,250	$0	$0	$0	$993,700
Social Ins Tax- Employer Contribution	$855,174	$0	$0	$0	$0	$855,174
Tax on Production and Imports: Excise Taxes	$0	$0	$121,669	$0	$0	$121,669
Tax on Production and Imports: Custom Duty	$0	$0	$50,460	$0	$0	$50,460
Tax on Production and Imports: Fed NonTaxes	$0	$0	$7,897	$0	$0	$7,897
Corporate Profits Tax	$0	$0	$0	$0	$209,848	$209,848
Personal Tax: Income Tax	$0	$0	$0	$1,008,675	$0	$1,008,675
Total Federal Tax*	**$1,756,624**	**$92,250**	**$180,026**	**$1,008,675**	**$209,848**	**$3,247,423**

Source: IMPLAN, GMA
***Totals may not sum correctly due to IMPLAN rounding*

ALTERNATIVE C: EXPANDED MILL CASINO

This scenario addresses the economic impact associated with the expansion of The Mill Casino located in North Bend, OR. As such, this economic impact was measured for the defined subject region of Coos County. The expansion is proposed to offer 650 electronic gaming machines, a new quick-serve dining outlet, and a bar.

CONSTRUCTION IMPACTS

As discussed in the previous alternatives, construction employment and spending is only temporary, but it can have substantial impacts on the economy. The following analysis details the expansion's construction budget and resulting spending, jobs, and earnings impacts of the expansion in Alternative C.

CONSTRUCTION BUDGET

The scope of Alternative C involves an expansion of the existing facility in North Bend, OR. Based on industry metrics, it is estimated that this expansion's total cost would approximate $28.5 million. Of this, GMA estimates that $11.9 million would be spent regionally, with the balance of $16.6 million being imported FF&E, non-local professional fees or financing costs.

TOTAL OUTPUT

The direct impact from construction related activities and local procurement of FF&E and OS&E is estimated at $11.9 million. The indirect outputs resulting from development are estimated at $1.4 million. The induced output is estimated at $2.7 million. Overall, GMA projects that a total of approximately $16.0 million in economic output would be generated within the Coos County region during the construction phase of Alternative C, in 2021 dollars. The following table summarizes the benefits for the Coos County region.

Alternative C: Total Output from Construction

	Direct	Indirect	Induced	TOTAL*
11 Ag, Forestry, Fish & Hunting	$0	$10,384	$6,541	$16,925
21 Mining	$0	$3,709	$1,308	$5,017
22 Utilities	$0	$31,309	$43,329	$74,638
23 Construction	$10,675,000	$11,858	$30,650	$10,717,507
31-33 Manufacturing	$0	$98,550	$6,725	$105,275
42 Wholesale Trade	$0	$212,831	$61,523	$274,354
44-45 Retail trade	$0	$45,044	$385,206	$430,250
48-49 Transportation & Warehousing	$0	$213,955	$72,844	$286,799
51 Information	$0	$40,882	$62,478	$103,359
52 Finance & insurance	$0	$82,858	$206,908	$289,766
53 Real estate & rental	$0	$196,068	$705,284	$901,352
54 Professional- scientific & tech svcs	$0	$185,181	$69,015	$254,196
55 Management of companies	$0	$27,609	$12,037	$39,646
56 Administrative & waste services	$0	$76,078	$67,794	$143,872
61 Educational svcs	$0	$24	$15,216	$15,240
62 Health & social services	$0	$5	$405,439	$405,444
71 Arts- entertainment & recreation	$616,155	$10,543	$38,219	$664,917
72 Accommodation & food services	$616,155	$28,019	$196,989	$841,163
81 Other services	$0	$45,304	$141,721	$187,025
92 Government & non NAICs	$0	$80,211	$153,192	$233,403
Total	**$11,907,310**	**$1,400,423**	**$2,682,417**	**$15,990,149**

Source: IMPLAN, GMA
**Totals may not sum correctly due to IMPLAN rounding*

TOTAL JOBS (MAN-YEARS)

The following table summarizes the number of man-years of employment that could be generated as a result of development of the expansion in Alternative C. The direct impact of construction is expected to generate 99 man-years of employment. An additional 10 man-years of employment are projected to be generated through indirect impacts, and 22 man-years through induced impacts. In total, the construction phase is projected to create 131 man-years of employment.

Alternative C: Total Employment from Construction				
	Direct	Indirect	Induced	TOTAL*
11 Ag, Forestry, Fish & Hunting	0	0	0	0
21 Mining	0	0	0	0
22 Utilities	0	0	0	0
23 Construction	82	0	0	83
31-33 Manufacturing	0	0	0	0
42 Wholesale Trade	0	1	0	2
44-45 Retail trade	0	1	5	6
48-49 Transportation & Warehousing	0	1	1	2
51 Information	0	0	0	0
52 Finance & insurance	0	0	1	1
53 Real estate & rental	0	1	1	2
54 Professional- scientific & tech svcs	0	2	1	2
55 Management of companies	0	0	0	0
56 Administrative & waste services	0	1	1	2
61 Educational svcs	0	0	0	0
62 Health & social services	0	0	4	4
71 Arts- entertainment & recreation	4	0	1	5
72 Accommodation & food services	13	0	3	16
81 Other services	0	0	3	3
92 Government & non NAICs	0	0	1	1
Total	**99**	**10**	**22**	**131**

Source: IMPLAN, GMA
**Totals may not sum correctly due to IMPLAN rounding*

As was the case in Alternative A and Alternative B, as a result of the indirect and induced expenditures, the jobs created during the construction process will be in a variety of industries, naturally led by construction-related employment. The Project is expected to impact the administrative and waste services industry, the accommodation and food services industry, and several other industry segments.

TOTAL LABOR INCOME

The total labor income that will be generated during the construction phase in Alternative C is summarized in the following table. As a result of the creation of the direct jobs, $4.9 million in labor income is projected to accrue to Coos County residents. Indirect wages in other sectors are

projected to total $0.5 million. Incremental regional consumption attributable to these earnings is projected to create an induced impact of $0.9 million in regional earnings. Combined, the Project is expected to generate total regional labor income growth of $6.3 million in Alternative C.

Alternative C: Total Labor Income from Construction				
	Direct	Indirect	Induced	TOTAL*
11 Ag, Forestry, Fish & Hunting	$0	$6,100	$4,228	$10,329
21 Mining	$0	$811	$268	$1,079
22 Utilities	$0	$3,462	$4,853	$8,314
23 Construction	$4,512,782	$4,460	$11,183	$4,528,426
31-33 Manufacturing	$0	$18,628	$1,223	$19,851
42 Wholesale Trade	$0	$57,654	$16,666	$74,320
44-45 Retail trade	$0	$20,863	$165,639	$186,502
48-49 Transportation & Warehousing	$0	$82,999	$27,044	$110,043
51 Information	$0	$7,121	$10,613	$17,735
52 Finance & insurance	$0	$22,393	$46,771	$69,164
53 Real estate & rental	$0	$43,531	$28,489	$72,020
54 Professional- scientific & tech svcs	$0	$88,058	$32,464	$120,523
55 Management of companies	$0	$8,740	$3,810	$12,550
56 Administrative & waste services	$0	$36,774	$32,316	$69,091
61 Educational svcs	$0	$11	$10,880	$10,891
62 Health & social services	$0	$3	$252,962	$252,965
71 Arts- entertainment & recreation	$135,017	$2,513	$9,948	$147,479
72 Accommodation & food services	$299,808	$11,364	$75,275	$386,446
81 Other services	$0	$24,936	$97,671	$122,608
92 Government & non NAICs	$0	$22,677	$35,090	$57,766
Total	**$4,947,607**	**$463,098**	**$867,395**	**$6,278,100**

Source: IMPLAN, GMA
**Totals may not sum correctly due to IMPLAN rounding*

OPERATIONAL IMPACTS

Based on 2023 incremental visitation and demand projections for Alternative C, GMA estimated the economic impacts from ongoing operations (2023 projections represent the assumed first full year of stabilized operations). This analysis took into consideration potential substitution effects in Coos County with respect to casino visitation, as some of the visitation may come at the expense of existing video lottery terminal operations in the area and existing casinos in the county, including Three Rivers Coos Bay. GMA does not anticipate net substitution effects with respect to retail or F&B, as there will likely be some spillover benefits from gamers and gaming facility workers patronizing local businesses, resulting in revenue growth for each of those venues.

In 2023, GMA expects the Project to generate approximately $7.2 million in incremental gross facility revenues, not including gratuities or taxes. GMA also estimated the incremental increase

to annual patronage attributable to an expanded Mill Casino. GMA estimates that approximately 92,000 more patrons per year would visit the Mill Casino. Given the location of the Mill Casino, patronage is expected to be more distributed among several different market segments including Primary, Coastal North, Eugene, Central, Medford, Coastal South, and from outside the defined market area (a market segment map and description of these defined market segments can be found in the Substitution Effect Analysis chapter of this report). Additionally, GMA considered the amount of ancillary revenue the expansion could expect to generate inside and outside of the casino. This portion of the analysis also evaluated the Project's potential impact on hotel expenditure, food & beverage expenditure, retail expenditure and gas/local transport expenditure in the subject region. To forecast revenues for these items, the Consulting Team evaluated projected incremental gross revenue and visitation levels at the facility and their potential impact on the subject region's generation of the aforementioned expenditure items.

GMA evaluated the prepared ProForma income statements for the casino, which estimated total salaries, employment, and other expenses. A portion of these incomes, along with the other development expenditures made possible by the casino resort revenues, and other direct spending by out of region customers constitute the gross direct impacts of operations. This section of the report outlines the total output, jobs, labor income, and fiscal impact of Alternative C operations, as calculated using the IMPLAN model.

TOTAL OUTPUT

The direct impact from the Alternative C incremental gaming and ancillary amenity operation is estimated at $5.5 million. The net indirect outputs resulting from operation are estimated at $1.4 million. Increased consumption attributable to the direct and indirect outputs is projected to induce $1.3 million of output. Overall, GMA projects that approximately $8.2 million in economic output would be generated in the Coos County region annually if the expanded facility in Alternative C is operational, in 2023 dollars. The following table summarizes these benefits.

Alternative C: Total Annual Output from Operations				
	Direct	Indirect	Induced	TOTAL*
11 Ag, Forestry, Fish & Hunting	$0	$4,171	$3,116	$7,287
21 Mining	$0	$545	$639	$1,183
22 Utilities	$0	$31,539	$20,504	$52,043
23 Construction	$0	$22,045	$14,677	$36,722
31-33 Manufacturing	$0	$11,548	$3,175	$14,723
42 Wholesale Trade	$0	$21,193	$28,930	$50,123
44-45 Retail trade	$80,347	$12,619	$180,803	$273,769
48-49 Transportation & Warehousing	$0	$41,838	$34,423	$76,262
51 Information	$0	$50,606	$29,386	$79,992
52 Finance & insurance	$0	$102,616	$97,711	$200,327
53 Real estate & rental	$0	$421,059	$333,679	$754,738
54 Professional- scientific & tech svcs	$0	$309,352	$32,864	$342,216
55 Management of companies	$0	$36,297	$5,676	$41,973
56 Administrative & waste services	$0	$107,827	$31,965	$139,793
61 Educational svcs	$0	$26	$7,204	$7,230
62 Health & social services	$0	$7	$191,985	$191,992
71 Arts- entertainment & recreation	$4,112,136	$44,251	$18,091	$4,174,478
72 Accommodation & food services	$1,338,451	$33,336	$93,468	$1,465,255
81 Other services	$0	$40,030	$67,511	$107,541
92 Government & non NAICs	$0	$136,629	$73,407	$210,036
TOTAL*	**$5,530,934**	**$1,427,536**	**$1,269,214**	**$8,227,684**

Source: IMPLAN, GMA

**Totals may not sum correctly due to IMPLAN rounding*

TOTAL JOBS (FULL-TIME EQUIVALENT)

The following table summarizes the net total FTE employment growth that could be generated as a result of the operation of the expanded operations in Alternative C. Based on current staffing levels and the cost of labor in the region, GMA estimated the additional staffing the expansion would likely require. GMA projects the expansion's direct FTE employment to equate to 65 jobs primarily in the entertainment, hospitality, and food & beverage industries. An additional 12 jobs are projected to be generated through indirect impacts and 10 jobs through induced impacts. In total, the operation of the Project in Alternative C is projected to generate 88 additional jobs.

Alternative C: Total Annual Employment from Operations				
	Direct	Indirect	Induced	TOTAL*
11 Ag, Forestry, Fish & Hunting	0	0	0	0
21 Mining	0	0	0	0
22 Utilities	0	0	0	0
23 Construction	0	0	0	0
31-33 Manufacturing	0	0	0	0
42 Wholesale Trade	0	0	0	0
44-45 Retail trade	1	0	2	4
48-49 Transportation & Warehousing	0	0	0	1
51 Information	0	0	0	0
52 Finance & insurance	0	1	0	1
53 Real estate & rental	0	3	1	3
54 Professional- scientific & tech svcs	0	3	0	3
55 Management of companies	0	0	0	0
56 Administrative & waste services	0	2	0	2
61 Educational svcs	0	0	0	0
62 Health & social services	0	0	2	2
71 Arts- entertainment & recreation	37	2	0	39
72 Accommodation & food services	27	0	1	29
81 Other services	0	1	1	2
92 Government & non NAICs	0	1	0	1
TOTAL*	**65**	**12**	**10**	**88**

Source: IMPLAN, GMA
**Totals may not sum correctly due to IMPLAN rounding*

As evident from the table above, there are approximately 22 jobs that will be created outside of the casino through indirect and induced spending. Based on the IMPLAN results, the major industries indirectly impacted are expected to be professional services related to scientific and technology fields, real estate related businesses, administrative and waste services, health and social services, and retail trade.

TOTAL LABOR INCOME

The total new labor income that could be generated annually as a result of the Project's operations in Alternative C is summarized in the following table. GMA created these ProForma forecasts and staffing models based on the existing facility's operational performance and characteristics. As a direct result of operations, $2.2 million in net annual labor income growth is projected to accrue to Coos County residents. Net indirect wages in other sectors are projected to total $0.4 million, while incremental regional consumption attributable to these direct and indirect earnings are projected to create an induced impact of $0.4 million. As a result, the Project in Alternative C could sustain growth in total regional labor income of $3.0 million.

Alternative C: Total Annual Labor Income from Operations				
	Direct	Indirect	Induced	TOTAL*
11 Ag, Forestry, Fish & Hunting	$0	$2,513	$2,011	$4,524
21 Mining	$0	$83	$127	$210
22 Utilities	$0	$3,537	$2,315	$5,852
23 Construction	$0	$8,189	$5,308	$13,496
31-33 Manufacturing	$0	$2,154	$580	$2,734
42 Wholesale Trade	$0	$5,796	$7,912	$13,709
44-45 Retail trade	$39,406	$5,934	$78,577	$123,917
48-49 Transportation & Warehousing	$0	$15,804	$12,812	$28,615
51 Information	$0	$9,122	$5,053	$14,175
52 Finance & insurance	$0	$28,169	$22,256	$50,425
53 Real estate & rental	$0	$52,303	$13,582	$65,885
54 Professional- scientific & tech svcs	$0	$134,347	$15,380	$149,727
55 Management of companies	$0	$11,565	$1,808	$13,374
56 Administrative & waste services	$0	$52,846	$15,329	$68,176
61 Educational svcs	$0	$12	$5,070	$5,081
62 Health & social services	$0	$4	$119,994	$119,998
71 Arts- entertainment & recreation	$1,473,945	$10,351	$4,711	$1,489,007
72 Accommodation & food services	$645,129	$13,575	$35,694	$694,398
81 Other services	$0	$23,430	$46,446	$69,876
92 Government & non NAICs	$0	$34,262	$16,716	$50,979
TOTAL*	**$2,158,480**	**$413,997**	**$411,683**	**$2,984,161**

Source: IMPLAN, GMA

**Totals may not sum correctly due to IMPLAN rounding*

FISCAL IMPACT

There will be fiscal impacts resulting from the construction and operation of the expanded portion of gaming facility at the local, county, state, and federal levels from a variety of taxes. In some cases, there may be tax exemptions due to purchases by Coquille. The IMPLAN model creates a projection of total taxes, such that these discounts are not reflected in the resulting tables. The state and local tax during the construction phase is projected at $0.6 million, the majority of which would be taxes on construction materials and property taxes. An additional $1.3 million would be paid in federal taxes. The following tables detail tax revenues during the construction phase for Alternative C.

Alternative C: State and Local Tax Revenue During Construction Phase						
	Employee Compensation	Proprietor Income	Production & Imports	Households	Corporations	TOTAL*
Dividends	$0	$0	$0	$0	$1,805	$1,805
Social Ins Tax- Employee Contribution	$6,169	$0	$0	$0	$0	$6,169
Social Ins Tax- Employer Contribution	$12,343	$0	$0	$0	$0	$12,343
Tax on Production and Imports: Sales Tax	$0	$0	$81,891	$0	$0	$81,891
Tax on Production and Imports: Property Tax	$0	$0	$232,357	$0	$0	$232,357
Tax on Production and Imports: Motor Vehicle Lic	$0	$0	$8,646	$0	$0	$8,646
Tax on Production and Imports: Severance Tax	$0	$0	$604	$0	$0	$604
Tax on Production and Imports: Other Taxes	$0	$0	$36,985	$0	$0	$36,985
Tax on Production and Imports: S/L NonTaxes	$0	$0	$1,575	$0	$0	$1,575
Corporate Profits Tax	$0	$0	$0	$0	$10,936	$10,936
Personal Tax: Income Tax	$0	$0	$0	$211,398	$0	$211,398
Personal Tax: NonTaxes (Fines- Fees	$0	$0	$0	$17,968	$0	$17,968
Personal Tax: Motor Vehicle License	$0	$0	$0	$9,280	$0	$9,280
Personal Tax: Property Taxes	$0	$0	$0	$2,547	$0	$2,547
Personal Tax: Other Tax (Fish/Hunt)	$0	$0	$0	$4,841	$0	$4,841
Total State and Local Tax	**$18,512**	**$0**	**$362,058**	**$246,034**	**$12,741**	**$639,345**
Source: IMPLAN, GMA						
**Totals may not sum correctly due to IMPLAN rounding*						

Alternative C: Federal Tax Revenue During Construction Phase						
	Employee Compensation	Proprietor Income	Production & Imports	Households	Corporations	TOTAL*
Social Ins Tax- Employee Contribution	$389,514	$52,382	$0	$0	$0	$441,896
Social Ins Tax- Employer Contribution	$369,518	$0	$0	$0	$0	$369,518
Tax on Production and Imports: Excise Taxes	$0	$0	$20,598	$0	$0	$20,598
Tax on Production and Imports: Custom Duty	$0	$0	$8,543	$0	$0	$8,543
Tax on Production and Imports: Fed NonTaxes	$0	$0	$1,337	$0	$0	$1,337
Corporate Profits Tax	$0	$0	$0	$0	$64,394	$64,394
Personal Tax: Income Tax	$0	$0	$0	$440,497	$0	$440,497
Total Federal Tax	**$759,032**	**$52,382**	**$30,478**	**$440,497**	**$64,394**	**$1,346,783**
Source: IMPLAN, GMA						
**Totals may not sum correctly due to IMPLAN rounding*						

Annually during the operations phase, $0.2 million in state and local taxes and $0.7 million in federal taxes resulting from direct, indirect, and induced spending are projected. At the state and local level, adjustments were made to sale taxes, property taxes, and State/Local non-taxes by the ratio of indirect and induced output to total output to reflect the likely exemption status of direct spending occurring at the facility. It is important to note that as the Coquille Tribe is a sovereign nation, they are afforded certain tax benefits. However, a portion of these benefits are often offset by a Memorandum of Understanding signed with the host community. As such, the actual tax benefits will likely vary from those presented in the following tables addressing tax revenues during the operations phase for Alternative C.

Alternative C: State and Local Tax Revenue During Operations Phase						
	Employee Compensation	Proprietor Income	Production & Imports	Households	Corporations	TOTAL*
Dividends	$0	$0	$0	$0	$1,678	$1,678
Social Ins Tax- Employee Contribution	$3,232	$0	$0	$0	$0	$3,232
Social Ins Tax- Employer Contribution	$6,465	$0	$0	$0	$0	$6,465
Tax on Production and Imports: Sales Tax*	$0	$0	$22,931	$0	$0	$22,931
Tax on Production and Imports: Property Tax*	$0	$0	$65,064	$0	$0	$65,064
Tax on Production and Imports: Motor Vehicle Lic	$0	$0	$7,387	$0	$0	$7,387
Tax on Production and Imports: Severance Tax	$0	$0	$516	$0	$0	$516
Tax on Production and Imports: Other Taxes*	$0	$0	$10,356	$0	$0	$10,356
Tax on Production and Imports: S/L NonTaxes*	$0	$0	$441	$0	$0	$441
Corporate Profits Tax	$0	$0	$0	$0	$10,166	$10,166
Personal Tax: Income Tax	$0	$0	$0	$99,402	$0	$99,402
Personal Tax: NonTaxes (Fines- Fees)	$0	$0	$0	$8,449	$0	$8,449
Personal Tax: Motor Vehicle License	$0	$0	$0	$4,364	$0	$4,364
Personal Tax: Property Taxes*	$0	$0	$0	$393	$0	$393
Personal Tax: Other Tax (Fish/Hunt)*	$0	$0	$0	$746	$0	$746
Total State and Local Tax**	**$9,697**	**$0**	**$106,696**	**$113,354**	**$11,844**	**$241,590**

Source: IMPLAN, GMA
**Adjusted by the ratio of indirect and induced output to total output in order to reflect the exemption status of direct spending occurring at the facility*
***Totals may not sum correctly due to IMPLAN rounding*

Alternative C: Federal Tax Revenue During Operations Phase						
	Employee Compensation	Proprietor Income	Production & Imports	Households	Corporations	TOTAL*
Social Ins Tax- Employee Contribution	$204,043	$15,040	$0	$0	$0	$219,083
Social Ins Tax- Employer Contribution	$193,568	$0	$0	$0	$0	$193,568
Tax on Production and Imports: Excise Taxes	$0	$0	$17,598	$0	$0	$17,598
Tax on Production and Imports: Custom Duty	$0	$0	$7,298	$0	$0	$7,298
Tax on Production and Imports: Fed NonTaxes	$0	$0	$1,142	$0	$0	$1,142
Corporate Profits Tax	$0	$0	$0	$0	$59,861	$59,861
Personal Tax: Income Tax	$0	$0	$0	$207,128	$0	$207,128
Total Federal Tax*	**$397,611**	**$15,040**	**$26,038**	**$207,128**	**$59,861**	**$705,678**

Source: IMPLAN, GMA
***Totals may not sum correctly due to IMPLAN rounding*

COMMUNITY EFFECTS

EMPLOYMENT

In each alternative, the construction and operation of the subject facility will have a positive impact on local employment (thereby reducing the unemployment level). As the incremental number of people employed represents a comparatively small percentage of the unemployed within each county, there is ample availability of people currently residing in each subject area to fulfill the available positions. Furthermore, as approximately 95% of the new jobs in Alternative A and Alternative B will not require the subject employee to have a specific skill set prior to being hired, a large influx of new residents to the host county and/or workforce is not expected to occur due to the construction of the facility. For Alternative C, as there is already an operating entity, all of the incremental employment needed could easily be filled by the local workforce.

HOUSING AND SCHOOLS

As the size of the economic activity of the development in each alternative represents only a small percentage of the respective host county's economy, the subject developments would be expected to have, at best, a nominal impact on the housing market. This is attributable to two primary factors. For a housing market to experience changes, a change in population must occur, and/or existing residents need to have large increases or decreases in wages. These factors generally result in residents seeking improved housing options or a forced downsize. As the subject developments do not require a large influx of residents to fulfill positions, and as the new positions will only have a small impact on the amount of unemployed, the housing market will not experience a large increase in home values or demand for new homes. Given the very small increase of new residents expected under Alternatives A and B, there would be only a nominal impact on the school system.

POLICE, FIRE, AND EMS

Local emergency services include police, fire, and emergency medical services ("EMS"). The local emergency services community can expect a small increase in the number of incidents due to the opening of the casino (or expanded casino) in each scenario. These increases, while not substantial, are comparable to those that would be experienced with the opening of any commercial enterprise of similar scope. Given the size of this facility in comparison to the local community, it is unlikely that additional staffing would be required by outside services, particularly in the area of fire and EMS. However, to fully understand the potential impact on emergency services, a more detailed study would need to be completed.

ALTERNATIVE A: CITY OF MEDFORD, AND ALTERNATIVE B: CITY OF PHOENIX IMPACTS

To estimate the economic impacts for the City of Medford under Alternative A and the City of Phoenix under Alternative B, GMA utilized population data to distribute the likely impacts throughout Jackson County in the subject year. The City of Medford contains roughly 42.6% of the resident population in all of Jackson County. In 2023, the City of Phoenix is projected to account for approximately 2.5% of the total population in Jackson County. The following table details the total population by each respective city in Jackson County for the subject year.

Projected Jackson County, OR Total Population		
	2023	% Total
Medford	97,157	42.6%
Central Point	31,799	13.9%
Ashland	26,908	11.8%
Eagle Point	17,180	7.5%
White City	12,431	5.5%
Talent	9,314	4.1%
Jacksonville	7,684	3.4%
Rogue River	7,017	3.1%
Phoenix	5,719	2.5%
Gold Hill	5,347	2.3%
Shady Cove	3,992	1.8%
Trail	1,719	0.8%
Prospect	1,215	0.5%
Butte Falls	555	0.2%
TOTAL	**228,035**	**100.0%**

Source: GMA/PCensus

CONSTRUCTION AND OPERATIONAL IMPACTS

GMA adjusted the impacts for Jackson County as a whole by the proportional amount of population for each subject city. Labor income and employment were distributed proportionally by 42.6% and 2.5% for Medford and Phoenix, respectively. GMA allocated these impacts accordingly as Jackson County residents seeking construction and full-time employment are likely to make the reasonable commute to the project site under each alternative. Impacts will be realized throughout the county as commuters will spend wages earned and patronize the local businesses in their respective cities. For output in Alternative A, GMA increased the proportional amount for Medford by 20.0% and applied an effective rate of 51.1% to the overall Jackson County output impact. This premium allocation was assumed as the City of Medford is the county seat and serves as the commercial and business center in Jackson County. Under Alternative B, the output was increased slightly by 10.0% (2.8% effective rate applied) as the City of Phoenix is the host city.

The following tables summarize the economic impacts for the construction phase and operational phase for Alternative A and Alternative B. Total output is estimated at $11.4 million in the City of Medford, or 51.1% of the total output for Jackson County during construction in Alternative A. Labor income and employment were estimated at 42.6% of the total impacts for Jackson County, or $3.6 million and 78 jobs, respectively. The City of Phoenix is expected to garner $0.7 million in output, over $0.2 million in labor income, and five jobs during the construction phase under Alternative B.

The City of Medford is expected to produce $17.9 million in output during the operations phase in Alternative A or 51.1% of the total Jackson County output. The project is also expected to employ 153 workers from the City of Medford, earning a total of $6.1 million in labor income. In Alternative B, the project is expected to generate output of over $0.9 million in the City of Phoenix while supporting nine full-time positions for Phoenix residents earning a total of $0.4 million.

City of Medford (Alt. A) & City of Phoenix (Alt. B) Contruction Impacts Summary				
	Direct	Indirect	Induced	TOTAL
Alternative A (City of Medford)				
Output	$7,094,182	$1,773,748	$2,562,836	$11,430,766
Labor Income	$2,371,529	$457,508	$729,862	$3,558,898
Employment	51	10	17	78
Alternative B (City of Phoenix)				
Output	$427,238	$107,557	$154,328	$689,122
Labor Income	$155,543	$30,302	$47,946	$233,790
Employment	3	1	1	5

Source: IMPLAN, GMA
**Totals may not sum correctly due to IMPLAN rounding*

City of Medford (Alt. A) & City of Phoenix (Alt. B) Operations Impacts Summary				
	Direct	Indirect	Induced	TOTAL
Alternative A (City of Medford)				
Output	$9,519,746	$3,951,239	$4,400,318	$17,871,303
Labor Income	$3,867,672	$1,003,315	$1,256,717	$6,127,704
Employment	98	27	29	153
Alternative B (City of Phoenix)				
Output	$503,092	$208,862	$233,048	$945,001
Labor Income	$223,572	$57,855	$72,608	$354,036
Employment	6	2	2	9

Source: IMPLAN, GMA
**Totals may not sum correctly due to IMPLAN rounding*

IV. EIS CONCLUSION

The following table illustrates what each of the alternative scenarios would generate in terms of economic impacts once the ripple impacts of indirect and induced spending flow through the region during the construction phase of each alternative. The ranking of Output, Labor, and Earnings mirrors that of the development budgets. The Project is expected to generate the largest level of output, labor income, and employment in the construction phase of Alternative B. The second largest level of output, labor income, and employment is expected to occur in the construction phase of Alternative A.

Construction Impacts Summary				
	Direct	Indirect	Induced	TOTAL
Alternative A				
Output	$13,875,496	$3,469,271	$5,012,645	$22,357,411
Labor Income	$5,566,161	$1,073,806	$1,713,042	$8,353,009
Employment	120	23	40	183
Alternative B				
Output	$15,485,895	$3,898,562	$5,593,843	$24,978,300
Labor Income	$6,201,670	$1,208,166	$1,911,658	$9,321,494
Employment	135	26	45	206
Alternative C				
Output	$11,907,310	$1,400,423	$2,682,417	$15,990,149
Labor Income	$4,947,607	$463,098	$867,395	$6,278,100
Employment	99	10	22	131

Source: IMPLAN, GMA

From an operational standpoint, GMA forecasts that the Project would have very similar net impacts in terms of Output, Jobs, and Household Earnings in Alternative A and Alternative B. GMA expects the Project to have a much smaller net impact on these items in Alternative C. The following table illustrates what each of the three alternative scenarios would generate in terms of output, labor income, and employment during the operational phase.

Operations Impacts Summary				
	Direct	Indirect	Induced	TOTAL
Alternative A				
Output	$18,619,652	$7,728,220	$8,606,572	$34,954,445
Labor Income	$9,077,725	$2,354,858	$2,949,613	$14,382,196
Employment	229	63	68	360
Alternative B				
Output	$18,235,357	$7,570,514	$8,447,174	$34,253,046
Labor Income	$8,914,091	$2,306,761	$2,894,987	$14,115,839
Employment	225	62	66	353
Alternative C				
Output	$5,530,934	$1,427,536	$1,269,214	$8,227,684
Labor Income	$2,158,480	$413,997	$411,683	$2,984,161
Employment	65	12	10	88

Source: IMPLAN, GMA

COMPETITIVE EFFECTS STUDY

I. EXECUTIVE SUMMARY

GMA utilized gravity model methodology to perform the Competitive Effects Study. The model was first calibrated to current market conditions which utilized data from the trailing twelve-month Mill Casino player database activity to calibrate the model with a greater degree of accuracy. GMA then grew the model to the subject year of 2023 by only factoring in expected changes in population and income as wells as anticipated changes within the greater market to establish baseline projections. GMA assumed 2023 or Year 2 of operations in each alternative scenario to be the first full year of stabilized operations. Finally, GMA layered in the development scope for each defined alternative scenario to project gaming revenue for each scenario. The following table illustrates the proposed Project scope in each alternative scenario.

Coquille Alternative Summary Table

Scenario	Description	Slots	Tables	Other
Alternative A	Proposed Site, Medford	650	0	1 Restaurant/Bar
Alternative B	Phoenix Site, Medford	650	0	1 Restaurant/Bar
Alternative C	The Mill Casino, Expansion	650	0	1 Deli/Bar

Source: Coquille, AES

SUMMARY OF FINDINGS: ALTERNATIVE GAMING SCENARIOS

PROJECTED GAMING REVENUE GENERATION

The Project is expected to generate the most incremental gaming revenue in Alternative A, where the Project is projected to generate approximately $44.9 million in total gaming revenue. The Project is expected to generate a similar level of gaming revenue in Alternative B, projected at $43.7 million in 2023. The Project is expected to generate the lowest level of incremental gaming revenue in Alternative C or $5.8 million. The following table further illustrates Project gaming revenue projections for each alternative scenario.

PROJECTED SUBSTITUTION EFFECT ON OTHER TRIBAL CASINOS

Each alternative scenario is expected to have some level of substitution effect on other tribal casinos in the State of Oregon and neighboring states. It is important to note that substitution effects tend to dissipate over time due to natural growth in the market. For the purposes of this evaluation, GMA included the following casinos in performing each scenario, projecting gaming revenues and estimating the resulting substitution effects: Three Rivers Coos Bay, Three Rivers Casino Resort, Chinook Winds Casino Resort, Spirit Mountain Casino, Seven Feathers Casino Resort, Kla-Mo-Ya Casino, Lucky 7 Casino, Elk Valley Casino, Redwood Hotel Casino, Win-River Casino, and Rain Rock Casino. It is also important to note that GMA also considered the expected substitution effect on State of Oregon video lottery terminals, which are prevalent and available throughout the region.

The Project is expected to garner gaming revenue from three sources: new market growth (stemming from the growth of market gaming factors), substitution effect on other regional competitors, and the capture of a portion of the VLT market. For the purposes of the Substitution Effect Analysis, GMA focused its analysis on local market gaming revenue. By projecting the source of the Project's local market gaming revenue in each scenario, GMA was able to estimate the substitution effect on each gaming market participant and quantify the amount of expected new market growth in each scenario.

The largest level of projected new market growth is expected to occur in Alternative A and Alternative B, as these two alternative scenarios are projected to have a very similar impact on regional gaming factors. Alternative C is not expected to generate any new market growth as the immediate market area is already appropriately served by proximate gaming facilities today. The largest level of substitution effect is expected to occur in Alternative A and Alternative B. In these alternative scenarios, the Project is expected to impact other facility local market gaming revenues generated at casinos by $36.0 million and $35.1 million, respectively in 2023.[25] The expansion in Alternative C is not anticipated to grow the market. Specifically, all of the incremental revenue is projected to be at the expense of other gaming facilities, which equates to $4.3 million. The following table summarizes the results of the Substitution Effect Analysis in each alternative scenario.

[25] The Project's expected impact on each relevant tribal entity's total local market gaming revenue generation is detailed later in this report. As the expansion in Alternative C is not anticipated to grow the market, all of the incremental revenue is projected to be at the expense of other gaming facilities.

Projected Substitution Effect Summary, 2023			
	Projected Local Revenue	Substitution Effect	New Market Growth
Alternative A	$ 44,206,923	$ (35,967,012)	$ 8,239,911
Alternative B	$ 43,067,082	$ (35,111,351)	$ 7,955,731
Alternative C	$ 4,305,950	$ (4,305,950)	$ -
Source: GMA, Coquille			

The estimated substitution effect figures summarized above are for 2023, as 2023 was assumed to be the first full year of stabilized operations for the Project in each alternative scenario. The estimated substitution effect illustrated for 2023 is expected to decline in subsequent years, as market growth and patron gaming preferences within the market area stabilize. In estimating revenues, the figures shown for Alternative A and Alternative B represent total facility gaming revenues, whereas Alternative C only illustrates incremental revenue due to the proposed expansion (assumed in Alternative C) to the existing Mill Casino facility.

PROJECTED SUBSTITUTION EFFECT ON VLT REVENUE

Of the new market growth (shown in the previous table), a portion is expected to come at the expense of the VLT markets for Alternatives A and B, as VLTs today are the closest gaming option to the majority of the local population. In preparing this analysis, GMA acquired VLT revenue for each county in Oregon for fiscal year 2017 and fiscal year 2018 to precisely quantify the VLT revenues generated in the local market. Specifically, GMA projects that local VLT revenues in the Medford market segment (as defined later in this report) will experience an approximate 7.7% reduction in both Alternative A and Alternative B. This 7.7% impact on the Medford market VLT revenues represents an estimated $5.8 million in VLT revenues resulting from substitution effects. When evaluating the VLT performance in Oregon from fiscal year 2010 to 2018, VLT revenue has grown at an average of 3.5% per year. Given $934.0 million of VLT revenue in fiscal year 2018, the state could expect VLT lottery revenue to grow by roughly $33.1 million in fiscal year 2019 based on the historical compound annual growth rate. As such, the impact of the Coquille development in Alternatives A and B would equate to approximately 5.6 months of the projected VLT revenue growth. For Alternative C, no impact to VLT revenues is projected as the immediate market currently has two operational casinos.

II. METHODOLOGY

The Consulting Team employed the following methodology to complete this assessment.

REVIEW OF SECONDARY MARKET RESEARCH

GMA initiated this engagement with a review of secondary market research. The Consulting Team estimated the gaming performance for the gaming facilities in close proximity to the Project in each alternative scenario by utilizing information in the public domain as well as its understanding of the market's historical performance. With this information compiled, the Consulting Team was better positioned to understand the trends within the market. In addition, the Consulting Team reviewed the actual operating performance of The Mill Casino to understand revenue levels achieved and the sources of those revenues today.

SITE VISIT

The Consulting Team examined the Project's location in each alternative scenario, proximity to nearby population centers, local road network, and access to regional highways. With an understanding of each site, the Consulting Team then visited each of the primary and secondary competitors in the market area. For each facility, the Consulting Team evaluated the gaming facility's overall appeal, gaming and non-gaming amenities, parking, access to the regional highway network, and proximity to regional population centers.

ANALYSIS

GAMING DEMAND FORECASTING MODEL

To understand the substitution effect of the Project in each alternative scenario, GMA developed a series of gravity models. The gravity model is a business forecasting model based on Newton's Universal Law of Gravitation. Newton's Law of Gravitation simply states that every particle in the universe attracts every other particle with a force that is directly proportional to the product of their masses and inversely proportional to the square of the distance between them. Newton's theory, which was first published in his 1687 work, "Mathematical Principles of Natural Philosophy," started to be adapted for commercial applications early in the 20th century.

Through a number of modifications, Newton's Law of Gravitation can be applied to the gaming industry. While a casino twice the size of another may not have twice the attraction of another, it does have some constant increased factor of attraction. In terms of distance, squaring the distance is not necessarily always the right figure. Typically, the power to which the distance is

taken varies from a factor 1.5 to 2.5. The reason for this is that actual distance between two objects will have a different impact on communities throughout the United States. This is primarily attributed to varying traffic patterns and geographical barriers between different communities, which results in significant changes in drive time. For example, for an individual living in rural Texas, traveling 100 miles to reach a business may not be perceived as a barrier as it would likely take less than 1.5 hours to reach. However, for someone living in the middle of Los Angeles, 100 miles could take up to three or more hours due to traffic congestion.

By estimating revenue levels at each of the gaming properties within the competitive set, researching the number of gaming positions provided within each, visiting each facility to understand their relative aesthetic attractiveness (including a consideration of non-gaming amenities), and utilizing gaming factors from proprietary and public sources, the model was calibrated to current market performance. Once calibrated, GMA grew the model to the subject year of 2023 creating a "Base Projections Scenario" in which the Project is not introduced. Then, GMA layered in the Project in each alternative scenario. In each alternative scenario, the gravity model projected the likely source and distribution of gaming revenue in the market given the introduction of the Project.

SUBSTITUTION EFFECT ANALYSIS

To estimate the Project's substitution effect on other regional gaming facilities, GMA compared the Base Projections Scenario, in which the Project is not introduced, to each alternative scenario. This comparison yielded the substitution effect on each regional gaming facility and any anticipated new market growth in each alternative scenario.

III. COMPETITIVE SUMMARY

GMA conducted a competitive analysis for each casino in the regional competitive set. To accomplish this task, members of the Consulting Team visited each casino property in the region and evaluated existing metrics, quantifying and qualifying the size and scope of each existing facility and its amenities. Additionally, the Consulting Team evaluated any new additions to supply or anticipated market changes during its competitive assessment. This chapter summarizes the existing and proposed primary, secondary, and tertiary competition in the region.

PRIMARY COMPETITION

THREE RIVERS COOS BAY

Three Rivers Coos Bay Casino is located in Coos Bay, OR and is owned and operated by the Coos, Lower Umpqua & Siuslaw Indians. The facility is over a three-hour drive approximately 170 miles northwest of Medford and 2.6 miles west of The Mill Casino. The property opened in May 2015 and is the newest casino in the region. The casino only offers Class II gaming; it features 250 Class II machines and does not offer any table games. The facility also offers patrons one dining/bar option, Café 1297. Although lighting is extremely bright inside the casino with poor air handling, the facility provides a vibrant and entertaining atmosphere to its patrons.

CASINO

- 250 Class II electronic gaming machines

FOOD & BEVERAGE

- Café 1297

PARKING

- Surface parking
- Valet parking

THREE RIVERS CASINO & RESORT

Three Rivers Casino & Resort is also owned and operated by the Coos, Lower Umpqua & Siuslaw Indians. This Class III facility is located in Florence, OR, about 195 miles northwest of Medford. It is also 50 miles north of The Mill Casino. The casino is one of the largest gaming options in the region and features a busy and energetic atmosphere. The casino features approximately 700 Class III slot machines, nine table games and two poker tables. The property also offers multiple dining options including a four-station food court, sports bar, and steakhouse. The casino features a 90-room hotel and several other amenities, including a nearby golf course, RV park, gift shop, and meeting/conference rooms. During the most recent site visit, the Consulting Team

noted the conversion of the casino's buffet to a food court and noted the continued job of a well-maintained casino resort property.

CASINO

- 700 Class III slot machines
- 9 table games
- 2 poker tables

FOOD & BEVERAGE

- Bonfire
- Blue Bills Sports Bar & Tap Room
- Food Court: The 101 Burger Bar, Mamma Mia!, Garden Fresh, Costal Roasters

PARKING

- Surface parking
- Valet parking

HOTEL

- 90 standard rooms and suites

AMENITIES & ENTERTAINMENT

- Nearby golf course
- RV Park
- Gift shop
- Meeting/conference rooms

SEVEN FEATHERS CASINO & RESORT

Seven Feathers Casino & Resort is located in Canyonville, OR, about 75 miles north of Medford and 95 miles east of The Mill Casino. This facility is owned and operated by the Cow Creek Tribe. The casino features 955 Class III slot machines and 19 table games. The property has effective signage along I-5 and has excellent visibility and access from the highway. The property offers one of the better gaming experiences in the region, although the food & beverage amenities are subpar.

Seven Feathers offers a 3-star gaming and lodging experience. While it has an attractive lobby and sense of arrival, the hotel is comparable to a Hampton Inn grade lodging experience. The casino is divided among a series of rooms, each with its own décor and attempts at theme, neither of which enhances the gaming experience. The casino has recently attempted to better serve the region's growing Asian population. It now offers Baccarat, a game that appeals to Asian

players. Dining options include five restaurants, two lounges, and a café. Both service and food quality were found to be mediocre during multiple site visits.

CASINO

- 955 Class III slot machines
- 19 table games
- 325-seat bingo hall
- Keno

FOOD & BEVERAGE

- K-Bar Steak House
- Cow Creek Restaurant
- Gathering Place Buffet
- Stix Sports Bar
- Kabi Café
- Steelhead Lounge
- Elements Lounge

PARKING

- Surface parking
- Valet parking

HOTEL

- 300 standard rooms and suites
    - Fitness Center
    - Pool

AMENITIES & ENTERTAINMENT

- Live music
- RV Park
- Spa
- Art gallery
- Meeting/convention space

KLA-MO-YA CASINO

Kla-Mo-Ya Casino is located in Chiloquin, OR, about 90 miles east of Medford and 225 miles southeast of The Mill Casino. The property, owned and operated by the Klamath, Modoc & Yahooskin Tribes, serves as a convenience-based gaming option for the local population and traffic intercept market. The property has very limited amenity options and the interior has no

cosmetic appeal. A majority of the facility's gaming machines are old and outdated. The casino features 350 Class III gaming machines and five table games. The facility only offers one full-service restaurant, which also serves as a lounge and bar, and a limited service hotel.

CASINO

- 350 Class III slot machines
- 5 table games

FOOD & BEVERAGE

- Peak to Peak (restaurant & lounge)

PARKING

- Surface parking

HOTEL (OPENED IN NOVEMBER 2018)

- 76-room Sleep Inn hotel

AMENITIES

- Gift shop

SECONDARY COMPETITION

LUCKY 7 CASINO

Lucky 7 Casino is located in Smith River, CA, about 120 miles southwest of Medford and 120 miles south of The Mill Casino. The property, owned and operated by the Tolowa Dee-ni' Nation, has excellent access to US-101, and serves both the local population and tourists. The facility's interior features a lodge style décor with wooden and stone pillars. The casino contains 318 Class III slot machines, three table games, and three poker tables. The property offers two dining options including a full-service restaurant and a sports bar. There is also a connecting hotel that features 71 standard rooms and suites. Amenities and entertainment options include a connecting gas station, pool, business center, gift shop, and 6,400 square feet of meeting and convention space.

CASINO

- 318 Class III slot machines
- 3 table games
- 3 poker tables

FOOD & BEVERAGE

- House of Howonquet Restaurant

- Club 7 Sports Bar

PARKING

- Surface parking

HOTEL

- 71 standard rooms and suites

AMENITIES & ENTERTAINMENT

- Pool
- Connecting gas station
- Business center
- Gift shop
- Meeting/convention space

ELK VALLEY CASINO

Elk Valley Casino is located in Crescent City, CA, about 110 miles southwest of Medford and 135 miles south of The Mill Casino. The property is one of the gaming options near the California/Oregon border. The facility has a very worn-down exterior, which is matched by its interior. The air quality is very poor, and a visible cloud of cigarette smoke fills the casino. Although the casino was recently expanded to add a non-smoking room, the expanded area lacks synergy with the rest of the gaming floor, creating an isolated and disconnected gaming room. The casino features 307 Class III slot machines, three table games, and seven poker tables. The property offers one dining option: Full House Bar & Grill.

CASINO

- 307 Class III slot machines
- 3 table games
- 7 poker tables

FOOD & BEVERAGE

- Full House Bar & Grill

PARKING

- Surface parking

AMENITIES

- Nearby RV park
- Meeting & convention room

RAIN ROCK CASINO

The Rain Rock Casino opened in April of 2018. It is owned by the Karuk Tribe and is located just east of Interstate 5 at Exit 773 in Yreka, CA. Situated on a hillside overlooking the interstate, this property is a simple, convenience-based casino. While the casino property is 50 miles south of Medford and the closest casino to the Alternative A and Alternative B sites, it does not offer the amenities found at Seven Feathers. The stretch of interstate highway between Yreka and Medford is a fairly arduous drive, but not worse than what gamers from Medford must endure when visiting other regional competitors.

CASINO

- 349 Class III slot machines
- 8 table games

FOOD & BEVERAGE

- Rain Rock Restaurant
- Rain Rock Express
- Double R Bar

PARKING

- Surface parking

TERTIARY COMPETITION

The following table details the remaining tertiary competition in the broader region. Although each casino competes minimally with the subject facility, the Consulting Team evaluated and considered each facility to understand the greater competitive set as a whole. In total, the remaining regional gaming facilities offer 4,110 gaming devices, 68 table games, and 18 poker tables.

Tertiary Competition

	Slots	Table Games	Poker Tables
Chinook Winds Casino Resort	1,125	22	4
Spirit Mountain Casino	1,710	28	9
Redwood Hotel Casino	125	0	0
Win-River Resort & Casino	650	12	5
Indian Head Casino	500	6	0
Total	**4,110**	**68**	**18**

Source: GMA

PROPOSED COMPETITION

GMA researched possible new market entrants and expansions of existing facilities in the regional market area. It was concluded that no new market entrants are likely to open or expansions to occur during the forecast period. GMA notes that Win-River Resort & Casino, Elk Valley Casino, and Rain Rock Casino may at some point undertake expansion plans. However, these possible changes remain uncertain and were in the planning stages at the time of this study. As such, these changes were not factored into the analysis during the forecast period. Additionally, at the time of this report, the most recent events that took place were the opening of the Rain Rock Casino in April of 2018 and the opening of a 76-room hotel at Kla-Mo-Ya Casino in October of 2018.

EXISTING VIDEO LOTTERY TERMINAL COMPETITION

Along with the casino-based gaming facilities mentioned in this section, the State of Oregon supported 11,742 video lottery terminal machines as of fiscal year 2018. These VLT's are operated by the State of Oregon and are located in bar and retail establishments. In FY 2017 and FY 2018, the State of Oregon's VLT's generated approximately $914.1 million and $934.0 million in revenue, respectively. The State of Oregon has upgraded its VLT gaming offerings and technology in recent years. Although regional VLT facilities offer a less attractive gaming option than regional Class III and Class II gaming facilities, they still compete for a substantial portion of regional customers' annual gaming spend and enhance the overall maturity of the gaming market as a whole.

IV. SUBSTITUTION EFFECT ANALYSIS

GREATER COQUILLE MARKET AREA DEFINITIONS

The first step in performing the Gaming Market Assessment was to divide the greater Coquille market area into market segments based on variations in the demographic composition of the various communities, access to the subject facility as well as competing facilities, and the availability of other (non-gaming) entertainment activities.

The map on the following page illustrates the ten segments used in this analysis and the location of each casino in the region. The map is followed by a brief discussion of the demographic composition of each individual market segment. For each market segment, total population, adult (21+) population, and average annual household income ("AAHI") were quantified.

GREATER COQUILLE MARKET SEGMENT MAP

DEMOGRAPHIC SUMMARY

COOS BAY

The Coos Bay market segment is located between the Coastal North and Coastal South markets and has two gaming facilities within its borders: The Mill Casino and Three Rivers Casino Coos Bay. In 2019, the total population of this market segment is estimated at 51,234 residents. Approximately 78% of this market segment's population are adult, with 21+ population reported at 39,892. The number of total residents is projected to increase at a rate of approximately 0.6% through 2023 with total and adult population estimated at 52,550 and 40,983, respectively.

Income levels in this market are below the average AAHI of the ten analyzed regions, with AAHI quantified at $62,840 in 2019. AAHI is estimated to undergo growth, projected at 2.1% annually, and is estimated to reach $68,941 in 2023.

COASTAL NORTH

The Coastal North market segment extends north of the Coos Bay market segment and includes the City of Florence and the Three Rivers Casino Resort. This area contains a total population of 54,384 in 2019. Total population is expected to increase by 0.9% annually in the coming years to reach 56,651 in 2023. Adult population is projected to reach 46,278 in 2023.

The Coastal North market segment's AAHI is estimated to be below the AAHI average of the ten analyzed regions, with an AAHI of $60,617 in 2019. AAHI is estimated to have a growth rate of 1.5% and is projected to reach $64,926 in 2023.

EUGENE

The Eugene market segment extends east from the Coastal North market segment and contains the cities of Eugene and Springfield. This market segment does not contain any gaming facilities within its borders. The area is home to 355,440 residents in 2019. Total population is projected to reach 372,235 in 2023. Adults represent approximately 75% of the market's population with 21+ population reported at 268,147 in 2019. Adult population is projected to grow by an average annual rate of 1.4% and is estimated at 284,768 in 2023.

Income levels in the Eugene market segment are higher than any of the other analyzed market segments, with AAHI quantified at $73,555 in 2019. AAHI is estimated to undergo growth of 2.4% annually and is projected to reach $81,891 in 2023.

CENTRAL

The Central market segment extends south from the Eugene market segment and does not contain any gaming facilities. However, the Seven Feathers Casino Resort is situated immediately to the south of Central's southern-most border in Canyonville. In 2019, total population is

quantified at 127,974. Adults represent roughly 77% of this region's population, with 21+ population reported at 98,689. Both total and adult population levels in this market are estimated to grow with total and adult populations estimated at 132,867 and 102,723, respectively, in 2023.

The Central market segment has slightly lower income levels than the AAHI average of the ten markets, with AAHI of $66,139 in 2019. AAHI in this market is projected to grow at an average annual rate of 2.5% and is estimated to reach $73,824 in 2023.

MEDFORD

The Medford market segment extends south from the Central market segment and runs along the California/Oregon border. The Medford market segment contains the sites for Alternatives A and B as well as the city of Medford and Phoenix. Additionally, the Seven Feathers Casino Resort is located in the far northern part of this market segment. This market has a total population quantified at 325,074 in 2019. Adults represent roughly 77% of this region's population, with 21+ population reported at 248,678. Both total and adult population levels are estimated to grow, with these populations estimated at 340,060 and 260,706, respectively, in 2023.

The Medford market segment AAHI is estimated to be slightly above the AAHI average of the ten markets, with AAHI reported at $68,295 in 2019. AAHI in this segment is projected to grow at an average annual rate of 2.6% and is estimated to reach $76,681 in 2023.

COASTAL SOUTH

The Coastal South market segment is located south of the Coos Bay market segment and does not contain any gaming facilities. The area is home to a total of 36,016 residents in 2019. This market is projected to grow by 0.7% annually with total population projected at 37,139 in 2023. Adults account for approximately 83% of the local population, with 21+ population reported at 29,728 in 2019. Adult population is estimated to reach 30,712 in 2023.

Income levels in the Coastal South market segment are the lowest of the ten market segments, with the market segment's AAHI quantified at $56,404 in 2019. AAHI is estimated to undergo 1.5% annual growth in the coming years and is projected at $60,176 in 2019.

NATIONAL FOREST

The National Forest market segment extends east from the Central market segment and does not include any gaming facilities within its borders. The market segment has an estimated 9,426 total residents in 2019, of which 7,502, or 80%, are at least 21 years of age. This segment is projected to experience population growth in the coming years, with total and adult population estimated at 9,874 and 7,900, respectively, in 2023.

The National Forest market segment's AAHI is below the AAHI average of the ten analyzed regions, with AAHI quantified at $60,603 in 2019. AAHI is projected to grow at an annual rate of 2.2% and is estimated to reach $66,846 in 2023.

CHILOQUIN

The Chiloquin market segment is located east of National Forest market segment and includes the City of Chiloquin. This market segment contains one gaming facility: the Kla-Mo-Ya-Casino. The region has a total population of 4,660 in 2019. Adults represent approximately 83% of the population, with 21+ population at 3,854 in 2019. Total population is expected to increase by 1.0% annually to reach an estimated at 4,863 in 2023. Adult population is also expected to grow with adult population estimated at 4,036 during that same year.

The Chiloquin market segment's AAHI is the second lowest among all of the analyzed market segments in 2019. AAHI in this market is quantified at $59,339 in 2019 and is projected to grow at an average annual rate of 2.7%, reaching $66,864 in 2023.

KLAMATH FALLS/ALTAMONT

The Klamath Falls/Altamont market segment extends south from the Chiloquin market segment and runs along the California/Oregon border. This market does not contain any gaming facilities. The region has an estimated total population of 60,018 in 2019. Adults represent approximately 74% of the population, with 21+ population reported at 44,109. Total population is estimated to increase by roughly 0.6% annually with total population estimated at 61,575 in 2023. Adult population is also expected to increase and reach 45,074 in 2023.

The Klamath Falls/Altamont market segment is slightly below the AAHI average of the ten analyzed markets with AAHI quantified at $66,620 in 2019. AAHI in this market is projected to grow at an average annual rate of 2.9% and is projected to reach $75,689 in 2023.

NORTHERN CALIFORNIA

The Northern California market segment is located south of the Medford and Klamath Falls/Altamont market segments and contains the Rain Rock Casino off of Interstate 5. In 2019, this market has a total population of 43,059 residents. Adults comprise approximately 77% of this market's population, with 21+ population reported at 32,975. The number of total residents is projected to remain flat at less than 0.1% growth in the coming years, with total and adult population projected at 43,206 and 33,113, respectively, in 2023.

Income levels in this market segment are below the average AAHI of the ten analyzed regions, with AAHI quantified at $62,032 in 2019. AAHI is estimated to undergo growth, projected at 2.3% annually, and is estimated to reach $68,745 in 2023.

The following tables summarize the demographic analysis for each market segment.

Total Population by Market Segment			
	2019	2023	CAGR
Coos Bay	51,234	52,550	0.57%
Coastal North	54,384	56,651	0.91%
Eugene	355,440	372,235	1.03%
Central	127,974	132,867	0.84%
Medford	325,074	340,060	1.01%
Coastal South	36,016	37,139	0.68%
National Forest	9,426	9,874	1.04%
Chiloquin	4,660	4,863	0.95%
Klamath Falls/Altamont	60,018	61,575	0.57%
Northern California	43,059	43,206	0.08%
TOTAL	**1,067,285**	**1,111,019**	**0.90%**

Source: PCensus, GMA

Adult Population (21+) by Market Segment			
	2019	2023	CAGR
Coos Bay	39,892	40,983	0.60%
Coastal North	44,414	46,278	0.92%
Eugene	268,147	284,768	1.35%
Central	98,689	102,723	0.89%
Medford	248,678	260,706	1.06%
Coastal South	29,728	30,712	0.73%
National Forest	7,502	7,900	1.15%
Chiloquin	3,854	4,036	1.03%
Klamath Falls/Altamont	44,109	45,074	0.48%
Northern California	32,975	33,113	0.09%
TOTAL	**817,988**	**856,291**	**1.02%**

Source: PCensus, GMA

Average Annual Household Income by Market Segment			
	2019	2023	CAGR
Coos Bay	$62,840	$68,941	2.08%
Coastal North	$60,617	$64,926	1.54%
Eugene	$73,555	$81,891	2.41%
Central	$66,139	$73,824	2.47%
Medford	$68,295	$76,681	2.61%
Coastal South	$56,404	$60,176	1.45%
National Forest	$60,603	$66,846	2.20%
Chiloquin	$59,339	$66,864	2.69%
Klamath Falls/Altamont	$66,620	$75,689	2.88%
Northern California	$62,032	$68,745	2.31%
Average	**$68,189**	**$75,977**	**2.43%**

Source: PCensus, GMA

GAMING FACTORS AND OVERALL MARKET SIZE

Gaming factors consist of Propensity and Average Annual Win. For the purposes of this assessment, GMA added an additional category to reflect the percentage of gamer visits that will accrue to casinos and VLTs that were not included in the defined local market. This allows the model to account for those visits lost to regional VLT facilities and other jurisdictions such as Reno/Tahoe and Las Vegas. This further allows the model's gaming factors to be calibrated to the actual behaviors of regional gaming patrons. It is important to note that GMA sized the total market to include the regional VLTs to ensure accuracy of the calibration of the model. The multiplication of these gaming factors by a market's adult population and its AAHI determine the gross levels of gaming revenue generated by the subject market.

PROPENSITY

Propensity represents the percent of the adult population (defined as people age 21 and over) that will visit a casino at least once in a given year. Propensity factors experience large ranges throughout the United States. At the high-end of the scale is the local Las Vegas market in which almost 70% of adults gamble. In rural sections of the country with few gaming options, this factor can be as low as 17%. In the greater Coquille market area, relatively high gaming factors are expected as this population has had exposure to gaming facilities for quite some time.

Gaming factors in the United States have remained fairly constant over the past few years and generally only change with the addition of new casinos. However, the onset of the recession has had an estimated negative one or two percentage point impact on these figures. In estimating gaming factors, GMA utilized proprietary research data gathered by GMA as well as other sources.

AVERAGE ANNUAL WIN

Average Annual Win ("Average Win") represents the amount of money a gamer in a market will lose on average to a casino over a twelve-month period. This factor is generally dependent on a player's average household income and distance that he/she must travel to reach a casino. Average Win is based on a percentage of a player's AAHI. Annual expenditures on casino gaming is generally positively correlated with the frequency that individuals visit casinos: high frequency often equates to situations where a population is presented with multiple options and good venue accessibility and low when comparatively inaccessible, limited in options and/or limited in scope or attractiveness.

Average Win as a percent of gamers annual income figures experienced in the greater Coquille market area are higher than other gaming markets around the country. Percent income figures in the market area range from 1.9% to 2.7%, compared to other gaming markets where this figure ranges between 1.1% and 2.6%.

ATTRACTION AND DISTANCE FACTORS

After adjusting the model's gaming factors and competitive characteristics, including the sizing, location, and revenue generation of each existing and potential competitor, GMA assigned each regional market participant an attraction factor and distance factor.

ATTRACTION

Attraction factors are utilized to help differentiate market participants based upon the quality of their gaming and non-gaming amenities. By performing detailed property evaluations during the site visit, GMA was able to assign attraction factors for each member of the competitive set. Typically, attraction factors are assigned with a range of numerical figures from 0.00 to 2.00, based upon the Consulting Team's understanding of the true level of attraction of each facility. A facility's attraction factor may exceed 1.00 based upon a variety of factors, including branding, the quality of the facility, and marketing practices. Typically, a quality racetrack casino with slots would only achieve an attraction factor of 0.85, while a quality full-service casino would achieve an attraction factor of 1.00. In some markets, these factors do not achieve those attraction factor benchmarks as market conditions and facility conditions have not allowed the market participants to fully penetrate the market.

DISTANCE AND ACCESS

The Consulting Team also assigns varying distance factors for each facility for each regional market segment. This portion of the analysis allows the Consulting Team to adjust each facility's access to the regional market segments. Without this step, the model would interpret the distance between a facility and a market segment on an "as the crow flies" basis, ignoring the regional road network, traffic, construction, any geographic barriers such as large bodies of water or mountains, and unique marketing initiatives/campaigns.

GAMING REVENUE CALIBRATION AND PROJECTIONS

2019 CALIBRATION

By analyzing and estimating historical gaming revenue levels at each of the casino and VLT facilities within the competitive set, researching the number of gaming positions provided within each competitor's casino, visiting each facility to understand their relative aesthetic attractiveness (including a consideration of non-gaming amenities) and utilizing gaming factors from both public and proprietary sources, GMA calibrated the model to current market conditions. To further calibrate the model, GMA adjusted the percentage of potential gaming revenue that would flow to casinos in the model. This allowed GMA to isolate the casino gaming market from the VLT gaming market and understand how gaming revenue is currently distributed between regional casino facilities and regional VLT facilities. To increase the accuracy of the gravity model, GMA gathered historical database information, detailing the source of The Mill

Casino's gaming customers and revenue during the trailing twelve months ("TTM"), and calibrated the model accordingly.

2023 BASE PROJECTIONS

Once the gravity model was calibrated, GMA constructed a forecasting model to grow the market to 2023. For the purposes of this analysis, gaming revenue projections were made for 2023, as it was assumed that the expanded facility in Scenario 1 would be open at the beginning of 2022. Therefore, 2023 would represent the first year of stabilized operations. As such, GMA also prepared Base Scenario projections for 2023. GMA utilized projected population and income figures for the subject year to make these projections. It was important to establish this baseline, assuming the Project does not occur in any scenario, to allow GMA to quantify new market growth versus the resulting substitution effect on other facilities from the development of the Project in each alternative scenario.

In the Base Scenario, GMA factored in the most recent market additions and expansions. These included Rain Rock Casino that opened in April of 2018 in Yreka, CA and a hotel addition at Klo-Ma-Ya Casino. GMA also assumed that gaming revenue levels would continue to mature given these market changes. With these fully stabilized and expanded competitors in the market, the Mill Casino is expected to generate approximately $39.8 million in gaming revenue in the subject year, assuming the facility is not expanded.

ALTERNATIVES A AND B: MEDFORD AND PHOENIX SITES

In Alternative A, GMA layered in the impact of the proposed Project at the Medford Site in Medford, OR. In making its projections, GMA assumed the facility would feature 650 Class II slot machines, a small restaurant, and bar. As a result of the assumed Project in Alternative A, GMA projects the facility to generate $44.9 million in gross gaming revenue in 2023.

In Alternative B, GMA layered in the impact of the proposed Project at the Phoenix Site south of Medford, OR. In making its projections, GMA assumed that the new facility would offer 650 Class II slot machines, a small restaurant, and bar. In Alternative B, GMA projects the Project to generate $43.7 million in gross gaming revenue.

It is important to note that GMA assumed that the new gaming facilities in these alternative scenarios would also stimulate a small amount of new market growth, as the immediate region is not adequately served by proximate casino gaming facilities today.

ALTERNATIVE C: EXPANDED MILL CASINO

In Alternative C, GMA layered in the impact of the proposed expansion at The Mill Casino. In making its projections, GMA assumed that the expansion would offer an additional 650 slot machines, deli and bar. GMA estimates that the expanded facility would generate an incremental

$5.8 million in gaming revenue in 2023 in comparison to projected revenue in which no expansion occurs. It is important to note that GMA assumed that the new gaming facility would not stimulate new market growth, as the immediate region is appropriately served by numerous gaming facilities today.

REVENUE PROJECTIONS SUMMARY AND COMPARISON

The following table compares each alternative Project's projected gaming revenue levels. Additionally, the table illustrates projected slot revenue as well as Win Per Slot Per Day. In 2023, Alternative A is expected to generate the largest level of gaming revenue, estimated at $44.9 million in the subject year. The next largest projected gaming revenue generation is expected to occur in Alternative B, as the location is very similar to that proposed in Alternative A. The Project is expected to generate the smallest amount of incremental gaming revenue in Alternative C, in which the proposed Project is only expected to generate $5.8 million in incremental gaming revenue in the subject year.

Alternative Scenario Gaming Revenue Comparison, 2023

	Alternative A	Alternative B	Alternative C*
# Slots	650	650	650
Win Per Slot	$189	$184	$25
Slot Revenue	$ 44,880,125	$ 43,722,926	$ 5,847,853
TOTAL	**$ 44,880,125**	**$ 43,722,926**	**$ 5,847,853**

*Notes: *Incremental to existing facility projected revenue totals*
Source: GMA, Coquille

SUBSTITUTION EFFECT ANALYSIS

To quantify the impact of the Project on the region's casinos, GMA completed a Substitution Effect Analysis. GMA compared each market participant's projected 2023 local market revenue levels (as the gravity model only projects the distribution of local market gaming revenue) between each alternative scenario and the Base Projections Scenario, in which the Project does not occur. As revenues are not public for the market participants, aside from benchmarks for existing VLT facilities, GMA utilized its proprietary knowledge of the market in conjunction with available data in the public domain and other sources to estimate revenues for each gaming facility. With an understanding of the distribution of expected regional population and income growth, these revenue levels were grown to the subject year. In each alternative scenario, local market gaming revenue is expected to be generated in three ways: substitution effect from

existing Oregon casinos, substitution effect from non-Oregon casinos, and new local market growth (which, for purposes of this analysis, includes any substitution effect on VLT facilities).[26]

The following section discusses the expected substitution effect in each alternative scenario. The following tables detail the tribal entities that are expected to experience a substitution effect of some degree in each alternative scenario.

Projected Substitution Effect Summary, 2023

	Revenue Source	Alternative A	Alternative B	Alternative C*
Confederated Tribes of Grand Ronde	Spirit Mountain Casino	-2.3%	-2.3%	-0.5%
Confederates Tribes of Siletz Indians	Chinook Winds Casino Resort	-2.2%	-2.2%	-0.5%
Coos, Lower Umpqua & Siuslaw Indians	Three Rivers Coos Bay, Three Rivers Casino Resort	-3.7%	-3.7%	-4.0%
Coquille Indian Tribe	The Mill Casino	-4.7%	-4.6%	10.8%
Cow Creek Tribe	Seven Feathers Casino Resort	-25.0%	-23.9%	-1.7%
Elk Valley Rancheria	Elk Valley Casino	-4.2%	-4.1%	-0.6%
Karuk Tribe	Rain Rock Casino	-27.2%	-27.4%	-0.5%
Klamath, Modoc & Yahooskin Tribes	Kla-Mo-Ya Casino	-16.1%	-16.4%	-0.3%
Redding Rancheria	Win-River Resort & Casino	-2.4%	-2.4%	-0.1%
Tolowa Dee-ni' Nation	Lucky 7 Casino	-2.7%	-2.6%	-1.0%
Yurok Tribe	Redwood Hotel Casino	-5.6%	-5.5%	-0.5%

*Notes: *Incremental to existing facility projected revenue totals*
Source: GMA

Projected Substitution Effect Summary, 2023

	Revenue Source	Alternative A	Alternative B	Alternative C*
Confederated Tribes of Grand Ronde	Spirit Mountain Casino	$ (2,304,862)	$ (2,274,461)	$ (476,565)
Confederates Tribes of Siletz Indians	Chinook Winds Casino Resort	$ (1,302,449)	$ (1,286,276)	$ (311,377)
Coos, Lower Umpqua & Siuslaw Indians	Three Rivers Coos Bay, Three Rivers Casino Resort	$ (1,773,016)	$ (1,742,003)	$ (1,912,175)
Coquille Indian Tribe	The Mill Casino	$ (1,853,091)	$ (1,819,735)	$ 4,305,950
Cow Creek Tribe	Seven Feathers Casino Resort	$(17,910,964)	$(17,097,436)	$ (1,181,743)
Elk Valley Rancheria	Elk Valley Casino	$ (445,926)	$ (438,567)	$ (64,998)
Karuk Tribe	Rain Rock Casino	$ (5,922,337)	$ (5,965,793)	$ (116,507)
Klamath, Modoc & Yahooskin Tribes	Kla-Mo-Ya Casino	$ (1,979,491)	$ (2,022,085)	$ (38,511)
Redding Rancheria	Win-River Resort & Casino	$ (1,864,974)	$ (1,865,984)	$ (48,410)
Tolowa Dee-ni' Nation	Lucky 7 Casino	$ (372,305)	$ (364,930)	$ (133,981)
Yurok Tribe	Redwood Hotel Casino	$ (237,597)	$ (234,081)	$ (21,684)

*Notes: *Incremental to existing facility projected revenue totals*
Source: GMA

[26] New market growth includes the substitution effect on VLT facilities as the gravity model is only inclusive of casino gaming revenue generation. As such, the introduction of the Project is expected to recapture a portion of VLT facility gaming revenue in certain alternative scenarios.

ALTERNATIVE A

Only four tribal entities that own casinos are expected to experience a substitution effect that could be equal or greater than 5.0% of their expected Base Case Projections Scenario gaming revenue in Alternative A. These entities include the Cow Creek Tribe; Klamath, Modoc & Yahooskin Tribes; Yurok Tribe; and Karuk Tribe. The Karuk Tribe and Cow Creek Tribe are expected to experience the greatest substitution effect on a percentage basis of Base Case Projections Scenario revenue at 27.2% and 25.0%, respectively.

ALTERNATIVE B

Four tribal entities that own casinos are also expected to experience a substitution effect equal to or greater than 5.0% of their expected Base Case Projections Scenario gaming revenue in Alternative B. The Karuk Tribe and Cow Creek Tribe are expected to experience the greatest substitution effect on a percentage basis of Base Case Scenario revenue at 27.4% and 23.9%, respectively.

ALTERNATIVE C

No tribal entities that own casinos are expected to experience a gaming revenue substitution effect that is greater than or equal to more than 5.0% of their expected Base Case Projections Scenario gaming revenue in Alternative C.

REVENUE RECOVERY

GMA performed a subsequent analysis to understand how long it would take for the impacted casinos to recover revenues due to substitution effects in each alternative. For this analysis, GMA focused on three casinos: the Seven Feathers Casino Resort, Rain Rock Casino, and Kla-Mo-Ya Casino. This analysis calculated the number of years that it would take for each of these casinos to attain base scenario expected gaming revenue levels.

To perform this analysis, it was first necessary to determine an appropriate gaming revenue growth rate for each casino in each alternative. Conservatively, GMA assumed any gaming revenue growth would stem from expected organic increases in population and income in each casino's relevant demand segments. For each casino and alternative, GMA calculated a blended organic growth rate based on each casino's expected source of gaming revenue by market segment and each market segment's respective demographic growth rates.

With this analysis complete, GMA projects that it will take approximately 16.1 years in Alternative A, 15.3 years in Alternative B, and 0.9 years in Alternative C for the Seven Feathers Casino Resort to attain the projected base scenario gaming revenue. This was based on an assumed blended growth rate of 1.9%. For the Rain Rock Casino in Yreka, CA, these figures approximate to 28.1 years in Alternative A, 28.4 years in Alternative B, and 0.5 years in Alternative C, assuming a blended growth rate of 1.4%. For the Kla-Mo-Ya Casino, these figures approximate 12.3 years in

Alternative A, 12.6 years in Alternative B, and 0.2 years in Alternative C, assuming a blended growth rate of 1.6%.

Projected Duration in Years to Reach Base Scenario Gaming Revenue Levels			
	Alternative A	Alternative B	Alternative C
Seven Feathers Casino Resort	16.1	15.3	0.9
Rain Rock Casino	28.1	28.4	0.5
Kla-Mo-Ya Casino	12.3	12.6	0.2

Source: GMA

IMPACT ON OREGON LOTTERY

I. SUMMARY OF IMPACTS ON THE OREGON LOTTERY

SUMMARY OF FINDINGS

Based on the comparable examples presented in this report, GMA found no conclusive evidence that the introduction of casino gaming will have a material impact on lottery sales and overall lottery financial performance. In the majority of examples where additional casinos/slot machines were introduced into their respective gaming markets, lottery sales increased in the immediate subsequent year or decreased slightly in just a few cases. All comparable jurisdictions maintained a positive overall annual average growth rate during the historical time periods that were examined. Therefore, GMA finds that the proposed Project under each scenario would not have an impact on the Oregon Lottery. GMA attributes this largely to the differences between lottery and casino gaming experiences as well as other factors that impact lottery sales. These factors include, but are not limited to, effective management, evolving marketing programs, popularity of games, changes in the number of retail locations, the introduction of new games, demographic shifts in markets, and changes in consumer confidence and spending.

II. METHODOLOGY & ANALYSIS

To estimate the potential impact that the Project may have on Oregon Lottery sales, GMA examined publicly available data to understand how the introduction of casino gaming may have impacted lottery revenues in comparable jurisdictions. Specifically, GMA analyzed lottery sales performance data of comparable markets where electronic gaming machines and table games were introduced into states with mature lottery programs. GMA applied certain criteria to focus on examples relative to the Project and the Oregon Lottery. With this research and analysis completed, GMA was in a position to determine the Project's impact on the Oregon Lottery sales.

DEFINING COMPARABLE JURISDICTIONS

GMA initiated this analysis by examining the evolution of gambling in states that operate lotteries and casinos. Currently, lotteries operate in Washington D.C. and 44 states, with the exceptions of Alabama, Alaska, Hawaii, Mississippi, Nevada, and Utah. Casinos and racinos are available in most states, except for Georgia, Kentucky, South Carolina, Tennessee, Vermont, Virginia, and Washington D.C. Of the remaining states with both casinos/racinos and lotteries, GMA applied conditional criteria to further define an appropriate comparable set. States meeting the conditions described below qualified as similar comparisons to the Project, which is expected to add 650 gaming machines to the Oregon market. The following discusses the criteria utilized for the comparable set.

TIMEFRAME & DEMOGRAPHICS

GMA evaluated data for a period extending from fiscal year 2007 through fiscal year 2018 or 2019, depending on the availability of data. This timeframe allowed for an adequate duration to understand lottery sales performance trends in the long term and short term when casino or racino gaming expansion occurred. The prescribed time period also reflects current economic conditions and demographic data which are critical in making relevant and up to date comparisons. GMA then conducted comprehensive research to identify states in which casino gaming was introduced and/or expanded in 2007 or later, mirroring the lottery revenue performance time period. A secondary filter was also applied to focus on states with a similar demographic composition to that of Oregon. Demographic composition included total adult population of residents age 18 or older and average annual household income ("AAHI") of $70,000-$104,000. The following examples provide the most direct and available real-world comparisons.

Oregon Lottery Comparable Set				
	2018 Adult Population	2018 AAHI	Start of Lottery Operations	Start of Casino Operations
Oregon	**3,261,492**	**$ 75,745**	**1985**	**1993**
Arizona	5,379,737	$ 73,447	1981	1992
Kansas	2,214,515	$ 75,351	1987	1996
Maryland	4,750,891	$ 103,929	1973	2010
Michigan	7,787,087	$ 73,005	1972	1984
North Carolina	7,978,498	$ 70,527	2005	1994
Ohio	9,075,847	$ 72,204	1974	2012
Pennsylvania	10,184,625	$ 79,046	1972	2006

Source: PCensus/GMA; respective state lottery organizations/corporations and gaming commissions

COMPARABLE JURISDICTIONS ANALYSIS

This section details the introduction and/or expansion of casino gaming and subsequent lottery sales performance for the aforementioned state markets. Lottery sales performance data includes revenues generated from multiple sources and products which vary for each state. These sources include scratch-off products, state draw games, multi-state draw games, national draw games such as Powerball and Mega Millions, and other similar games. It does not include revenue generated by video lottery terminals.

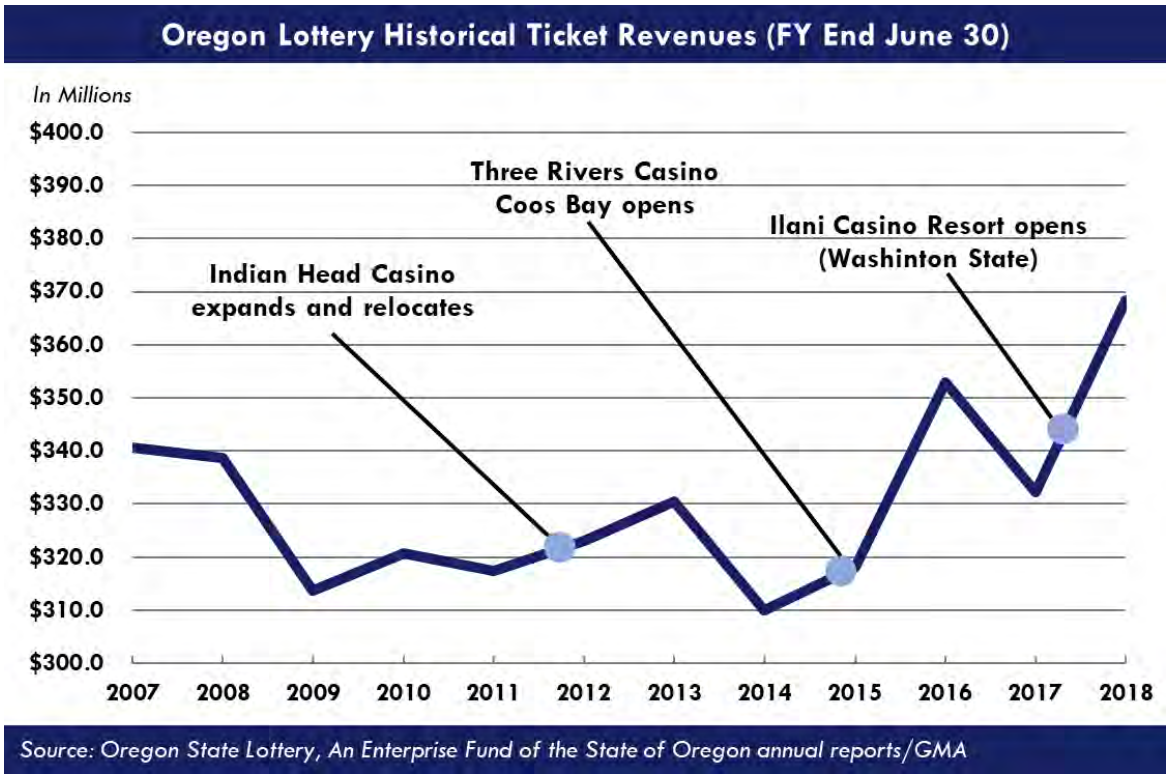
OREGON

Legalized gambling in Oregon has been operational for several decades, making it a mature lottery market. Several Native American casinos opened in the mid-1990s with two more gaming facilities opening in 2004 and 2005. The majority of these properties have expanded their casinos and added additional non-gaming amenities since their original opening dates. The Oregon Lottery commenced its operations in 1985. As such, residents throughout the state have been exposed to many forms of gaming over the past several decades.

As Oregon is the subject state in this study, GMA found two examples that serve as direct comparisons to the Project. Specifically, the Indian Head Casino relocated to a superior location in February of 2012 while adding an additional 200 gaming machines and eight table games to the market. At fiscal year-end in June 2012, the Oregon Lottery generated $323.2 million in gross ticket revenue. In the following full fiscal year close of June 2013, lottery sales increased by 2.3% to reach $330.5 million. Three Rivers Casino Coos Bay opened in May 2015, introducing 250 Class II gaming machines to the market. Gross lottery ticket sales closed at $318.3 million in at fiscal year-end in June 2015 and increased by nearly 11.0% the following fiscal year, reaching $353.0 million.

In both instances, the increase in slot machines and tables did not have a negative impact on lottery sales. On the contrary, lottery sales actually increased in the subsequent fiscal year period for both examples. Oregon lottery sales have fluctuated from 2007 through 2018. Nevertheless, lottery sales have increased by a compound annual growth rate of 0.7% since FY 2007, indicating that new casinos and additions to supply have not impacted lottery sales (exclusive of VLT revenues). GMA also notes that since the opening of the Ilani Casino Resort (April 2017) just on the other side of Oregon's northern border in Washington, lottery sales increased by nearly 11.0% from 2017 to 2018.

The following graph illustrates Oregon's gross lottery ticket revenue trend from FY 2007 through FY 2018. Casino openings and/or expansions are plotted to indicate how sales have performed in subsequent years.



ARIZONA

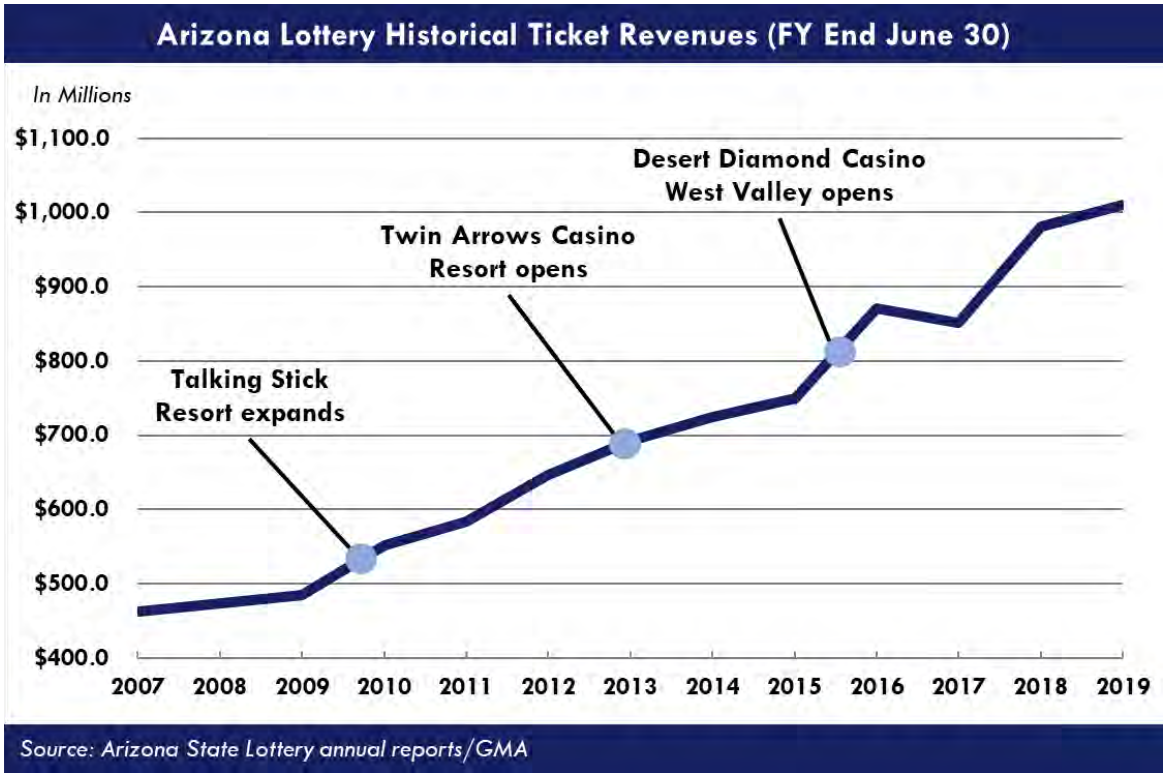
The Arizona State Lottery commenced operations in 1981 and had its first casino open in 1992. Arizona is also a mature gaming market, comparable to Oregon. During the prescribed time period, multiple casinos have opened or expanded.

In April 2010, the Talking Stick Resort opened on the former site of Casino Arizona 101 and Indian Bend. The new resort introduced approximately 400 more slot machines and 50 table games at

the time. Gross lottery ticket sales were $551.5 million in fiscal year 2010. In the following fiscal year of 2011, lottery sales increased by 5.8% to reach $583.5 million.

The Twin Arrows Casino Resort and the Desert Diamond Casino-West Valley opened in May 2013 and December 2015, respectively. Each casino introduced 1,089 new slot machines into the Arizona gaming market. In the full fiscal year period following the opening of the Twin Arrows Casino Resort, lottery revenues increased by 4.5% to reach $723.9 million by June 2014. Lottery sales increased dramatically by 16.1% from FY 2015 to FY 2016, even with the introduction of 1,089 new slots at the Desert Diamond Casino in December of 2015. In all three examples, lottery revenues posted increases after additions to casino supply. Additionally, the Arizona Lottery has grown by an average annual rate of 6.7% since FY 2007 and surpassed $1.0 billion in sales in FY 2019. This robust growth rate in lottery sales indicates that additional casino gaming has not had any negative impact on lottery sales.

The following graph illustrates Arizona's gross lottery ticket revenue trend from FY 2007 through FY 2019. Casino openings and/or expansions are plotted to indicate how sales have performed in following years.

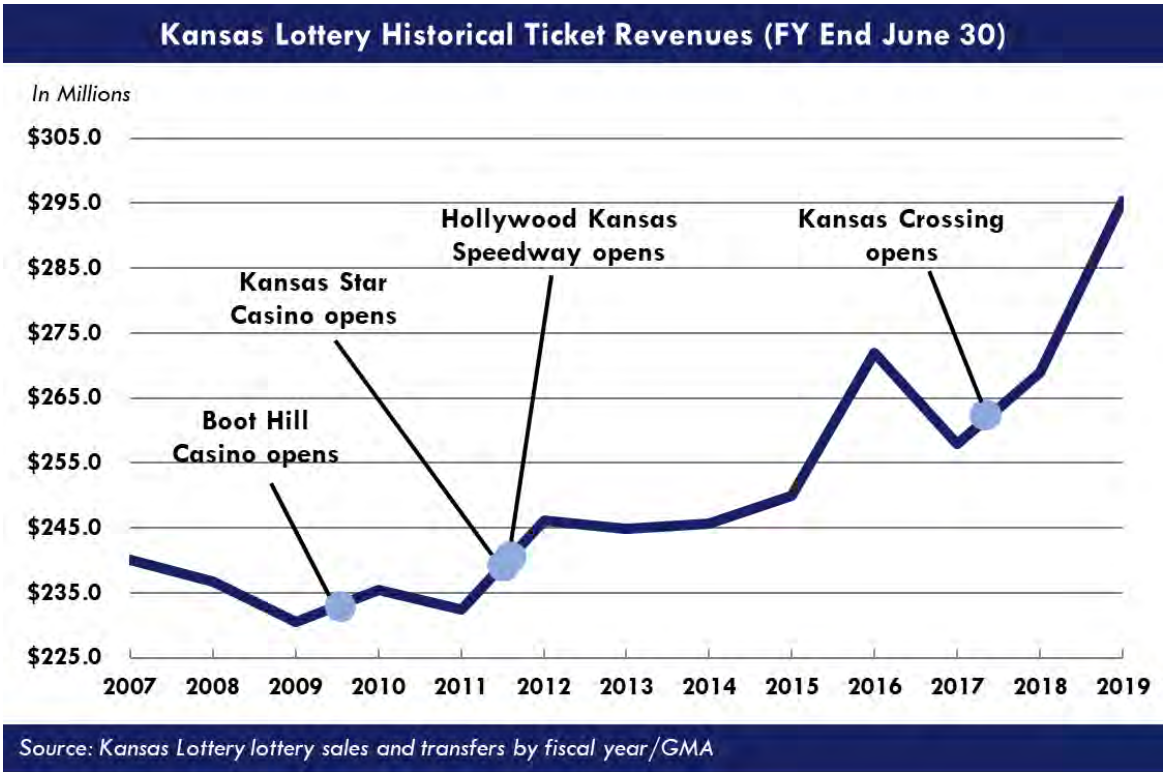


KANSAS

Lottery operations and casino gaming in Kansas date back to 1987 and 1996, respectively. Like Oregon, Kansas is a mature gaming market and has seen casinos open in recent years.

In December 2009, the Boot Hill Casino opened with approximately 580 slot machines and 12 tables games. At fiscal year-end June 2010, gross lottery sales were $235.4 million, up 2.1% from the prior year. Lottery sales were down slightly by 1.3% from FY 2010 to FY 2011 and quickly rebounded in FY 2012 to reach $246.1 million, posting a 5.9% gain over the prior year. During this time period, the Kansas Star opened in December 2011 and the Hollywood Casino at Kansas Speedway opened in February 2012. Following the introduction of nearly 3,900 slot machines and almost 100 gaming tables, the performance of the Kansas Lottery has trended upward to attain $272.0 million in sales in FY 2016. Kansas Crossing was the last casino to open inside Kansas borders in April 2017, injecting an over 600 gaming machines and 16 table games into the Kansas market. Following the opening of Kansas Crossing, Kansas lottery sales increased by 4.3% in FY 2018 and by 9.8% in FY 2019. From FY 2007 through FY 2019, lottery revenues have grown at a CAGR of 1.7%, indicating that the introduction of casino gaming has not impacted lottery revenues.

The following graph illustrates Kansas's gross lottery ticket revenue trend from FY 2007 through FY 2019. Casino openings and/or expansions are plotted to indicate how sales have performed in subsequent years.

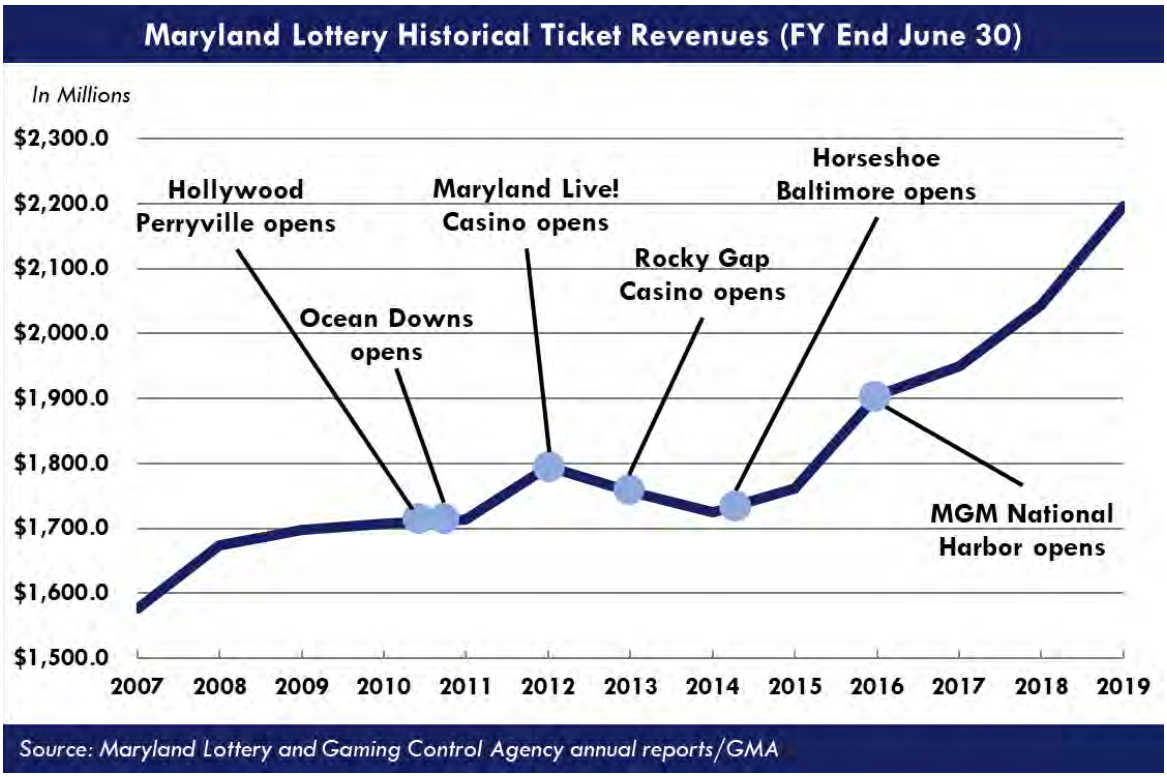


MARYLAND

The Maryland Lottery has been operating since 1973, representing a mature lottery market. Casino gaming in the state of Maryland commenced in the fall of 2010. The state of Maryland introduced a large amount of gaming machines in a relatively short period of time. This rapid growth occurred from September 2010 through August 2014 as five casinos opened with approximately 8,200 gaming machines coming online during that time span. These gaming facilities included Hollywood Casino Perryville in 2010, Ocean Downs in 2011, Maryland Live! Casino in 2012, Rocky Gap Casino Resort in 2013, and Horseshoe Casino Baltimore in 2014. Utilizing Maryland as a comparable example shows how a large influx of slot machines did not impact lottery revenues overall.

The opening of Hollywood Casino Perryville in September 2010 and Ocean Downs in January 2011 brought 2,250 slot machines into the gaming market. Following the introduction of these slot machines, Maryland Lottery ticket sales increased by almost 5.0% from FY 2011 to FY 2012. The following two years posted slight year-over-year declines of roughly 2.0% each. During this time period, two more casinos opened to add approximately 3,700 more slot machines. In August of 2014, Horseshoe Casino Baltimore opened with 2,200 slot machines. Since the Horseshoe Casino Baltimore opened, lottery revenue increased from $1.76 billion in FY 2015 to $1.90 billion in FY 2016. The latest casino to open in Maryland was the MGM National Harbor property in December of 2016, which added an additional 3,300 slots to the Maryland gaming market. Maryland lottery sales grew from roughly $2.0 billion at fiscal year-end 2017 to nearly $2.2 billion in FY 2019. Overall, lottery sales in Maryland have grown at an annual average rate of 2.8% from FY 2007 through FY 2019.

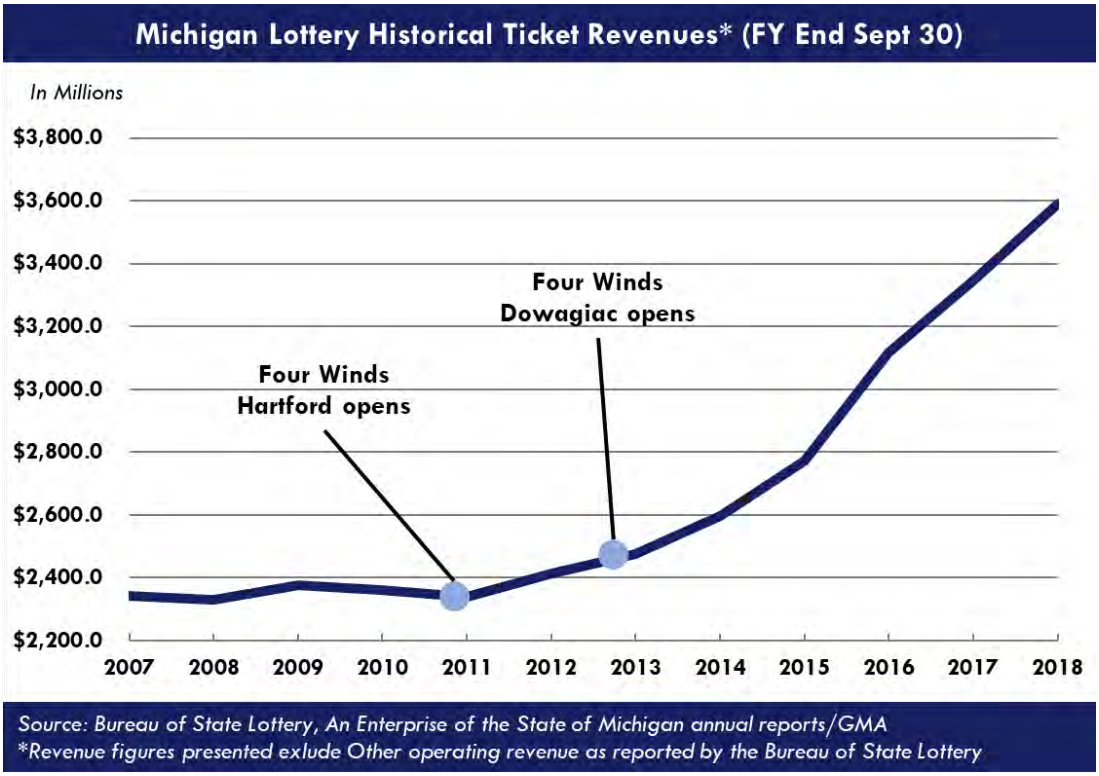
The following graph illustrates Maryland's gross lottery ticket revenue trend from FY 2007 through FY 2019. Casino openings and/or expansions are plotted to indicate how lottery sales have performed in following years.



MICHIGAN

Michigan began lottery sales in 1972, and the state's first casino opened in 1984. Michigan has a multitude of casino properties throughout the state that have undergone expansions in recent decades as well as new property openings. Two specific comparable examples are the new additions of Four Winds Hartford and Four Winds Dowagiac. Four Winds Hartford opened in August 2011 with 550 slot machines and nine table games. Four Winds Dowagiac opened in April 2013, adding 400 slot machines and seven table games into the Michigan gaming market. As evidenced in the following graph, lottery sales increased at a rapid pace after the opening of these two facilities. Since the opening of Four Winds Hartford, lottery revenues have increased by over $1.1 billion to reach nearly $3.6 billion in FY 2018.

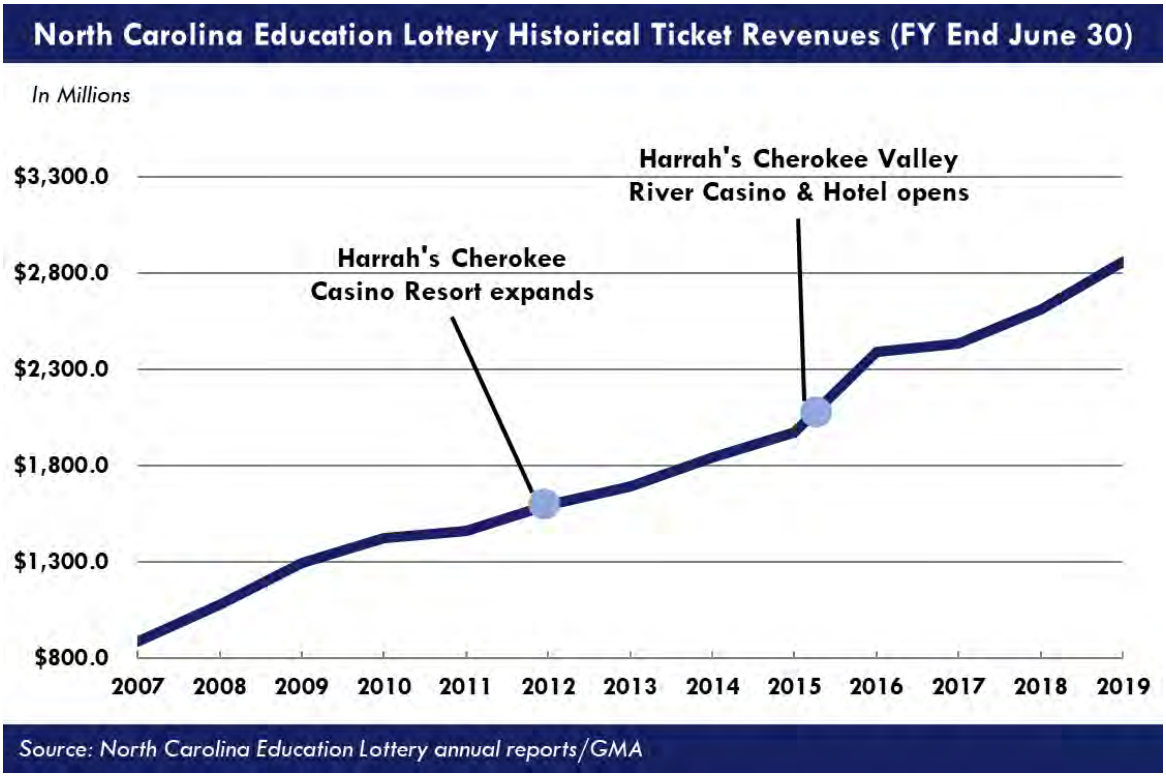
The following graph illustrates Michigan's gross lottery ticket revenue trend from FY 2007 through FY 2018. Casino gaming openings and/or expansions are plotted to indicate how sales have performed in following years.



NORTH CAROLINA

The North Carolina Education Lottery commenced operations in 2005 and has grown at a rapid pace since its inception. Casino gaming has been in existence in the state since 1994. In 2012, the Harrah's Cherokee Casino Resort expanded to add 1,300 slot machines. Since the expansion, the North Carolina Education Lottery's sales have increased in all subsequent years through FY 2019. Additionally, 1,050 slot machines were introduced into the market in September of 2015 with the opening of Harrah's Cherokee Valley River Casino & Hotel. The subsequent positive growth trend in lottery sales indicates that new slot machines did not impact lottery performance.

The following graph illustrates North Carolina's gross lottery ticket revenue trend from FY 2007 through FY 2019. Casino openings and/or expansions are plotted to indicate how sales have performed in following years.

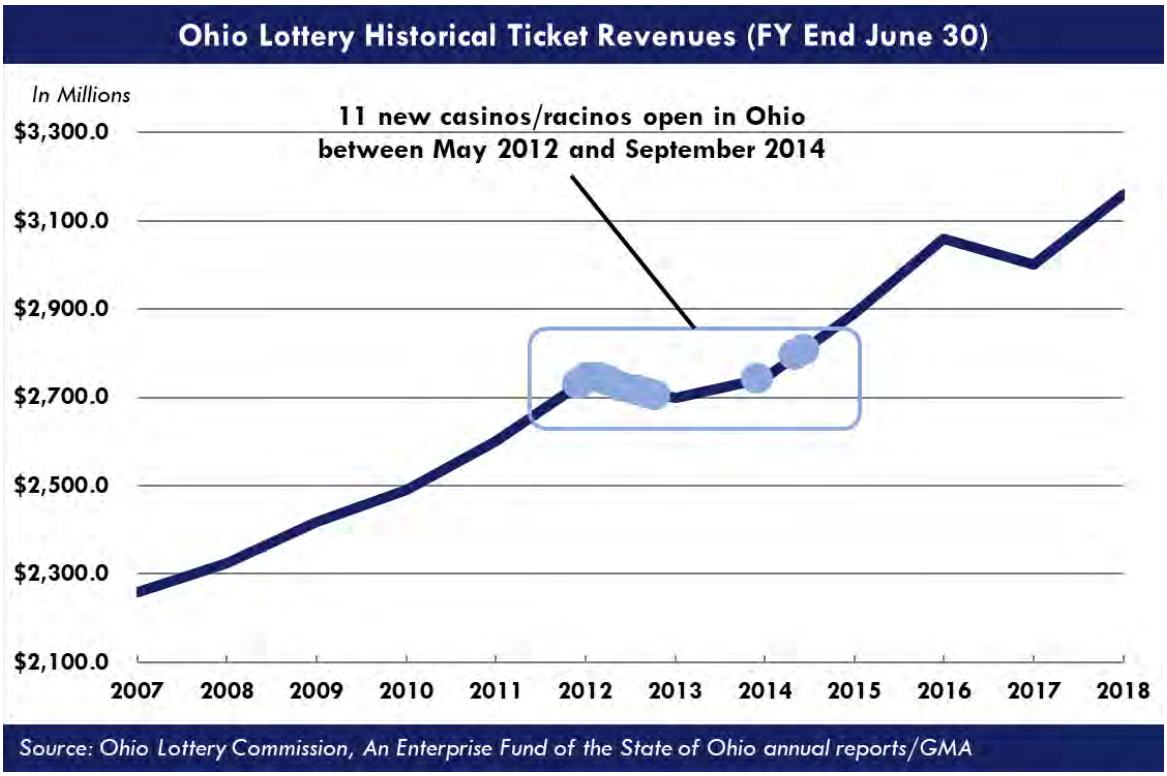


OHIO

Ohio's lottery started in 1974 and the state did not open its first casino until 2012, similar to the state of Maryland. GMA included Ohio in the analysis to examine a different state with a long-established lottery program and a sudden influx of casinos and racinos to understand how lottery sales performed in the following years.

Between May 2012 and September 2014, a total of 11 casinos opened in Ohio. These 11 casinos introduced over 20,000 slot machines and video lottery terminals into the market as well as approximately 400 table games. Lottery sales have increased year-over-year since these casinos opened, with the exception of 2013 compared to 2012 and 2017 versus 2016, where sales were down slightly by 1.5% and 1.9%, respectively. With these gaming positions fully absorbed into the Ohio market, lottery sales reached nearly $3.2 billion in FY 2018. Overall, lottery revenues have grown by a CAGR of 3.1% since FY 2007 through FY 2018.

The following graph illustrates Ohio's gross lottery ticket revenue trend from FY 2007 through FY 2018. Casino gaming openings and/or expansions are plotted to indicate how sales have performed in following years.

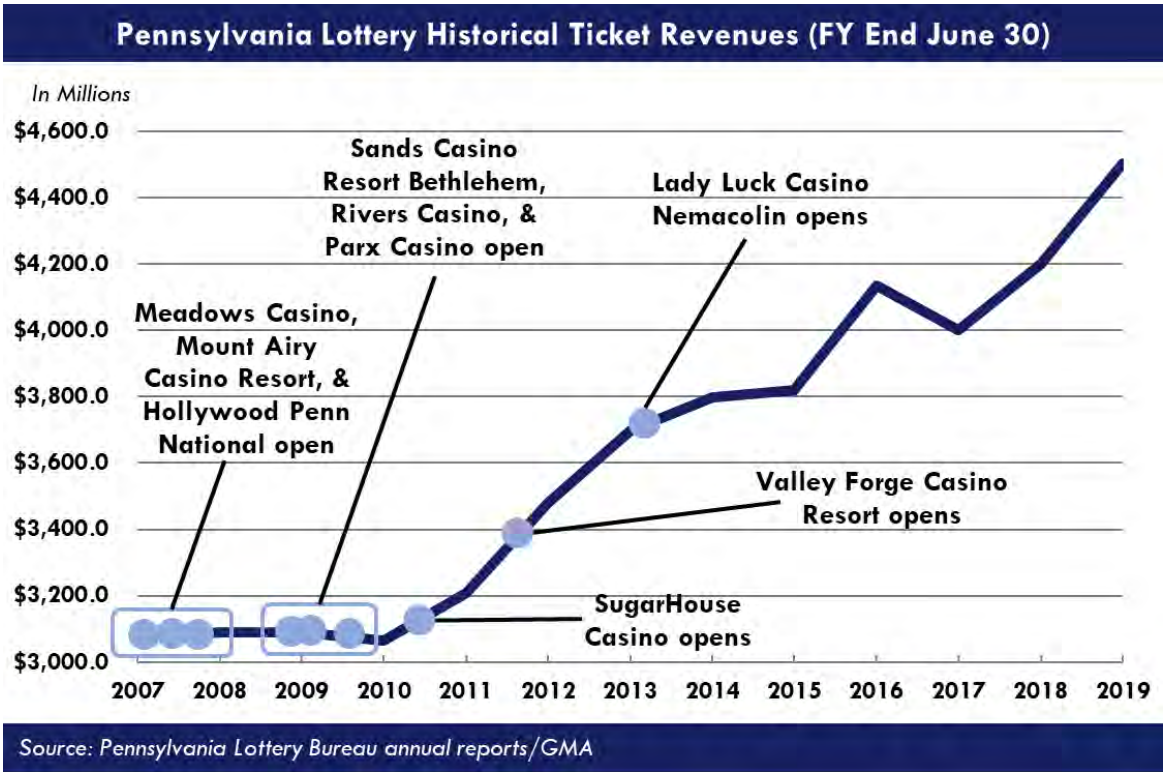


PENNSYLVANIA

Pennsylvania has gradually added new casino gaming options to complement its lottery that began in 1972. The first casino opened in 2006, and 11 casinos opened between 2007 and 2013. These included four casinos opening in 2007 with approximately 9,000 slot machines and 225 table games, collectively. Between 2008 and 2009, four more casinos opened to offer 10,700 more slot machines and 274 table games, collectively. Casinos then opened in subsequent years from 2010 to 2013, adding 2,800 more slot machines and 118 table games to the market.

From FY 2007 through FY 2019, lottery sales steadily increased, with only a slight decline in 2012-2013 and a 3.2% decrease in FY 2017. Overall, FY 2019 sales are over $1.4 billion higher than FY 2007 sales levels. This translates to an average annual growth rate of 3.2% since FY 2007 and indicates that the introduction of casino gaming had no effect on lottery performance.

The following graph illustrates Pennsylvania's gross lottery ticket revenue trend from FY 2007 through FY 2019. Casino openings and/or expansions are plotted to indicate how sales have performed in following years.


Pennsylvania Lottery Historical Ticket Revenues (FY End June 30)
In Millions
$4,600.0
$4,400.0
$4,200.0
$4,000.0
$3,800.0
$3,600.0
$3,400.0
$3,200.0
$3,000.0
Meadows Casino, Mount Airy Casino Resort, & Hollywood Penn National open
Sands Casino Resort Bethlehem, Rivers Casino, & Parx Casino open
Lady Luck Casino Nemacolin opens
Valley Forge Casino Resort opens
SugarHouse Casino opens
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
Source: Pennsylvania Lottery Bureau annual reports/GMA

III. CONCLUSION

Based on the comparable examples presented in this report, GMA found no conclusive evidence that the introduction of casino gaming had a material impact on lottery sales and overall financial performance. In the majority of examples where additional gaming machines were introduced into their respective gaming markets, lottery sales increased in the immediate subsequent year. All comparable jurisdictions maintained a positive overall average annual growth rate during the period examined. Therefore, GMA finds that the proposed Project scope under each scenario would not have an impact on the overall sales of the Oregon Lottery.

GMA estimates that the introduction of 650 slot machines would not have an impact on the Oregon Lottery for the following reasons. Distribution models that lotteries follow compared to casinos are distinctly different. Lottery tickets are available at thousands of retailers across a given state, whereas casino gaming is usually only available at a handful of locations. Additionally, the gaming experience offered through lottery products is very different than casino gaming experiences. Lottery players typically allocate a few dollars per day or per week to purchase tickets, or it is a spontaneous purchase when refueling or making a purchase at a local convenience store, whereas casino visits are planned events with a separate gaming budget, usually determined beforehand. While both offer forms of wagering, the motivations and entertainment experiences are vastly different.

Lottery sales fluctuate from year to year due to several factors not related to casino gaming developments in a given state. These factors include, but are not limited to, effective management, evolving marketing programs, popularity of games, changes in the number of retail locations, the introduction of new games, demographic shifts in markets, and changes in consumer confidence and spending.

The significant majority of lottery sales in virtually every state lottery is generated by instant and scratch-off ticket products. Sales of these products are primarily driven by the respective lottery's marketing efforts and retail distribution network. Additionally, the popularity of certain draw games such as Powerball and Mega Millions change depending on jackpot levels. These games as well as state-specific draw games can experience a surge in sales when jackpots are at unusually high levels. Sales can also be lackluster when these games are not marketed effectively and have lower jackpot levels. The financial performance of the Oregon Lottery will depend on these factors going forward. Additional casino openings and expansions, including the Project under its multiple scenarios, are not expected to impact the Oregon Lottery as supported by the examples presented in this report.

DISCLAIMER AND APPENDICES

I. DISCLAIMER

Specific information found within this report contains future estimates, projections and/or assumptions/statements. Global Market Advisors has based these future estimates, projections and/or assumptions/statements on assumed and reasonable expectations of future events. Although they are assumed to be reasonable, these future estimates, projections and/or assumptions/statements may not come to fruition. However, these future estimates, projections and/or assumptions/statements are based upon extensive knowledge of the subject environment, reasonable beliefs about expectations for the future of the subject environment, historical and existing trends, assumptions and strategies. As such, GMA has utilized phrasing including words like "would," "could," "should," "expect," "project," and "estimate" in this report. Statements found in this report reflect GMA's current expectations as of the date of this report.

GMA considers the expectations and estimates provided in this report reasonable. However, it is possible that these expectations and estimates are proven false in the future. Global Market Advisors has made its best effort to secure accurate information; however, some of the information contained in this report was received from third parties, whose sources Global Market Advisors did not verify. As it is not possible to predict future outcomes with absolute accuracy, these projections should be treated only as estimates of potential future results. Actual results may differ due to unforeseen events. Consequently, Global Market Advisors assumes no liability for the accuracy of these projections, to the extent that such projections rely on inaccurate estimates, statements or assumptions.

II. APPENDICES

FIRM QUALIFICATIONS

Global Market Advisors, LLC provides clients with market feasibility studies, primary research, economic impact studies, due diligence, payroll control, operations analysis, business and marketing plan development, and player reward program design for the gaming, hospitality and tourism industries. The principals and associates of GMA have hands-on experience in nearly all aspects of the gaming industry including domestic and international operations, project development, marketing expertise, and detailed market analysis.

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STEVEN M. GALLAWAY

Steve Gallaway is Managing Partner at Global Market Advisors. His areas of expertise include gaming market assessments, hotel and casino feasibility studies, operational reviews and marketing analysis.

Mr. Gallaway has spent his entire career in the gaming and hospitality industry, starting as a valet attendant and eventually rising to chief operating officer and managing partner of a casino in Colorado. Prior to forming GMA, he served as senior vice president of a hospitality consulting firm where he honed his craft in the fields of gaming market assessments and feasibility analysis. During the span of his career, Steve developed hands-on experience in operations management, organizational development, project development, business development, process improvement, contract negotiations, employee development, and customer service training.

In 2005, along with Andrew Klebanow, Mr. Gallaway formed Gaming Market Advisors. In 2014 the firm was rebranded as Global Market Advisors, reflecting the company's evolution as an international gaming, tourism and hospitality consulting firm.

Mr. Gallaway has completed over 300 feasibility studies, with a strong focus on international gaming operations and integrated resort development. Mr. Gallaway has worked on more than 60 projects in Asia, Western and Eastern Europe, the Caribbean, Central America, Canada, and Australia. His knowledge and understanding of emerging markets, particularly those in Asia, has led him to advise institutional investors on new market opportunities in that region, as well as an advisor on established markets. Today, Steve's clients include most public gaming companies, investment banks, private developers and government institutions.

Mr. Gallaway is a visiting lecturer at the University of Nevada Reno's School of Continuing Education where he teaches a class on casino feasibility analysis and marketing measurement. He is a periodic contributor to Global Gaming Business Magazine and Indian Gaming Magazine, and has spoken at G2E Las Vegas and the Asian Gaming Congress.

Mr. Gallaway graduated from Boston College with a B.A. in Economics.

ANDREW M. KLEBANOW

Andrew Klebanow specializes in Marketing Plan and Business Plan Development, Market Research, Casino Property Analysis, Service Quality Measurement Programs and Player Rewards Program Design exclusive to the gaming and hospitality industries.

Mr. Klebanow has worked in the hospitality industry since 1975 and in the fields of marketing and business planning since 1991. He earned a Bachelor of Arts degree at New York University and Master's Degree in Marketing from Cornell University's School of Hotel Administration.

From 1991-1993, he was Director of Marketing at Sahara Gaming Corporation's Hacienda Hotel and Casino and Director of Marketing and Planning for the parent company's Development Group.

Mr. Klebanow also worked as Director of Marketing for Alliance Gaming Corporation where he conducted the initial market research, consumer testing and marketing plan development for Gamblers Bonus, the industry's first cardless slot club for the company's Nevada slot route division. Gamblers Bonus was the first player tracking system that allowed customers to redeem bonus points for game credits at the machine.

As a consultant to Horseshoe Gaming, Klebanow conducted an analysis of the gaming market in Tunica, MS and subsequently prepared its pre-opening business and marketing plans. In addition, Mr. Klebanow wrote the opening marketing plan for the Horseshoe Casino in Bossier City, LA.

From 1996 to 1999, Klebanow was Vice President of Marketing for Santa Fe Gaming Corporation, where he oversaw the marketing efforts for the Santa Fe Hotel and Casino in Las Vegas and the

Pioneer Hotel and Gambling Hall in Laughlin NV. During his tenure at Santa Fe Gaming, his team repositioned both casinos' player rewards programs to better meet the needs of the business. His most recent position was that of Vice President of Marketing at Sam's Town Hotel and Gambling Hall, where he oversaw the repositioning of the 22-year-old gaming property and the re-branding of its player rewards program.

Mr. Klebanow formed his own consulting firm in 2001 and, together with Mr. Gallaway, formed Gaming Market Advisors in 2005. In 2013, Gaming Market Advisors acquired the consulting firm Galaviz and Co, and rebranded as Global Market Advisors, where Mr. Klebanow is a partner today.

Mr. Klebanow is a periodic lecturer at Cornell University's School of Hotel Administration and the University of Nevada Reno's School of Continuing Education. Mr. Klebanow has authored over 100 articles in Indian Gaming Magazine, Global Gaming Business, In Asian Gaming and in the online gaming publication Urbino.net. He has also contributed academic papers to the Cornell University Hotel and Restaurant Quarterly and the UNLV Hospitality Journal. Mr. Klebanow has written extensively on the subject of player reinvestment and has developed methodologies for calculating a casino's player reinvestment rate. Recently, he focused his attention on casino development in urban environments and published a paper on that subject.

Over the past twenty years Mr. Klebanow has spoken at a number of gaming conferences. He delivered a presentation on Player Reinvestment and Tiered Player Reward Program Design at the Asian Gaming Congress 2010 and on Casino Development in Eastern Russia in 2012. At G2E Asia 2010 he delivered a one-hour presentation entitled "Say My Name: The Application of Loyalty Programs in Asia." He also served as a panelist at G2E Asia 2011 on the Korean gaming market and in 2012 on the Manila gaming market. In 2013 he moderated a panel on marketing communications in Asia.

Mr. Klebanow also moderated panels and shared the lecture podium at G2E Las Vegas. In 2012 he moderated a panel discussion entitled "Risk and Rewards: Understanding Player Reinvestment." In 2013 he conducted a seminar entitled "An Introduction to Casino Operations" and spoke as a panelist in a session on Trends in Asian Tourism.

In April of 2015 he presented a paper entitled "Casinos and the City" at the Third Annual Asia Pacific Conference on Gambling and Commercial Gaming Research in Beijing and moderated a panel on Trends in Electronic Casino Marketing Communications at the Casino Marketing and Technology Conference in Las Vegas. Most recently, he moderated panel discussions on Gaming in Vietnam, Gaming in Regional Philippine Gaming Markets and Proxy and Digital-Live Gaming at the 2017 and 2018 ASEAN Gaming Summit. He also moderated a panel on Casino Entertainment and Technology at 2018 G2E Asia.

KIT L. SZYBALA

Kit L. Szybala is a Partner and the Executive Director of Operations at GMA. Mr. Szybala oversees the output and quality of GMA's feasibility studies, due diligence assignments, strategic planning assessments, and market assessments.

While at GMA, Kit has created over 175 robust financial models and worked on more than 275 engagements in various markets globally. As a part of completing these financial models and engagements, he has evaluated over 300 casinos and integrated resorts. Mr. Szybala has written a multitude of extensive, analytical reports, including feasibility studies, impact and cannibalization studies, gaming market assessments, hotel market assessments, non-gaming amenity analyses, and strategic planning assessments.

Kit has in-depth experience in various markets with detailed knowledge of markets in the United States, Canada, India, Japan, and Australia. Recently, he completed a white paper entitled "Gaming in India: An Evaluation of the Market's Potential" and assisted in the completion of the white papers entitled "Japan Integrated Resorts" and "An Examination of Sports Betting in America & Forecast of Revenues by State."

Mr. Szybala is a visiting lecturer on casino feasibility analysis at the University of Nevada, Reno's School of Continuing Education. He is a periodic contributor to Global Gaming Business Magazine and Asia Gaming Brief and is often referenced for his market insights in gaming industry articles. Kit frequently participates on panels and presents at industry conferences, seminars, and events, including ICE Totally Gaming, ICE VOX, and Sports Betting and Gaming India. Kit was recently honored as a part of the 2018-2019 Class of the Emerging Leaders of Gaming ("ELG") "40 Under 40." The program, presented along with Global Gaming Business Magazine, recognizes gaming industry professionals under the age of 40 who are making significant impacts on the casino gaming industry.

He began his career in hospitality working with Vail Resorts as a member of the Vail Resorts College Program. This program gave him valuable insight into hospitality management and operations by giving him various opportunities to meet with chief members of resort management. It also afforded him the opportunity to work in several different capacities for the corporation, giving him the opportunity to understand the intricacies of resort operations.

Kit graduated from Southern Methodist University as a Hunt Leadership Scholar with a B.B.A. in Finance, B.A. in International Studies – European Concentration, and minor in History

WILLIAM BRYSON

Bill Bryson has practiced law in New York and Taipei for over 25 years and is recognized as a leading lawyer in the fields of gaming, hospitality, real estate development, mergers and acquisitions and financial transactions.

Bill has extensive experience in the representation of local and foreign hospitality industry clients in their operations and investments, both in Taiwan and throughout Asia. Bill has represented casino gaming companies, gaming machine manufacturers and consultants to the industry in Taiwan and 38 other jurisdictions on a variety of issues, including:

- Corporate Structuring
- Taxes
- Employment Issues
- Marketing Restrictions
- Internet/Interactive Gaming
- Debt Collection
- Gaming Development

In connection with prior and ongoing efforts by Taiwan to legalize casino gaming, Bill has represented several gaming industry clients in connection with possible gaming development projects in Taiwan. These representations have involved due diligence on potential joint venture partners, negotiation of joint venture and deal documentation, due diligence on potential casino gaming locations, reviewing and commenting on draft laws and regulations, and preparing background materials for, and participating in, client lobbying efforts and meetings with government officials.

Bill has been acknowledged by Chambers Asia Pacific as a leading gaming lawyer in the region, and by Chambers Global as a leading lawyer in the global gaming industry. He has been a speaker at both the Asian Gaming Congress and G2E Asia, and currently serves on the Advisory Board of the Center for Research on Gaming and Lotteries, a division of the School of Business Administration at the National Taiwan University of Science and Technology.

Bill has also represented non-gaming interests in the hospitality industry, including both local hotel owners and foreign management companies. Bill's roles in such representations have included assisting local owners in the negotiation of letters of intent, hotel operation agreements, management agreements, franchise agreements, technical services agreements, and pre-opening services agreements. He has assisted foreign management companies in similar transactions, as well as in termination scenarios (including related hand-over issues) and owner insolvency proceedings.

Bill's merger and acquisitions, financing and real estate experience includes many "first of a kind" deals in Greater China, including the first-ever sale/leaseback of a commercial building in Taiwan,

the first multi-jurisdiction acquisition of non-performing loans in Taiwan, the first acquisition of non-performing loans in China by a foreign investor, the first cross-border limited recourse financing led by Taiwanese banks, the first acquisition of a listed local shipping company by a foreign investor, the first acquisition of a substantial stake in a local financial holding company by a Japanese bank, the largest (by value) acquisition of commercial real estate by a foreign investor in Taiwan, and the acquisition of a local Internet Service Provider by an American internet company. Bill has been acknowledged as a leading lawyer in M&A, real estate, and finance by Chambers Asia Pacific, Asia Pacific Legal 500, and *AsiaLaw* magazine's Leading Lawyers Survey.

Along with his gaming, hospitality and transactional experience, Bill also brings with him extensive experience in public advocacy. As a member of the Government Relations Committee of the American Chamber of Commerce in Taipei, as well as his roles as Chairman of the Private Equity Committee and member of the Travel and Tourism Committee, Bill has, for the past 20 years, been a regular and central member of the Chamber's advocacy efforts on behalf of foreign companies in Taiwan. Bill's advocacy experience includes working with both local and US government officials on issues of importance to American companies in Taiwan, reviewing and revising draft legislation and regulations, developing advocacy strategies for both clients and industry groups, and being an editor of the Chamber's annual Taiwan White Paper, a collection of position papers produced by the Chamber's industry Committees. Bill's efforts on behalf of foreign companies in Taiwan have been recognized by the American Chamber of Commerce with two Outstanding Achievement Awards.

Bill is a graduate of Duke University (B.A, Cum Laude, 1980) and Tulane University School of Law (J.D., Magna Cum Laude, 1984). He is licensed in the States of New York (1988) and Illinois (1984). While at Tulane, Bill took courses in both civil law and common law systems, a curriculum which, when combined with Bill's 26 years of working in Asia, has made Bill and expert in identifying and reconciling, in a project or transactional context, the different approaches taken by civil law systems and common law systems to the drafting of new laws and regulations and the interpretation of existing laws and regulations.

Gaming Market Assessment, The Mill Casino Expansion – January 2016

Global Market Advisors

Gaming Market Assessment
The Mill Casino Expansion
January 2016

This report has been redacted to protect confidential business information.

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I. EXECUTIVE SUMMARY

The Coquille Indian Tribe ("Tribe") owns and operates The Mill Casino, Hotel and RV Park ("Mill Casino") in North Bend, OR. To further the economic development of their business enterprises, the Tribe is considering the expansion of The Mill Casino. Depending on whether or not the expansion makes financial sense, the Tribe is also contemplating the construction of a gaming facility in Medford, OR. The Bureau of Indian Affairs ("BIA") has recently initiated the preparation of an Environmental Impact Statement ("EIS") as part of their submittal to move land into trust for the new facility in Medford. Analytical Environment Services ("AES") is under contract with the BIA to assist in the completion of the EIS.

AES engaged Global Market Advisors ("GMA" or "Consulting Team") to prepare a feasibility study regarding the proposed expansion of the existing Mill Casino. The Consulting Team focused its analysis on the current markets that the facility serves, the utilization rates that are currently experienced at The Mill Casino, and the types of competitors that share the gaming market. Once those factors were understood, GMA forecasted the incremental revenue and Earnings Before Income, Taxes Depreciation, and Amortization ("EBITDA") that would be generated by the expansion.

GMA provides clients with market feasibility studies, primary research, economic impact studies, operations analysis, business and marketing plans, and player reward program design. The partners and associates of GMA have hands-on experience in nearly all aspects of the gaming industry including domestic and international operations, project development, marketing expertise, and detailed market analysis. GMA is very familiar with gaming in this region, having completed numerous studies for casinos in the northern California and Oregon markets.

SUMMARY OF RESULTS

For the purposes of this analysis, GMA assumed that The Mill Casino would undergo an expansion of its gaming and non-gaming amenities. Specifically, GMA assumed the facility would expand its gaming offering by 650 slot machines and its non-gaming offering to include a deli and bar. To understand this expansion's impact on gaming revenue and EBITDA, GMA prepared projections for 2019, as it was assumed the expanded property would be fully operational at the beginning of 2018.

The proposed expanded facility is expected to generate approximately [redacted] in gaming revenue and [redacted] in gross revenue in the subject year. This represents an increase of $5.2 million in gaming revenue, $6.4 million in gross revenue, and nearly $1.0 million in EBITDA

over the Base Scenario, in which the facility does not expand. The following table illustrates the results of this analysis in greater detail.

The Mill Casino ProForma Income Statement Scenario Comparison, 2019

	Base Scenario	Scenario 1	Change
Gaming Revenue	$ [redacted]	$ [redacted]	$ 5,188,501
Gross Revenue	$ [redacted]	$ [redacted]	$ 6,436,965
Net Revenue	$ [redacted]	$ [redacted]	$ 5,840,749

Source: GMA

Although the facility is expected to increase its gaming revenue by $5.2 million in the subject year, each new slot machine is only expected to garner $21.87 per slot per day. This incremental gaming revenue is only expected to translate to nearly $1.0 million in EBITDA. If the expanded slot machine offering were to cost approximately $25,000 per machine, it would take approximately 16.9 years for the facility to realize a return on this additional slot machine investment. It should be noted that this brief analysis does not even consider the large expected cost of construction. As such, GMA does not recommend that The Mill Casino undergo this expansion at this time.

II. ENGAGEMENT OVERVIEW

The Consulting Team utilized the following methodology to complete this engagement.

METHODOLOGY

REVIEW OF SECONDARY MARKET RESEARCH

GMA initiated this engagement with a review of secondary market research. The Consulting Team estimated the gaming performance for the gaming facilities in close proximity to The Mill Casino by utilizing information in the public domain as well as its understanding of the market's historical performance. With this information compiled, the Consulting Team was better positioned to understand the trends within the market. In addition, the Consulting Team reviewed the actual operating performance of The Mill Casino to understand revenue levels achieved and the sources of those revenues today.

SITE VISIT

GMA then performed a site visit to the market area. The Consulting Team examined the facility's location, proximity to nearby population centers, local road network and access to regional highways. With an understanding of the site, the Consulting Team then visited each of the primary and secondary competitors in the market area. For each facility, the Consulting Team evaluated the gaming facility's overall appeal, gaming and non-gaming amenities, parking, access to the regional highway network, and proximity to regional population centers.

ANALYSIS

GAMING DEMAND FORECASTING MODEL

To understand the gaming revenue potential for the proposed expansion, GMA developed a series of gravity models. The gravity model is a business forecasting model based on Newton's Universal Law of Gravitation. Newton's Law of Gravitation simply states that every particle in the universe attracts every other particle with a force that is directly proportional to the product of their masses and inversely proportional to the square of the distance between them. Newton's theory, which was first published in his 1687 work, "Mathematical Principles of Natural Philosophy," started to be adapted for commercial applications early in the 20th century.

Through a number of modifications, Newton's Law of Gravitation can be applied to the gaming industry. While a casino twice the size of another may not have twice the attraction of another, it does have some constant increased factor of attraction. In terms of distance, squaring the distance is not necessarily always the right figure. Typically, the power to which the distance is

taken varies from a factor 1.5 to 2.5. The reason for this is that actual distance between two objects will have a different impact on communities throughout the United States. This is primarily attributed to varying traffic patterns and geographical barriers between different communities, which results in significant changes in drive time. For example, for an individual living in rural Texas, traveling 100 miles to reach a business may not be perceived as a barrier as it would likely take less than 1.5 hours to reach. However, for someone living in the middle of New York City, 100 miles could take up to three hours due to traffic congestion.

By estimating revenue levels at each of the gaming properties within the competitive set, researching the number of gaming positions provided within each, visiting each facility to understand their relative aesthetic attractiveness (including a consideration of non-gaming amenities), and utilizing gaming factors from proprietary and public sources, the model was calibrated to current market performance. Once calibrated, GMA then grew the model to the subject year, 2019, to create a "Base Scenario" in which the facility does not expand. In the Base Scenario, GMA layered in the impact of any assumed changes to gaming market supply. Finally, GMA layered in the proposed expansion, forecasting the gaming revenue that would likely accrue to the facility in the subject year ("Scenario 1").

PROFORMA INCOME STATEMENT ANALYSIS

With gross gaming revenues for the expansion projected, GMA prepared a combined five-year ProForma Income Statement for both the Base Scenario and Scenario 1. As part of this exercise, GMA projected all expenses and other revenues associated with the Project. GMA utilized its operational knowledge of other comparable facilities in similar markets in addition to the existing operational performance of The Mill Casino to prepare the ProForma Income Statement. The Consulting Team prepared the ProForma Income Statements down to the EBITDA line. By comparing the projected EBITDA of the facility in the Base Scenario and Scenario 1, GMA estimated incremental EBITDA resulting from the expansion.

III. ECONOMIC AND DEMOGRAPHIC OVERVIEW

To gain a better understanding of the local market, GMA examined a variety of economic indicators. The first step was to perform a drive time population analysis, quantifying population and income statistics in the immediate market area and surrounding region. Next, historical unemployment rates for Coos County and the State of Oregon were evaluated. GMA then compared those statistics to the national average to provide insights into the strength and stability of the regional economies. Local wage trends were also analyzed, which quantified total employment and annual mean wages for each targeted region.

DRIVE TIME POPULATION

The Consulting Team analyzed the drive time populations for the 0-30 minute, 30-60 minute, and 60-90 minute drive time regions surrounding The Mill Casino. The largest population totals occurred within the 0-30 and 30-60 minute drive time regions, with total populations quantified at 42,143 and 25,304, respectively in 2014. Both drive time populations are projected to decrease over the next five years at average annual rates of 0.4% and 0.3% Total population for all three drive times was quantified at 83,989 in 2014. Total population for all drive times is also projected to decrease over the next five years at an average annual rate of 0.2% and is expected to drop to 83,017 in 2018. The following table details each drive time region and its corresponding population estimates and projections.

Total Population Drive Time Analysis*

Minutes	2014	2019	CAGR ('14-'18)
0-30	42,143	41,308	-0.4%
30-60	25,304	24,946	-0.3%
60-90	16,542	16,765	0.3%
Total	**83,989**	**83,017**	**-0.2%**

Source: PCensus/GMA

**Drive time from Mill Casino*

EMPLOYMENT TRENDS

From 2008 through 2014, the State of Oregon maintained a higher unemployment rate than the United States ("U.S.") as a whole. In 2008, during the beginning of the economic recession, the U.S. unemployment rate was 5.8% whereas the State of Oregon unemployment rate was 6.4%. The U.S. rate peaked in 2010 at 9.6%, while the State of Oregon rate peaked in 2009 at 11.3%. The State of Oregon rate began to recover in 2010 and continued into 2014, with the

unemployment rate dropping to 6.9% in that year. The U.S. rate also started to recover in 2010, experiencing a similar pattern of recovery.

The Coos County unemployment rate followed the same trend as the rest of the country, but maintained a higher unemployment rate than the State of Oregon and the U.S. as a whole. In 2009, Coos County had an unemployment rate of 13.0%. In the following five years, the rate decreased significantly, reaching 9.2% in 2014. Although the regional unemployment rate recovered to early recession levels, the unemployment rate still remained 2.3% higher than the State of Oregon rate and 3.0% higher than the U.S. rate. The following table details unemployment data from 2008 through October 2015 for Coos County, the State of Oregon, and the U.S.

Unemployment Rates			
	Coos County	State of Oregon	U.S.
Oct 2015	6.9%	6.0%	5.0%
Sep 2015	7.3%	6.2%	5.1%
Aug 2015	7.8%	6.1%	5.1%
Jul 2015	8.1%	5.9%	5.3%
Jun 2015	7.4%	5.5%	5.3%
May 2015	6.9%	5.3%	5.5%
Apr 2015	7.0%	5.2%	5.4%
Mar 2015	7.7%	5.4%	5.5%
Feb 2015	8.2%	5.8%	5.5%
Jan 2015	8.7%	6.3%	5.7%
2014	9.2%	6.9%	6.2%
2013	10.2%	7.9%	7.4%
2012	11.1%	8.8%	8.1%
2011	11.6%	9.5%	8.9%
2010	12.7%	10.6%	9.6%
2009	13.0%	11.3%	9.3%
2008	8.3%	6.4%	5.8%

Source: Bureau of Labor Statistics/GMA

WAGE TRENDS

With unemployment trends examined, GMA evaluated local wage trends in the region. In evaluating the effect on wages, GMA examined historical employment and wage data for the Coastal Oregon Nonmetropolitan Area.

In 2008 the region had total employment of 73,420 with an annual mean wage of $34,010. Although total employment decreased over the next four years due to the recession, the annual mean wage continued to increase. By 2014, the annual mean wage was $37,690 which represented an average annual increase of 1.7%. Total employment began to recover in 2013 and reached 68,930 in 2014. Total income shared a similar pattern, with steady increases starting in 2011. In 2010, total income dropped to a six year low of $2.5 billion; however total income increased at an average annual rate of 1.2% over the next four years, reaching $2.6 billion in 2014. The following table illustrates this analysis in greater detail.

Regional Employment and Wage Summary

	2008	2009	2010	2011	2012	2013	2014
Coastal Oregon Nonmetropolitan Area							
Total Employment	73,420	70,340	68,530	68,220	67,910	68,350	68,930
Annual Mean Wage	$34,010	$35,280	$36,150	$36,360	$36,750	$36,980	$37,690
Total Income (000)	**$2,497,014**	**$2,481,595**	**$2,477,360**	**$2,480,479**	**$2,495,693**	**$2,527,583**	**$2,597,972**

Source: Bureau of Labor Statistics

IV. COMPETITIVE OVERVIEW

GMA conducted a competitive analysis for each casino in the regional competitive set. To accomplish this task, members of the Consulting Team visited each casino property in the region and evaluated existing metrics quantifying and qualifying the size and scope of each existing facility and its amenities. Additionally, the Consulting Team evaluated any new additions to supply or anticipated market changes during its competitive assessment. This chapter summarizes the existing and proposed primary, secondary, and tertiary competition in the region.

PRIMARY COMPETITION

THREE RIVERS COOS BAY

Three Rivers Coos Bay Casino is located in Coos Bay, OR and is owned and operated by the Coos, Lower Umpqua & Siuslaw Indians. The facility is located 2.6 miles west of The Mill Casino. The property recently opened in May 2015, and is the newest casino in the region. The property only offers Class II gaming. The casino features 250 Class II machines and does not offer any table games. The facility also offers patrons one dining/bar option, Café 1297. Although lighting is extremely bright inside the casino, the facility provides a vibrant and entertaining atmosphere to its patrons.

Casino

- 250 Class II electronic gaming machines

Food & Beverage

- Café 1297

Parking

- Surface parking

THREE RIVERS CASINO & RESORT

Three Rivers Casino & Resort is also owned and operated by the Coos, Lower Umpqua & Siuslaw Indians. This Class III facility is located in Florence, OR, approximately 50 miles north of The Mill Casino. The casino is one of the largest gaming options in the region and features a busy and energetic atmosphere. The casino features 750 Class III slot machines, nine table games and two poker tables. The property also offers four dining options including a buffet, sports bar, and grill. The casino features a 90-room hotel and several other amenities, including a nearby golf course, RV park, gift shop, and meeting/conference rooms. During the site visit,

the Consulting Team learned that the casino plans to add an additional 107 rooms in the near future to accommodate growing casino and hotel demand.

Casino

- 750 Class III slot machines
- 9 table games
- 2 poker tables

Food & Beverage

- World Market Buffet
- Blue Bulls Sports Bar
- Sunset Grill
- Sweet Treats (café)

Parking

- Surface parking
- Valet parking

Hotel

- 90 standard rooms and suites

Amenities & Entertainment

- Nearby golf course
- RV Park
- Gift shop
- Meeting/conference rooms

SEVEN FEATHERS CASINO & RESORT

Seven Feathers Casino & Resort is located in Canyonville, OR and is 95 miles east of The Mill Casino. This facility is owned and operated by the Cow Creek Tribe. The casino features 1,025 Class III slot machines and ten table games. The property has effective signage along I-5, and has excellent visibility and access from the highway. The property offers one of the better gaming experiences in the region, although the food and beverage amenities are subpar. Dining options include four restaurants, two lounges, and a café. It is important to note that the facility's lounge is currently undergoing renovation. The facility also features a connecting hotel with 300 standard rooms and suites. Amenities and entertainment options include live music, an RV park, pool & spa, art gallery, and 25,000 square feet of meeting and convention space.

Casino

- 1,025 Class III slot machines
- 10 table games

Food & Beverage

- K-Bar Steak House
- Cow Creek Restaurant
- Buffet
- Stix Sports Bar
- Kabi Café
- Steelhead Lounge
- Cabaret Lounge

Parking

- Surface parking
- Valet parking

Hotel

- 300 standard rooms and suites

Amenities & Entertainment

- Live music
- RV park
- Pool and spa
- Art gallery
- Meeting/convention space

SECONDARY COMPETITION

KLA-MO-YA CASINO

Kla-Mo-Ya Casino is a casino located in Chiloquin, OR and is 225 miles southeast of The Mill Casino. The property, owned and operated by the Klamath, Modoc & Yahooskin Tribes, serves as a convenient based gaming option for the local population and traffic intercept market. The property has very limited amenity options and the interior has no cosmetic appeal. A majority of the facility's gaming machines are old and outdated. The casino features 356 Class III gaming machines and three table games. The facility only offers one full service restaurant, which also serves as a lounge and bar.

Casino

- 356 Class III slot machines
- 3 table games

Food & Beverage

- Peak to Peak (restaurant & lounge)

Parking

- Surface parking

Amenities

- Gift shop

LUCKY 7 CASINO

Lucky 7 Casino is located in Smith River, CA and is 120 miles south of The Mill Casino. The property, owned and operated by the Tolowa Dee-ni' Nation, has excellent access to U.S. 101, and serves both the local population and regional tourists. The facility's interior features a lodge style décor with wooden and stone pillars. The casino features 318 Class III slot machines, four table games, and three poker tables. The property offers two dining options including a full service restaurant and a sports bar. There is also a connecting hotel that features 70 standard rooms and suites. Amenities and entertainment options include a connecting gas station, pool, business center, gift shop, and 6,400 square feet of meeting and convention space.

Casino

- 318 Class III slot machines
- 4 table games
- 3 poker tables

Food & Beverage

- House of Howonquet Restaurant
- Club 7 Sports Bar

Parking

- Surface parking

Hotel

- 70 standard rooms and suites

Amenities & Entertainment

- Pool

- Connecting gas station
- Business center
- Gift shop
- Meeting/convention space

ELK VALLEY CASINO

Elk Valley Casino is located in Crescent City, CA and is 135 miles south of The Mill Casino. The property is one of three gaming options near the California/Oregon border. The facility has a very worn-down exterior, which is matched by its interior. The air quality is very poor, and a visible cloud of cigarette smoke fills the casino. Although the casino was recently expanded to add a non-smoking room, the expanded area lacks synergy with the rest of the gaming floor, creating an isolated and disconnected gaming room. The casino features 307 Class III slot machines, two table games, and seven poker tables. The property offers one dining option: Full House Bar & Grill.

Casino

- 307 Class III slot machines
- 2 table games
- 7 poker tables

Food & Beverage

- Full House Bar & Grill

Parking

- Surface parking

Amenities

- Nearby RV park
- Meeting & convention room

EXISTING VIDEO LOTTERY TERMINAL COMPETITION

Along with the casino based gaming facilities mentioned in this section, the State of Oregon is home to 11,951 video lottery terminal machines ("VLTs"). These VLTs are operated by the State of Oregon and are located in bar and retail establishments. In 2013 and 2014, the State of Oregon's VLTs generated approximately $737.4 million and $742.7 million, respectively, in revenue. Currently, the State of Oregon is upgrading its VLTs gaming offerings and technology. Although regional VLT facilities offer a less attractive gaming option than regional Class III and Class II gaming facilities, they still compete for a substantial portion of the regional customer's annual gaming spend and enhance the overall maturity of the gaming market as a whole.

TERTIARY COMPETITION

The following table details the remaining tertiary competition in the broader region. Although each casino competes minimally with the subject facility, the Consulting Team evaluated and considered each facility to understand the greater competitive set as a whole. In total, the remaining regional gaming facilities offer 4,537 gaming devices, 65 table games and 27 poker tables.

Tertiary Competition

	Slots	Table Games	Poker Tables
Chinook Winds Casino Resort	1,200	22	5
Spirit Mountain Casino	1,812	18	15
Redwood Hotel Casino	125	0	0
Win-River Casino	600	12	7
Kah Nee Ta/Indian Head Casino	800	13	0
Total	**4,537**	**65**	**27**

Source: GMA

PROPOSED COMPETITION

GMA also evaluated whether any new gaming facilities are expected to enter the marketplace in the near future. In this evaluation, GMA determined that one new casino is expected to open in the greater market area. The Karuk Tribe of Northern California is expected to open a casino in Yreka, CA by March 2017 ("Karuk Casino"). The casino is expected to be developed in two phases. The first phase of the facility will feature 500 gaming machines, 8 table games, a 100-seat restaurant and parking. In the second phase, the facility is expected to add an 80 room hotel, more parking, 300 new gaming machines and 8 additional table games with 20,000 square feet of additional gaming space. As the Karuk Tribe is currently finalizing financing for the casino, GMA included the facility in the projections presented later in this report.[1] It is important to note that GMA assumed the Karuk Casino would be open by the beginning of 2018, making 2019 the casino's first year of stabilized operations. For the purposes of this analysis, GMA assumed the facility would open with all of the amenities proposed in both development phases.

[1] http://www.karuk.us/index.php/menu-karuk-casino

V. GAMING MARKET ASSESSMENT

GREATER COQUILLE MARKET AREA DEFINITIONS

The first step in performing the Gaming Market Assessment was to divide the greater Coquille market area into market segments based on variations in the demographic composition of the various communities, access to the subject facility as well as competing facilities, and the availability of other (non-gaming) entertainment activities.

The map on the following page illustrates the ten segments used in this analysis and the location of each casino in the region. The map is followed by a brief discussion of the demographic composition of each individual market segment. For each market segment, total population, adult (21+) population, and average annual household income ("AAHI") were quantified.

GREATER COQUILLE MARKET SEGMENT MAP

DEMOGRAPHIC SUMMARY

COOS BAY

The Coos Bay market segment is located between the Coastal North and Coastal South markets, and has two gaming facilities within its borders: The Mill Casino and Three Rivers Casino Coos Bay. In 2014, this market had a total population of 49,922 residents. Approximately 77% of this market segment's population were adult, with 21+ population reported at 38,689 during that same year. The number of total residents is projected to decrease at a rate of 0.4% through 2019 with total and adult population estimated at 48,930 and 37,934, respectively.

Income levels in this market were below the average AAHI of the ten analyzed regions, with AAHI quantified at $51,400 in 2014. AAHI is estimated to undergo growth, projected at 1.4% annually, and is estimated to reach $55,021 in 2019.

COASTAL NORTH

The Coastal North market segment extends north of the Coos Bay market segment and includes the City of Florence. This area contained a total population of 51,264 in 2014. Total population is expected to stay stagnant in the coming years; however, the adult population is projected to grow slightly at an average annual rate of 0.1%. Adult population is projected at 41,864 in 2019.

The Coastal North market segment AAHI was estimated to be below the AAHI average of the ten analyzed regions, with an AAHI of $50,870 in 2014. AAHI is estimated to have a growth rate of 1.2% and is projected to reach $53,889 in 2019.

EUGENE

The Eugene market segment extends east from the Coastal North market segment and contains the cities of Eugene and Springfield. This market segment does not contain any gaming facilities within its borders. The area was home to 333,721 residents in 2014. Total population is projected to reach 341,807 in 2019. Adults represented approximately 74% of the market's population with 21+ population reported at 247,424 in 2014. Adult population is projected to grow by an average annual rate of 0.8% and is estimated at 256,951 in 2019.

Income levels in the Eugene market segment were higher than any of the other analyzed market segments, with AAHI quantified at $57,491 in 2014. AAHI is estimated to undergo growth and is projected to reach $60,293 in 2019.

CENTRAL

The Central market segment extends south from the Eugene market segment and does not contain any gaming facilities. In 2014, total population was quantified at 121,438. Adults represented roughly 76% of this region's population, with 21+ population reported at 92,451 during that same year. Both total and adult population levels in this market are estimated to grow with total and adult populations estimated at 121,766 and 93,220 in 2019.

The Central market segment had slightly lower income levels than the AAHI average of the ten markets, with AAHI of $53,825 in 2014. AAHI in this market is projected to grow at an average annual rate of 1.2% and is estimated to reach $57,204 in 2019.

MEDFORD

The Medford market segment extends south from the Central market segment and runs along the California/Oregon border. This market had a total population quantified at 307,754 in 2014. Adults represented roughly 76% of this region's population, with 21+ population reported at 232,715 during that same year. Both total and adult population levels are estimated to grow, with these populations estimated at 317,067 and 241,583, respectively, in 2019.

The Medford market segment AAHI is estimated to be above the AAHI average of the ten markets, with AAHI reported at $55,203 in 2014. AAHI in this segment is projected to grow at an average annual rate of 1.0% and is estimated to reach $58,075 in 2019.

COASTAL SOUTH

The Coastal South market segment is located south of the Coos Bay market segment and does not contain any gaming facilities. The area was home to a total of 34,918 residents in 2014. This market is projected to grow with total population projected at 34,978 in 2019. Adults accounted for approximately 81% of the local population, with 21+ population reported at 28,332 in 2014. Adult population is also estimated to decline to 28,178 in 2019.

Income levels in the Coastal South market segment were below the average of the ten market segments, with the market segment's AAHI quantified at $48,672 in 2014. AAHI is estimated to undergo growth in the coming years and is projected at $51,893 in 2019.

NATIONAL FOREST

The National Forest market segment extends east from the Central market segment and does not include any gaming facilities within its borders. The market had 4,922 total residents in 2014, of which 3,867 were at least 21 years of age. This segment is projected to experience

population growth in the coming years, with total and adult population estimated at 4,953 and 3,904 in 2019.

The National Forest market segment's AAHI was below the AAHI average of the ten analyzed regions with AAHI quantified at $50,929 in 2014. AAHI is projected to grow at an annual rate of 1.2% and is estimated to reach $54,052 in 2019.

CHILOQUIN

The Chiloquin market segment is located east of National Forest market segment, and includes the City of Chiloquin. This market segment contains one gaming facility: the Kla-Mo-Ya-Casino. The region had a total population of 4,441 in 2014. Adults represented approximately 81% of the population with 21+ population at 3,619 in 2014. Total population is expected to decline with total population estimated at 4,413 in 2019. Adult population is also expected to decline with adult population estimated at 3,564 during that same year.

The Chiloquin market segment's AAHI was the lowest among all of the analyzed market segments in 2014. AAHI in this market was quantified at $39,579 in that year and is projected to grow at an average annual rate of 1.1%, reaching $41,785 in 2019.

KLAMATH FALLS/ALTAMONT

The Klamath Falls/Altamont market segment extends south from the Chiloquin market segment and runs along the California/Oregon border. This market does not contain any gaming facilities. The region had a total population of 58,955 in 2014. Adults represented approximately 73% of the population with 21+ population reported at 42,767 during that same year. Total population is estimated to decline with total population estimated at 58,595 in 2019. Adult population is also expected to decline to 41,930 by that same year.

The Klamath Falls/Altamont market segment is slightly below the AAHI average of the ten analyzed markets with AAHI quantified at $54,683 in 2014. AAHI in this market is projected to grow at an average annual rate of 1.1% and is projected to reach $57,739 in 2019.

NORTHERN CALIFORNIA

The Northern California market segment is located south of the Medford and Klamath Falls/Altamont market segments and does not contain any gaming facilities within its borders. In 2014, this market had a total population of 42,735 residents. Approximately 76% of this market's population were adults, with 21+ population reported at 32,499 during that same year. The number of total residents is projected to decrease at a rate of 0.9% annually in the

coming years with total and adult population estimated at 40,863 and 31,145, respectively, in 2019.

Income levels in this market segment were below the average AAHI of the ten analyzed regions, with AAHI quantified at $50,177 in 2014. AAHI is estimated to undergo growth, projected at 1.2% annually, and is estimated to reach $53,272 in 2019.

The tables below summarize the demographic analysis for each market segment.

Total Population by Market Segment			
	2014	2019	CAGR ('14-'19)
Primary	49,922	48,930	-0.4%
Coastal North	51,264	51,377	0.0%
Eugene	333,721	341,807	0.5%
Central	121,438	121,766	0.1%
Medford	307,754	317,067	0.6%
Coastal South	34,918	34,978	0.0%
National Forest	4,922	4,953	0.1%
Chiloquin	4,441	4,413	-0.1%
Klamath Falls/Altamont	58,955	58,595	-0.1%
Northern California	42,735	40,863	-0.9%
TOTAL	**1,010,070**	**1,024,749**	**0.3%**
Source: Pcensus, GMA			

Adult Population (21+) by Market Segment			
	2014	2019	CAGR ('14-'19)
Primary	38,689	37,934	-0.4%
Coastal North	41,593	41,864	0.1%
Eugene	247,424	256,951	0.8%
Central	92,451	93,220	0.2%
Medford	232,715	241,583	0.8%
Coastal South	28,332	28,178	-0.1%
National Forest	3,867	3,904	0.2%
Chiloquin	3,619	3,564	-0.3%
Klamath Falls/Altamont	42,767	41,930	-0.4%
Northern California	32,499	31,145	-0.8%
TOTAL	**763,956**	**780,275**	**0.4%**
Source: Pcensus, GMA			

Average Annual Household Income by Market Segment			
	2014	2019	CAGR ('14-'19)
Primary	$51,400	$55,021	1.4%
Coastal North	$50,870	$53,889	1.2%
Eugene	$57,491	$60,293	1.0%
Central	$53,825	$57,204	1.2%
Medford	$55,203	$58,075	1.0%
Coastal South	$48,672	$51,893	1.3%
National Forest	$50,929	$54,052	1.2%
Chiloquin	$39,579	$41,785	1.1%
Klamath Falls/Altamont	$54,683	$57,739	1.1%
Northern California	$50,177	$53,272	1.2%
Average	**$54,768**	**$57,801**	**1.1%**

Source: Pcensus, GMA

GAMING FACTORS AND OVERALL MARKET SIZE

Gaming factors consist of Propensity and Average Annual Win. For the purposes of this assessment, GMA added an additional category to reflect the percentage of gamer visits that will accrue to casinos and VLTs that were not included in the defined local market. This allows the model to account for those visits lost to regional VLT facilities, as well as other jurisdictions such as Reno/Tahoe and Las Vegas, and allowed the model's gaming factors to be calibrated to the actual behaviors of regional gaming patrons. It is important to note that GMA sized the total market to include the regional VLTs to ensure accuracy of the calibration of the model. The multiplication of these gaming factors by a market's adult population and its AAHI determine the gross levels of gaming revenue generated by the subject market.

PROPENSITY

Propensity represents the percent of the adult population (defined as people age 21 and over) that will visit a casino at least once in a given year. Propensity factors experience large ranges throughout the United States. At the high-end of the scale is the local Las Vegas market in which almost 70% of adults gamble. In rural sections of the country with few gaming options, this factor can be as low as 17%. In the greater Coquille market area, relatively high gaming factors are expected as this population has had exposure to gaming facilities for quite some time.

Gaming factors in the United States have remained fairly constant over the past few years and generally only change with the addition of new casinos. However, the onset of the recession has had an estimated negative one or two percentage point impact on these figures. In estimating gaming factors, GMA utilized gaming propensities published in Harrah's Survey of the American Gambler and proprietary research data gathered by GMA as well as other sources.

AVERAGE ANNUAL WIN

Average Annual Win ("Average Win") represents the amount of money a gamer in a market will lose on average to a casino over a twelve month period. This factor is generally dependent on a player's average household income and distance that he/she must travel to reach a casino. Average Win is based on a percentage of a player's AAHI.

Average Win as a percent of gamers annual income figures experienced in the greater Coquille market area are higher than other gaming markets around the country. Percent income figures in the market area range from 1.5% to 2.3% compared to other gaming markets where this figure ranges between 1.1% and 2.6%.

GAMING REVENUE PROJECTIONS

2014 CALIBRATION

By analyzing and estimating historical gaming revenue levels at each of the casino and VLT facilities within the competitive set, researching the number of gaming positions provided within each competitor's casino, visiting each facility to understand their relative aesthetic attractiveness (including a consideration of non-gaming amenities) and utilizing gaming factors from both public and proprietary sources, GMA was able to calibrate the model to current market conditions. To further calibrate the model, GMA adjusted the percentage of potential gaming revenue that would flow to casinos in the model. This allowed GMA to isolate the casino gaming market from the VLT gaming market and understand how gaming revenue is currently distributed between regional casino facilities and regional VLT facilities. To increase the accuracy of the gravity model, GMA gathered historical database information detailing the source of The Mill Casino's gaming customers and revenue during the last twelve months ("TTM") and calibrated the model accordingly.

2019 BASE PROJECTIONS

Once the gravity model was calibrated, GMA constructed a forecasting model to grow the market to 2019. For the purposes of this analysis, gaming revenue projections were made for 2019, as it was assumed that the expanded facility in Scenario 1 would be fully open at the

beginning of 2018. Therefore, 2019 would represent the first year of stabilized operations. As such, GMA also prepared Base Scenario projections for 2019. GMA utilized projected population and income figures for the subject year to make these projections.

GMA assumed that the Karuk Casino would open in 2018 with the defined scope described earlier in this report. This new market entrant is expected to marginally increase gaming factors in the immediate region, as nearby market segments do not have proximate access to gaming facilities today. GMA also assumed that gaming revenue levels would continue to mature at the newly opened Three Rivers Coos Bay and that the Three Rivers Casino Resort would open an additional 107 rooms by 2018. With these fully stabilized and expanded competitors in the market, the facility is expected to generate approximately [redacted] in gaming revenue in the subject year assuming the facility is not expanded.

SCENARIO 1: 2019 WITH MILL CASINO EXPANSION

In Scenario 1, GMA layered in the impact of the proposed expansion at The Mill Casino. In making its projections, GMA assumed that the expansion would offer an additional 650 slot machines, deli and bar. GMA estimates that the expanded facility would generate approximately [redacted] in gaming revenue in 2019. It is important to note that GMA assumed that the expanded gaming facility would not stimulate new market growth, as the immediate region is appropriately served by numerous gaming facilities today.

FIVE-YEAR TOP LINE GAMING REVENUE

With total gaming revenues projected for the subject year, GMA prepared five year top line gaming revenue projections for the facility in both scenarios. The following tables illustrate these projections as well as the expected win per slot and win per table statistics for the facility during the first five years of operation in each scenario.

Base Scenario Casino Five Year Projection Summary

	2018	2019	2020	2021	2022
# Slots	735	735	735	735	735
# Tables	10	10	10	10	10
Win Per Slot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Win Per Table	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Slot Rev	$ [redacted]	$ [redacted]	$ [redacted]	$ [redacted]	$ [redacted]
Table Rev	$ [redacted]	$ [redacted]	$ [redacted]	$ [redacted]	$ [redacted]
TOTAL Gaming	**$** [redacted]	**$** [redacted]	**$** [redacted]	**$** [redacted]	**$** [redacted]

Source: GMA

Scenario 1 Casino Five Year Projection Summary					
	2018	2019	2020	2021	2022
# Slots	1385	1385	1385	1385	1385
# Tables	10	10	10	10	10
Win Per Slot	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Win Per Table	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Slot Rev	$ [redacted]	$ [redacted]	$ [redacted]	$ [redacted]	$ [redacted]
Table Rev	$ [redacted]	$ [redacted]	$ [redacted]	$ [redacted]	$ [redacted]
TOTAL Gaming	**$** [redacted]	**$** [redacted]	**$** [redacted]	**$** [redacted]	**$** [redacted]

Source: GMA

VI. PROFORMA INCOME STATEMENT

With gaming revenues projected for the first five years of operations for the facility in each scenario, GMA prepared a ProForma Income Statement Analysis detailing estimated revenues for the facility in each scenario.

ANALYSIS

In constructing the ProForma Analysis, GMA utilized both public and proprietary knowledge of the operating characteristics of casino resorts in the region, while giving additional consideration to the specific characteristics of the expanded facility in Scenario 1. Additionally, GMA utilized its understanding of The Mill Casino's existing operational strategies, margins and characteristics. The following is a discussion of the key components of the ProForma Analysis.

REVENUES

Gaming: As estimated in the Gaming Market Assessment section of this document.

Food & Beverage: Considering the projected patron flow resulting from gamer visitation, F&B revenues were estimated on a margin basis.

Retail, Tobacco & Other: The Retail & Other category is comprised of revenues generated by other ancillary amenities at each facility. GMA estimated Retail & Other revenue as a percentage of gross gaming revenue.

PROMOTIONAL ALLOWANCES & FREEPLAY

GMA estimates that the facility will continue to utilize the same promotional allowances and freeplay initiatives as it does today. GMA estimated both figures as a percentage of gaming revenue.

PROFORMA INCOME STATEMENT SUMMARIES

The Mill Casino ProForma Income Statement Summaries	Year 1	Year 2	Year 3	Year 4	Year 5
Base Case (No Expansion)					
Gaming Revenue	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Gross Revenue	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Net Revenue	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Scenario 1 (With Expansion)					
Gaming Revenue	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Gross Revenue	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Net Revenue	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Source: GMA

VII. DISCLAIMER

GMA has made its best effort to secure accurate information, however, much of the information contained in this report was received from third parties, which GMA did not validate or verify. Accordingly, GMA makes no warranty, real or implied, regarding the data contained in this report. This report also contains projections of future events based upon certain assumptions. As it is not possible to predict future outcomes with absolute accuracy, these projections should be treated only as estimates of potential future results. Actual results may differ due to unforeseen events. Consequently, GMA assumes no liability for the accuracy of these projections.

VIII. APPENDICES

FIRM QUALIFICATIONS

Global Market Advisors, LLC provides clients with market feasibility studies, primary research, economic impact studies, due diligence, payroll control, operations analysis, business and marketing plan development, and player reward program design for the gaming, hospitality and tourism industries. The principals and associates of GMA have hands-on experience in nearly all aspects of the gaming industry including domestic and international operations, project development, marketing expertise, and detailed market analysis.

Global Market Advisors is a (Nevada) Limited Liability Corporation with offices in Las Vegas, NV, Denver, CO, Taipei, Taiwan and Bangkok, Thailand. Below is the contact information for the company's partners.

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STEVEN M. GALLAWAY

Steve Gallaway is Managing Partner at Global Market Advisors. His areas of expertise include gaming market assessments, hotel and casino feasibility studies, operational reviews and marketing analysis.

Mr. Gallaway has spent his entire career in the gaming and hospitality industry, starting as a valet attendant and eventually rising to chief operating officer and managing partner of a casino in Colorado. Prior to forming GMA, he served as senior vice president of a hospitality consulting firm where he honed his craft in the fields of gaming market assessments and feasibility analysis. During the span of his career, Steve developed hands-on experience in operations management, organizational development, project development, business development, process improvement, contract negotiations, employee development, and customer service training.

In 2005, along with Andrew Klebanow, Mr. Gallaway formed Gaming Market Advisors. In 2014 the firm was rebranded as Global Market Advisors, reflecting the company's evolution as an international gaming, tourism and hospitality consulting firm.

Mr. Gallaway has completed over 300 feasibility studies, with a strong focus on international gaming operations and integrated resort development. Mr. Gallaway has worked on more than 60 projects in Asia, Western and Eastern Europe, the Caribbean, Central America, Canada, and Australia. His knowledge and understanding of emerging markets, particularly those in Asia, has led him to advise institutional investors on new market opportunities in that region, as well as an advisor on established markets. Today, Steve's clients include most public gaming companies, investment banks, private developers and government institutions.

Mr. Gallaway is a visiting lecturer at the University of Nevada Reno's School of Continuing Education where he teaches a class on casino feasibility analysis and marketing measurement. He is a periodic contributor to Global Gaming Business Magazine and Indian Gaming Magazine, and has spoken at G2E Las Vegas and the Asian Gaming Congress.

Mr. Gallaway graduated from Boston College with a B.A. in Economics.

ANDREW M. KLEBANOW

Andrew Klebanow specializes in Marketing Plan and Business Plan Development, Market Research, Casino Property Analysis, Service Quality Measurement Programs and Player Rewards Program Design exclusive to the gaming and hospitality industries.

Mr. Klebanow has worked in the hospitality industry since 1975 and in the fields of marketing and business planning since 1991. He earned a Bachelor of Arts degree at New York University and Master's Degree in Marketing from Cornell University's School of Hotel Administration.

From 1991-1993, he was Director of Marketing at Sahara Gaming Corporation's Hacienda Hotel and Casino and Director of Marketing and Planning for the parent company's Development Group.

Mr. Klebanow also worked as Director of Marketing for Alliance Gaming Corporation where he conducted the initial market research, consumer testing and marketing plan development for Gamblers Bonus, the industry's first cardless slot club for the company's Nevada slot route division. Gamblers Bonus was the first player tracking system that allowed customers to redeem bonus points for game credits at the machine.

As a consultant to Horseshoe Gaming, Klebanow conducted an analysis of the gaming market in Tunica, MS and subsequently prepared its pre-opening business and marketing plans. In addition, Mr. Klebanow wrote the opening marketing plan for the Horseshoe Casino in Bossier City, LA.

From 1996 to 1999, Klebanow was Vice President of Marketing for Santa Fe Gaming Corporation, where he oversaw the marketing efforts for the Santa Fe Hotel and Casino in Las

Vegas and the Pioneer Hotel and Gambling Hall in Laughlin NV. During his tenure at Santa Fe Gaming, his team repositioned both casinos' player rewards programs to better meet the needs of the business. His most recent position was that of Vice President of Marketing at Sam's Town Hotel and Gambling Hall, where he oversaw the repositioning of the 22-year-old gaming property and the re-branding of its player rewards program.

Mr. Klebanow formed his own consulting firm in 2001 and, together with Mr. Gallaway, formed Gaming Market Advisors in 2005. In 2013, Gaming Market Advisors acquired the consulting firm Galaviz and Co, and rebranded Global Market Advisors, where Mr. Klebanow is a partner today.

Mr. Klebanow is a periodic lecturer at Cornell University's School of Hotel Administration, the University of Nevada Las Vegas and the University of Nevada Reno's School of Continuing Education. He has contributed articles to the Cornell University Hotel and Restaurant Quarterly and the UNLV Hospitality Journal. Mr. Klebanow also authors a column in Indian Gaming Magazine and in the online gaming publication Urbino.net. Mr. Klebanow has written extensively on the subject of player reinvestment and has developed methodologies for calculating a casino's player reinvestment rate. More recently, he spoke at G2E Asia 2010 on the topic tiered player reward programs, in 2011 on the Korean gaming market and in 2012 on the Manila gaming market. In 2013 he spoke at two seminars at the Global Gaming Expo in Las Vegas on an Introduction to Casino Operations and Trends in Asian tourism.

KIT L. SZYBALA

Kit Szybala graduated from Southern Methodist University as a Hunt Leadership Scholar with degrees in Finance and International Studies giving him a thorough understanding of international business and financial modeling. While studying at the university, Mr. Szybala also gained extensive experience abroad, both working for Oracle Corporation in London, United Kingdom and studying at the University of Oxford. While with Oracle Corporation, Mr. Szybala worked alongside the Senior Director of Marketing and Vice President of Technology Marketing for EMEA as a Marketing Analyst. Mr. Szybala monitored and improved the efficiency of their marketing programs by utilizing Customer Relationship Management software.

Immediately following his time at Southern Methodist University, Mr. Szybala began working for Vail Resorts as a member of the Vail Resorts College Program. This Program gave him valuable insight into hospitality management and operations by giving him various opportunities to meet with chief members of resort management. It also afforded him the ability to work in several different capacities for the corporation, giving him the opportunity to understand the intricacies of the varying moving parts of resort operations.

In 2012, Mr. Szybala began working for Global Market Advisors. Currently, he serves as the company's Director of Analysis. At Global Market Advisors, Mr. Szybala has created over 75 robust financial models in various gaming markets across the globe. In addition to these financial models, Mr. Szybala has written a multitude of extensive, analytical reports, including feasibility studies, impact and cannibalization studies, gaming market assessments and strategic planning assessments. Additionally, Mr. Szybala is a visiting lecturer at the School of Continuing Education at the University of Nevada, Reno where he teaches a class on casino feasibility analysis.

JONATHAN GALAVIZ

Mr. Jonathan Galaviz is a Partner in the firm. He manages consulting engagements to Fortune 500 clients and emerging companies in the areas of Asia market expansion, government policy, tourism strategy, and provides industry specific guidance to companies in the airline, casino gaming, and technology industries.

Mr. Galaviz regularly appears on CNBC, BBC, and Bloomberg TV and is quoted frequently by leading newspapers around the world. His clients include firms such as the Bank of Tokyo-Mitsubishi UFJ, Goldman Sachs (U.S. and Asia), CapitaLand, Deutsche Bank, Caesars Entertainment, Station Casinos (Fertitta Gaming), eSun/Lai Sun, Keppel Land (Singapore), Lend Lease (Australia) and several private equity / venture capital funds.

In 1996 Mr. Galaviz was a U.S. Senate Staffer in Washington DC for the office of U.S. Senator Pete Domenici (R-New Mexico). From 1998 to 2002 Mr. Galaviz was employed in a variety management consulting roles at Spectra Corporation, Whittman-Hart and Mandalay Resort Group (now a part of MGM Resorts International). From 2002 to 2013 Mr. Galaviz was head of Galaviz & Company LLC; a strategy-consulting firm focused on assisting Fortune 500 clients with their Asian market expansion strategies.

In 2011 Mr. Galaviz served as the Interim Head of Campus for the University of Nevada's campus located in the Republic of Singapore. He was responsible for returning the campus to profitability and enhancing its operational viability. His work at UNLV was widely praised in media and academic circles.

Mr. Galaviz serves as the President of The Economic Club of Las Vegas, a non-profit organization dedicated to non-political economic discussion. He is also a member of the National Association for Business Economics.

Mr. Galaviz holds an MBA from the Saïd Business School at the University of Oxford (England) and is a graduate of the New Mexico Military Institute. He studied finance at the National University of Singapore's School of Business as a foreign exchange student in 1997.

WILLIAM BRYSON

Bill Bryson has practiced law in New York and Taipei for over 25 years, and is recognized as a leading lawyer in the fields of gaming, hospitality, real estate development, mergers and acquisitions and financial transactions.

Bill has extensive experience in the representation of local and foreign hospitality industry clients in their operations and investments, both in Taiwan and throughout Asia. Bill has represented casino gaming companies, gaming machine manufacturers and consultants to the industry in Taiwan and 38 other jurisdictions on a variety of issues, including:

- Corporate Structuring
- Taxes
- Employment Issues
- Marketing Restrictions
- Internet/Interactive Gaming
- Debt Collection
- Gaming Development

In connection with prior and ongoing efforts by Taiwan to legalize casino gaming, Bill has represented several gaming industry clients in connection with possible gaming development projects in Taiwan. These representations have involved due diligence on potential joint venture partners, negotiation of joint venture and deal documentation, due diligence on potential casino gaming locations, reviewing and commenting on draft laws and regulations, and preparing background materials for, and participating in, client lobbying efforts and meetings with government officials.

Bill has been acknowledged by Chambers Asia Pacific as a leading gaming lawyer in the region, and by Chambers Global as a leading lawyer in the global gaming industry. He has been a speaker at both the Asian Gaming Congress and G2E Asia, and currently serves on the Advisory Board of the Center for Research on Gaming and Lotteries, a division of the School of Business Administration at the National Taiwan University of Science and Technology.

Bill has also represented non-gaming interests in the hospitality industry, including both local hotel owners and foreign management companies. Bill's roles in such representations have included assisting local owners in the negotiation of letters of intent, hotel operation agreements, management agreements, franchise agreements, technical services agreements, and pre-opening services agreements. He has assisted foreign management companies in similar transactions, as well as in termination scenarios (including related hand-over issues) and owner insolvency proceedings.

Bill's merger and acquisitions, financing and real estate experience includes many "first of a kind" deals in Greater China, including the first-ever sale/leaseback of a commercial building in Taiwan, the first multi-jurisdiction acquisition of non-performing loans in Taiwan, the first acquisition of non-performing loans in China by a foreign investor, the first cross-border limited recourse financing led by Taiwanese banks, the first acquisition of a listed local shipping company by a foreign investor, the first acquisition of a substantial stake in a local financial holding company by a Japanese bank, the largest (by value) acquisition of commercial real estate by a foreign investor in Taiwan, and the acquisition of a local Internet Service Provider by an American internet company. Bill has been acknowledged as a leading lawyer in M&A, real estate, and finance by Chambers Asia Pacific, Asia Pacific Legal 500, and AsiaLaw magazine's Leading Lawyers Survey.

Along with his gaming, hospitality and transactional experience, Bill also brings with him extensive experience in public advocacy. As a member of the Government Relations Committee of the American Chamber of Commerce in Taipei, as well as his roles as Chairman of the Private Equity Committee and member of the Travel and Tourism Committee, Bill has, for the past 20 years, been a regular and central member of the Chamber's advocacy efforts on behalf of foreign companies in Taiwan. Bill's advocacy experience includes working with both local and US government officials on issues of importance to American companies in Taiwan, reviewing and revising draft legislation and regulations, developing advocacy strategies for both clients and industry groups, and being an editor of the Chamber's annual Taiwan White Paper, a collection of position papers produced by the Chamber's industry Committees. Bill's efforts on behalf of foreign companies in Taiwan have been recognized by the American Chamber of Commerce with two Outstanding Achievement Awards.

Executive Summary Memorandum, The Mill Casino Expansion Gaming Market Assessment Summary Results – September 2019

This report has been redacted to protect confidential business information.

Global Market Advisors

EXECUTIVE SUMMARY MEMORANDUM

TO: **Analytical Environmental Services**

FROM: **Global Market Advisors, LLC**

DATE: **September 10, 2019**

RE: **The Mill Casino Expansion Gaming Market Assessment Summary Results (Alternative C)**

The Coquille Indian Tribe ("Tribe") owns and operates The Mill Casino, Hotel and RV Park ("Mill Casino") in North Bend, OR. The Bureau of Indian Affairs ("BIA") has initiated the preparation of an Environmental Impact Statement ("EIS") to evaluate the effects of the Tribe's application to acquire land and develop a new gaming facility in Medford, Oregon. One of the alternatives evaluated in the EIS is an expansion of the Tribe's existing Mill Casino. Analytical Environment Services ("AES") is under contract with the BIA to assist in the completion of the EIS.

AES engaged Global Market Advisors ("GMA" or "Consulting Team") to prepare an update to a previous performed feasibility study regarding the proposed expansion of the existing Mill Casino. The Consulting Team focused its analysis on the current markets that the facility serves, the utilization rates that are currently experienced at The Mill Casino, and the types of competitors that share the gaming market. Once those factors were understood, GMA forecasted the incremental revenue and Earnings Before Income, Taxes, Depreciation, and Amortization ("EBITDA") that would be generated by the expansion.

GMA provides clients with market feasibility studies, primary research, economic impact studies, operations analysis, business and marketing plans, and player reward program design. The partners and associates of GMA have hands-on experience in nearly all aspects of the gaming industry including domestic and international operations, project development, marketing expertise, and detailed market analysis. GMA is very familiar with gaming in this region, having completed numerous studies for casinos in the northern California and Oregon markets.

For the purposes of this analysis, GMA assumed that The Mill Casino would undergo an expansion of its gaming and non-gaming amenities. Specifically, GMA assumed the facility would expand its gaming offering by 650 slot machines and its non-gaming offering to include a deli and bar. To understand this expansion's impact on gaming revenue and EBITDA, GMA prepared projections for 2023, as it was assumed the expanded property would be fully operational at the beginning of 2022.

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In Scenario 1, the proposed expanded facility is expected to generate approximately [redacted] in gaming revenue, [redacted] in gross revenue, and [redacted] in net revenue (gross revenue net of freeplay and promotional allowances) in the subject year. This represents an increase of $6.0 million in gaming revenue, $7.2 million in gross revenue, $6.5 million in net revenue, and approximately $1.0 million in EBITDA over the Base Scenario, in which the facility does not expand. The following table illustrates the results of this analysis in greater detail.

The Mill Casino ProForma Income Statement Scenario Comparison, 2023

	Base Scenario	Scenario 1	Change
Gaming Revenue	[redacted]		$ 5,980,487
Gross Revenue	[redacted]		$ 7,214,726
Net Revenue	[redacted]		$ 6,496,177

Source: GMA

Although the facility is expected to increase its gaming revenue by $6.0 million in the subject year, each new slot machine is only expected to garner [redacted] per slot per day. This incremental gaming revenue is only expected to translate to $1.0 million in EBITDA. If the expanded slot machine offering were to cost approximately $25,000 per machine, it would take approximately 16.2 years for the facility to realize a return on this additional slot machine investment. It should be noted that this brief analysis does not consider the large expected cost of construction. As such, GMA does not recommend that The Mill Casino undergo this expansion at this time.

APPENDIX F

USFWS List of Special-Status Species

SPECIAL-STATUS SPECIES TABLE

LIST OF SPECIAL STATUS SPECIES THAT MAY OCCUR IN THE VICINITY OF ALTERNATIVE SITES

SCIENTIFIC NAME **COMMON NAME**	**FEDERAL/ STATE STATUS/ ORBIC LIST**	**DISTRIBUTION**	**HABITAT REQUIREMENTS**	**PERIOD OF IDENTIFICATION**	**SITE**	**POTENTIAL TO OCCUR ON-SITE**
BIRDS						
Strix occidentalis caurina Northern spotted owl	FT/ST/1	Geographic range extends from British Colombia to northwestern California south to San Francisco. The breeding range includes the Cascade Range, North Coast Ranges, and the Sierra Nevada. Some breeding populations also occur in the Transverse Ranges and Peninsular Ranges.	Resides in mixed conifer, redwood, and Douglas-fir habitats, from sea level up to approximately 2,300 meters. Appear to prefer old-growth forests, but use of managed (previously logged) lands is not uncommon. Owls do not appear to use logged habitat until approximately 60 years after logging unless some larger trees or snags remain after logging. Nesting habitat is a tree or snag cavity, or the broken top of a large tree. Requires a nearby, permanent source of water. Foraging habitat consists of any forest habitat with sufficient prey (e.g. flying squirrels, mice, and voles).	Year-round	Medford/ Phoenix Site	**No.** Suitable habitat for this species does not occur within any of the project sites.
Pelecanus occidentalis California brown pelican	--/SE/2	Nesting colonies of brown pelicans on the Pacific coast are located from the Channel Islands in the Southern California Bight to the islands off Nayarit, Mexico. Prior to 1959, intermittent nesting was observed as far north as Point Lobos in Monterey County, California. Since that time, the breeding distribution of the brown pelican in California has been restricted to Anacapa Island in the Channel Islands off southern California. More recently, the expanding population of brown pelicans have established other smaller breeding sites on this island group. Brown pelicans have not nested north of the Channel Islands since the subspecies' major population decline in the late 1950s	Brown pelicans nest in colonies on offshore islands that are free of mammalian predators and human disturbance, are of sufficient elevation to prevent flooding of nests, and are associated with an adequate and consistent food supply. Brown pelicans roost communally, generally in areas that are near adequate food supplies, have some type of physical barrier to predation and disturbance, and provide some protection from environmental stresses such as wind and high surf. The brown pelican uses breakwaters, jetties, sand spits and offshore sand bars extensively as daily loafing and nocturnal roost areas. Brown pelican numbers in a given area may vary greatly with the season. The brown pelican is rarely found away from salt water and does not normally venture more than 20 miles out to sea.	Year-round	Mill Casino	**Yes.** The aquatic habitat adjacent to the Mill Casino site is appropriate for the California Brown Pelican

		and early 1960s. Non-breeding pelicans, including juveniles and non-breeding adults, disperse during the late spring, summer and early fall months as far north as southern British Columbia, Canada, and south into southern Mexico and Central America.				
Charadrius alexandrines nivosus Western snowy plover	FT/ST/--	The Pacific coast breeding population of the western snowy plover currently extends from Damon Point, Washington, to Bahia Magdalena, Baja California, Mexico. The snowy plover winters mainly in coastal areas from southern Washington to Central America.	Snowy plovers (Pacific coast population) breed primarily above the high tide line on coastal beaches, sand spits, dune-backed beaches, sparsely vegetated dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries. In winter, snowy plovers are found on many of the beaches used for nesting as well as on beaches where they do not nest, in manmade salt ponds, and on estuarine sand and mud flats.	Year-round	Mill Casino	**No.** Suitable habitat is not present on-site.
Brachyramphus marmoratus Marbled murrelet	FT/ST/--	Found from the western Aleutian Islands through coastal southern and southeastern Alaska, British Columbia, Washington, Oregon, and northern central California NatureServe, 2011).	Nests from May through early August in Washington. Outside of the breeding season, found in coastal areas, mainly in salt water within 2 km of shore, including bays and sounds. Nests in trees in terrestrial habitat including alpine, conifer forest, and Tundra (NatureServe, 2011).	Year-round	Mill Casino	**No**. The project site does not provide habitat for this species. The project site does not occur within designated Critical Habitat for this species.
PLANTS						
Lomatium cookii Cook's Lomatium	FE/SE/1	Two major population centers exist. One is located in the Illinois River Valley near Cave Junction and the other in the Rogue River Valley on the NE side of Medford. There are no known populations in between these two population centers and due to the plant's fairly recent discovery in 1981, little is known about the historic range.	Habitat differs between the two major population centers. In Josephine county, L. cookii is found in ephemeral wet meadow habitat, often on Brockman clay loam soils weathered from colluvial deposits of serpentine outcrops. Such meadows are often dominated by the grasses Danthonia californica and Deschampsia caespitosa. In Jackson county, L. cookii is usually found along the edges of vernal pools in poorly drained Agate-Winlo silty-clay loam soils weathered from Rogue River alluvial	March to Mid-May	Medford/ Phoenix Site	**No.** Serpentine soils and vernal pools are not found on any of the proposed project sites.

			deposits. Such vernal pool systems are often dominated on the mounds by the introduced grasses Taeniatherum caput-medusae and Poa bulbosa and the native grasses Achnatherum lemmonii and Festuca roemeri			
Fritillaria gentneri Gentner's Fritillary	FE/SE/1	Gentner's fritillary is known only from scattered localities in southwest Oregon, along the Rogue and Illinois River drainages in Josephine and Jackson counties. It is highly localized in a 48 kilometers (30 miles) radius around Jacksonville, Oregon, on land managed by the Bureau of Land Management, USDA Forest Service, Department of Transportation, Southern Oregon University, City of Jacksonville, and private landowners.	Gentner's fritillary typically grows in or on the edge of open woodlands at elevations from 180 to 1,360 meters (60 to 450 feet) with Oregon white oak (*Quercus garryana*) and Pacific madrone (*Arbutus menziesii*) as the most common overstory plants. Can also grow in open chaparral/grassland habitat, which is often found within or adjacent to the mixed hardwood forest type, but always where some wind or sun protection is provided by other shrubs. It does not grow on very dry sites.	April to May	Medford/ Phoenix Site	**No.** Known populations are not found at any of the project sites.
Limnanthes floccosa ssp. grandiflora Large-flowered Woolly Meadowfoam	FE/SE/1	Limnanthes floccosa ssp. grandiflora is currently, and historically, only known to exist near vernal pools in the Agate Desert region, north of Medford near White City.	Limnanthes floccosa ssp. grandiflora is found near the wet inner edges of vernal pools. This is in contrast to Limnanthes floccosa ssp. floccosa, which usually prefers the drier outer edges of the same vernal pools.	March to Mid-April	Medford/ Phoenix Site	**No.** Vernal pools are not found at any of the project sites.
Lilium occidentale Western Lily	FE/SE/1	Western lily is restricted within a narrow 4-mile- (6.4-kilometer-) wide band that spans about 200 miles (320 kilometers) along the Pacific coastline from Hauser, Coos County, Oregon to Loleta, Humboldt County, California. There are approximately 23 extant principle populations occurring within this limited region (as recognized by U.S. Fish and Wildlife Service), all of which are small (ranging from less than 0.1 acres to 10 acres), isolated, and densely clumped.	Western lily is often found near the ocean in freshwater fens and on the edges of bogs, in coastal prairie and scrub, and in transition zones between these communities. The species also occurs in spruce forest, but plants in this habitat are stunted and do not produce flowers. It occurs at elevations ranging from just above sea level to about 120 m (400 ft). The species occurs in two distinct soil types. The first type, deep organic peat, which is saturated for most of the year, appears to be correlated with the "Oregon form" of western lily (see Plant description). The second type, mineral-based soils, which tend to be acidic, poorly drained, and exhibit either a	June to July	Mill Casino	**No.** There are no appropriate habitats for this species at any of the project sites.

			shallow iron pan or clay pan that holds water seasonally, appears correlated with the "California form" of the species.			
Lomatium cookii J.S. Kagan agate desert parsley	FE/SE/1	Two major population centers exist. One is located in the Illinois River Valley near Cave Junction and the other in the Rogue River Valley on the NE side of Medford. There are no known populations in between these two population centers and due to the plant's fairly recent discovery in 1981, little is known about the historic range.	In Jackson county, L. cookii is usually found along the edges of vernal pools in poorly drained Agate-Winlo silty-clay loam soils weathered from Rogue River alluvial deposits.	Late March to Late April	Medford/ Phoenix Site	**No.** Vernal pools are not found at any of the project sites.
Limnanthes pumila Howell ssp. *Pumila* dwarf wooly meadow-foam	SOC/ST/1	Dwarf wooly meadow-foam is currently, and historically, only known to exist on the summits of Upper and Lower Table Rocks, north of Medford.	Dwarf wooly meadow-foam is usually found near the edges of vernal pools. However, the taxon may also be found near the edges of wet trails, roads, and small streams. The soils it inhabits are volcanic in origin.	March to Mid-April	Medford/ Phoenix Site	**No.** Vernal pools are not found at any of the project sites.
Abronia umbellata var. *breviflora* Pink Sandverbena	SOC/SE/1	Historically known along beaches from Vancouver Island to northern California, pink sandverbena has significantly declined within the past century. The species was thought to be extinct in the northern portion of its range, from Washington northward, until two individuals were found on Vancouver Island in 2000. However, this population has not re-established itself in subsequent years. In 2006, another two individuals were discovered in Willapa Bay in Washington. Over the past three decades, the number of populations of pink sandverbena in Oregon has declined from about 10 to about five, with the most stable of these populations occurring along the southern Oregon coast.	In Oregon, most populations occur on broad beaches and/or near the mouths of creeks and rivers. The species usually occurs on beaches in fine sand between the high-tide line and the driftwood zone, in areas of active sand movement below the foredune	June to September	Mill Casino Site	**No.** Appropriate beach habitat does not occur on the project site.
Cordylanthus maritimus ssp. *palustris*	SOC/SE/1	Point Reyes bird's-beak occurs along the Pacific Coast from Tillamook County in Oregon, south	Point Reye's bird's-beak inhabits the upper end of maritime salt marshes at approximately 2.3-2.6 m (7.5-8.5 ft) above	June to October	Mill Casino Site	**No.** Suitable habitat above MLLW with sandy

Pt. Reyes bird's-beak		to Santa Clara County, California. In Oregon, the species is restricted to Netarts Bay, Yaquina Bay, and Coos Bay, with the majority of known occurrences located in Coos Bay.	Mean Lower Low Water (MLLW, the mean height of water at the lowest of the daily low tides), in sandy substrates with soil salinity 34-55 parts per trillion (ppt), and less than 30% bare soil in summer. Point Reyes bird's-beak is a hemiparasite, forming root connections with host plants from which it derives some of its resources. Point Reyes bird's-beak is not host-specific, but standard hosts for the species probably include Salicornia virginica, Jaumea carnosa, Distichlis spicata, Limonium californicum, and Deschampsia cespitosa. Other associated species are Cuscuta salina, Plantago maritima, Hordeum jubatum, Juncus gerardii, Castilleja ambigua var. ambigua, Spergularia macrotheca, S. canadensis, Atriplex patula, Carex lyngbyei, and Glaux maritima			substrates does not exist at the project site.
Phacelia argentea Silvery phacelia	SOC/ST/1	Silvery phacelia occurs near the coast in Coos and Curry counties, Oregon, and neighboring Del Norte County, California, from the vicinity of Bandon, Oregon, south to the vicinity of Crescent City, California.	Silvery phacelia occurs along the coast, occupying open sand above the high tide line, open and partly stabilized sand dunes further inland, and coastal bluffs.	Late May to Early August	Mill Casino Site	**No.** Appropriate sandy habitat does not exist on the project site.
Calochortus umpquaensis Umpqua mariposa-lily	SOC/SE/1	Umpqua mariposa lily is largely restricted to the Umpqua River drainage in Douglas County. Originally discovered near Glide, this species has since been reported from approximately 15 sites, several of which support thousands of individuals. Two populations south of the Douglas County grouping are located in northern Jackson and Josephine counties, and future surveys may discover additional populations.	The Umpqua mariposa lily is largely restricted to serpentine-derived soils in the Umpqua River drainage, although it has been reported from isolated areas of serpentine substrate in Josephine and Jackson counties. Preferred habitat includes the ecotone between open, grassy hillsides and Jeffrey pine woodlands, although some populations are located within forested areas.	Late May to Mid-June	Medford/ Phoenix Site	**No.** Appropriate serpentine-derived soils do not exist at the project sites, and populations have not been previously recorded.
Eucephalus vialis Wayside aster	SOC/ST/1	Wayside aster ranges from Linn County in western Oregon south to northern California. Most occurrences of the species are	This species occupies a range of habitat types, including dense coniferous forests, open deciduous woodlands, grassy balds, and exposed serpentine slopes. It is often	July to September	Medford/ Phoenix Site	**Yes.** Appropriate habitat exists at the Medford and Phoenix sites.

		found in Oregon, although a few are reported from Del Norte and Humboldt counties in California. Wayside aster occurs within three different ecoregions: Klamath Mountains, West Cascade Range and Crest, and Willamette Valley.	found in relatively open areas in the understory of mixed coniferous/hardwood forests, along roadsides, and on open slopes and prairie balds. Most populations occur at elevations ranging from 150-450 m (490-1480 ft), although the species is found at a few high elevation sites at up to 2040 m (6680 ft). The open habitat preferred by wayside aster is thought to have been historically maintained by frequent fires. In areas where reduced canopy cover allows high levels of light to reach the ground, higher levels of reproduction and vigor have been observed among wayside aster plants compared to those growing in closed canopy conditions.			
FISH						
Oncorhynchus kisutch Coho salmon-Oregon Coast ESU	FT/SV/1	Colombia River in Clatsop County south to Cape Blanco in Curry County in coastal estuaries, rivers, streams, and tributaries.	Spawning and rearing occurs in low gradient tributary streams with pea to orange size spawning gravel. They over winter in off-channel alcoves and prefer shaded streams with complex structure and tree lined banks.	Year-round	Mill Casino Site	**Yes.** Appropriate habitat for some lifecycles exists adjacent to the mill casino site
Acipenser medirostris green sturgeon-southern DPS	FT/--/3	Ensenada, Mexico north to the Bering Sea, Alaska, in marine waters, coastal estuaries, and inland rivers.	Spawning occurs every two to five years in deep pools in large, turbulent freshwater rivers that have a variety of sand, cobble, or bedrock substrate.	Year-round	Mill Casino Site	**Yes.** Appropriate habitat for some lifecycles exists adjacent to the mill casino site
Thaleichthys pacificus Pacific eulachon – southern DPS	FT/--/2	San Francisco Bay Region north to the Bearing Sea in marine waters, coastal estuaries, and inland rivers.	Spawning occurs between the years of 2 and 5 late winter to early summer in cool waters that have a variety of sand, cobble, or bedrock substrate. Spawning typically occurs in waters influenced by tides.	Year-round	Mill Casino Site	**Yes.** Appropriate habitat for some lifecycles exists adjacent to the mill casino site
MAMMALS						
Pekania pennanti Fisher	FPT/SC/2	Historically, the species ranged the northern forests of Canada and the United States as well as forests in the Appalachian, Rocky and Pacific Coast Mountains. Today, fishers are found only in parts of their	Fishers inhabit upland and lowland forests, including coniferous, mixed, and deciduous forests. They occur primarily in dense coniferous or mixed forests, including early successional forest with dense overhead cover. They generally	Year-round	Medford/ Phoenix Site	**No.** Fishers require forests for feeding. No such habitats exist within the project sites.

		historic range. The West Coast population of fisher is found only in Southern Oregon, Northern California and the Southern Sierra Nevada Mountains.	avoid areas with little forest cover or significant human disturbance. The fisher is adapted for climbing but is primarily terrestrial. It is a generalized predator whose major prey are small to medium-sized mammals and birds, and carrion.			
Canus lupus Gray wolf	FE/SE/2	Known from Arizona, Colorado, Illinois, Indiana, Iowa, Missouri, New Mexico, North Dakota, Ohio, Oregon, South Dakota, Utah, and Washington (NatureServe, 2011).	Found in temperate forests, mountains, tundra, taiga, and grasslands. Territory ranges from less 100 to 10,000s of square kilometers. Breeds from February to March. Gestates for two months. Pups remain in the den until they are 8 to 10 weeks old (NatureServe, 2011). Young and parents vacate the den when young are about 3 months old (Hoffmeister, 1986).	Year-round	Medford/ Phoenix Site	**No**. The project site does not provide habitat for this species.
Gulo gulo Wolverine	FT/ST/2	In Oregon, Wolverines have been found on Three-fingered Jack in Linn County on the Steens Mountain in Harney County, Broken Top Mountain in Deschutes County, and in the Eagle Cap Wilderness Area in the Wallowa Mountains of northeastern Oregon. More recently it was confirmed in Wallowa County, as well.	Wolverines prefer open forests and alpine areas and tend to avoid clear-cut areas and the young, dense forests that grow up after that. In addition, wolverines require a habitat that provides cold, snowy conditions for much of the year because they rely on deep snow for denning as well as food storage.	Year-round	Medford/ Phoenix Site	**No.** The project site does not provide habitat for this species.

STATUS CODES
FEDERAL: United States Fish and Wildlife Service
FE Federally Endangered
FT Federally Threatened
FC Federal Candidate for Listing
FPT Federally Proposed as Threatened
SOC Species of Concern
STATE: Oregon Department of Fish and Wildlife (ODFW)
SE State Endangered
ST State Threatened
SV State Vulnerable
STATE: Oregon Biodiversity Information Center (ORBIC)
1 Critically Imperiled
2 Imperiled

MEDFORD SITE TRUST RESOURCES REPORT

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Oregon Fish And Wildlife Office
2600 Southeast 98th Avenue, Suite 100
Portland, OR 97266-1398
Phone: (503) 231-6179 Fax: (503) 231-6195
https://www.fws.gov/oregonfwo/articles.cfm?id=149489416

In Reply Refer To: August 08, 2019
Consultation Code: 01EOFW00-2019-SLI-0614
Event Code: 01EOFW00-2019-E-01237
Project Name: Coquille Roxy Ann Site

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to investigate opportunities for incorporating conservation of threatened and endangered species into project planning processes as a means of complying with the Act. If you have questions regarding your responsibilities under the Act, please contact the Endangered Species Division at the Service's Oregon Fish and Wildlife Office at (503) 231-6179. For information regarding listed marine and anadromous species under the jurisdiction of NOAA Fisheries Service, please see their website (http://www.nwr.noaa.gov/habitat/habitat_conservation_in_the_nw/habitat_conservation_in_the_nw.html).

Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Oregon Fish And Wildlife Office
2600 Southeast 98th Avenue, Suite 100
Portland, OR 97266-1398
(503) 231-6179

Project Summary

Consultation Code: 01EOFW00-2019-SLI-0614

Event Code: 01EOFW00-2019-E-01237

Project Name: Coquille Roxy Ann Site

Project Type: DEVELOPMENT

Project Description: Casino

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.30365027975114N122.85048359475718W

Counties: Jackson, OR

Endangered Species Act Species

There is a total of 6 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Fisher Pekania pennanti Population: West coast DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3651	Proposed Threatened
Gray Wolf Canis lupus Population: U.S.A.: All of AL, AR, CA, CO, CT, DE, FL, GA, IA, IN, IL, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, ND, NE, NH, NJ, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, and WV; and portions of AZ, NM, OR, UT, and WA. Mexico. There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/4488	Endangered

Birds

NAME	STATUS
Northern Spotted Owl Strix occidentalis caurina There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened

Flowering Plants

NAME	STATUS
Cook's Lomatium Lomatium cookii There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1583	Endangered
Gentner's Fritillary Fritillaria gentneri No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8120	Endangered
Large-flowered Woolly Meadowfoam Limnanthes pumila ssp. grandiflora There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1090	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Flammulated Owl Otus flammeolus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0DK

Fox Sparrow Passerella iliaca — Bird of conservation concern
Season: Breeding

Green-tailed Towhee Pipilo chlorurus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0IO

Least Bittern Ixobrychus exilis — Bird of conservation concern
Season: Breeding

Lewis's Woodpecker Melanerpes lewis — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HQ

Loggerhead Shrike Lanius ludovicianus — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FY

Oak Titmouse Baeolophus inornatus — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0MJ

Olive-sided Flycatcher Contopus cooperi — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0AN

Peregrine Falcon Falco peregrinus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FU

Purple Finch Carpodacus purpureus — Bird of conservation concern
Year-round

Rufous Hummingbird selasphorus rufus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0E1

Short-eared Owl Asio flammeus — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HD

Snowy Plover Charadrius alexandrinus — Bird of conservation concern
Season: Breeding

Swainson's Hawk Buteo swainsoni — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B070

Tricolored Blackbird Agelaius tricolor — Bird of conservation concern

Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B06P

Western Grebe aechmophorus occidentalis — Bird of conservation concern

Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0EA

White Headed Woodpecker Picoides albolarvatus — Bird of conservation concern

Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HU

Willow Flycatcher Empidonax traillii — Bird of conservation concern

Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0F6

Wildlife refuges and fish hatcheries

There are no refuges or fish hatcheries in this location

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

There are no wetlands in this location

PHOENIX SITE TRUST RESOURCES REPORT

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Oregon Fish And Wildlife Office
2600 Southeast 98th Avenue, Suite 100
Portland, OR 97266-1398
Phone: (503) 231-6179 Fax: (503) 231-6195
https://www.fws.gov/oregonfwo/articles.cfm?id=149489416

In Reply Refer To: August 08, 2019
Consultation Code: 01EOFW00-2019-SLI-0612
Event Code: 01EOFW00-2019-E-01241
Project Name: Coquille Phoenix Site

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to investigate opportunities for incorporating conservation of threatened and endangered species into project planning processes as a means of complying with the Act. If you have questions regarding your responsibilities under the Act, please contact the Endangered Species Division at the Service's Oregon Fish and Wildlife Office at (503) 231-6179. For information regarding listed marine and anadromous species under the jurisdiction of NOAA Fisheries Service, please see their website (http://www.nwr.noaa.gov/habitat/habitat_conservation_in_the_nw/habitat_conservation_in_the_nw.html).

Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Oregon Fish And Wildlife Office
2600 Southeast 98th Avenue, Suite 100
Portland, OR 97266-1398
(503) 231-6179

Project Summary

Consultation Code: 01EOFW00-2019-SLI-0612

Event Code: 01EOFW00-2019-E-01241

Project Name: Coquille Phoenix Site

Project Type: DEVELOPMENT

Project Description: Casino

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.28632589870006N122.8179584447486W

Counties: Jackson, OR

Endangered Species Act Species

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Fisher Pekania pennanti Population: West coast DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3651	Proposed Threatened
Gray Wolf Canis lupus Population: U.S.A.: All of AL, AR, CA, CO, CT, DE, FL, GA, IA, IN, IL, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, ND, NE, NH, NJ, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, and WV; and portions of AZ, NM, OR, UT, and WA. Mexico. There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/4488	Endangered

Birds

NAME	STATUS
Northern Spotted Owl Strix occidentalis caurina There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened

Flowering Plants

NAME	STATUS
Gentner's Fritillary Fritillaria gentneri No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8120	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Flammulated Owl Otus flammeolus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0DK

Fox Sparrow Passerella iliaca — Bird of conservation concern
Season: Breeding

Green-tailed Towhee Pipilo chlorurus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0IO

Least Bittern Ixobrychus exilis — Bird of conservation concern
Season: Breeding

Lewis's Woodpecker Melanerpes lewis — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HQ

Loggerhead Shrike Lanius ludovicianus — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FY

Oak Titmouse Baeolophus inornatus — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0MJ

Olive-sided Flycatcher Contopus cooperi — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0AN

Peregrine Falcon Falco peregrinus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FU

Purple Finch Carpodacus purpureus — Bird of conservation concern
Year-round

Rufous Hummingbird selasphorus rufus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0E1

Short-eared Owl Asio flammeus — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HD

Snowy Plover Charadrius alexandrinus — Bird of conservation concern
Season: Breeding

Swainson's Hawk Buteo swainsoni — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B070

Tricolored Blackbird Agelaius tricolor — Bird of conservation concern

Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B06P

Western Grebe aechmophorus occidentalis — Bird of conservation concern

Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0EA

White Headed Woodpecker Picoides albolarvatus — Bird of conservation concern

Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HU

Willow Flycatcher Empidonax traillii — Bird of conservation concern

Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0F6

Wildlife refuges and fish hatcheries

There are no refuges or fish hatcheries in this location

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

There are no wetlands in this location

MILL CASINO SITE TRUST RESOURCES REPORT

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Oregon Fish And Wildlife Office
2600 Southeast 98th Avenue, Suite 100
Portland, OR 97266-1398
Phone: (503) 231-6179 Fax: (503) 231-6195
https://www.fws.gov/oregonfwo/articles.cfm?id=149489416

In Reply Refer To: August 08, 2019
Consultation Code: 01EOFW00-2019-SLI-0613
Event Code: 01EOFW00-2019-E-01235
Project Name: Coquille Mill Site

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to investigate opportunities for incorporating conservation of threatened and endangered species into project planning processes as a means of complying with the Act. If you have questions regarding your responsibilities under the Act, please contact the Endangered Species Division at the Service's Oregon Fish and Wildlife Office at (503) 231-6179. For information regarding listed marine and anadromous species under the jurisdiction of NOAA Fisheries Service, please see their website (http://www.nwr.noaa.gov/habitat/habitat_conservation_in_the_nw/habitat_conservation_in_the_nw.html).

Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Oregon Fish And Wildlife Office
2600 Southeast 98th Avenue, Suite 100
Portland, OR 97266-1398
(503) 231-6179

Project Summary

Consultation Code: 01EOFW00-2019-SLI-0613

Event Code: 01EOFW00-2019-E-01235

Project Name: Coquille Mill Site

Project Type: DEVELOPMENT

Project Description: Casino

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/43.39361942533235N124.21878976769882W

Counties: Coos, OR

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Fisher Pekania pennanti Population: West coast DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3651	Proposed Threatened

Birds

NAME	STATUS
Marbled Murrelet Brachyramphus marmoratus Population: U.S.A. (CA, OR, WA) There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4467	Threatened
Northern Spotted Owl Strix occidentalis caurina There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened
Western Snowy Plover Charadrius nivosus nivosus Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened

Flowering Plants

NAME	STATUS
Western Lily Lilium occidentale No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/998	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Fox Sparrow Passerella iliaca — Bird of conservation concern
Season: Wintering

Marbled Godwit Limosa fedoa — Bird of conservation concern
Season: Wintering
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0JL

Olive-sided Flycatcher Contopus cooperi — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0AN

Peregrine Falcon Falco peregrinus — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FU

Purple Finch Carpodacus purpureus — Bird of conservation concern
Year-round

Rufous Hummingbird selasphorus rufus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0E1

Short-eared Owl Asio flammeus — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HD

Snowy Plover Charadrius alexandrinus — Bird of conservation concern
Season: Breeding

Western Grebe aechmophorus occidentalis — Bird of conservation concern
Season: Wintering
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0EA

Whimbrel Numenius phaeopus — Bird of conservation concern
Season: Wintering
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0JN

Willow Flycatcher Empidonax traillii — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0F6

Wildlife refuges and fish hatcheries

There are no refuges or fish hatcheries in this location

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

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This location overlaps all or part of the following wetlands:

Estuarine And Marine Deepwater

E1UBL 9170.0 acres

A full description for each wetland code can be found at the National Wetlands Inventory website: http://107.20.228.18/decoders/wetlands.aspx

APPENDIX G

Cultural Resources Report

CULTURAL RESOURCES REPORT
BOUND SEPARATELY*

*** THE CULTURAL RESOURCE REPORT HAS BEEN BOUND SEPARATELY TO PROTECT POTENTIALLY SENSITIVE INFORMATION ABOUT THE LOCATION AND NATURE OF CULTURAL RESOURCES.**

APPENDIX H

Traffic Impact Analysis (2019) and Hotel Memorandum (2022)

Coquille Indian Tribe Fee-to-Trust and Gaming Facility Project

DRAFT
TRANSPORTATION IMPACT ANALYSIS

September 2019

Prepared For:

Analytical Environmental Services

Prepared By:

David Evans and Associates, Inc.
2100 SW River Parkway
Portland, OR 97201

DAVID EVANS AND ASSOCIATES INC.

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Executive Summary

This Traffic Impact Analysis (TIA) summarizes traffic analysis and potential impacts of two gaming facility alternatives (Alternative A and Alternative B).

Alternatives

This study evaluates the traffic resulting from each alternative for the 2019 Existing conditions, opening year (2022) No Build and Build conditions, and horizon year (2042) No Build and Build conditions. The analysis was conducted for the PM Peak hour; the AM peak hour for the proposed site generates less than the PM Peak hour and does not generate enough trips to trigger AM analysis. The alternatives are summarized below.

Alternative A (Medford Site)

The Medford site (Alternative A) is a proposed 30,284 square foot Gaming Facility located in the City of Medford, Oregon. The full planned building includes 16,600 sq. ft. of gaming floor, along with 7,565 sq. ft. of bar/deli and kitchen. The remaining space is for back of house uses, restrooms, security, surveillance, loyalty club, etc. The address is 2375 S Pacific Hwy, adjacent to the northeastern boundary of Highway 99, between Charlotte Ann Road and Lowry Lane. The study intersections included 6 signalized and 3 unsignalized intersections within the City of Medford, under either Medford or ODOT jurisdiction.

Alternative B (Phoenix Site)

The Phoenix site (Alternative B) locates the proposed Gaming Facility northeast of the City of Phoenix, Oregon within Jackson County. The site is the 49.35-acre Arrowhead Land and Cattle property along North Phoenix Road within view of Interstate 5. The full planned building size is 30,284 sq. ft. total that includes a 16,600 sq. ft. gaming facility, 7,565 sq. ft. of bar/deli, and the remainder being support facilities. The study intersections included 4 signalized and 2 unsignalized intersections, under the jurisdiction of either City of Medford, Jackson County or ODOT.

Operations

Alternative A (Medford Site)

By opening year (2022), the proposed Alternative A project does not result in any study area intersections exceeding applicable mobility targets. However, without improvements to the current system, the forecasted growth and planned pipeline trips results in seven study intersections exceeding mobility targets by year 2042 with, or without, the project. This is consistent with the findings of the 2018-2038 Medford Transportation System Plan (TSP).

Of the seven intersections exceeding mobility targets, two are expected to operate worse than the No Build conditions due to the proposed project.

Alternative B (Phoenix Site)

By opening year (2022) and through the planning horizon (2042), two intersections would exceed applicable mobility targets under the No Build and Build conditions. The difference in operations due to the proposed project are negligible.

Recommendations

The 2022 and 2042 No Build and Build scenarios include all approved pipeline projects impacting the

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Background

This traffic impact analysis (TIA) addresses transportation and traffic issues associated with development of a Gaming Facility proposed by the Coquille Tribe. This analysis considers two development alternatives. Appendix A contains the project site plans for each alternative, which are described more fully below.

The original TIA methodology was developed through collaboration between ODOT and JRH Transportation Engineering. Analysis is provided for all intersections exceeding the agency-trip threshold. This threshold is 50 or more trips for State intersections and 25 or more trips for City of Medford intersections. Letters pertaining to the scope of work are included in Appendix B.

This document addresses alternatives A and B due to their potential impacts to transportation infrastructure.

Medford Site

The Medford site (Alternative A) is a proposed 30,284 square foot Gaming Facility located in the City of Medford, Oregon. The full planned building includes 16,600 sq. ft. of gaming floor, along with 7,565 sq. ft. of bar/deli and kitchen. The remaining space is for back of house uses, restrooms, security, surveillance, loyalty club, etc. The address is 2375 S Pacific Hwy, adjacent to the northeastern boundary of Highway 99, between Charlotte Ann Road and Lowry Lane. The Medford site study intersections are summarized below and shown in Figure 1.

1. Riverside Avenue (OR 99) at Barnett Road
2. Highland Drive at Barnett Road
3. Riverside Avenue (OR 99) at Stewart Avenue
4. I-5 Exit 27 Interchange
5. Center Drive at Garfield Street
6. S Pacific Highway (OR 99) at Garfield Street
7. S Pacific Highway (OR 99) at Charlotte Ann Road
8. S Pacific Highway (OR 99) at Human Bean (North Site Driveway)
9. S Pacific Highway (OR 99) at Roxy Ann Lanes (South Site Driveway)

Phoenix Site

The Phoenix site (Alternative B) locates the proposed Gaming Facility north of the City of Phoenix, Oregon within Jackson County. The site is the 49.35-acre Arrowhead Land and Cattle property along North Phoenix Road within view of Interstate 5. The full planned building size is 30,284 sq. ft. total that includes a 16,600 sq. ft. gaming facility, 7,565 sq. ft. of bar/deli, and the remainder being support facilities. The Phoenix site study intersections are summarized below and shown in Figure 1.

10. N Phoenix Road at Cherry Lane
11. N Phoenix Road at E. Barnett Road
12. N Phoenix Road at Juanipero Way
13. N Phoenix Road at Site Driveway
14. Fern Valley Road at I-5 Ramp Northbound
15. Fern Valley Road at I-5 Ramp Southbound

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Street Network

Medford Site (Alternative A)

Characteristics of the Alternative A study area roadways are shown in Table 1.

Table 1. Study Area Roadway Characteristics – Alternative A

Roadway	Jurisdiction	Classification	Curb/Gutter/ Sidewalk	On-Street Parking	Bike Lanes	Posted Speed	Lanes per Direction
I-5	ODOT	Interstate	No/No/No	No	No	55	2
I-5 Exit 27 Ramps	ODOT	Interstate	No/No/No	No	No	45	2
Riverside Dr/	City of Medford	Major Arterial	Yes/Yes/Yes	No	Sharrow	35	2
S Pacific Hwy	ODOT	Principal Arterial	Yes/Yes/Yes	No	Yes	45	2
Barnett Rd	City of Medford	Minor Arterial	Yes/Yes/Yes	No	Yes	35	1-2
		Major Arterial	Yes/Yes/Yes	No	Yes	35	2
Stewart Ave	City of Medford	Major Arterial	Yes/Yes/Yes	No	No	35	2
Garfield St	City of Medford	Major Arterial	Yes/Yes/Yes	No	Yes	40	2
	ODOT	Major Arterial	Yes/Yes/Yes	No	Yes	35	2
Charlotte Ann Rd	City of Medford	Local	No/No/No	Yes	No	25	1
Center Dr	City of Medford	Major Arterial	Yes/Yes/Yes	No	No	35	2
Highland Dr	City of Medford	Major Collector	Yes/Yes/Yes	No	Yes	35	1

Phoenix Site (Alternative B)

Characteristics of the Alternative B study area roadways are shown in Table 2.

Table 2. Study Area Roadway Characteristics – Alternative B

Roadway	Jurisdiction	Classification	Curb/Gutter/ Sidewalk	On-Street Parking	Bike Lanes	Posted Speed	Lanes per Direction
I- 5	ODOT	Interstate	No/No/No	No	No	55	2
I-5 Exit 24 Ramps	ODOT	Interstate	No/No/No	No	No	45	2
N Phoenix Rd	City of Medford	Minor Arterial	Yes/Yes/Yes	No	Yes	40	2
	Jackson Co.	Minor Arterial	Yes/Yes/Yes*	No	Yes	45	1
	ODOT	Minor Arterial	Yes/Yes/Yes	No	Yes	30/45	2
Cherry Ln	City of Medford	Major Collector	Yes/Yes/Yes	No	Yes	35	1
Barnett Rd	City of Medford	Minor Arterial	Yes/Yes/Yes	No	No	40	2
	Jackson Co.	Major Arterial	No/No/No	No	No	40	1
Juanipero Way	City of Medford	Major Collector	Yes/Yes/Yes	Yes	Yes	25	1

** No curb, gutter or sidewalk south of Juanipero Way*

Traffic Counts

Traffic counts were collected for all identified study area intersections in alternatives A and B. Counts used in the analysis were taken within the last three years. All counts were conducted for a minimum of three-hours and capture the AM and PM peak periods. Traffic count collection data are shown in Table 3 and detailed reports are provided in Appendix C.

Table 3. Traffic Count Collection Dates

Intersection	Count Type	Count Date(s)	Count Time
Riverside Ave (OR 99) at Barnett Rd	Turn Movement	7/24/2019 7/25/2019	6:30-9:30 AM 4:30-7:30 PM
Highland Dr at Barnett Rd			
Riverside Ave (OR 99) at Stewart Ave			
I-5 Exit 27 Interchange			
Center Dr at Garfield St			
S Pacific Hwy (OR 99) at Garfield St			
S Pacific Hwy (OR 99) at Charlotte Ann Rd			
S Pacific Hwy (OR 99) at Human Bean			
S Pacific Hwy (OR 99) at Roxy Ann Lanes (Site Dvwy)			
N Phoenix Rd at Cherry Ln			
N Phoenix Rd at E. Barnett Rd			
N Phoenix Rd at Juanipero Way			
N Phoenix Rd at Site Dvwy			
Fern Valley Rd at I-5 Ramp NB			
Fern Valley Rd at I-5 Ramp SB			
N Phoenix Rd (south of Juanipero Way)	Bi-directional Volume Tube	7/24/2019	12:00 AM-12:00 AM
S Pacific Hwy (OR 99) near Human Bean Dvwy			

Design Hourly Volumes

ODOT generally requires that transportation facilities be analyzed under design hourly volumes (DHVs), known as 30th highest hour volumes. The 30th highest hour volumes are used in traffic operations analysis so that results are valid for all but a few hours of the year. The procedure for determining 30th highest hour volumes is specified in ODOT's *Analysis Procedures Manual* (APM) *Volume 2* and briefly described below.

Seasonal Adjustment

The 30th highest hour traffic volumes are calculated by multiplying the peak hour volumes by a seasonal factor. The seasonal factor is determined from automatic traffic recorders (ATR), which are electronic counting sites on roadways that count vehicles continuously. The APM describes three methods for developing seasonal factors: On-Site ATR Method, ATR Characteristic Table Method, and ATR Seasonal Trend Table Method. To accommodate the varying road types within the study area, different methods were used to develop seasonal factors for I-5 ramp terminals, OR 99 and local streets.

Seasonal factors were calculated for the count month of July. There are no ATRs in the study area; the On-Site ATR method was not used. For I-5 and OR 99 traffic, a combination of the ATR characteristic table and seasonal trend table was applied.[1] Seasonal adjustments are not required for City streets as they are less impacted by recreational peaks. Seasonal adjustment data is provided in Appendix C.

OR 99: 1.02
I-5 Ramp Terminals: 1.02

Since the counts were collected in what is typically the peak month of the year, the seasonal adjustment factors are low.

[1] Mimics seasonal adjustment factor methodology from ODOT's *OR 99 Rogue Valley Corridor Plan*

Peak Hour Factors

The "Peak Hour Factor" (PHF) is a measure of the uniformity of traffic flow through an hour. Generally the higher the PHF, the higher the capacity of a roadway or intersection approaches. PHF is calculated by dividing the traffic volume for an hour by four times the highest 15-minute volume within that hour. If all 15 minutes in that hour are identical, then the PHF would be 1.0. If all of the traffic in the hour occurs in the same 15 minutes, the PHF would be 0.25.

Existing peak hour factors were calculated using the following formula.

PHF = (Volume during 60-minute period)/(4 x (max. volume during peak 15-minute period))

For existing conditions, calculated peak hour factors are used based on the common peak hour for each site. The PM peak hour was 4:45 – 5:45 PM for Alternative A and 4:30 – 5:30 PM for Alternative B.

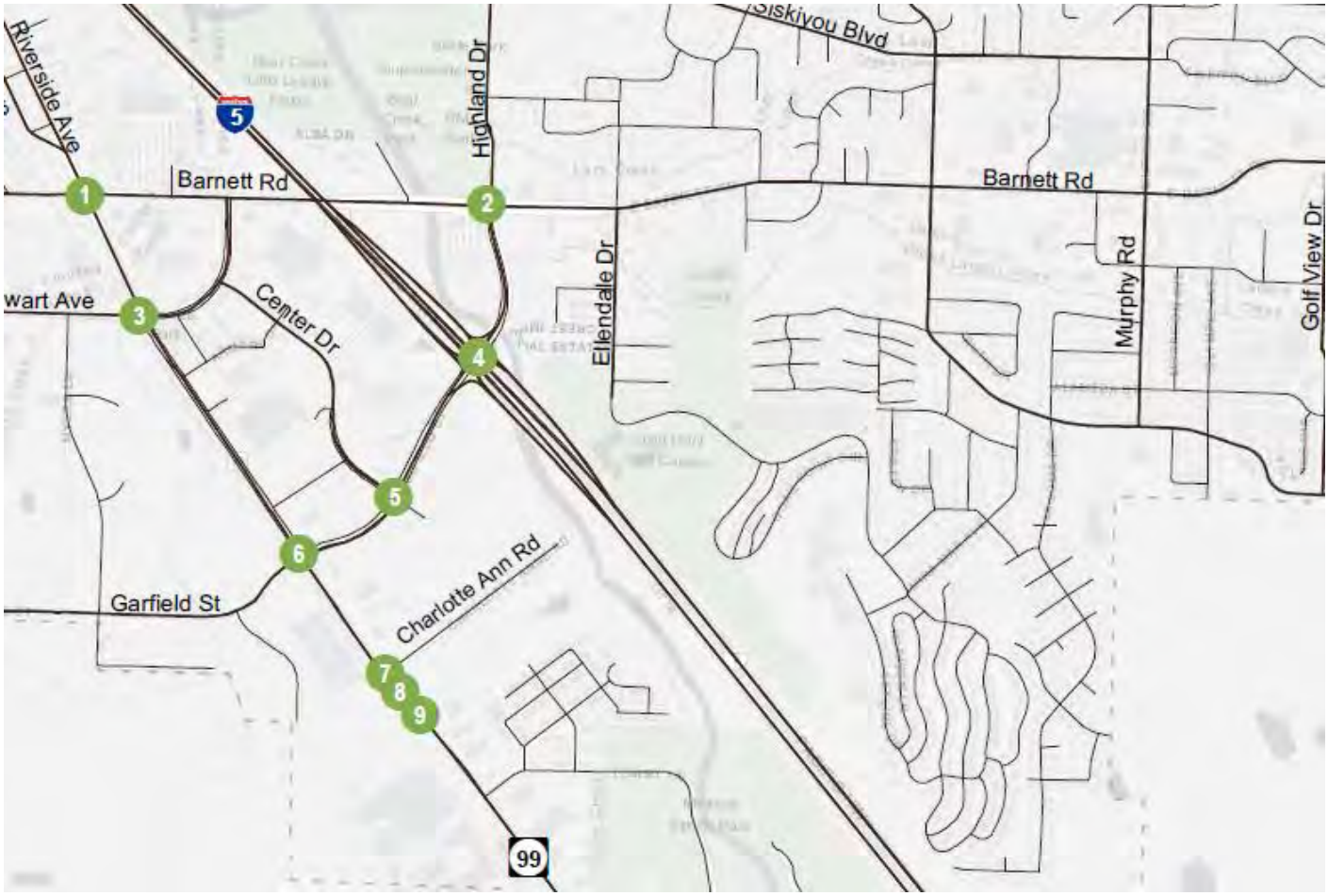
PHF are measured and it is not possible to calculate values for future years. The ODOT APM Volume 2 provides the following guidance for PHFs:

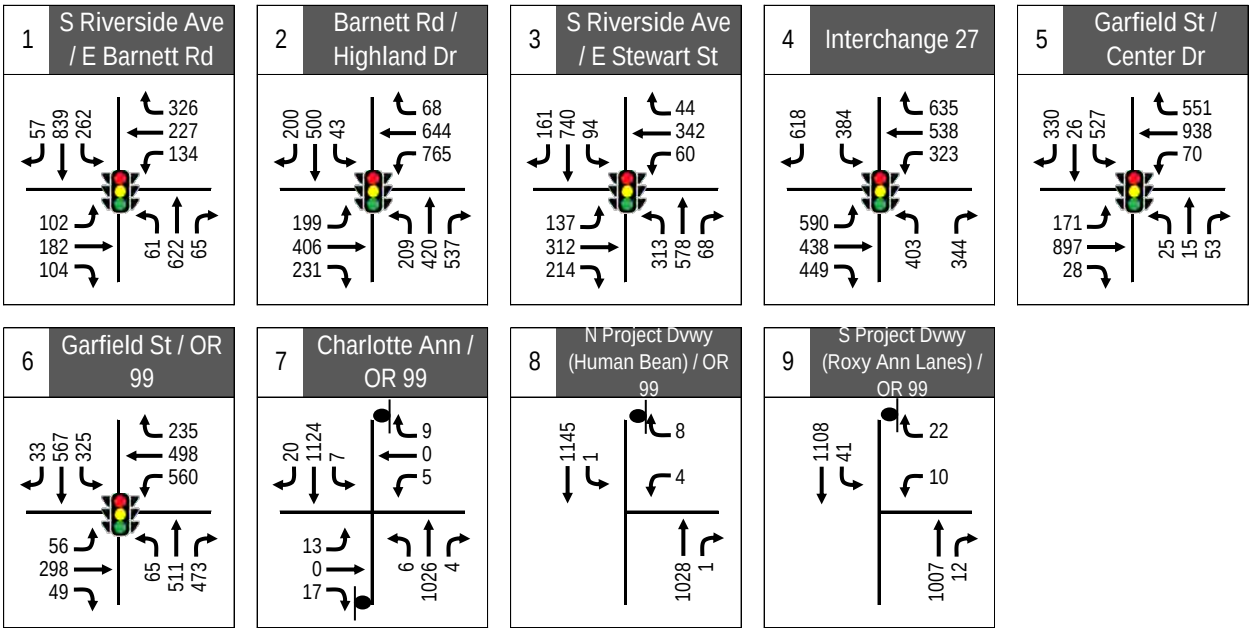
- 0.95 for major arterial-major arterial;
- 0.92 for major arterial-minor arterial;
- 0.90 for minor arterial-minor arterial;
- 0.88 for minor arterial-collector;
- 0.85 for collector-collector or lower classification

PHFs do not typically decrease as traffic volumes and congestion increase, so if the existing PHF was higher than the values suggested above, the existing PHF was retained.

2019 Base Volumes

Figure 2 and Figure 3 show the seasonally adjusted existing PM peak hour volumes at the study area intersections for Alternatives A and B. The volume development spreadsheets are provided in Appendix C.



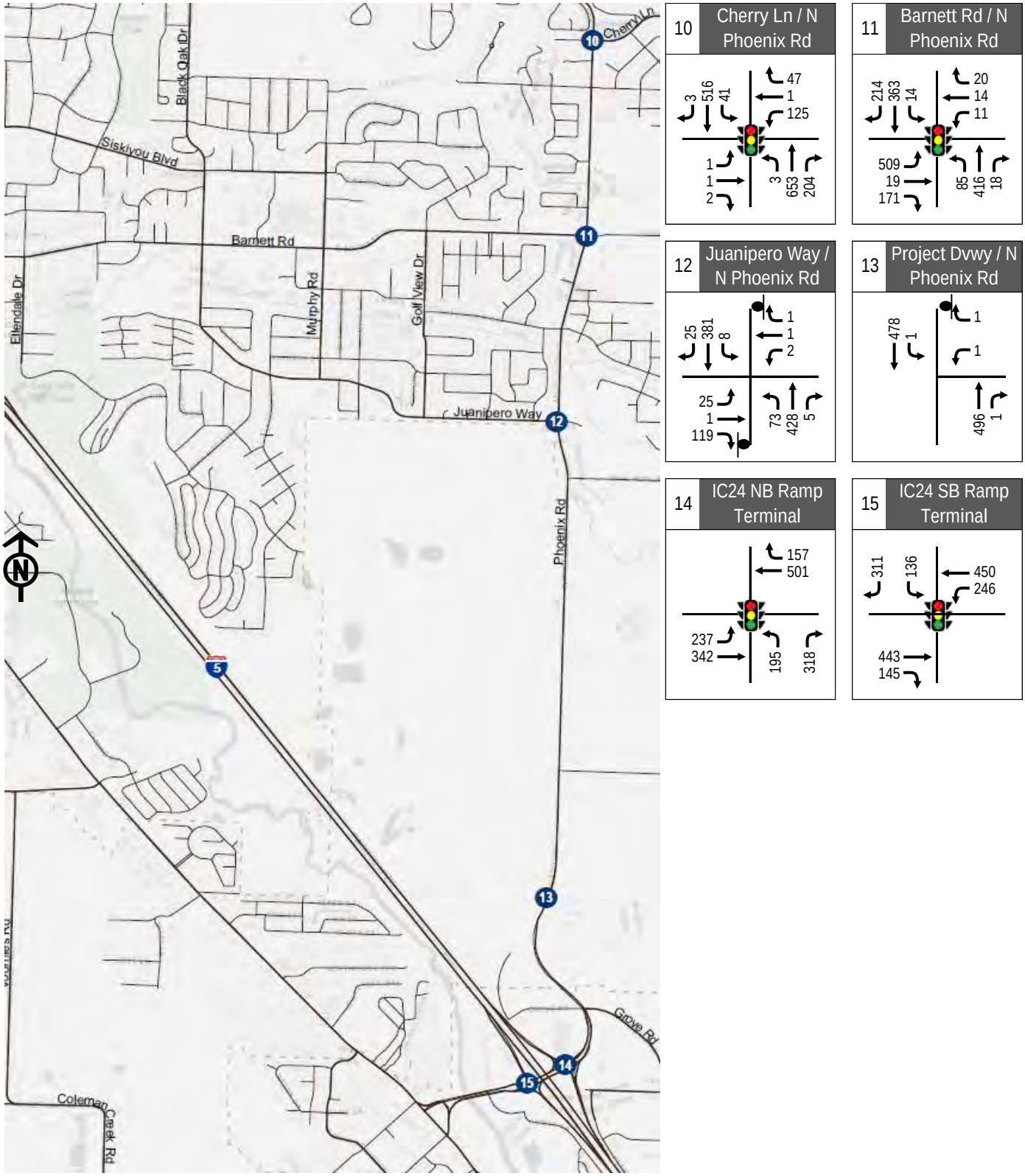


Legend

- ## Study Area Intersection
- STOP Controlled Approach
- Signalized Intersection
- Allowable Turn Movement
- ## PM Peak Hour Turning Movement Volume

Figure 2

Alternative A: Medford
2019 (Existing) PM Peak Hour
Turning Movement Volumes



Legend

- ## Study Area Intersection
- STOP Controlled Approach
- Signalized Intersection
- Allowable Turn Movement
- ## PM Peak Hour Turning Movement Volume

Figure 3

Alternative B: Phoenix
2019 (Existing) PM Peak Hour
Turning Movement Volumes

Future Traffic Volumes

In addition to existing conditions, performance analysis is conducted at study area intersections for the following conditions:

- 2022 Conditions With and Without Planned Development Alternatives
- 2042 Conditions With and Without Planned Development Alternatives

Year 2022 is assumed as the first full year of operation. Year 2042 corresponds to the end of the Rogue Valley Metropolitan Planning Organization (RVMPO) planning horizon.

Background Traffic Volumes

Background traffic represents the traffic growth in the area due to developments other than those being investigated as part of this study. The RVMPO Regional Transportation Model was used to establish background traffic volumes. The model estimates traffic volumes on major roadways based on projected population and employment figures, and other related factors. In the model, the boundary of the RVMPO is split into large transportation analysis zones (TAZ). All regionally significant roadways within the RVMPO are included in the Regional Transportation Model. The traffic assignment links trips between TAZs via the modeled roadway network.

Year 2022 and Year 2042 base volumes were developed from RVMPO model forecasts. Volumes were extrapolated using a spreadsheet that automates the iterative procedures outlined in National Cooperative Research Project Report 765. RVMPO Model Data is provided in Appendix D.

Pipeline Trips

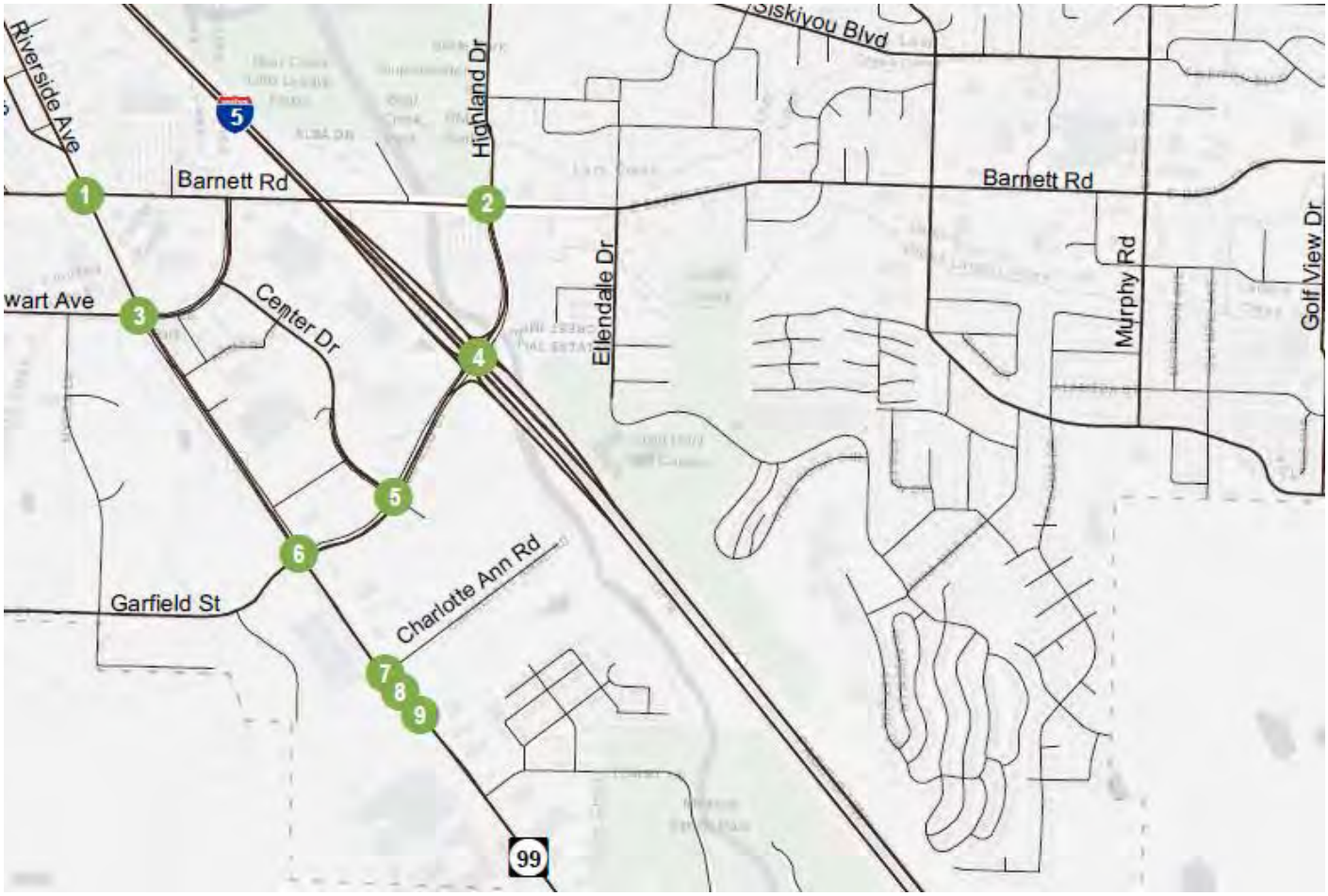
Pipeline Trips represent traffic volumes from developments which have been approved but are not yet constructed. The City of Medford supplied the pipeline trips for the following proposed developments. Pipeline trips are provided in Appendix D.

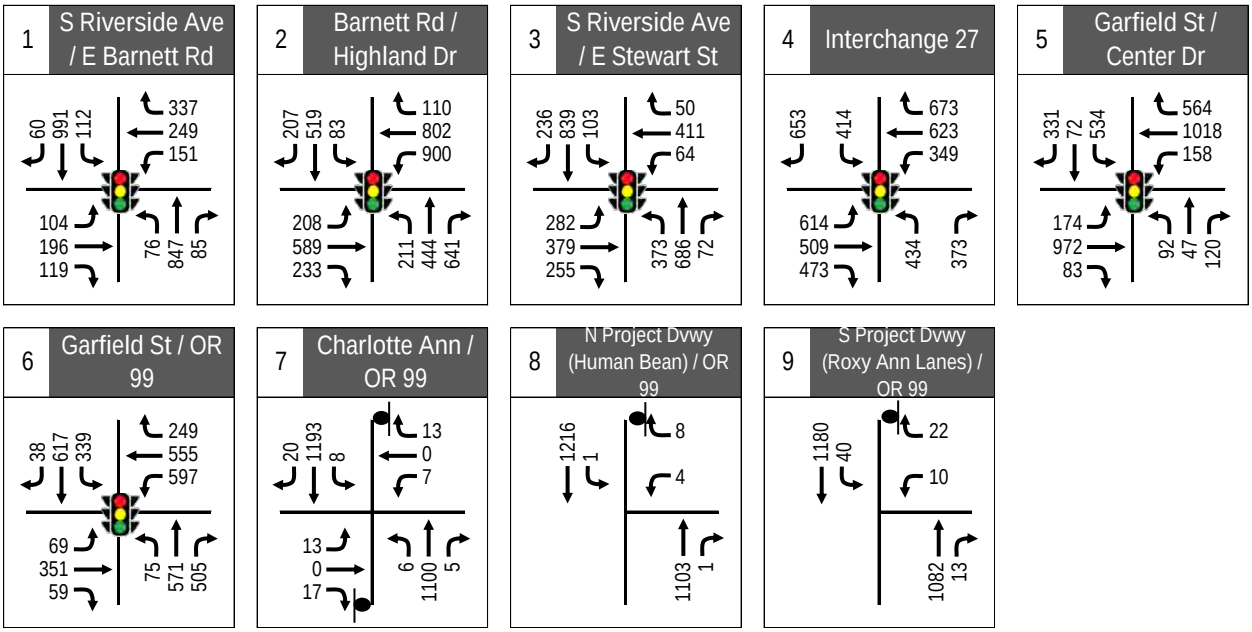
- Asante Drs Park Barnett ZC
- Becker Barnett
- Breeze Barnett
- Coal Mine Rd ZC
- Joseph Office Park Barnett Phoenix
- Mahar 19.13ac
- Mahar 23.92ac
- Mahar 25.72ac
- Mahar 37.91ac
- Mahar 48.84ac
- Pactrend Homes 16.59ac
- Pactrend Stonegate Estates
- RV Manor Hospitality 2019
- SE Commercial Core Area
- South Side Center Zone Change
- Stewart Meadows
- Suncrest Homes ZC Coal Mine Rd

Year 2022 No Build (background) traffic volumes, which include pipeline trips, are shown in Figure 4 and Figure 5 for Alternative A and B, respectively. Although pipeline trips add traffic to the system, the developments adding those pipeline trips are responsible for providing mitigation to the system, if those trips cause transportation facilities to exceed the adopted mobility target.

Mitigation required for project approval for developments generating pipeline trips is not included in this analysis. Participation in any mitigation project should be on a fair share basis proportional to the PM peak hour traffic from the project in relation to all other traffic through the subject intersection.

Year 2042 No Build (background) traffic volumes, which include pipeline trips, are shown in Figure 6 and Figure 7 for Alternative A and B, respectively. Similar to the 2022 No Build condition, the mitigation required for project approval for developments generating pipeline trips is not included in this analysis.



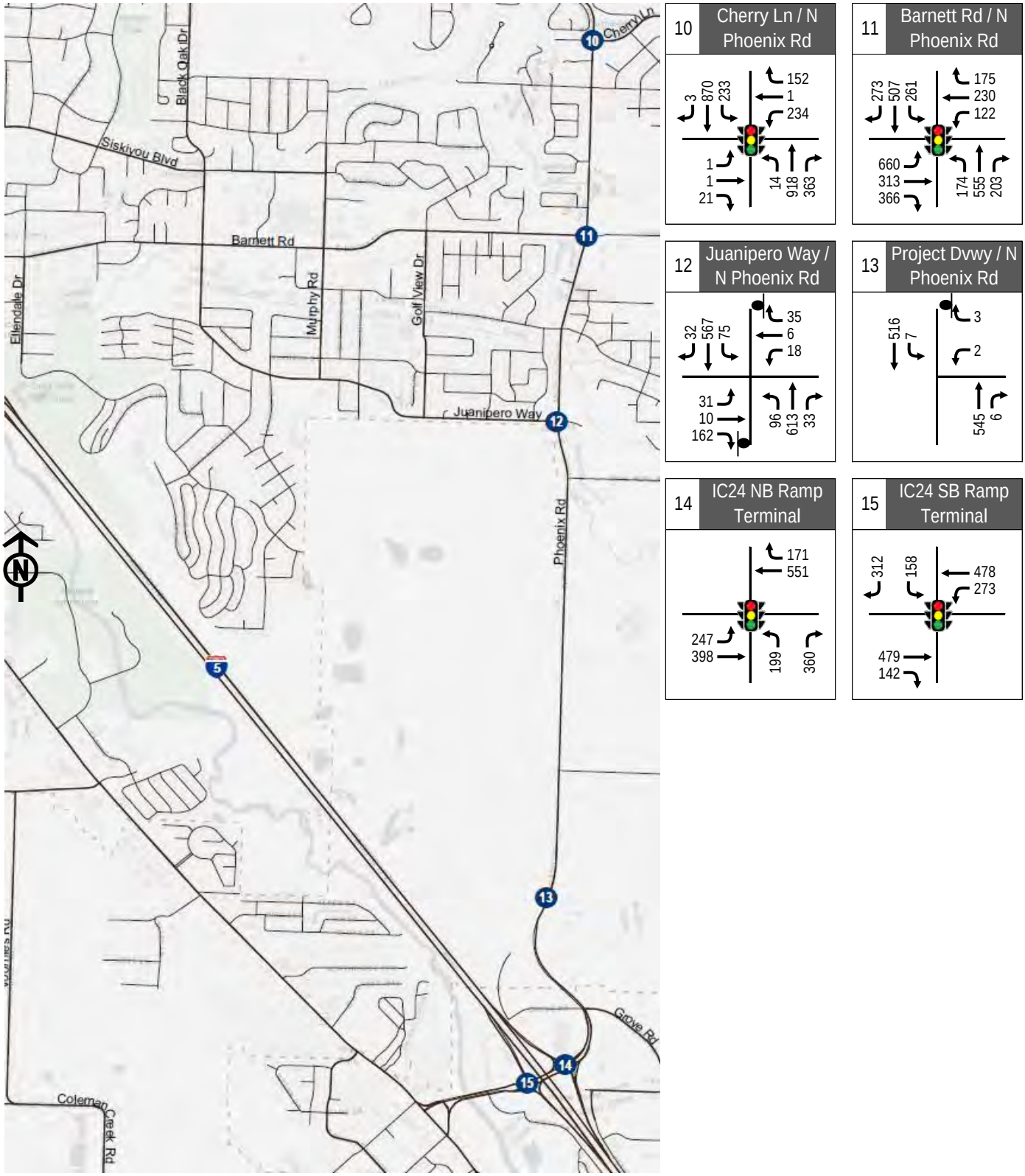


Legend

- ## Study Area Intersection
- STOP Controlled Approach
- Signalized Intersection
- Allowable Turn Movement
- ## PM Peak Hour Turning Movement Volume

Figure 4

Alternative A: Medford
2022 No Build PM Peak Hour
Turning Movement Volumes

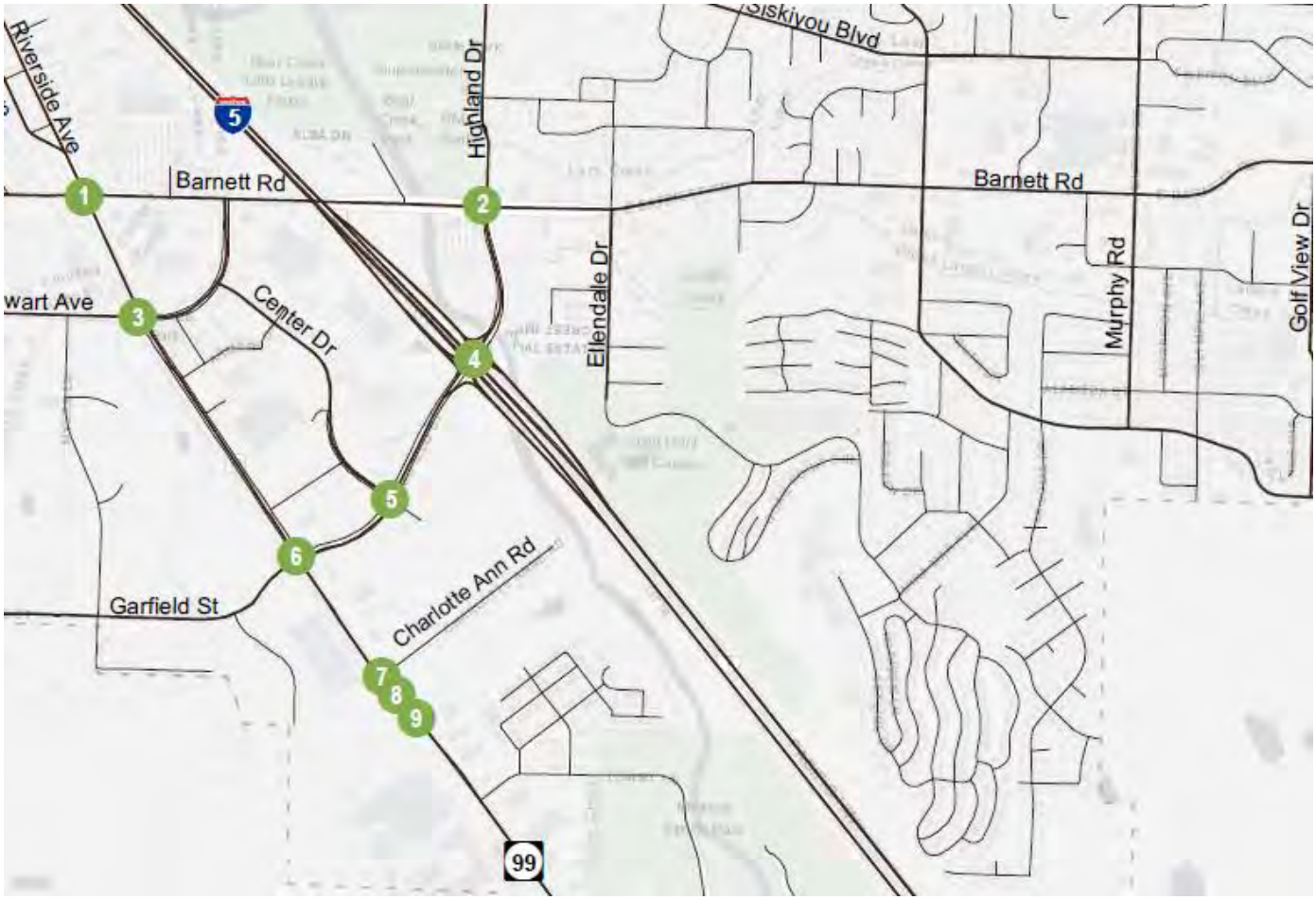


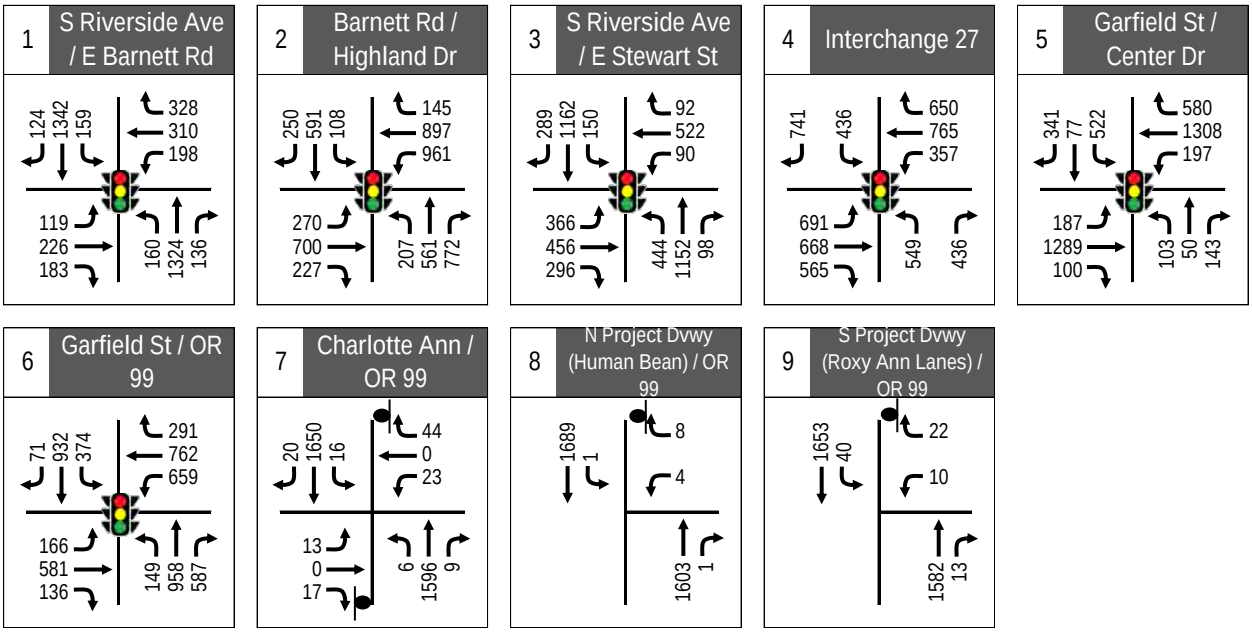
Legend

- ## Study Area Intersection
- STOP Controlled Approach
- Signalized Intersection
- Allowable Turn Movement
- ## PM Peak Hour Turning Movement Volume

Figure 5

Alternative B: Phoenix
2022 No Build PM Peak Hour
Turning Movement Volumes



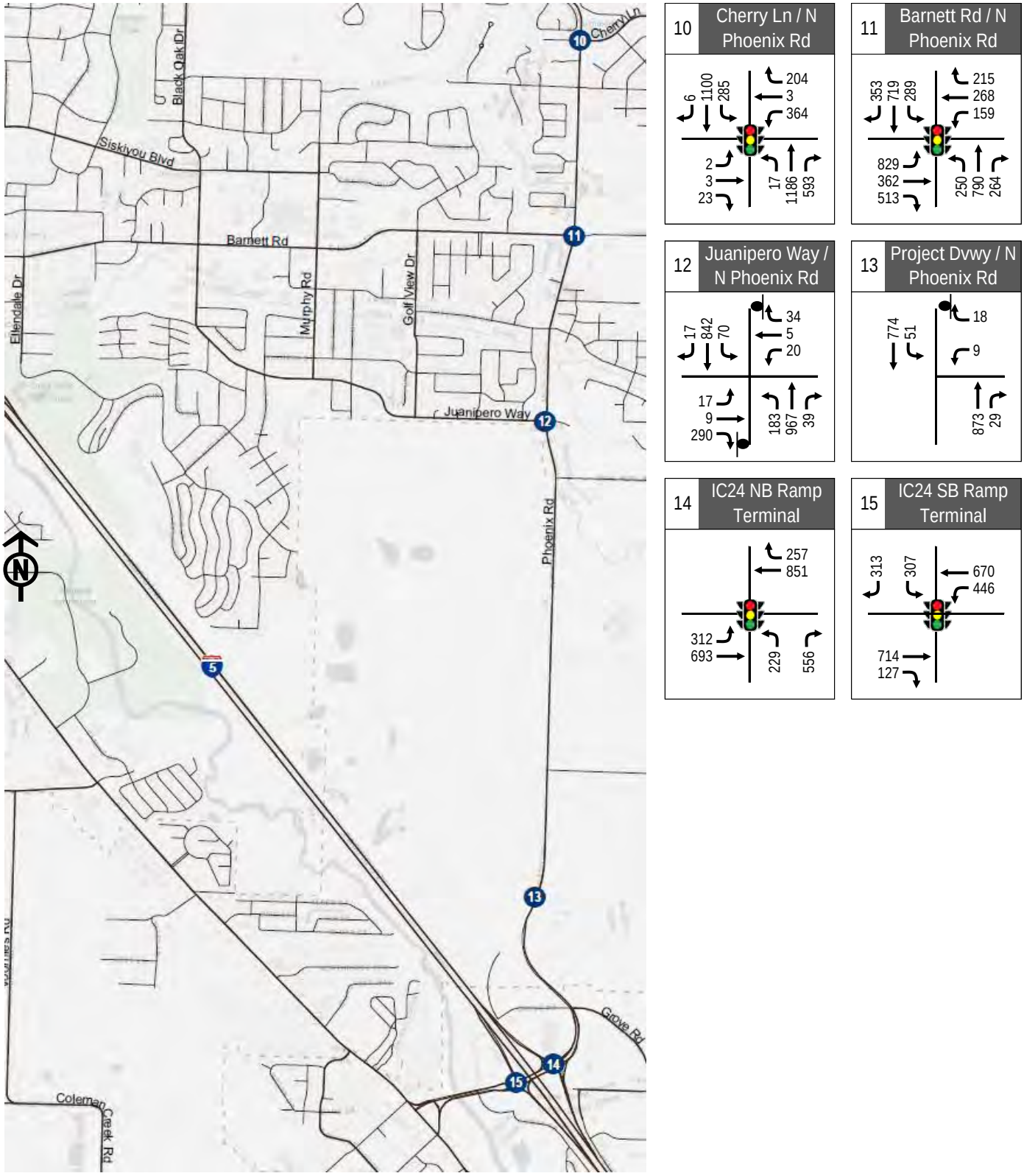


Legend

- ## Study Area Intersection
- STOP Controlled Approach
- Signalized Intersection
- Allowable Turn Movement
- ## PM Peak Hour Turning Movement Volume

Figure 6

Alternative A: Medford
2042 No Build PM Peak Hour
Turning Movement Volumes



Legend

- ## Study Area Intersection
- STOP Controlled Approach
- Signalized Intersection
- Allowable Turn Movement
- ## PM Peak Hour Turning Movement Volume

Figure 7

Alternative B: Phoenix
2042 No Build PM Peak Hour
Turning Movement Volumes

Traffic from Proposed Development

Trip Generation

The trip generation for the proposed gaming facility was determined by JRH Transportation Engineering in cooperation with the ODOT and the City of Medford per communications summarized in Appendix B. The methodology is described briefly below. The original report is included in Appendix E.

An examination of numerous tribal gaming facility Traffic Impact Analyses (TIAs) were collected and analyzed. Those with similar characteristics (size, use, etc) to the subject development were selected for use and are referenced below. From these, the trip generation was developed for the proposed project. The methodology and resulting rate were approved for use by ODOT in August 2015.

- *Samish Tribe Casino, Anacortes, WA, Transportation* Impact *Study Draft;* Transportation Engineering NorthWest, llc, January 28, 2015. (Samish)
- *Karuk Casino Yreka, California*; Kittelson Associates, September 2013 (Karuk)
- *Traffic Impact Study, Osage Nation Casino, US 60 & City View Road, Ponca City, Oklahoma;* Traffic Engineering Consultants, Inc. September 2010. (Ponca City)
- *San Pablo Lytton Casino Expansion Project Traffic Engineering Analysis*, Administrative Draft Report; Omni-Means; November 2009 – (San Pablo)
- *Thunder Valley Casino Expansion Project, Revised Transportation Impact Study;* Fehr & Peers; August 2009 (Thunder Valley)
- *Traffic Impact Study, Bear River Expansion in Humboldt County*; Abrams Associates; March 2007 (Bear River)
- *Cowlitz Indian Tribe Casino Project, Traffic Impact Study, Final;* February 2006 (Cowlitz)

Alternative A Trip Generation

Alternative A (Medford) will occupy the site of Roxy Ann Lanes bowling alley. The full planned development is a total of 30,284 sq. ft. including a 16,600 sq. ft. gaming facility, 7,565 sq. ft. of bar/deli, with the remainder being used for administrative and support facilities. Trip generation rates for the existing bowling alley and proposed gaming facilities both include ancillary activities integral to their use. These ancillary uses include, among others, restrooms, snack bars, delis, kitchens, security, and administrative offices. Since they are supplemental uses, no additional trips are assigned to them.

For the main project driveway all of the trips generated by the gaming facility (167 trips) are assigned to and from the main project driveway. Traffic counts to external roadways and intersections were taken while the bowling alley was operating. To avoid double counting, the ITE Trip Generation Manual, 10th Edition was consulted for the bowling alley land use (land use code 437) to subtract from the proposed gaming facility, leaving 136 trips to be distributed onto the roadway network. Table 4 shows the trip generation for Alternative A.

Table 4. Alternative A - Trip Generation

		PM Peak Hour		Inbound		Outbound	
Land Use	Variable	Rate	Trips	Split	Trips	Split	Trips
Gaming Facility*	30.284 KSF	5.5	167	67%	112	33%	55
Bowling Alley**	24 Lanes	1.3	-31	65%	-20	35%	-11
	Net Trips		136		92		44

*Gaming Facility Trip Rate from JRH Study – Approved by ODOT in July 2015

**ITE LUC 437, Trip Generation Manual, 10th Edition

Alternative B Trip Generation

Alternative B (Phoenix) would be located on the 49.35-acre Arrowhead Land and Cattle property along North Phoenix Road within view of Interstate 5. The full planned building size is 30,284 sq. ft. total which includes a 16,600 sq. ft. gaming facility, 7,565 sq. ft. of bar/deli, with the remainder being used for administrative and support facilities. As the land is now used for cattle grazing, there is no driveway and assumes no background trips from the site. Table 5 shows the trip generation for Alternative B.

Table 5. Alternative B - Trip Generation

		PM Peak Hour		Inbound		Outbound	
Land Use	Variable	Rate	Trips	Split	Trips	Split	Trips
Gaming Facility*	30.284 KSF	5.5	167	67%	112	33%	55
Net Trips			167		112		55

*Gaming Facility Trip Rate from JRH Study – Approved by ODOT in July 2015

Trip Distribution and Assignment

After determining the number of vehicle trips generated by each Alternative, the next step in the analysis requires distributing and assigning the trips to the existing traffic network. Trip distribution allocates the trips generated by the development to/from their destinations. The trip distribution replicates what was developed by JRH Transportation Engineering through coordination with ODOT. The methodology is summarized below."

Trip distributions for Alternatives A and B were calculated using the RVMPO travel demand model. The model divides the Rogue Valley into Transportation Analysis Zones (TAZ's) and divides the collector and arterial road system into a series of links. TAZ's are small neighborhood like areas. Links are generally roadway segments between intersections of arterials and /or collectors.

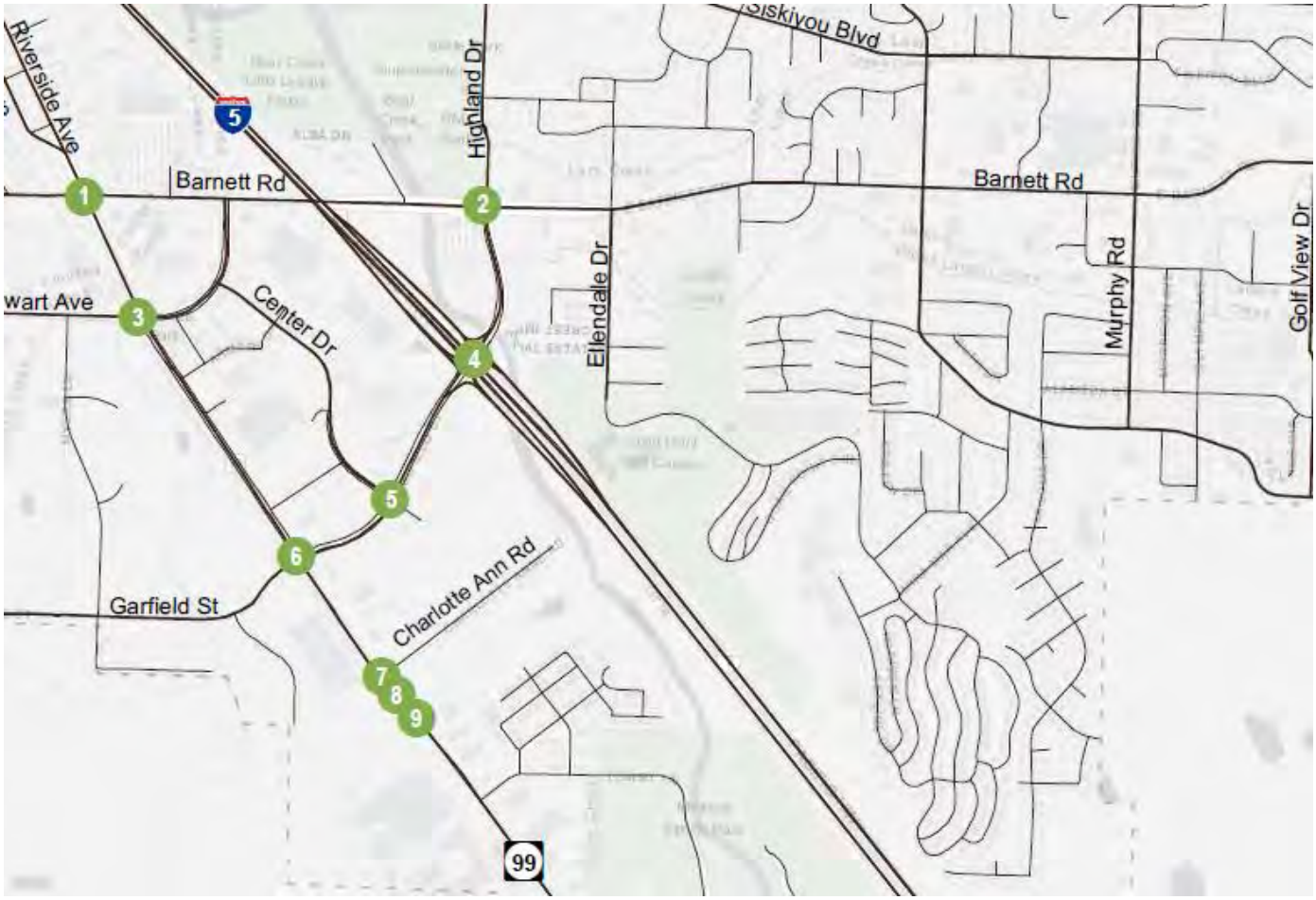
The model input includes projected employment and households by type for each TAZ. The model input for each link includes the roadway characteristics, such as functional classification, number of lanes, speeds, access control, capacity, etc. Based on an extensive travel survey of Oregon transportation characteristics, the model assigns traffic onto the roadway links based on the relative attractions between TAZ's and the ability of the roadway system to handle it.

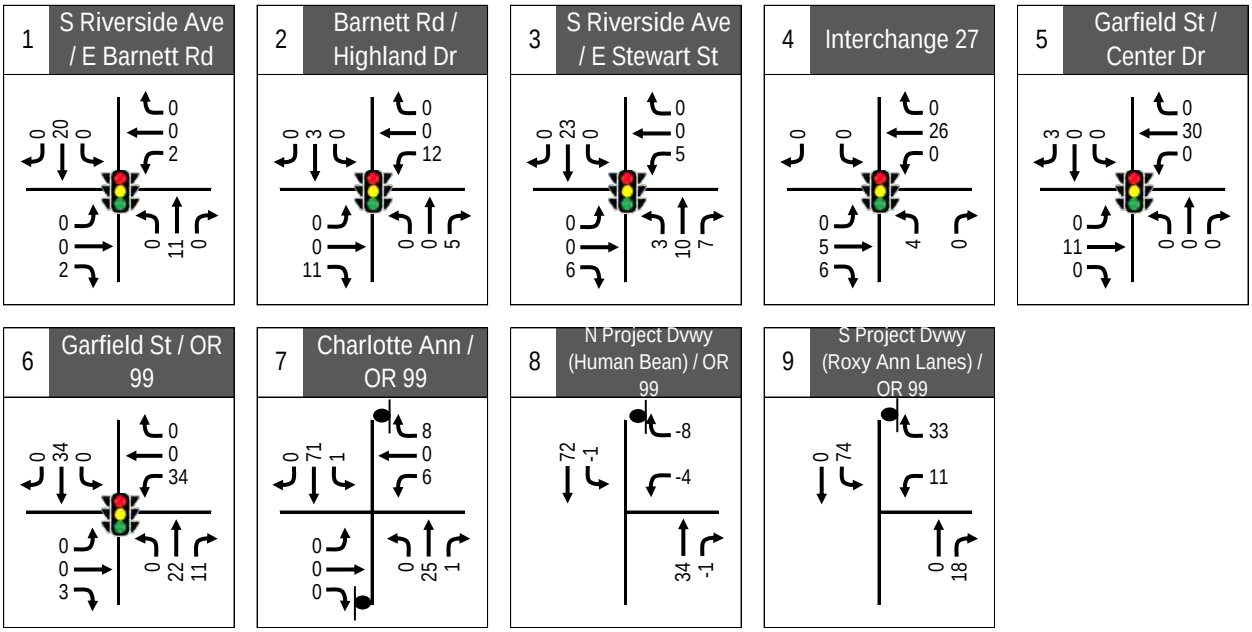
Using a select zone analysis generated by the RVMPO model for the PM Peak hour, JRH Transportation Engineering determined the anticipated trip distribution from the project. A select zone analysis shows the projected traffic volume from a particular TAZ (in this case we obtained two select zone analyses – one from the Alternative A site and another from the Alternative B site) and shows the anticipated traffic volumes on every major roadway link impacted by the alternative.

Traffic volumes developed for a TAZ in a model represents general values are and are not as accurate as trips calculated using ITE *Trip Generation Manual* rates. For that reason, prior to conducting the operational analysis, each roadway link output from the RVMPO model was adjusted by the ratio of trips generated by the RVMPO model compared to ITE trip generation for the same location. Inbound and outbound traffic were treated separately.

Project trip distribution is shown in Figure 8 and Figure 9 for each alternative. The 2022 Build volumes are shown in Figure 10 and Figure 11 for Alternative A and Alternative B, respectively. The 2042 build volumes are shown in Figure 12 and Figure 13.

The analysis described above was done for PM peak traffic. Because the RVMPO model does not include AM traffic, ODOT directed JRH not to develop methodology for analyzing morning traffic. The controlling peak period occurs during the PM peak period for both the trip generation and based on the existing count data. The AM projected trips is not expected to meet the Medford or ODOT threshold for analysis.



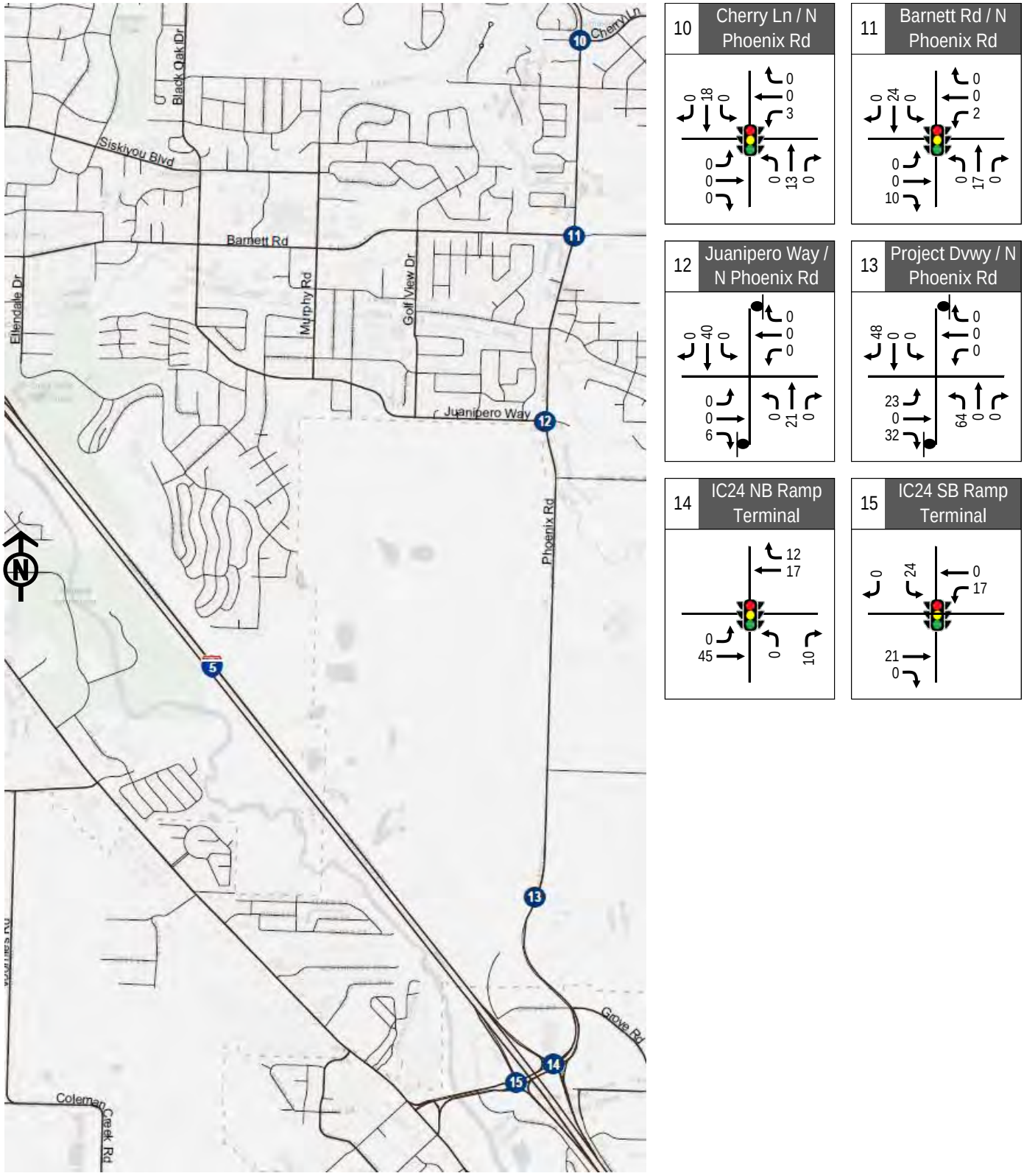


Legend

- ## Study Area Intersection
- STOP Controlled Approach
- Signalized Intersection
- Allowable Turn Movement
- ## PM Peak Hour Turning Movement Volume

Figure 8

Alternative A: Medford
Net Project Trips
Turning Movement Volumes

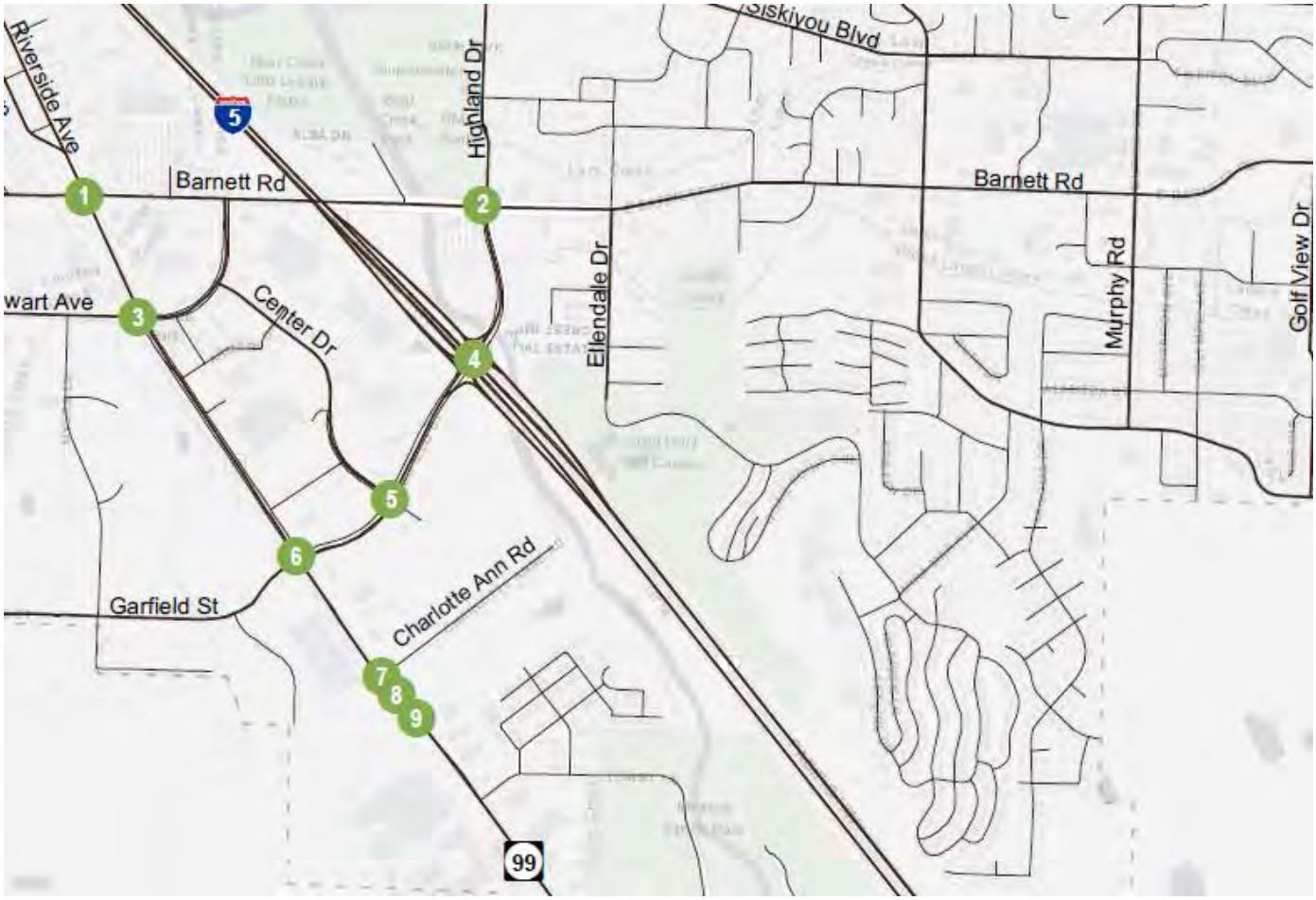


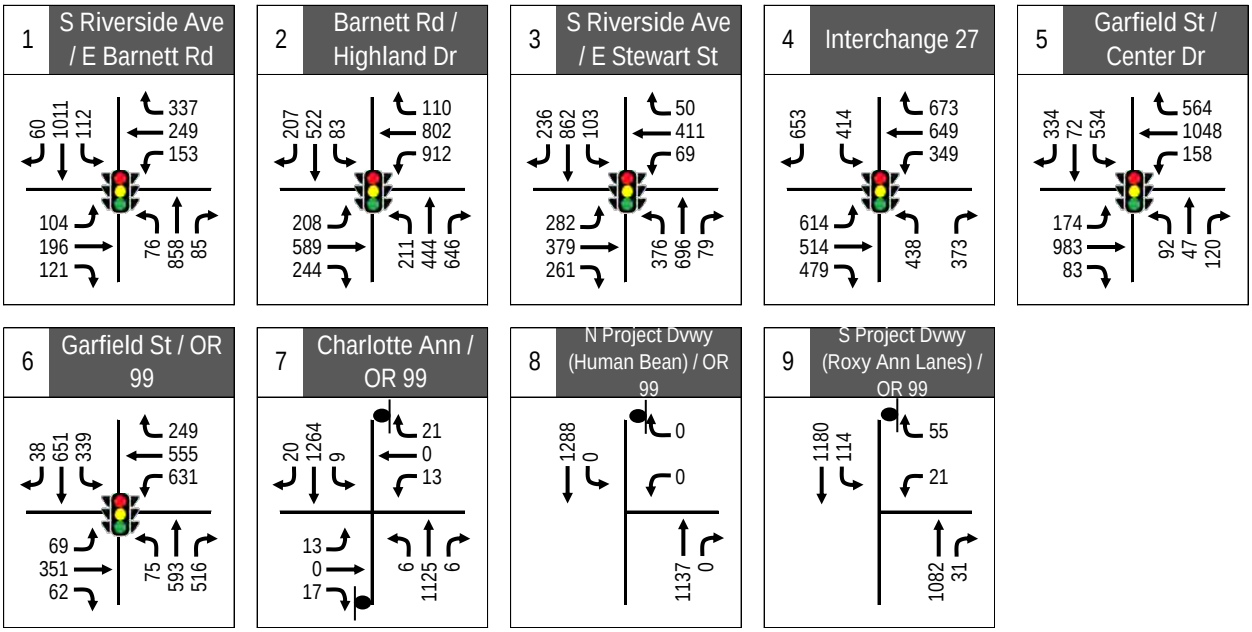
Legend

- ## Study Area Intersection
- STOP Controlled Approach
- Signalized Intersection
- Allowable Turn Movement
- ## PM Peak Hour Turning Movement Volume

Figure 9

Alternative B: Phoenix
Net Project Trips
Turning Movement Volumes



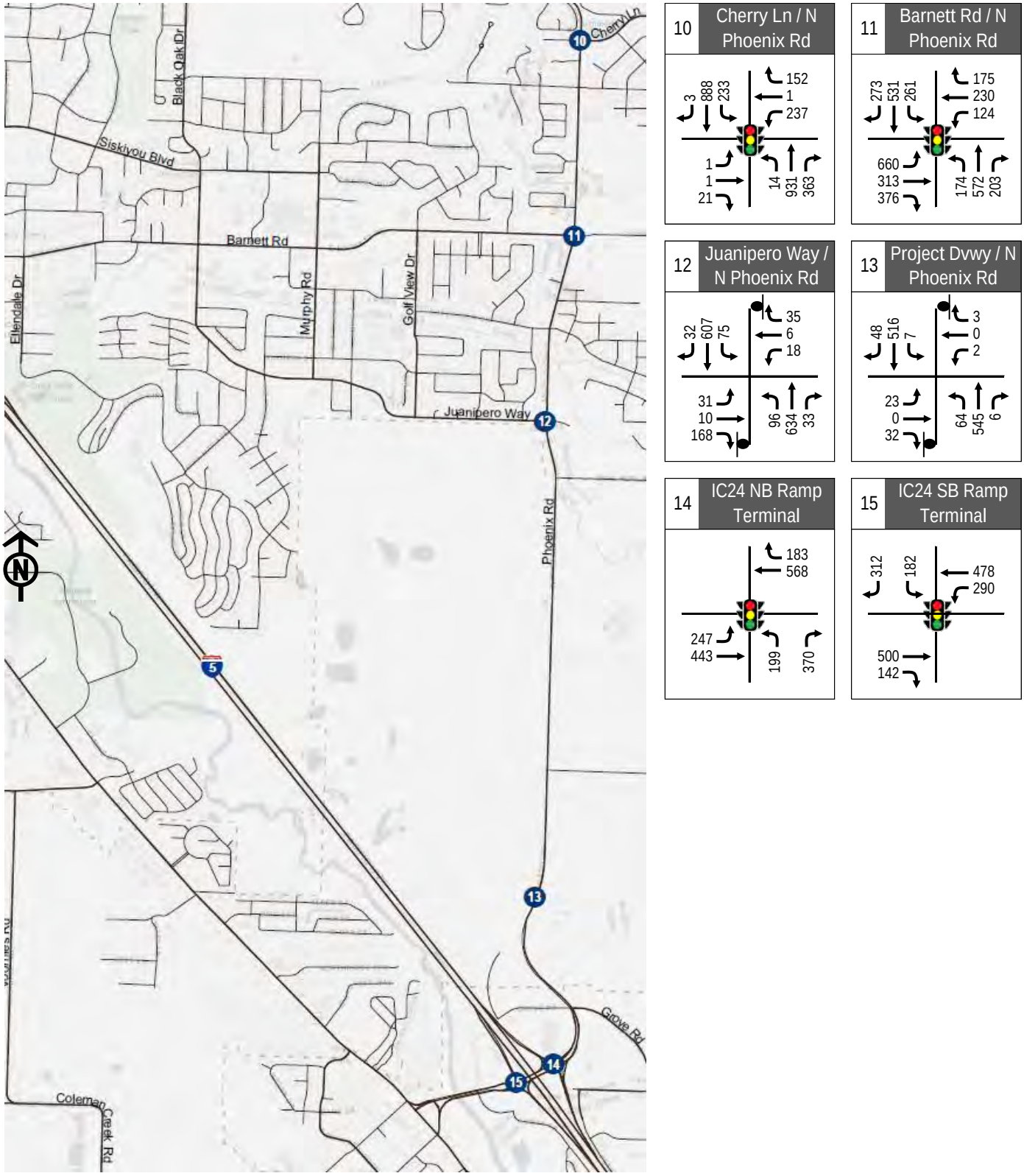


Legend

- ## Study Area Intersection
- STOP Controlled Approach
- Signalized Intersection
- Allowable Turn Movement
- ## PM Peak Hour Turning Movement Volume

Figure 10

Alternative A: Medford
2022 Build PM Peak Hour
Turning Movement Volumes

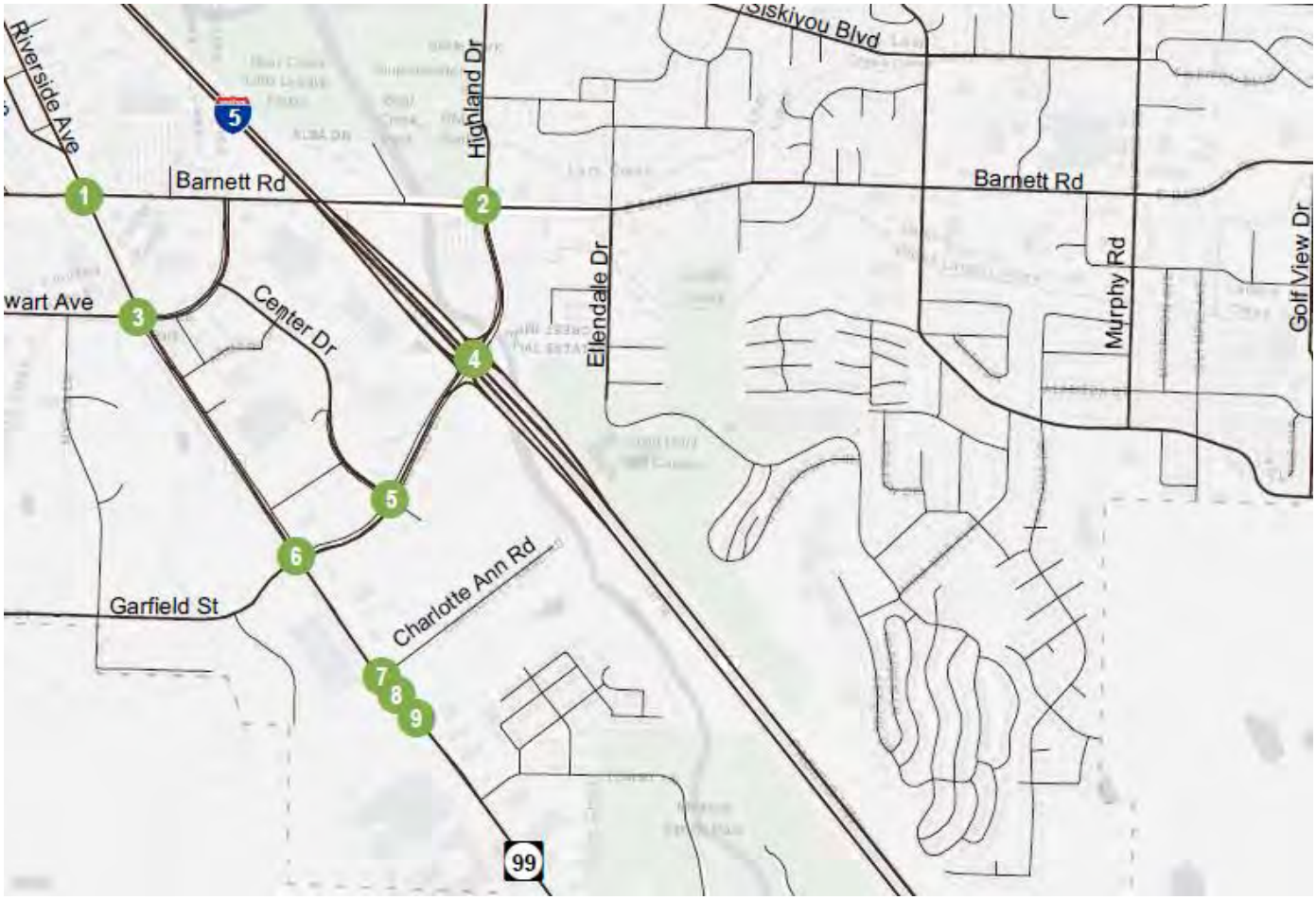


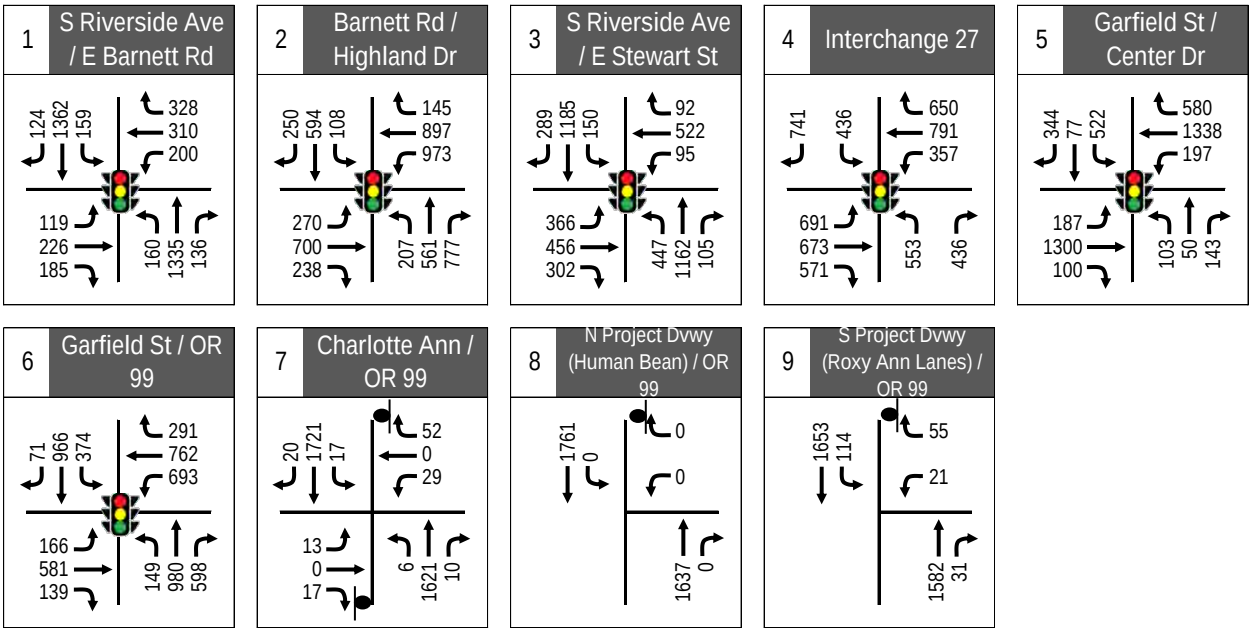
Legend

- ## Study Area Intersection
- STOP Controlled Approach
- Signalized Intersection
- Allowable Turn Movement
- ## PM Peak Hour Turning Movement Volume

Figure 11

Alternative B: Phoenix
2022 Build PM Peak Hour
Turning Movement Volumes



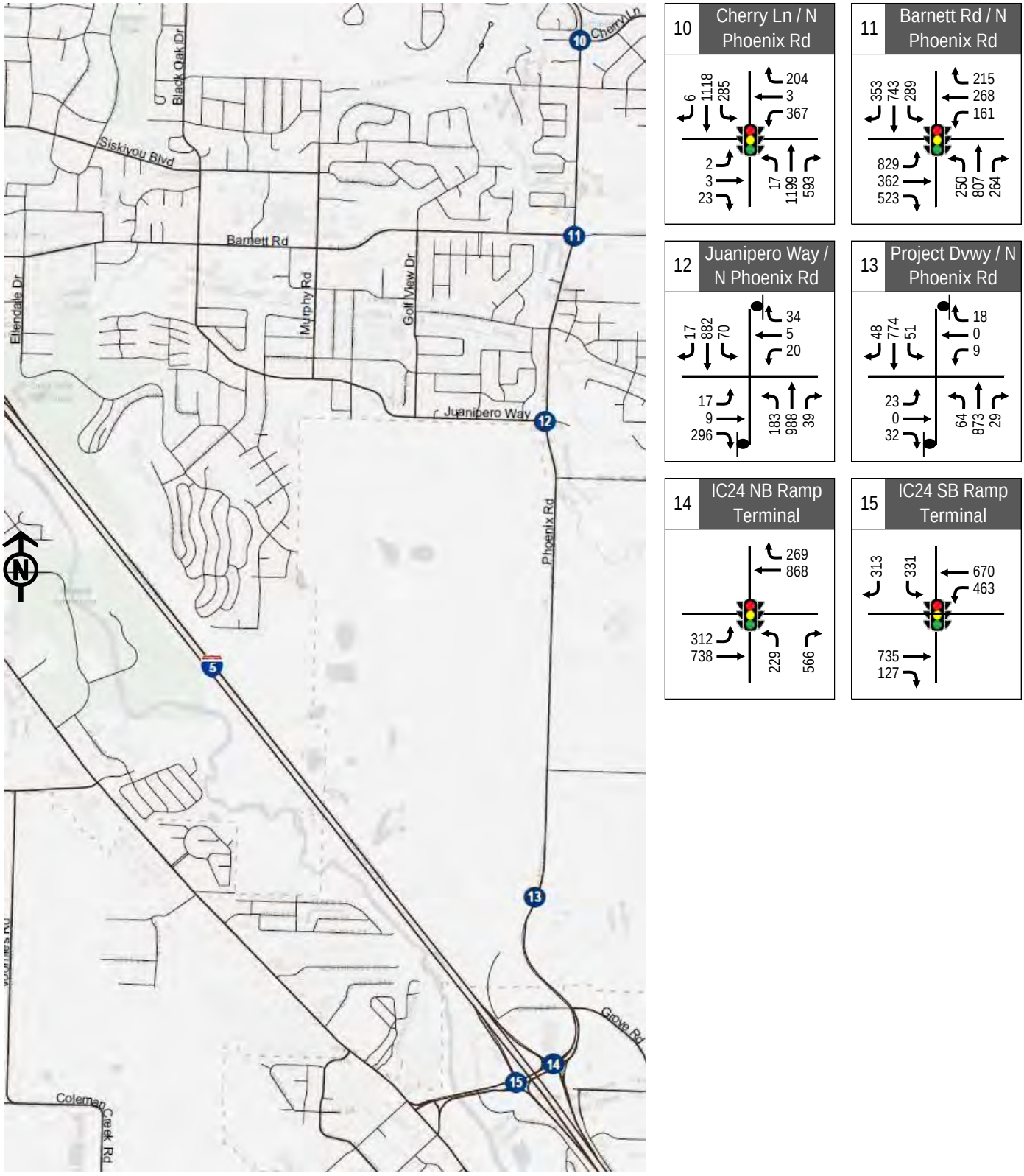


Legend

- ## Study Area Intersection
- STOP Controlled Approach
- Signalized Intersection
- Allowable Turn Movement
- ## PM Peak Hour Turning Movement Volume

Figure 12

Alternative A: Medford
2042 Build PM Peak Hour
Turning Movement Volumes



Legend

- ## Study Area Intersection
- STOP Controlled Approach
- Signalized Intersection
- Allowable Turn Movement
- ## PM Peak Hour Turning Movement Volume

Figure 13

Alternative B: Phoenix
2042 Build PM Peak Hour
Turning Movement Volumes

Analysis

Traffic performance was evaluated using Synchro (version 10) traffic analysis software and the Federal Highway Administration (FHWA) Cap-X tool. Inputs include:

- Traffic characteristics - traffic counts, speeds, saturation flow rate, percent large vehicle, peak-hour factors, bicycles, pedestrians, etc.
- Roadway characteristics – number of lanes by type and direction, lane width, grades, bus stops, etc.
- Signal timing – cycle length, signal phasing, timing plans, etc.

Synchro uses these inputs to calculate the traffic performance measures described in the remainder of this section, using the methodology developed in the *Highway Capacity Manual (HCM) 2000 and 6th edition* published by the Transportation Research Board. HCM 2000 was used for signalized intersection analysis and HCM 6 for unsignalized intersection analysis. Signalized intersection analysis methods for this report are consistent with the current Medford Transportation System Plan and the methodology developed collaboratively between JRH and ODOT.

Traffic Signal Timing Sheets used as inputs are located in Appendix F. Complete Synchro output is provided in Appendix G.

Performance Measures

Two different performance measures are used in the evaluation of intersection performance: Level of Service (LOS), and Volume-to-Capacity Ratio (v/c).

Level of Service (LOS) is the performance measure used by the City of Medford. Average delay, measured in seconds per vehicle per hour, translates directly into LOS as shown in the tables below. LOS ranges from A to F, with A indicating the most desirable condition and F indicating the most unsatisfactory condition. HCM Level of Service Criteriashows the Level of Service criteria, as defined by the Transportation Research Board's *Highway Capacity Manual* (HCM), for signalized intersections. HCM criteria for unsignalized intersections are shown in Table 8.

Table 6. HCM Level of Service Criteria

	Average Delay per Vehicle per Hour (seconds)	
Level of Service	Signalized Intersections	Unsignalized Intersections
A	≤ 10	≤ 10
B	> 10 – 20	> 10 – 15
C	> 20 – 35	> 15 – 25
D	> 35 – 55	> 25 – 35
E	> 55 – 80	> 35 – 50
F	> 80	> 50

Volume-to-Capacity ratio (v/c) is the ratio describing the capability of an intersection to meet traffic demand based upon the maximum number of vehicles capable of being served in an hour. The higher the v/c, the more congested the facility.

Detailed Performance Standards for This Project

ODOT, City of Medford and Jackson County vary their performance evaluation by roadway classification and control type (signals or stop signs). Each study area intersection has its own unique performance standard based on the jurisdiction and intersection features. Performance Standards, also known as Mobility Targets, for intersections analyzed in the summarized in Table 7. Mobility targets are set by the individual jurisdictions.

For all three jurisdictions, Medford and ODOT and Jackson County, the Critical Intersection v/c ratio is used for signalized intersections and the Intersection Approach v/c ratio is used for unsignalized intersections (usually the worst movement that must stop or yield).

Table 7. Study Area Mobility Targets by Intersection

Intersection	Traffic Control	Jurisdiction	Mobility Target[1,2,3]	Movement
1. Riverside Ave (OR 99) at Barnett Rd	Signal	City of Medford	LOS D	Overall
2. Highland Dr at Barnett Rd	Signal	City of Medford	LOS E	Overall
3. Riverside Ave (OR 99) at Stewart Ave	Signal	City of Medford	LOS E	Overall
4. I-5 Exit 27 Interchange	Signal	ODOT	v/c 0.85	Overall
5. Center Dr at Garfield St	Signal	ODOT	v/c 0.95	Overall
6. S Pacific Highway (OR 99) at Garfield St	Signal	ODOT	v/c 0.95	Overall
7. S Pacific Highway (OR 99) at Charlotte Ann Rd	Stop-Control	ODOT	0.95	NB/SB
		ODOT	0.95	WB
8. S Pacific Highway (OR 99) at Human Bean (North Driveway)	Stop-Control	ODOT	v/c 0.95	NB/SB
		Private	v/c 1.0	WB
9. S Pacific Highway (OR 99) at Roxy Ann Lanes (South Driveway)	Stop-Control	ODOT	v/c 0.95	NB/SB
		Private	v/c 1.0	WB
10. N Phoenix Rd at Cherry Ln	Signal	City of Medford	LOS D	Overall
11. N Phoenix Rd at E. Barnett Rd	Signal	City of Medford	LOS D	Overall
12. N Phoenix Rd at Juanipero Way	Stop-Control	City of Medford	LOS D	Overall
13. N Phoenix Rd at Site Driveway	Stop-Control	Jackson County	V/C 0.95	All
14. Fern Valley Interchange NB Ramp*	Signal	ODOT	v/c 0.85	Overall
15. Fern Valley Interchange SB Ramp*	Signal	ODOT	v/c 0.85	Overall

EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound

1. 2018-2038 City of Medford Transportation System Plan pg. 132. Adopted December 6, 2018.
2. Oregon Highway Plan, Table 6. I-5 ramps are classified Interstate Highway. OR 99 is classified District Highway. All intersections within MPO and UGB boundaries.
3. Private approaches to State facilities must not exceed v/c 1.0. The v/c of 1.0 is not an adopted standard; however, for safety reasons, ODOT considers it as if it were a standard.

Mitigation Thresholds

Existing

Under existing (2019) conditions, intersections are evaluated against the applicable mobility targets as summarized in Table 7. If an intersection exceeds mobility targets under existing conditions, the project is not responsible for mitigation.

Opening Year 2022

Under opening year (2022) conditions, intersections are evaluated against the applicable mobility targets as summarized in Table 7. Mitigation is triggered if the intersection exceeds the applicable mobility target under the Build condition. The project is then expected to mitigate back to the applicable mobility target.

Planning Horizon 2042

Under planning horizon year (2042) conditions, intersections are evaluated against the applicable mobility targets as summarized in Table 7. Mitigation is triggered if the intersection exceeds the applicable mobility target under the Build condition. The project is then expected to mitigate back to no worse than the No Build performance.

Alternative A Performance

Alternative A – No Build Performance

The tables and narrative below summarize the results of the Existing and No Build operational analysis for Alternative A. No Build assumes forecasted background traffic growth and planned pipeline trips as provided by the City of Medford.

Table 8. Alternative A (Medford) PM No Build Signalized Intersection Performance

Intersection	Mobility Target	2019 Existing		2022 No Build		2042 No Build	
		v/c	LOS	v/c	LOS	v/c	LOS
1. Riverside Ave (OR 99) at Barnett Rd	LOS D	0.67	D	0.80	D	1.01	E
2. Highland Dr at Barnett Rd	LOS E	0.87	E	1.01	E	1.11	F
3. Riverside Ave (OR 99) at Stewart Ave	LOS E	0.71	D	0.90	E	1.17	F
4. I-5 Exit 27 Interchange	v/c 0.85	0.76	C	0.81	C	0.87	C
5. Center Dr at Garfield St	v/c 0.95	0.73	C	0.92	D	1.15	F
6. S Pacific Highway (OR 99) at Garfield St	v/c 0.95	0.77	D	0.82	D	1.14	F

Bolded values exceed mobility target.

Table 9. Alternative A (Medford) PM No Build Unsignalized Intersection Performance

Intersection	Mobility Target	Movement	2019 Existing		2022 No Build		2042 No Build	
			v/c	LOS	v/c	LOS	v/c	LOS
7. S Pacific Highway (OR 99) at Charlotte Ann Rd	v/c 0.95	EB L/T/R	0.32	F	0.39	F	**1.60**	F
	v/c 0.95	WB L/T/R	0.14	E	0.24	F	**3.24**	F
	v/c 0.95	NBL	0.01	B	0.01	B	0.02	C
	v/c 0.95	SBL	0.01	B	0.01	B	0.05	C
8. S Pacific Highway (OR 99) at Human Bean	v/c 1.0	WB L/R	0.04	C	0.04	C	0.08	D
	v/c 0.95	SB L	0.01	B	0.01	B	0.01	B
9. S Pacific Highway (OR 99) at Roxy Ann Lanes (South Site Driveway)	v/c 1.0	WB L	0.11	C	0.12	C	0.21	D
	v/c 0.95	SB L	0.07	B	0.07	B	0.12	C

Bolded values exceed mobility target.

As shown in Table 8 and Table 9, all intersections operate within accepted mobility targets for Alternative A under existing condition and the year 2022 (opening year) No Build condition.

By year 2042, under the No Build conditions, all of the six signalized study intersections for Alternative A are expected to exceed mobility targets. The 2018-2038 Medford TSP identifies projects to address congestion at five of the six intersections (exception is Riverside Avenue (OR 99) at Barnett Road).

One unsignalized intersection (S Pacific Highway (OR 99) at Charlotte Ann Road) is expected to experience delays on the east and west legs, causing the intersection to exceed the State's mobility target, as well as the City of Medford standard of LOS D for their local streets.

Under 2042 No Build Conditions, the following intersections will exceed applicable mobility targets:

- Riverside Ave (OR 99) at Barnett Rd
- Highland Dr at Barnett Rd
- Riverside Ave (OR 99) at Stewart Ave
- I-5 Exit 27 Interchange
- Center Dr at Garfield St
- S Pacific Highway (OR 99) at Garfield St
- S Pacific Highway (OR 99) at Charlotte Ann Rd

Alternative A – Build Performance

The tables and narrative below summarize the results of the Build operational analysis for Alternative A without mitigation/improvements. The volumes assume the anticipated new trips from the proposed project in addition to the background and pipeline traffic.

Table 10. Alternative A (Medford) PM Build Signalized Intersection Performance

Intersection	Mobility Target	2022 Build		2042 Build	
		v/c	LOS	v/c	LOS
1. Riverside Ave (OR 99) at Barnett Rd	LOS D	0.81	D	1.02	E
2. Highland Dr at Barnett Rd	LOS E	1.01	E	1.12	F
3. Riverside Ave (OR 99) at Stewart Ave	LOS E	0.91	E	1.18	F
4. I-5 Exit 27 Interchange	v/c 0.85	0.82	C	0.87	C
5. Center Dr at Garfield St	v/c 0.95	0.92	D	1.15	F
6. S Pacific Highway (OR 99) at Garfield St	v/c 0.95	0.83	D	*1.15*	F

Bolded values exceed mobility target. *Italic* values exceed No Build and mobility target

Table 10 shows all signalized intersections operate within adopted mobility targets by opening year (2022) with the project in place, which is similar to the No Build condition.

By the end of the planning horizon (2042), all of the signalized intersections are expected to exceed the adopted mobility targets, however they are expected to be no worse than the No Build conditions, indicating the project has minimal impact to traffic operations. The exception is the ODOT intersection of S Pacific Highway (OR 99) at Garfield Street. This intersection (as shown in Table 8) exceeds the adopted mobility target in the 2042 No Build at a v/c of 1.14 and LOS F, and is expected to operation by 0.01 worse (v/c of 1.15 and LOS F) under the 2042 Build condition. This could be mitigated with restriping the westbound right-turn lane to a shared through-right and making appropriate changes to the signal/signing.

The Medford 2018-2038 TSP flagged all three of the Garfield Street study intersections for improvement (includes interchange), but indicated that the “intersections need alternative mobility targets … or to be evaluated further as part of an update to the Exit 27 IAMP.”

Table 11. Alternative A (Medford) PM Build Unsignalized Intersection Performance

Intersection	Mobility Target	Movement	2022 Build		2042 Build	
			v/c	LOS	v/c	LOS
7. S Pacific Highway (OR 99) at Charlotte Ann Road	v/c 0.95	EB L/T/R	0.46	F	*1.99*	F
	v/c 0.95	WB L/T/R	0.48	F	*4.54*	F
	v/c 0.95	NBL	0.01	B	0.02	C
	v/c 0.95	SBL	0.02	B	0.05	C
8. S Pacific Highway (OR 99) at Human Bean (North Site Driveway)	v/c 1.0	WB L/R	0.01	A	0.02	D
	v/c 0.95	SB L	0.01	A	0.01	C
9. S Pacific Highway (OR 99) at Roxy Ann Lanes (South Site Driveway)	v/c 1.0	WB L/R	0.33	D	0.64	F
	v/c 0.95	SB L	0.21	B	0.34	C

Bolded values exceed mobility target. *Italic* values exceed No Build and mobility target

Of the unsignalized intersections in Alternative A, S Pacific Highway (OR 99) at Charlotte Ann Road is expected to experience delays on the east and west legs, causing the intersection to exceed the State's mobility target (Table 11). The private business driveway directly across the way from Charlotte Ann Road contributes to the delays. To meet ODOT mobility targets, access management via turn movement restrictions is the only option; the preliminary signal warrants do not warrant a traffic signal at this location. Right-out only of the private driveway and striping the westbound movements to be separate movements (instead of a shared left/through/right) could mitigate the street to no worse than the No Build operations for 2042.

Under Build conditions, the following intersections will need to be mitigated back to no worse than No Build:

- S Pacific Highway (OR 99) at Garfield St
- S Pacific Highway (OR 99) at Charlotte Ann Road

Alternative A Mitigation

In opening year (2022), the proposed project does not cause any of the Alternative A study area intersections to exceed applicable mobility targets. No mitigation is necessary for opening year (2022).

However, by the end of the planning horizon (2042), the background traffic growth is expected to cause the seven of the nine intersections to exceed applicable mobility targets. Of those seven intersections, the proposed project is expected to trigger mitigation at two of them. The mitigation is summarized below:

- S Pacific Highway (OR 99) at Garfield Street: Could restripe the westbound right-turn lane to a shared through-right and making appropriate changes to the signal head, controller and signage. Since this intersection is also expected to fail in No Build, this project would contribute a fair share of the mitigation funding proportionate to the PM peak hour traffic impacts. This is approximately 2%.

- S Pacific Highway (OR 99) at Charlotte Ann Road: Access management via turn movement restrictions; the preliminary signal warrants do not warrant a traffic signal at this location. Right-out only of the private driveway and striping the westbound movements to be separate movements (instead of a shared left/through/right). Since this intersection is also expected to fail in No Build, this project would contribute a fair share of the mitigation funding proportionate to the PM peak hour traffic impacts. This is approximately 3%.

Alternative B Performance

Alternative B – No Build Performance

The tables and narrative below summarize the results of the Existing and No Build operational analysis for Alternative A. No Build assumes forecasted background traffic growth and planned pipeline trips as provided by the City of Medford.

Table 12. Alternative B (Phoenix) PM No Build Signalized Intersection Performance

Intersection	Mobility Target	2019 Existing		2022 No Build		2042 No Build	
		v/c	LOS	v/c	LOS	v/c	LOS
10. N Phoenix Road at Cherry Lane	LOS D	0.46	B	0.76	C	0.98	D
11. N Phoenix Road at E. Barnett Road	LOS D	0.77	C	1.52	F	1.75	F
14. Fern Valley Interchange NB Ramp*	v/c 0.85	0.47	N/A	0.48	N/A	0.77	N/A
15. Fern Valley Interchange SB Ramp*	v/c 0.85	0.44	N/A	0.49	N/A	0.69	N/A

* FHWA Cap-X Software: Alternative Intersection Analysis Tool required to analyze the Diverging Diamond Interchange (DDI).
Bolded values exceed mobility target.

As shown in Table 12, one signalized intersection is expected to exceed applicable mobility targets for Alternative B under the year 2022 (opening year) and horizon year (2042) No Build conditions. Without improvements to the current system, the forecasted growth and planned pipeline trips result in the intersection of N Phoenix Road at E Barnett Road operating at an LOS F. The 2018-2038 Medford TSP identifies projects to address congestion here as part of the N Phoenix/S Stage Rd/Foothills Corridor.

As shown in Table 13, one the unsignalized intersection of N Phoenix Road at Juanipero Way is expected to exceed the City of Medford standard of LOS D for their streets. The 2018-2038 Medford TSP identifies a Tier 1 funded project to signalize this intersection when warrants are met. The site driveway is expected to operate within Jackson County's operational standard.

The following intersections are expected to exceed applicable mobility targets under No Build conditions:

- N Phoenix Road at E. Barnett Road (2022 and 2042)
- N Phoenix Road at Juanipero Way (2022 and 2042)

Table 13. Alternative B (Phoenix) PM No Build Unsignalized Intersection Performance

Intersection	Mobility Target	Movement	2019 Existing		2022 No Build		2042 No Build	
			v/c	LOS	v/c	LOS	v/c	LOS
12. N Phoenix Road at Juanipero Way	LOS D	EB L	0.15	D	0.73	F	18.7	F
		EB T/R	0.21	B	0.54	D	2.63	F
		WB L/T/R	0.03	D	0.89	F	--	F
		NB L/T	0.07	A	0.11	A	0.28	B
		SBL	0.01	A	0.09	A	0.12	B
13. N Phoenix Road at Site Driveway	v/c 0.95	WB L/R	0.01	C	0.02	C	0.22	E
		SB L/T	0.01	A	0.01	A	0.08	B

Bolded values exceed mobility target.

Alternative B –Build Performance

The tables and narrative below summarize the results of the Build operational analysis for Alternative B without mitigation/improvements. The volumes assume the anticipated new trips from the proposed project in addition to the background and pipeline traffic.

Table 14. Alternative B (Phoenix) PM Build Signalized Intersection Performance

Intersection	Mobility Target	2022 Build		2042 Build	
		v/c	LOS	v/c	LOS
10. N Phoenix Road at Cherry Lane	LOS D	0.76	C	0.98	D
11. N Phoenix Road at E. Barnett Road	LOS D	1.53	F	1.72	F
14. Fern Valley Interchange NB Ramp	v/c 0.85	0.51	N/A	0.79	N/A
15. Fern Valley Interchange SB Ramp	v/c 0.85	0.50	N/A	0.71	N/A

* FHWA Cap-X Software: Alternative Intersection Analysis Tool required to analyze the Diverging Diamond Interchange (DDI).
Bolded values exceed mobility target. *Italic* values exceed No Build and mobility target

As shown in Table 14, when compared to the No Build operations (Table 12), the project is not expected to worsen the operations at N Phoenix Road at E Barnett Road. The proposed project trips did not change the projected level of service at this intersection and therefore meet the mobility target of not exceeding the No Build.

No mitigation is triggered by Alternative B at any of the signalized study intersections.

Table 15. Alternative B (Phoenix) PM Build Unsignalized Intersection Performance

Intersection	Mobility Target	Movement	2022 Build		2042 Build	
			v/c	LOS	v/c	LOS
12. N Phoenix Road at Juanipero Way	LOS D	EB L	0.81	F	--	F
		EB T/R	0.59	D	2.99	F
		WB L/T/R	1.06	F	--	F
		NB L/T	0.12	A	0.28	B
		SBL	0.09	A	0.12	B
13. N Phoenix Road at Site Driveway	v/c 0.95	EB L	0.21	E	0.93	F
		EB R	0.07	B	0.10	C
		WB L/T/R	0.03	C	0.44	F
		NB L/T/R	0.07	A	0.09	B
		SB L/T/R	0.01	A	0.08	B

Bolded values exceed mobility target. *Italic* values exceed No Build and mobility target

As shown in Table 15, when compared to the No Build operations (Table 13), the project is not expected to worsen the operations at N Phoenix Road at Juanipero Way. The proposed project trips did not change the projected level of service at this intersection and therefore meet the mobility target of not exceeding the No Build. No mitigation is triggered by Alternative B at any of the unsignalized study intersections.

Alternative B Mitigation

The signalized intersection of N Phoenix Road at E Barnett Road and the unsignalized intersection of N Phoenix at Juanipero Way operate below acceptable levels in 2022 and 2042 in both No Build and Build conditions. The project does not trigger the failure of these intersections, although it will add traffic volume to already congested conditions.

The 2018-2038 Medford TSP identifies specific projects in their Tier 1 funded plan to address congestion at these two intersections. The traffic analysis included in this report is conservative and does not assume they are constructed by the time the project is in place. A fair share contribution proportional to PM peak hour trips could be requested to mitigate the additional congestion. The proportionate share would be 2% for the intersection of N Phoenix Road at E Barnett Road and 3% for N Phoenix at Juanipero Way.

Queuing Analysis

ODOT does not have adopted standards for queuing on State highways; however, it does rely on queuing analysis to assist in its evaluation of roadway safety and therefore it must be considered in traffic impact analyses.

The Synchro software used for this project provides, as a standard report, the calculated queues for each approach movement for every intersection and scenario. These are provided in Appendix G.

ODOT's Scope of Work, included in Appendix B, identifies the agencies specific concern:

> "The queuing analysis should be expanded from the I-5 interchange to OR 99 on Garfield because of the high v/c at OR99/Garfield and the short intersection spacing. The main issue here will be queuing backing into the interchange which could cause queuing on the ramps. This queuing analysis should be based on a SimTraffic simulation calibrated with APMv1 Chapter 8 techniques."

SimTraffic is the simulation model associated with Synchro 10 software. The queuing analysis was completed using SimTraffic. The queue analysis in this report is limited to the westbound approach to OR 99 on Garfield because it is the only study location having the potential to back into the interchange ramps.

Before the analysis could begin the SimTraffic models were calibrated for local conditions. For the calibration, traffic volumes, lane configurations, lane utilization and signal timing were input into the Synchro and SimTraffic models. The SimTraffic model was then run for the PM peak hour. The hour long simulation was conducted with a Peak Hour Factor (PHF) to replicate the peaking traffic patterns within the peak hour. Turning speeds and headway factors in the SimTraffic model were adjusted and the PM peak hour was re-simulated and, once again, compared to field observations. Once this visual level of calibration was gained, volume throughputs were summarized from the SimTraffic simulations and compared to actual count data.

The ODOT requested analysis is summarized in Table 16 and detailed in Appendix G. For SimTraffic purposes, the average queue (50th percentile) is defined as "the average of the calculated two-minute queues" in the analysis period. Similarly, the 95th percentile queue represents the queue greater than or equal to all but five percent of the observed two-minute intervals.

Queue distance storage is measured from the intersection stop bar to the closest upstream crosswalk for through lanes and to the beginning of the refuge lane for turn lanes. Queue length and storage length are generally provided to the nearest 25 feet, which is also the general factor for the space occupied by an automobile.

Table 16. Alternative A - 2042 Queuing and Storage

Intersection	Movement	Storage (ft)	Queue Lengths (ft)					
			2019 Existing		2042 No Build		2042 Build	
			Average	95th Percentile	Average	95th Percentile	Average	95th Percentile
I-5 Exit 27 Interchange	NBL	200	125	200	250	*350*	275	*350*
	NBL	1,575	125	200	450	1050	675	1450
	NBR	300	75	175	175	*425*	275	*500*
	SBL	1,825	150	225	2000	***2450***	2000	***2450***
	SBR	600	175	350	700	*725*	700	*725*
Center Dr at Garfield St	WBL	400	75	250	*450*	*700*	450	*700*
	WBT	1300	325	675	*1375*	*1525*	1375	*1425*
	WBT	1300	225	625	*1400*	*1450*	1400	*1475*
	WBR	200	150	*275*	*225*	*375*	200	*375*
S Pacific Highway (OR 99) at Garfield St	WBL	325	150	250	225	325	225	325
	WBL	325	200	*375*	325	*500*	350	*500*
	WBT	850	300	550	525	850	550	*900*
	WBR	850	75	125	100	250	150	500

Bold and Italic indicates queue length exceeds available storage. ***Underlined*** indicates impacts freeway mainline.

Under existing conditions, the 95th percentile queue for the westbound right-turn at Center Drive and the first westbound left-turn at S Pacific Highway (OR) exceed their available storage. This indicates that during peak conditions, these movements may spill outside of their storage and begin to impact through traffic.

The 2042 Build and No Build scenarios include all approved pipeline projects impacting the study intersections. These developments provide mitigation for their queue-length issues prior to development. Mitigation required for project approval for developments generating pipeline trips is not included in this analysis. Participation in any mitigation project should be on a fair share basis proportional to the PM peak hour traffic from the project in relation to all other traffic through the subject intersection.

As seen in Table 16, the queuing along Garfield Street in the westbound direction is expected to impact the I-5 interchange by the end of the planning horizon (2042). Without planned improvements to the current transportation system, **this is expected to occur whether or not the proposed project is built.**

Under the build condition, the queues are expected to be similar to No Build. The proposed project mitigation at Garfield Street and S Pacific Highway (OR 99) would convert the dedicated westbound right-turn lane to a shared through/right. This relatively minor change to the turn movements would add capacity to the through movements and relieve the bottleneck enough to reduce the queue back-up onto the freeway at the southbound exit ramp.

Vehicle Crash Analysis

Crash data were obtained from the ODOT Crash Data System for the years 2013 through 2017, which was the most recent 5-year period available. *Analysis Procedures Manual* (APM) crash methodology was followed to calculate the intersection crash rates. The State database for the Safety Priority Index System was also reviewed to determine if there were any study area intersections or roadways warranting additional study

Safety Priority Index System

The SPIS is a method used in Oregon to identify safety problem areas. Roads are evaluated in approximately one-tenth mile increments (often grouped into larger segments). Each year these segments are ranked by assigning a SPIS score based on the frequency and severity crashes observed, while considering traffic volume. When a segment is ranked in the top 10% of the index, a crash analysis is typically warranted and corrective actions are considered.

There are no top 10% SPIS sites in the vicinity of the project area for either Alternative A or Alternative B.

Crash Rates

Crash are a measure of the number of crashes in relation to amount of traffic volume served. The following sections summarize important crash information and notes whether the measured crash rate exceeds the critical crash rate and/or the ODOT 90th percentile crash rate. If it exceeds one of these thresholds, it is an indication that a problem might exist and that further study is warranted.

The Highway Safety Manual (HSM) Part B describes the critical crash rate method as a means of identifying locations that warrant further investigation. The critical crash rate is specific to the combined study areas (Alternative A and Alternative B) and considers average crash rates at comparable sites, traffic volume, and a confidence interval. The statewide 90th percentile crash rate represents similar intersections across Oregon. Calculations and detailed collision reports are available in the Appendix H.

Alternative A Crash Analysis

Table 17 summarizes the results for the Alternative A intersections. Crash data is provided in Appendix H.

Table 17. Crash Analysis - Alternative A

Intersection	Intersection Type	Rear End	Fixed Object	Angle	Backing	Turning	Sideswipe-Overtaking	Pedestrian	Other	Total Crashes	Fatal	Serious Injury	Minor Injury	Property Damage Only	Crash Rate[1,2]
1. Riverside Ave (OR 99) at Barnett Rd	4SG	31	4	3	1	8	9	2	0	58	0	2	24	32	***0.90***
2. Highland Dr at Barnett Rd	4SG	44	3	4	1	12	9	1	1	75	0	0	32	43	*0.82*
3. Riverside Ave (OR 99) at Stewart Ave	4SG	29	2	4	0	5	3	0	2	45	0	3	22	20	0.68
4. I-5 Exit 27 Interchange	4SG	53	4	0	0	22	5	0	1	85	0	3	33	49	*0.83*
5. Center Dr at Garfield St	4SG	17	0	2	2	20	3	0	0	44	0	0	18	26	0.55
6. S Pacific Highway (OR 99) at Garfield St	4SG	28	1	3	1	8	3	0	0	44	0	0	23	21	0.56
7. S Pacific Highway (OR 99) at Charlotte Ann Rd	3ST	2	1	0	0	3	0	0	0	6	0	0	3	3	0.13
8. S Pacific Highway (OR 99) at Human Bean (North Site Driveway)	3ST	0	1	0	0	0	0	0	0	1	0	0	1	0	0.02
9. S Pacific Highway (OR 99) at Roxy Ann Lanes (South Site Driveway)	3ST	1	0	0	0	6	0	0	0	7	0	0	5	2	0.15

Source: ODOT Transportation Development Division, Crash Analysis and Reporting Unit 2013-2017

1. **Bold/Underlined** = Exceeds Statewide 90th Percentile Crash Rate; *BLACK SHADED* = Exceeds Critical Crash Rate
2. Critical Crash Rate could only be calculated for 4-legged urban signalized intersections; there were not enough similar sites to produce reference populations for the other intersection types.

There are three intersections with intersections exceeding the critical crash rate and one that also exceeds the ODOT 90th percentile crash rate. These results are in alignment with the findings of the Medford Transportation System Plan, which identifies these three locations as part of the Top 20 Safety Locations. Additional analysis was conducted at these three sites to understand potential impacts of the proposed project.

Intersections Exceeding the ODOT 90th Percentile Crash Rate

The project scoping letter provided in Appendix B requires that any intersection identified as a SPIS site or exceeding the 90th percentile crash rate be further analyzed using HSM Predictive methods to report the Excess Expected Crash Frequency (existing conditions) and Net Change in Expected or Predicted Crashes (No Build and Build conditions).

Only Riverside Avenue (OR 99) at Barnett Road exceeds the 90th percentile crash rate. As can be seen in Table 18, in the existing condition there are 5.87 excess crashes. However, even in 2042, there is no increase in excess crashes between the No-Build and Build scenarios. This indicates that the addition of the development traffic does not contribute to an increase in crashes at this intersection. Crash data spreadsheets are provided in Appendix H.

Table 18. Excess Expected Crashes – Riverside Ave (OR 99) at Barnett Rd

Intersection	Observed Crashes	Predicted Crashes	Expected Crashes	Excess Crashes	Excess Percentage (Excess/Expected)
2019 Existing	15/year	5.81	11.68	5.87	50.3%
2022 No Build	15/year	6.73	12.24	5.51	45%
2022 Build	15/year	6.82	12.29	5.47	44.5%
2042 No Build	15/year	7.85	12.80	4.95	39%
2042 Build	15/year	7.94	12.83	4.89	38.1%

Source: ODOT Transportation Development Division, Crash Analysis and Reporting Unit 2013-2017
Highway Safety Manual 1st Edition, Volume 2, Chapter 12-- Predictive Method for Urban and Suburban Arterials -- Analysis Spreadsheet Summary

Intersections Exceeding the Critical Crash Rate

For Alternative A, there are three intersections that exceed the critical crash rate. These intersections and further details of their crash history are summarized below.

Riverside Avenue (OR 99) at Barnett Road: Exceeds statewide 90th percentile crash rate and the critical crash rate. Of the 58 crashes at this intersection, the majority were rear end (31) collisions. These collision types were mostly due to drivers following too closely or making improper lane changes and turns. Rear end collisions are common at traffic signals, especially in an area transitioning from higher to lower posted speeds.

Highland Drive at Barnett Road: Exceeds the critical crash rate. Of the 75 crashes at this intersection, the majority were rear end (44) and turning (12) collisions. These collision types were mostly due to drivers following too closely or making improper lane changes and turns. Rear end collisions are common at traffic signals.

I-5 Exit 27 Interchange: Exceeds the critical crash rate. This intersection is unique in that it is an alternative interchange design (Single Point Urban Interchange, or SPUI). The crash data is given special attention as its intersection type does not fall cleanly under the "four-legged signalized intersection", even though it is included under that reference population for critical crash rate calculation purposes. There were 85 crashes reported in the five-year analysis period at this interchange. More than half of the crashes resulted from drivers following too closely or failing to avoid the vehicle ahead of them.

Alternative B Crash Analysis

Table 19 summarizes the results for the Alternative B intersections. Crash data is provided in Appendix H.

All the studied intersections for Alternative B had crash rates either below the critical crash rate or the ODOT 90th percentile crash rates. There were no fatalities recorded at the study area intersections or connecting roadways for the five-year analysis period. There are no intersections requiring additional crash analysis.

Table 19. Crash Analysis - Alternative B

Intersection	Intersection Type	Rear End	Fixed Object	Angle	Backing	Turning	Sideswipe-Overtaking	Pedestrian	Other	Total Crashes	Fatal	Serious Injury	Minor Injury	Property Damage Only	Crash Rate[1,2]
10. N Phoenix Rd at Cherry Ln	4SG	2	0	1	0	3	1	1	0	8	0	0	5	3	0.24
11. N Phoenix Rd at E. Barnett Rd	4SG	2	0	1	0	2	0	0	0	5	0	1	2	2	0.13
12. N Phoenix Rd at Juanipero Way	4ST	2	1	0	0	2	0	0	0	5	0	0	3	2	0.23
13. N Phoenix Rd at Site Driveway	3ST	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
14. Fern Valley Rd at I-5 Ramp Northbound[3]	3SG	0	2	0	0	1	0	0	0	3	0	0	2	1	0.14
15. Fern Valley Rd at I-5 Ramp Southbound[3]	3SG	0	0	2	0	0	0	0	0	2	0	0	1	1	0.09

Source: ODOT Transportation Development Division, Crash Analysis and Reporting Unit 2013-2017

1. **Bold/Underlined** = Exceeds Statewide 90th Percentile Crash Rate; ***BLACK SHADED*** = Exceeds Critical Crash Rate
2. Critical Crash Rate could only be calculated for 4-legged urban signalized intersections; there were not enough similar sites to produce reference populations for the other intersection types.
3. The new configuration of the Fern Valley Interchange was opening in 2015. Crash data and analysis is not included for the ramp terminals at this location prior to 2015.

Oregon Department of Transportation Division 51

Highway Approaches, Access Control, Spacing Standards and Medians

Alternative A

Oregon Administrative Rule (OAR) 734 -051, commonly known as Division 51, "establishes procedures , standards, and approval criteria used by the department [of transportation] to govern approach permitting and access management consistent with Oregon Revised Statutes (ORS), statewide planning goals, acknowledged comprehensive plans, and the Oregon Highway Plan (OHP). The two project driveways directly connecting to Pacific Highway (US Highway 99) must meet the standards set in Division 51.

Highway 99 adjacent to the Alternative A site has a "District" highway designation, in an Urban Area, having a 45 miles-per-hour speed zone. According to the 1999 Oregon Highway Plan (OHP), the minimum spacing between driveways is 400 feet, and the minimum distance between a driveway and a public road is 475 feet. The two site driveways providing access to Highway 99 do not meet these standards.

Where a redevelopment project, such as what is proposed, increases the peak-hour trip generation by fifty trips or more from the properties prior use and the increase represents a twenty-percent or greater increase in the number of peak-hour trips of the prior use, then a new application is required for each access permit. This means that ODOT application permits will be required for the Casino. The permits applications are usually submitted when the site plan is further along than where it is as this traffic impact analysis is being written.

When existing driveways do not meet the spacing or other access criteria, and a new permit is required and it is not feasible to meet the criteria, then ODOT and the applicant, through a collaborative process determine if the application "moves in the direction" of conforming. The along the Highway 99 frontage of the preferred Alternative A, Medford Casino, there is no location that is both 400 feet from the nearest driveway on an adjacent property and 475 feet from the nearest intersection, so meeting the spacing standard is not feasible. The "moving in the direction" collaboration process will thereby be invoked.

Based on the above analysis, and the fact that proposed access points do not and cannot meet ODOT spacing criteria, access points, OAR 734-051-3020 Criteria for "Moving in the Direction" of conformity rules apply. The salient requirements are listed below, with findings in italics.

Division 51 Mitigation

To meet the "Moving in the Direction" criteria, it is proposed to provide a narrow median island to limit the access to the northern driveway to the Human Bean Coffee drive through to right-in, right-out movements. As shown in the Synchro Analysis for Division 51 Changes portion, the diverted traffic from this change will not substantially change performance measures at the remaining access points.

The requirements for meeting Division 51 provisions for "Moving in the Direction" are provided below, with our response provided in italics.

OAR 734-051-3020 (8) Criteria for Moving in the Direction of Conformity.

In determining whether an application for a private approach to a state highway moves in the direction of conformity with the spacing, channelization and sight distance standards of OAR 734-051-4020, the department shall consider all connections on the subject site.

"An application moves in the direction of conformity with OAR 734-051-4020 when changes are made to a connection that include, but are not limited to, one or more of the following:

a) Eliminating or combining existing connections to the highway resulting in a net reduction in the number of connections; or

The proposed right-in, right- out movement eliminates two left-turn movements from the system, one in and one out.

b) Improving the distance between connections; or

This proposal does not changed the distance between access connections

c) Improving sight distance; or

Site distance is adequate at this location.

d) Widening an existing connection to accommodate truck turning radius requirements; or

As part of the access permit process, a truck access map will be prepared to ensure that large vehicles can enter and exit the proposed sites without disrupting other traffic on the State Highway, Driveways providing truck access map will be designed to accommodate turns into and out of the development without encroachment on adjacent lanes.

e) Widening an existing connection to accommodate additional exit lanes; or

The existing unstriped main driveway will be restriped for one entry lane and a right turn and left turn exit lane.

f) Narrowing an existing connection to provide the appropriate number of entry and exit lanes as required for the property; or

Not applicable

g) Developing a throat on a connection to allow for more efficient movement of motorists from the highway.

Not applicable

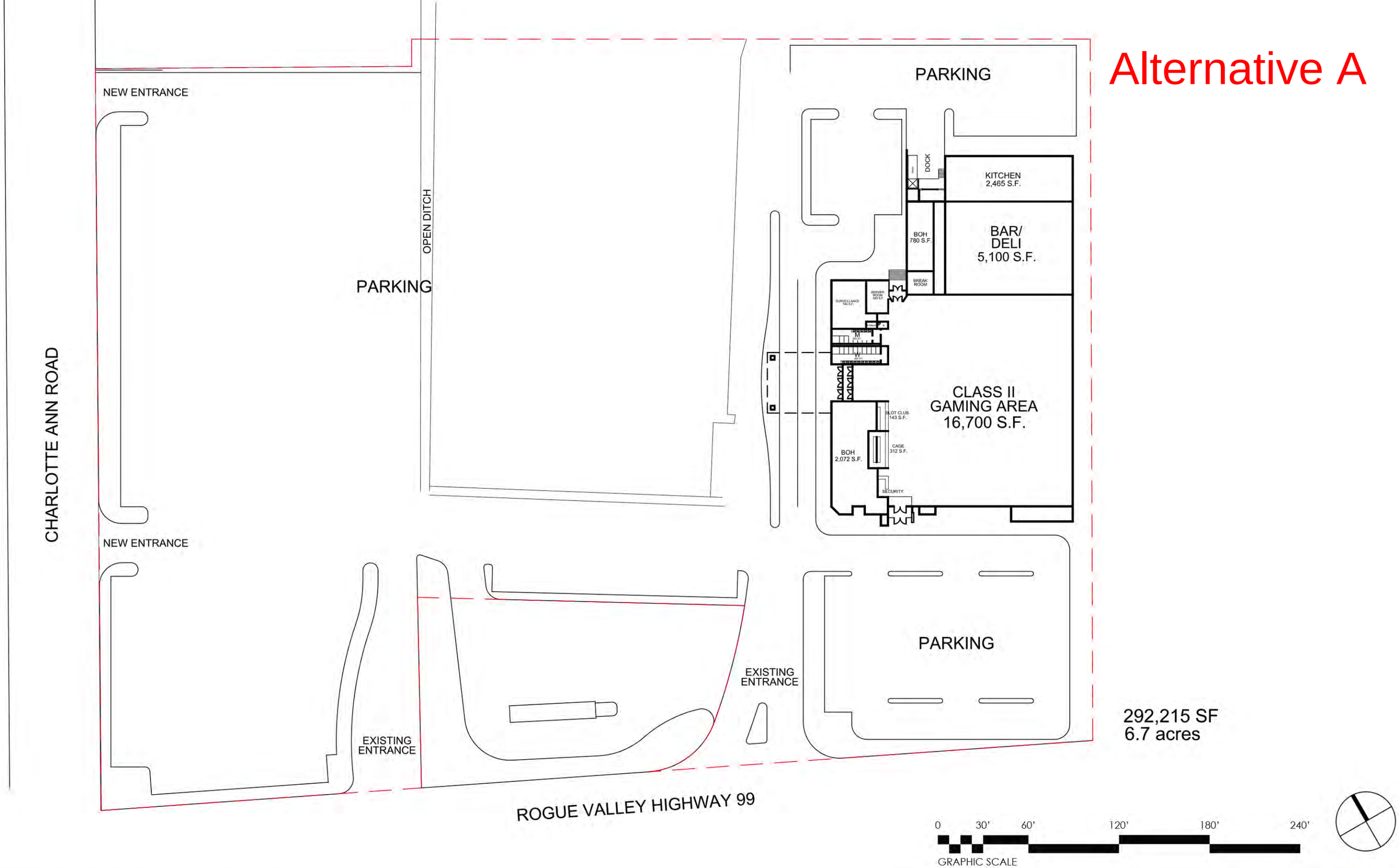
Alternative B

Alternative B is not on a State Highway and does not have to meet ODOT access spacing requirements.

APPENDIX A –

Site Plans

Alternative A



FEBRUARY 19, 2013

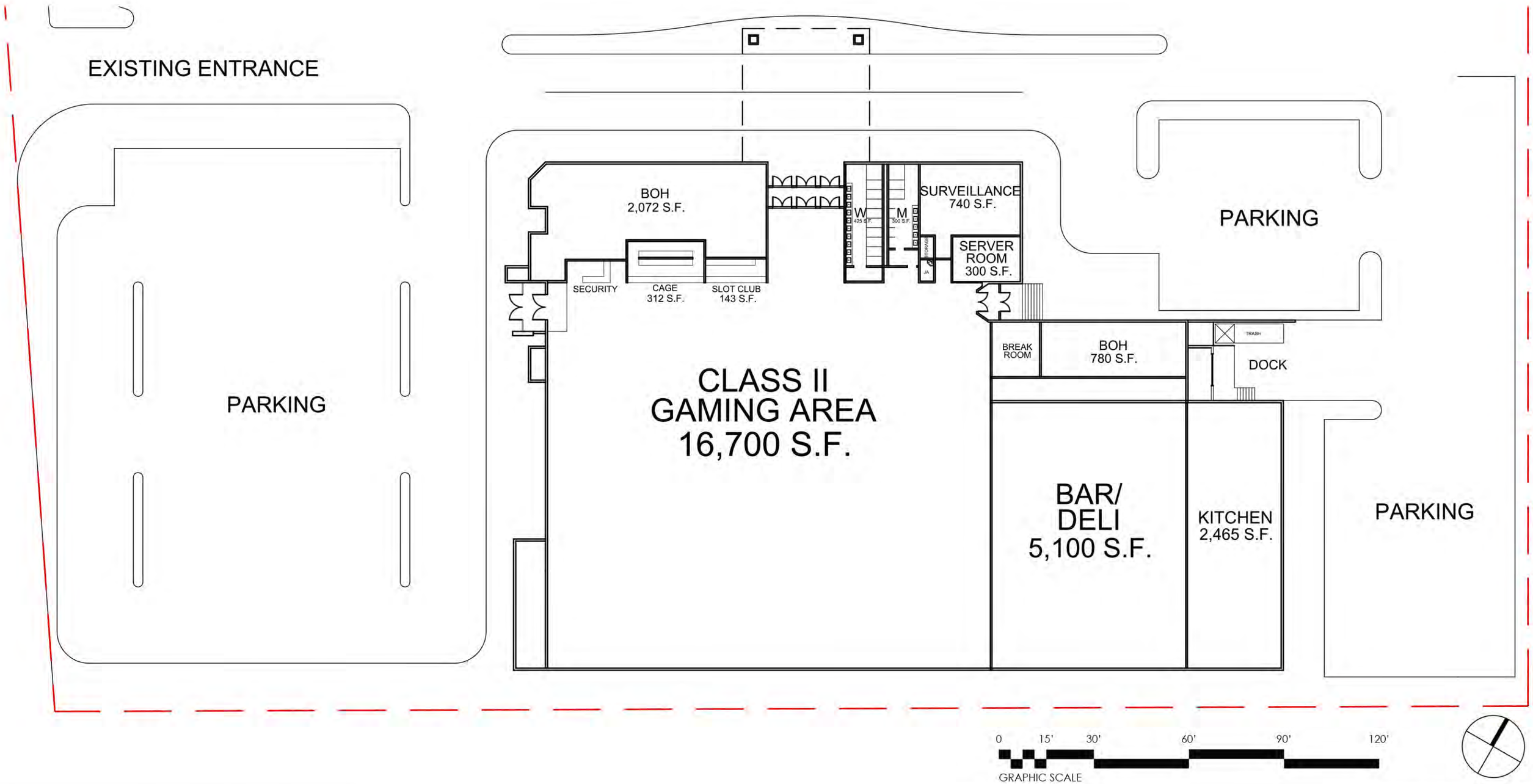
COQUILLE TRIBAL ENTERPRISE
MEDFORD, OREGON

APPENDIX PAGE: 3

OPTION-3

KLAI JUBA architects

Alternative A



FEBRUARY 19, 2013

COQUILLE TRIBAL ENTERPRISE
MEDFORD, OREGON

OPTION-3

KLAI JUBA
architects

SOURCE: Oregon Department of Transportation, 2014; Jackson County GIS 2012; National Geographic, 2015; DigitalGlobe aerial photograph, 7/4/2014; AES, 6/25/2015

Alternative B

Figure x
Phoenix Site Plan

APPENDIX B – Communications/Coordination

OFFICE OF
THE CITY MAYOR
www.ci.medford.or us

CITY OF MEDFORD
411 WEST 8TH STREET
MEDFORD, OREGON 97501

TELEPHONE (541) 774-2000
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March 12, 2015

RECEIVED
MAR 18.2015
BUREAU OF INDIAN AFFAIRS
NORTHWEST REGIONAL OFFICE
OFFICE OF THE REGIONAL DIRECTOR

Stanley Speaks
Northwest Regional Director
Bureau of Indian Affairs
Northwest Region
911 Northeast 11th Avenue
Portland, Oregon 97232

Re: City of Medford's Scoping Comments on the Environmental Impact Statement for the Proposed Coquille Indian Tribe Fee-to-Trust and Casino Project; 80 Fed. Reg. 2120 (January 15, 2015)

Dear Mr. Speaks:

On behalf of the City of Medford, Oregon, thank you for granting a 30-day extension of time to provide comments on the Bureau of Indian Affairs' ("BIA") January 15, 2015, Notice of Intent to Prepare an Environmental hnpact Statement for the Proposed Coquille Indian Tribe's Fee-to-Trust Gaming Facility Project, City of Medford, Jackson County, Oregon. Ex. I. In addition, thank you for your February 26, 2015 letter inviting the City to participate as a cooperating agency as the BIA prepares an environmental impact statement ("EIS") of the proposed casino under the National Environmental Policy Act **("NEPA").** The City accepts the BIA's invitation to participate as a cooperating agency and looks forward to working closely with the BIA to ensure that the impacts of the proposed casino project are fully evaluated in the EIS. Ex. 2.

The City appreciates the opportunity to provide scoping comments on this important and controversial application. The comments below constitute the City's initial response to the proposed project and identify both procedural and substantive areas of concern. The City fully anticipates, however, that new issues will arise as more information regarding the Tribe's proposed casino is developed.

The City has identified three categories of concern: (1) the regulations that apply under the Indian Gaming Regulatory Act to the Tribe's proposed casino project; (2) questions arising under the Indian Reorganization Act; and (3) comments specific to the preparation of the EIS. Because all three categories of information are relevant to BlA' s consideration of the proposed casino, the City summarizes its concerns with respect to each below.

I. Analysis under the Indian Gaming Regulatory Act: Review Under 25 U.S.C. § **2719(b)(l)(A) Is Required**

The City considers it imperative that the Tribe's proposed casino be reviewed under the appropriate authority. To that end, the City does not agree with the Tribe's position that the proposed site in Medford ("Medford site") qualifies for gaming under the restored lands exception to the general prohibition on gaming on lands acquired in trust after J988. *See* Ex. 3; *see generally* 25 U.S.C. § 2719. Because the Tribe already operates a casino in North Bend pursuant to 25 U.S.C. § 2719(b)(l)(B)(iii), it must undergo the process set forth at 25 U.S.C. § 2719(b)(1)(A) for the Medford Site to be eligible for gaming. As set forth in City Resolution No. 2013-68, which the City previously provided to BIA, the City must oppose the proposed project until-at least-the proposed casino is evaluated under the applicable regulations. Ex. 4.

In fact, the Tribe's argument has been challenged by former-Governor Kitzhaber, Jackson County, the City, the Cow Creek Tribe, and other parties. On May 6, 2013, for example, Governor Kitzhaber laid out his opposition to the proposed project, expressing his concerns regarding casino expansion in Oregon and deviation from the one casino per tribe policy. Ex. *5.* The Coquille Indian Tribe has a 6,512-acre reservation located southeast of the Coos Bay-North Bend area, where it also manages approximately 5,400 acres of forest land, as well as various economic ventures, including the Mill Casino, which has been in operation since 1995. Although the Confederated Tribes of Coos, Lower Urnpqua and Siuslaw Indians are in the midst of building a second casino project-a class II facility-near the Coquille Tribe's Mill Casino, the land involved is already eligible for gaming. The fact that the Confederated Tribes has been able to take advantage of gaming eligible lands does not mean that the Governor's policy should be revoked or that the Department should grant gaming eligibility status without regard to the law.

In fact, the Governor's General Counsel-Liani Reeves-provided additional legal and policy justifications for the Governor's opposition, which included the possibility of conversion of the Tribe's proposed facility from class II to class III gaming, fiscal, social and public safety concerns regarding the proposal, and whether the proposed site qualifies for gaming under the "restored lands" exception, as the Tribe claims. Ex. 6. Jackson County raised objections, Ex. 7, as did the Cow Creek Tribe, Ex. 8. Senators Wyden and Merkley sent the Assistant Secretary-Indian Affairs a letter opposing the application, Ex. 9, and ten members of the Oregon Delegation did the same, Ex. I0. The City appreciates the strong legal and political support in opposing the proposed casino as a restored lands casino and reiterates its position that the restored lands exception does not apply in this case. Exs. 11, 12.

Rather than simply restating its legal position, the City notes that the Department, in fact, agrees with the arguments made by the Governor and other political leadership in the State. In fact, the Department has interpreted the restored lands exception to be limited and has convincingly argued its interpretation of the exception to the Ninth Circuit in *Redding Rancheria v. Jewell,* No. 12-15817, Dkt. 23 (Sept. 28, 2012). Ex. 13. In that case, the Department successfully argued

that a tribe may take advantage of the restored lands exception only once. The Department explained that its interpretation "is consistent with the purposes of IGRA for the Secretary to determine that when a tribe has already successfully requested that land be taken into trust 'as part of- the restoration of lands' for that tribe, then the tribe may only make subsequent land-into-trust requests for gaming purposes if it is not already gaming on its previously-acguired lands." *Id.* at 30 (emphasis added). According to the Secretary, broadening the benefit of the "restored lands" exception to restored tribes "'would be detrimental to other recognized tribes. contrary to Congressional intent.'" *Id.* at 30-31 (citing 73 Fed. Reg. at 29,364).

The Ninth Circuit approved the Department's interpretation of IGRA and upheld temporal, geographic and other limitations the Department imposed-including the limitation that the exception is not available if a tribe already has gaming. Ex. 14. As the court stated: "[t]he [restored lands] exception was not intended to give restored tribes an open-ended license to game on newly acquired land," but rather "its purpose was to promote *parity* between established tribes ... and restored tribes." *Id.* at 10 (emphasis added).

But an unfair advantage is exactly what the Tribe seeks in this case. to the immediate detriment of the City. The Tribe argues that the regulations governing gaming eligibility set forth at 25 C.F.R. Part 242 and the Coquille Restoration Act ("Restoration Act"), 25 U.S.C. § 715 *et seq.,* require the Secretary to conclude that the Medford site qualifies as "restored lands," relying on what appears to be a loophole that only a few tribes in the nation could exploit and an unreasonable interpretation of its Restoration Act. The argument the Tribe makes, however, is directly contrary to Departmental policy, which the Department just successfully defended in the Ninth Circuit. Congress clearly did not intend to give a very small subset of Congressionally restored tribes an extraordinary gaming advantage over all other tribes in the nation. Nor did Congress intend to give the Coquille Tribe carte blanche to develop casinos in Coos, Curry, Douglas, Jackson, and Lane Counties, merely by authorizing the Secretary to acquire lands in trust within the Tribe's service area.

Contrary to the Tribe's argument, the part 292 regulations and the Tribe's Restoration Act do not require the Secretary to conclude that the Medford site qualifies as restored lands. In fact, the Restoration Act mandates acquisition of lands in only two counties and then, of limited acreage: "The Secretary shall accept any real property located in Coos and Curry Counties not to exceed one thousand acres for the benefit of the Tribe if conveyed or otherwise transferred to the Secretary." 25 U.S.C. § 715c(a) (emphasis added). Only the lands that Congress required the Secretary to acquire in trust qualify as restoration lands. *See Nebraska ex rel. Bruning v. U.S. Dept. of Interior,* 625 F.3d 501 (8th Cir. 2010) (Kornmann, J. dissenting, on the sole ground of ordering remand) (concluding that land acquired in trust pursuant to tribe's restoration act reference to the Secretary's permissive authority under the Indian Reorganization Act, 25 U.S.C. § 465, does not qualify for the "restored lands" exception to the general prohibition of gaming on trust lands). Finally, if 25 C.F.R. § 292.11 must be interpreted as the Tribe argues, the regulation would violate IGRA because-in the Department's own words-that interpretation would

produce results that "'would be detrimental to other recognized tribes, [and] contrary to Congressional intent.'" 73 Fed. Reg. at 29,364.

The two-part determination process applies to the Medford application. The Department should issue a determination that the Medford site does not qualify for gaming under the restored lands exception.

II. Analysis Under the Indian Reorganization Act

The Notice of Intent does not identify whether the application will be processed under the regulations governing on- or off-reservation fee-to-trust requests. The Tribe, however, has characterized its application as an on-reservation gaming request. Ex. 15. Under the trust regulations, set forth at 25 C.F.R. Part 151, an on-reservation acquisition is one where the land subject to the request "is located within or contiguous to an Indian reservation." 25 C.F.R. § 151.10. Clearly, the Medford site is not located within or contiguous to an Indian reservation and cannot be processed as such. Instead, the process set forth at 25 C.F.R. § 151.11 applies to this application, which requires the Secretary to consider:

- The existence of statutory authority for the acquisition and any limitations contained in such authority;
- The need of the individual Indian or the tribe for additional land;
- The purposes for which the land will be used;
- If the land to be acquired is in unrestricted fee status, the impact on the State and its political subdivisions resulting from the removal of the land from the tax rolls;
- Jurisdictional problems and potential conflicts of land use which may arise; and
- If the land to be acquired is in fee status, whether the Bureau of lndian Affairs is equipped to discharge the additional responsibilities resulting from the acquisition of the land in trust status.
- The extent to which the applicant has provided information that allows the Secretary to comply with 516 DM 6, appendix 4, National Environmental Policy Act Revised Implementing Procedures, and 602 **OM** 2, Land Acquisitions: Hazardous Substances Determinations. (For copies, write to the Department of the Interior, Bureau of Indian Affairs, Branch of Environmental Services, 1849 C Street NW., Room 4525 MIB, Washington, DC 20240.)

- The location of the land relative to state boundaries, and its distance from the boundaries of the tribe's reservation, shall be considered as follows: as the distance between the tribe's reservation and the land to be acquired increases, the Secretary shall give greater scrutiny to the tribe's justification of anticipated benefits from the acquisition. The Secretary shall give greater weight to the concerns raised pursuant to paragraph (d) of this section.

- Where land is being acquired for business purposes, the tribe shall provide a plan which specifies the anticipated economic benefits associated with the proposed use.

- Contact with state and local governments pursuant to§ 151.10 (e) and (f) shall be completed as follows: Upon receipt of a tribe's written request to have lands taken in trust, the Secretary shall notify the state and local governments having regulatory jurisdiction over the land to be acquired. The notice shall inform the state and local government that each will be given 30 days in which to provide written comment as to the acquisition's potential impacts on regulatory jurisdiction, real property taxes and special assessments.

25 C.F.R. §§ 151.10 (a-c, e-h), 151.11 (a-d).

The City looks forward to the Secretary's careful evaluation of each of these factors, including her authority to acquire the land in trust; the Tribe's need for land located 170 miles from its existing reservation, governmental headquarters, and economic development activities; and the Tribe's business plan outlining the anticipated economic benefits associated with the proposed use. In particular, the City noted that the Secretary must give the City's concerns greater weight as the distance between the tribe's reservation and the land to be acquired increases, and greater scrutiny to the Tribe's justification of anticipated benefits from the acquisition.

III. Environmental Review Under NEPA

A. Concerns Regarding the Environmental Contractor

It appears that the environmental contractor that the Department has selected and/or approved to prepare the EIS in this case is the same contractor that is used for virtually all gaming-related trust acquisitions and many other tribal projects- Analytical Environmental Services ("AES"). The City is concerned that AES has been repeatedly accused of bias and producing sub-standard EISs. In our experience, federal agencies do not use the same contractor for every project, as it creates the appearance of impropriety and can ultimately undermine the NEPA review, as the product tends to be very similar from one project to another. In the case of AES's EISs, there is. in fact, a remarkable similarity between documents. Not only do the documents look startlingly similar, AES has apparently never concluded that a project will have detrimental effects, based on Congressional questioning. *See* House Resources Committee, Subcommittee on Indian and

Alaska Native Affairs Oversight Hearing on "Executive Branch standards for land-in-trust decisions for gaming purposes" (Sept. 19, 2013) (Congressmen LaMalfa 55:20).

In fact, AES identifies scores of tribes as clients, including the Coquille Indian Tribe. Having the Tribe as a client clearly creates a conflict of interest, if AES is also to develop an EIS for the proposed Medford casino. If AES is listing *projects* that it has worked on, it clearly seems to misperceive who, in fact, is its client. Under federal law, it is the *agency* who is the client, not the tribe. Given that AES is marketing to tribes, AES appears unable to produce an objective document.

The purpose of NEPA is to ensure informed and *objective* decision-making by federal agencies, which using the same environmental contractor for every project thwarts. Authorship of an EIS by a biased party-as AES appears to be an prevent the fair and impartial evaluation required by NEPA. *NRDC v. Callaway,* 524 F.2d 79, 87 (2d Cir. 1975). Indeed, AES has been alleged to have a "revolving door" with BIA where employees of BIA and AES have switched jobs and has a history of conflict of interest complaints. *See, e.g.,* Motion for Preliminary Injunction, *United Auburn Indian Community v. Salazar,* No. 12-1988-RBW, Doc. 7 (D.D.C., filed Dec. 12, 2012).

These allegations must be rigorously investigated by BIA to ensure that there is not even the appearance of a conflict of interest in the process. The City also hereby requests, pursuant to the Freedom of Information Act, BIA's list of preferred contractors and/or any evidence that BIA has solicited proposals from other contractors pursuant to federal procurement standards. The City will be following up with the House Resources Committee and BIA to address this wide-spread concern.

B. The Purpose and Need of the EIS and the Range of Alternatives

BIA should carefully consider an appropriate purpose and need statement, in light of the Tribe's existing reservation lands, economic development and aboriginal lands, in framing this EIS. The purpose and need statement in the EIS is critical to complying with NEPA. "The stated goal of a project necessarily dictates the range of 'reasonable' alternatives " *City of Cannel-By-The-Sea v. U.S. Dep'tofTransp.,* 123 F.3d 1142, 1155 (9th Cir. 1995) (citing *Citizens Against Burlington, Inc. v. Busey,* 938 F.2d 190, 192 (D.C. Cir. 1991)). The analysis of alternatives is at the heart of an EIS. If the purpose and need statement is deficient, the EIS will not address an appropriate range of alternatives.

The statement of purpose and need is supposed to "briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action." 40 C.F.R. § 1502.13. BIA must first reasonably and fairly define the project's purpose. *Simmons v. U.S. Army Corps of Eng 'rs,* 120 F.3d 664, 666 (7th Cir. 1997) (citing *Citizens Against Burlington,* 938 F.2d at 195-96). hnportantly, BIA must "tak[e] responsibility for defining the objectives of an action and then provide legitimate consideration to alternatives that

fall between the obvious extremes," not the Tribe. *Colo. Envtl. Coalition v. Dombeck,* 185 F.3d 1162, 1175 (10th Cir. 1999).

BIA must also take into account its own statutory mandates. *See New York v. Dept. ofTransp.,* 715 F.2d 732, 743 (2d Cir. 1983). There are two statutes in play: 1) the Indian Reorganization Act, which relates to the trust acquisition decision; and 2) the IGRA gaming eligibility determination, which relates to where, when and how gaming is to occur. This NEPA requirement underscores why it is critical to determine the appropriate IGRA process *now,* because the statutory purpose under the two-part process is different from the purpose for the "restored lands" exception. The "statutory objectives" relevant here are the dual findings that the Secretary must make before seeking gubernatorial concurrence: that (1) gaming is beneficial to the Tribe and (2) not detrimental to the surrounding community. 25 U.S.C. § 2719(b)(l)(a). BIA's EIS purpose and need statement must incorporate both the need to promote the Tribe's economic development, self-sufficiency, and self-government and the need to avoid detriment to the surrounding community. Properly understood, the Purpose and Need for BIA's proposed action makes clear that alternative locations outside of the Medford community must be evaluated.

The EIS must examine a reasonable range of alternatives to the proposed federal action (trust acquisition of the proposed site in Medford). At a minimum, a reasonable range of alternatives must examine several off-reservation locations outside of the Medford area, but within the Tribe's traditional territory. Each location must be evaluated for both gaming and commercial non-gaming economic development. Different development scenarios for the same location, however, must not be treated as separate alternatives if the federal actions involved are the same (e.g., different development scenarios for large and small class II gaming operations on the same site do not require different federa] actions).

Further, alternative sites must not be chosen in locations that allow them to be rejected out of hand as unsuited for economic development. Medford is obviously not the only possible location for the Tribe's economic development, nor even the only off-reservation gaming location that should be considered. If BIA were to determine that the Tribe qualified for the "restored lands" exception in Medford, it would qualify in any of the Counties identified in the Tribe's Restoration Act. Eugene would therefore be a reasonable alternative location for casino development, for example, and should be considered.

C. Cumulative Impacts

BIA must examine the likelihood of additional trust acquisitions and further development of trust lands that will not be subject to state or local law, BIA approval, or environmental review, including the foreseeable subsequent development of class Ill gaming at the Medford site. There is a substantial likelihood that the Tribe will seek to negotiate a compact with the State, if the Medford site is developed, and if the State refuses, the Tribe may sue the State for failing to

negotiate in good faith under **IGRA. A** determination that the Medford site qualifies as restored land will have a cascading effect, including disruption of the tribal gaming market in the State, which must be taken into account. BIA must address the likelihood that the Tribe will seek additional land in one or more counties listed in its Restoration Act to develop as restored lands, if BIA concludes that the exception applies. Given the legal theory the Tribe is advancing, the conclusion that the exception applies would mean that the Tribe can open casinos without limitation under IGRA throughout its service area.

The decision BIA makes here will have precedential effect for the Coquille and all other tribes in Oregon. The law requires BIA to take these effects into account. *See, e.g., Anderson v. Evans,* 371 F.3d 475 (9th Cir. 2004) (EIS required to consider that precedential effect of allowing Makah Tribe to whale could lead to increase in whaling by other domestic groups).

D. Mitigation and Enforceability

BIA must address mitigation of impacts in the EIS, including whether mitigation measures and project design parameters are actually enforceable, before concluding that impacts will be insignificant. AES regularly concludes that a project will not be detrimental to the surrounding community on the basis that those impacts will be mitigated, without any reasonable basis for concluding that they will. Promises that the Tribe will negotiate a mitigation agreement sometime in the future is not a reasonable basis for concluding that impacts will be less than significant and relying on such empty assurances renders the NEPA analysis arbitrary and capricious.
Further, while some mitigation measures that might be required under federal law-i.e., Clean Water Act requirements-would indeed be enforceable, until federal approvals are issued, the exact nature of the mitigation required in such federal approvals or permits is uncertain. Such federal approvals should be obtained prior to approval of a trust request. In addition, BIA cannot reasonably rely on tribal law because tribal law is subject to unilateral change by the Tribe itself, and therefore cannot be considered an independent source of authority to enforce mitigation requirements against the Tribe. Tribal sovereign immunity is a significant limitation on enforcement actions, of course, and its effect on the enforceability of mitigation measures must be considered in the EIS. Similarly, mitigation measures in any intergovernmental agreements must be evaluated as to enforceability.

The ElS must not assume that different development scenarios are enforceable if there is no mechanism to force the Tribe to adhere to a specific project design once the land is taken into trust. The EIS must explain how, if the proposed site is taken into trust, the Tribe would be required by BIA to build the proposed gaming facility, and not an even bigger or significantly different casino. In particular, the EIS must explain how the Tribe will be precluded from expanding into class Ill gaming after the land is in trust. Without such an explanation, it will be entirely uncertain what the actual effects of the proposed federal action will be, and there is no way to comment on the adequacy or effectiveness of any proposed enforcement mechanism.

It is far from clear that such an enforcement mechanism even exists. No two-part determination has ever been qualified by specific project design parameters, and BIA has never taken the position that it has the power (or the inclination) to ensure compliance with whatever mitigation measures it chooses to include in an EIS. Accordingly, setting forth a list of mitigation with no discussion of its enforceability and/or implementation to determine no detrimental impact violates NEPA and the Administrative Procedure Act.

E. Specific Impacts

1. Socio-Economic Impacts

The EIS must address the socio-economic impacts of the project, including impacts on state lottery revenues, existing businesses and employment, and impacts on the nearby communities.

As a general matter, the City relies on taxes to fund governmental operations, and charges fees for water, sewer, roads, parks, police, and other services. The Tribe's facility would be tax exempt. At the same time, the Tribe would enjoy many of the services the taxpayers in the City support, including emergency services, good roads, excellent schools, bike trails, riparian corridors and other benefits. The City does not have any ability to tax the Tribe for the services that it provides, harming the community which will have to pay a disproportionate burden.

If the Tribe were to negotiate a fees for services agreement, it is possible that many of those costs would be offset, although fees for services often increase over time. There is no guarantee that the Tribe will be willing to accept increased payment, as circumstances might demand. In addition. the City is aware of disputes between the City of North Bend and the Tribe regarding the Tribe's failure to reimburse the City, according to the terms of its governmental agreement. Ex .16. Thus, the City has substantial concern regarding its ability to enter into and/or enforce an agreement that adequate addresses its concerns.

Even if the City received reasonable assurances that all costs would be mitigated, including escalating costs over time, and that the Tribe would not contest such an intergovernmental agreement, as it has in North Bend, the problems associated with gambling and the availability of such concentrated gaming facilities would not be addressed.

The EIS must address in detail the socio-economic impacts of the facility on the Medford community.

In addition, while the Oregon Lottery does not operate casinos, it has about 1500 lottery retailers selling traditional products (Megabucks, Powerball, Scratch-its, Keno, etc.), and about 600 retailers who sell only video lottery games. About 1,700 retailers sell both types, for a total of

approximately 3,800 Oregon Lottery retailers. The Oregon Lottery's unaudited 2011 fiscal year sales reached $1.04 billion. The FY 2011 sales total ranked as the fifth-highest in Lottery history, continuing a six-year trend of Lottery sales topping the $1 billion mark. According to the report prepared by EcoNorthwest, a class II casino in Medford would take away $29.1 million dollars in revenue from the state, dollars that are used to fund libraries, schools, and parks. Ex. 17.

2. Land-Use Planning Conflicts

The City has developed regulations that all developments must comply with before any project can be approved. The development review process typically includes opportunity for public comment and a public hearing in front of a review body such as the Planning Commission, which will not apply if the land is acquired in trust. Failure to comply with these regulations will undermine the City's efforts to implement measures that ensure a well-designed and sustainable community. Thus, the EIS must address land use planning issues and development review. Specific concerns include:

- Zoning: The golf course is split zoned C-R, Regional Commercial. and SFR-00, 1 dwelling unit per existing lot. There is a question of whether the use is permitted or not.
- Vehicular access, involving the number, location and design of access points to and from the site.
- Parking, involving the number, location, dimensions, aisle widths, spaces for persons with disabilities.
- Bicycle parking.
- Pedestrian access.
- Block length requirements. Depending on how the site is developed, this may or may not apply.
- Development standards such as height, setbacks, lot coverage, etc.
- Big box requirements that apply to buildings over 50,000 square feet.
- Lighting.
- Screening of trash and mechanical equipment.
- Stormwater quality treatment and detention.
- Landscaping and irrigation along the street frontage and in the parking lot.
- Buffer yard requirements along certain property lines.
- Signage.

The EIS should address each of these issues to ensure that the proposed development does not irreparably harm Medford or compromise its efforts to provide services to its residents.

3. Water Resources

A portion of the property is within the 100-year floodplain. The proposed land is adjacent to and will presumably discharge storm water directly to Bear Creek, which is protected by a riparian corridor along its banks. Bear Creek is located 1,000 feet downslope of the Medford site. It is the most urbanized stream in southern Oregon, but it still serves as spawning habitat for Coho and Chinook salmon. Water quality and runoff are therefore major concerns, particularly because existing infrastructure--i.e., parking lots and buildings--were constructed before the regulations and guidelines were made more stringent to minimize runoff and require the treatment of contaminants.

The EIS must ensure there is no-rise of Bear Creek during the 100-year storm, no changes in flows to adjacent properties, and storm water quality treatment sufficient to ensure that water quality in Bear Creek, and a 303(d) water for which the City of Medford is one of the responsible jurisdictions under the Total Maximum Daily Load (TMDL) program, is not negatively impacted. Moreover, the EIS should consider the adjacent property, which the Tribe also owns, which is slated for parking use. The impacts of that additional development must be considered as a related and/or cumulative impact.

4. Sewer

The City charges System Development Charges for treatment and conveyance capacity. The City also charges Sewer collection and sewage treatment utility fees for maintenance of the treatment plant and sewer pipes. Any development connecting to the City's sewer system must pay these fees. In addition, an analysis of the sewer conveyance system is necessary to ensure that adequate capacity exists and no sewer surcharge or overflow potential is increased. If capacity deficiencies are determined to exist then any development must construct additional capacity or delay construction until adequate capacity is constructed by others.

5. Traffic

Under normal circumstances, development such as what the Tribe has proposed would require a zone change from SFR-00 probably to a commercial designation. This typically would require a Traffic Impact Analysis to assess its impacts on the street system and whether improvements are required or not. At a minimum, a traffic study must be completed that analyzes all impacted intersections (defined as impacted by 25 peak hour trips or more) and demonstrates that impacted intersections operate at Level of Service (LOS D) or better. Proposed driveways should also be analyzed to ensure that queues do not impact the operation of Highway 99 or increase the accident potential.

A traffic study scoping letter request describing the project in detail should be submitted to the Medford Public Works Department. All of the criteria described in the subsequent traffic study scoping letter should be addressed in a report stamped by a Professional Engineer qualified to perform such studies. If constructed, this project will use existing City street capacity. The appropriate Street System Development Charges should be paid for the use of capacity. Street utility fees should be paid for maintenance of the City streets.

6. Housing and School Impacts

The Tribe has estimated that employment at the proposed casino is expected to total approximately 233 full time-equivalent positions. Ex. 18 at 8. The EIS must consider the impacts of people moving into Medford for work and the availability of housing. Although the Tribe estimates that the average wage for employees, including benefits, will be $41,416 per year, the number of actual full time employees the Tribe will hire is unknown and the effects on housing and schools not understood. In fact, many casino jobs are low wage jobs, which often generates undesirable

7. Crime and Burdens on Local Law Enforcement

The proposed facility will increase the burdens on the City's emergency services. Based on information from North Bend Police-where the Tribe operates the Mill Casino-calls for service ("CFS") for Public Safety in 2012 were:

- 437 CFS for Law Enforcement
- 54 CFS for Fire

It is safe to assume that there will be approximately 500 CFS per year at the proposed facility, with 450 that require a law enforcement response. North Bend Police note that in 2012 there were 680 CFS requiring Law Enforcement at the local Wal-Mart. Although that number is high for a retail outlet, it is the type of CFS at a Casino that changes the comparison. Many of the CFS at a gaming center would be two Officer calls as opposed to shoplifting complaints at a Wal-Mart that are generally a one Officer call.

The Coquille Tribe entered into "binding agreements" for local government services such as public safety and public works, and paid the City of North Bend approximately $400,000 for Law Enforcement, Fire, and Sewer/Storm Drain services in 2012. The City, however, does not have information on how that amount was determined, or if that amount is consistent in years since.

8. Societal Concerns

Numerous studies have shown that casino gambling may be correlated with domestic violence, divorce, bankruptcy, drug and alcohol abuse, risky or illicit sexual behavior (especially prostitution), and problem gambling. Studies of gaming towns in Colorado and South Dakota, for example, also indicate that the rates of criminal activities increased due to the development of casino enterprises in these two locations. The increase in the number of pathological gamblers is another concerning issue regarding the development of casino gambling and there are increasing concerns regarding child neglect and family problems associated with casinos. Some studies have determined that areas in which casino development has occurred have faced growing demands for child protection, marriage counseling, and other social service programs. The EIS should review these studies to determine the likely impacts on the Medford community.

9. Nuisance Issues

Finally, the EIS must also address noise, light and other nuisance issues. Commercial activity taking place 24 hours a day, 7 days a week is unusual in Medford and will substantially affect the amount of noise and light pollution in the area. Traffic jams, parking difficulties, escalation of trash, soil erosion, poor air quality, decline of scenic beauty, demolition of public infrastructure, and large tourist gatherings are frequently cited as eroding the quality of life in communities supporting casinos. While these impacts fall under other categories for review, the overall community effect, particularly on those residents who do not support casino develop, but will have to live with its impacts, should be considered from a nuisance perspective.

CONCLUSION

The City looks forward to working with BIA to address these and other concerns as they arise. Please do not hesitate to contact me with any questions. I also ask that you direct any correspondence with the City to Lori Cooper, the City Attorney and the City's outside counsel, Jena A. MacLean of Perkins Coie LLP:

Ms. Lori J. Cooper
City Attorney, City of Medford
411 West 8th Street
Medford, OR 97501

PHONE: 541-774-2020
FAX: 541-774-2567

E-MAIL: lori.cooper@cityofmedford.org

Ms. Jena A. Maclean
Attorney, Perkins Coie LLP
700 13th Street, N.W., Suite 600
Washington, DC 20005-3960

PHONE: 202.434.1648
FAX: 202.654.6211

E-MAIL: JMaclean@perkinscoie.com

Very truly yours,

Gary H. Wheeler
Mayor, City of Medford, Oregon

cc: Governor Kate Brown
Attorney General Ellen F. Rosenblum
U.S. Senator Ron Wyden
U.S. Senator Jeff Merkley
U.S. Representative Greg Walden
U.S. Representative Don Young
Oregon Senator Alan Bates
Oregon Representative Sal Esquivel
Bob Smith, Smith West Co.
Jackson County Administrator Danny Jordan
Chairwoman Brenda Meade, Coquille Indian Tribe
Chairman Dan Courtney, Cow Creek Band of the Umpqua Tribe
Chair, Jackson County Board of Commissioners, Doug Breidenthal

LEGAL125306458.1

APPENDIX B

JACKSON COUNTY

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JACKSON COUNTY
Oregon

Office of County Counsel

Joel C. Benton
County Counsel

10 South Oakdale, Room 214
Medford, OR 97501
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bentonjc@jacksoncounty.org

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March 18, 2015

VIA CERTIFIED MAIL, FAX, AND EMAIL

Stanley Speaks
Northwest Regional Director
Bureau of Indian Affairs
Northwest Region
911 Northeast 11th Avenue
Portland, OR 97232-4165
Fax: (503) 231-2275
stanley.speaks@bia.gov

RE: DEIS Scoping Comments, Coquille Indian Tribe Fee-to-Trust and Casino Project

Dear Mr. Speaks:

The Bureau of Indian Affairs ("BIA") has initiated the preparation of an Environmental Impact Statement ("EIS") for the Proposed Coquille Indian Tribe Fee-to-Trust and Casino Project ("Coquille Project"). Thank you for providing Jackson County with an opportunity to comment on the scoping of the proposed Coquille Project. As you are aware, the proposed Coquille Project will have significant impacts on Medford and surrounding areas of Jackson County. It is vitally important that the BIA carefully study and analyze the impacts from this unprecedented urban casino as well as reasonable alternatives. Below are some of the issues the BIA should explore during the EIS process. Additionally, the County suggests that the BIA reissue a new notice of intent to prepare an EIS that includes additional information in order to allow a more informed scoping and public comment process.

As you know, the purpose of the Notice of Intent is to announce a federal agency's intention to prepare an EIS to analyze the potentially significant impacts on the environment of a proposed federal action, in compliance with the National Environmental Policy Act ("NEPA"). NEPA's implementing regulations, promulgated by the Council on Environmental Quality ("CEQ"), provide that a notice of intent to prepare an EIS "shall briefly ... describe the proposed action and possible alternatives." 40 C.F.R. § 1508.22(a); *see also* BIA NEPA Handbook, § 8.3.2(1). The Notice of Intent issued in relation to the Coquille Project does not contain sufficient information regarding the Coquille Project in order to allow interested parties to identify all relevant environmental impacts, issues, and alternatives. In fact, the Notice of Intent does not list any potential alternatives to the proposed action. For this reason, Jackson County is requesting that the BIA issue a new notice of intent that contains more detailed information regarding the Coquille Project in addition to alternatives the BIA is considering. The additional information should include a more detailed statement regarding the proposed Coquille Project itself, the potential impacts to the human environment, and an explanation of the purpose and need for the project.

REASONABLE RANGE OF ALTERNATIVES

In the event the BIA does not issue a new notice with new timeline for public comment on the scoping of the EIS, Jackson County suggests that the BIA consider alternatives to the Coquille Project. Such alternatives should include a "no action" alternative, an expansion to the existing Coquille Tribal gaming establishments, alternative sites for the proposed gaming establishment, and development alternatives at the proposed site. A "no action" alternative should consider maintaining the status quo in which there is no fee-to-trust action and no development of a gaming facility in Medford. When evaluating alternative sites for the proposed gaming establishment, the BIA should especially consider alternative sites not located in a metropolitan area and preferably located on existing Coquille lands. When considering development alternatives at the proposed site in Medford, the development alternatives should address traffic and parking concerns, the size of the proposed facility, the square footage of any gaming areas within the facility, and a development that does not include any gaming activities. In examining a reasonable range of alternatives, the BIA should be careful not to make any decisions or take any action that would foreclose the possibility of a "no action" alternative.

DETRIMENTAL IMPACTS

The BIA's Draft EIS should carefully consider the detrimental impacts of the Coquille Project on the human environment. Potential detrimental impacts include impacts to land resources, water resources, air quality, biological resources, cultural and paleontological resources, socio-economic impacts, impacts to infrastructure and public services, the cumulative impacts, and the indirect effects of the Coquille Project. As discussed above, the initial notice describing the Coquille Project does not contain sufficient information for Jackson County to adequately assess all potential impacts, as such, it is probable that there will be additional impacts the BIA should explore beyond those explicitly mentioned here.

Impacts to land resources include potential impacts to geology, topography, seismicity, erosion, mineral resources, and soils. Impacts to water quality include storm water pollution, impacts to nearby Bear Creek, nearby wetlands, groundwater pollution, tribal water rights, agricultural water rights, and the use of scarce water resources. These impacts should be analyzed in the context of a changing climate and the historically low snow pack levels Jackson County has experienced in the past two winters. Impacts to air quality include impacts from the construction and operation of the Coquille Project as well as air pollution and emissions related to increased vehicular traffic from visitors to the Coquille Project. In evaluating the biological impacts of the Coquille Project, special attention should be paid to any endangered or threatened species in the area and the EIS should include a comprehensive survey of nearby wildlife. In evaluating the socio-economic impacts of the Coquille Project, special attention should be paid to the unprecedented placement of a casino in an Oregon metropolitan area. These impacts might include increased gambling addiction, crime, alcohol and drug use, and drunk driving. The draft EIS should also consider how the proposed casino would change the character of the City of Medford and surrounding communities in the Rogue Valley. Such changes could result in urban blight, the loss of family oriented businesses, and the loss of non-gambling tourists. Additionally, the proposed casino would result in impacts to communities with casinos in competition with the Coquille Project. Impacts to infrastructure and public services should be thoroughly examined. These impacts will include increased pressure on roadways, sewerage, public transit, law enforcement, non-profits serving Jackson County, public health services including Jackson County Health and Human Services, and firefighting services. The EIS should explore ways in which the

BIA should work with Jackson County, the City of Medford, and other cities to resolve concerns regarding increased pressure on public services and infrastructure.

The draft EIS should carefully consider cumulative and indirect impacts. In particular, the BIA should consider the indirect and foreseeable impacts that will result from the approval of the first urban casino in Oregon. Such impacts might include additional urban casinos in Jackson County and throughout the state. The cumulative impact analysis should include consideration of related past and reasonably foreseeable related projects including transportation projects, commercial development projects, and the expansion of public infrastructure. Indirect effects might include the growth in surrounding areas, changes in land use, and the impacts from any mitigation measures employed.

MITIGATION MEASURES

The draft EIS should carefully consider what mitigation measures are reasonable and necessary to ameliorate the negative impacts discussed above. In considering what mitigation measures are appropriate, the BIA should consult with Jackson County, the City of Medford, Tribes, and other affected communities.

Thank you for your consideration. Please do not hesitate to contact us should you need any additional information or have any questions.

Sincerely,

Joel C. Benton
County Counsel

cc: Board of Commissioners
County Administrator

APPENDIX B

CITY OF MEDFORD

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Oregon

Kate Brown, Governor

Oregon Department of Transportation
Region 3, District 8
I 00 Antelope Road
White City, OR 97503
(541) 774-6316
FAX (541 774-6397

FILE CODE:

Date: May 12, 2015

File:

Janis Casto
JRH Transportation Engineering
4765 Village Plaza Loop, Suite 201
Eugene, OR 97401

Subject: Memo for Traffic Impact Analysis Scope of Work Request (05/04/2015):
Coquille Tribe Casino Development

ODOT Region 3 staff and TPAU staff have reviewed the TIA scope of work request from JRH and have following comments.

1. **Trip Generation & Distribution:**

- Existing and built-out trip distribution needs to be based from the current RVMPO travel demand model. The consultant will need to translate the new development into employment which needs to be added into the appropriate TAZ. The consultant will need to fill out a model request available at: http://www.oregon.gov/ODOT/TD/TP/Pages/Tools.aspx#modeling. The consultant needs to allow three weeks for the model runs after the model request is deemed complete.

- The intersection list looks ok in general, but OR99/Stewart Ave, Highland Drive/Barnett Road, OR 99/Charlotte Ann and OR 99/Sports Park Entrance should be added into the list. At least one of these counts (ideally OR 99/Garfield) should be a longer duration (12 hours +, ideally 16 hours) classification count to support ADT creation for the crash analysis. Additionally, all access points (driveways) to the state highway need to be evaluated.)

- Pre-approval of trip generation and distribution parameters shall be obtained prior to commencing further analysis. This is also a good time to verify all assumptions to be utilized in the traffic analysis or to discuss any abnormalities noted in the review of the development area.

2. **Traffic Counts:**

- For all major intersections where significant signal modifications or where signals are being proposed, the counts shall be a minimum of 16-hour long, with 15-minute breakdowns in the AM. and P.M. peak hours, unless pre-approved for a lesser time. Justification for deviation from these counts will be required. For all other intersections and approaches, the counts must be at least 3-hours long, made during both the morning and afternoon peaks, with 15-minute breakdowns. The morning peak hour occurs during 6:30 AM to 9:30 AM and the afternoon peak occurs during 3:30 PM to 6:30 PM. ODOT and the City are not aware of any "false"

peaks for this area of the City of Medford. If there are indications of problems during these time frames, the traffic evaluation shall address all concerns[1].

- If the development is anticipated to have peak hour trip generation other than the typical weekday AM or PM peak hours, that peak hour shall also be analyzed. The appropriate peak hour count shall be determined by 16-hour long count. **Note: AM Peak Hour analysis is required for SPUI at NB/SB ramps, and Highland Drive/Barnett Road intersections due to the existing AM peak operation issues.**

3. <u>Performance Analysis:</u>

- The queuing analysis should be expanded from the 1-5 interchange to OR 99 on Garfield because of the high v/c at OR99/Garfield and the short intersection spacing. The main issue here will be queuing backing into the interchange which could cause queuing on the ramps. This queuing analysis should be based on a SimTraffic simulation calibrated with APMv1 Chapter 8 techniques. http://www.oregon.gov/ODOT/TD/TP/pages/apm.aspx

- If Synchro is used for the analysis, then Version 8 shall be used. Otherwise, other HCM -compatible programs are fine (Vistro, Sidra, HCS, etc.) All signalized intersections should use the HCM2000 methodology; unsignalized intersections should use HCM 2010 methodology.

- The crash analysis should be based on the last 5 years of crash data. The intersections should be screened first comparing intersection crash rates with the 90th percentile published rates in Exhibit 4-1 in the APMv2. If intersections are flagged as SPIS sites or exceed the 90th percentile rate then further analysis should be provided using the HSM predictive method. http://www.oregon.gov/ODOT/TD/TP/pages/apm.aspx

- HSM Predictive method requirements, "Excess expected crash frequency" should be determined for existing conditions. "Net change in expected or predicted crashes" should be reported for build conditions with and without the site development traffic Any potential countermeasures should be identified and evaluated using the ARTS Crash Reduction Factors available at: http://www.oregon.gov/ODOT/HWY/TRAFFIC-ROADWAY/Pages/ARTS.aspx#Crash Reduction Factors

- For future year analysis shall be made of all study area intersections for a **15-year horizon** including each completed phase, anticipated development in the surrounding area, and all anticipated improvements on the transportation system for both *"background traffic"* and *"total traffic"* conditions.

4. <u>Access Management:</u>

- Access control research for the proposed site is required. Demonstrate how the existing/proposed approach(es) meet the minimum spacing criteria of OAR 734-051-4020(8); or Deviations from Access Management Spacing Standards (734-051-3050). If more than one approach is proposed, then the analysis shall include determination of the fact with/without the approaches or restricting traffic movement at approaches.

5. <u>Other Comments:</u>

- Pipeline (In-process) trips - There is a proposed Southside Center project (Hotel, Gas Stations) near the proposed casino site. Please include it as the pipeline trips.

Please contact me directly at 541-774-6316 or Mr. Ron Hughes at 541-957-3696 if you have comments, questions, or require additional information regarding traffic engineering issues or contact Mr. Donald Morehouse, ODOT Development Review Planner, at 541-774-6399, if you have comments, questions, or require additional information regarding land use issues. Mr. Morehouse will serve as the lead ODOT Development Review contact for this project

Sincerely,

Wei (Michael) Wang, P.E. & M.S.
Region 3 Development Review Engineer

Enclosure: Table 3.3.7: ODOT Default Parameters for Use with Signalized Intersection Analysis Methodologies

Default Signal Parameters

Table 3.3.7: ODOT Default Parameters for Use With Signalized Intersection Analysis Methodologies	
Total Lost Time	4 seconds per phase minimum for typical intersections, more for large or complex intersections.
Peak Hour Factor	For future year analysis: • 0.85 for local and collector street approaches • 0.90 for minor arterial approaches, • 0.95 for major arterial approaches, unless better information is available, such as for a school or industrial use.

Ideal Saturation Flow Rate	Field measurement should be consistent with methodology laid out in the HCM. Saturation flow rate worksheets must be included in the documentation.
	Where field measurements are not done,
	• Outside of MPO urban areas, 1750 passenger cars per hour of green per lane (pcphgl) shall be used
	• Inside MPO urban growth boundaries, 1900 passenger cars per hour of green per lane (pcphgl) may be used, unless one or more of the following conditions are present, in which case 1750 pcphgl shall be used
	  • Parking
	  • Greater than 5% trucks
	  • Other than ninety degree intersection skew angle
	  • Accesses are present upstream or downstream
	  • Poor signal spacing or observed queue spillbacks between signals during the peak hour, or
	  • Less than 12 foot travel lanes

APPENDIX C –

Traffic Counts and Volume Development

Project: Gaming Facility 0.02746 *1.020* *seasonal adjustment for volumes at intersections with OR 99*

Job #: AESX00000009 3% *1.020* *Ramp seasonal adjustment factor*

Subject ***PM Turning Movement Volumes***

N-S ID	Synchro ID	Intersection	Movement	Existing Counts 1-Hr Volume PM Peak	Existing Heavy Vehicle Count	Existing Heavy Vehicle Percentage	Growth Factor	Seasonal Adjustment Factor	30th Highest Hour Adjusted 1-Hr Volume PM Peak	Volume Balancing Adjustments	Use for Analysis 2019 Balanced Volumes PM Peak	Pipeline Trips PM Peak
1	10	Barnett Rd / Highland Dr	EBL	199	3	2%	1.00	1.00	199	0	199	0
	10		EBT	406	2	0%	1.00	1.00	406	0	406	166
	10	Count Date: 7/24/2019	EBR	231	6	3%	1.00	1.00	231	0	231	3
	10		WBL	765	12	2%	1.00	1.00	765	0	765	125
	10		WBT	644	9	1%	1.00	1.00	644	0	644	144
	10		WBR	68	2	3%	1.00	1.00	68	0	68	37
	10	PM Peak Hour: 4:45 PM-5:45 PM	NBL	209	3	1%	1.00	1.00	209	0	209	3
	10	PM Peak Hour Used: 4:45 PM-5:45 PM	NBT	420	6	1%	1.00	1.00	420	0	420	6
	10		NBR	537	11	2%	1.00	1.00	537	0	537	84
	10		SBL	43	0	0%	1.00	1.00	43	0	43	37
	10	PHF:	SBT	500	8	2%	1.00	1.00	500	0	500	6
	10	0.96	SBR	200	2	1%	1.00	1.00	200	0	200	0
	10		**TEV**	**4222**	**64**				**4222**	**0**	**4222**	**611**
2	20	Interchange 27	EBL	578	17	3%	1.00	1.02	590	0	590	19
	20		EBT	446	10	2%	1.00	1.00	446	-8	438	39
	20	Count Date: 7/24/2019	EBR	440	12	3%	1.00	1.02	449	0	449	12
	20		WBL	321	7	2%	1.00	1.02	327	-4	323	26
	20		WBT	548	8	1%	1.00	1.00	548	-10	538	53
	20		WBR	632	10	2%	1.00	1.02	645	-10	635	48
	20	PM Peak Hour: 4:45 PM-5:45 PM	NBL	395	12	3%	1.00	1.02	403	0	403	15
	20	PM Peak Hour Used: 4:45 PM-5:45 PM	NBT	0	0	0%	1.00	1.00	0	0	0	0
	20		NBR	336	7	2%	1.00	1.02	343	*1*	344	21
	20		SBL	375	8	2%	1.00	1.02	383	*2*	384	33
	20	PHF:	SBT	0	0	0%	1.00	1.00	0	0	0	0
	20	0.95	SBR	606	22	4%	1.00	1.02	618	0	618	28
	20		**TEV**	**4677**	**113**				**4751**	**-29**	**4722**	**294**
3	30	Garfield St / Center Dr	EBL	171	4	2%	1.00	1.00	171	0	171	0
	30		EBT	897	25	3%	1.00	1.00	897	0	897	28
	30	Count Date: 7/24/2019	EBR	28	0	0%	1.00	1.00	28	0	28	52
	30		WBL	70	0	0%	1.00	1.00	70	0	70	82
	30		WBT	945	35	4%	1.00	1.00	945	-7	938	33
	30		WBR	551	9	2%	1.00	1.00	551	0	551	11
	30	PM Peak Hour: 4:45 PM-5:45 PM	NBL	25	1	4%	1.00	1.00	25	0	25	63
	30	PM Peak Hour Used: 4:45 PM-5:45 PM	NBT	15	1	7%	1.00	1.00	15	0	15	32
	30		NBR	53	1	2%	1.00	1.00	53	0	53	63
	30		SBL	527	13	2%	1.00	1.00	527	0	527	9
	30	PHF:	SBT	26	1	4%	1.00	1.00	26	0	26	45
	30	0.96	SBR	332	5	2%	1.00	1.00	332	-2	330	0
	30		**TEV**	**3640**	**95**				**3640**	**-9**	**3631**	**418**
4	40	S Riverside Ave / E Barnett Rd	EBL	102	1	1%	1.00	1.00	102	0	102	0
	40		EBT	182	3	2%	1.00	1.00	182	0	182	9
	40	Count Date: 7/24/2019	EBR	104	0	0%	1.00	1.00	104	0	104	6
	40		WBL	134	3	2%	1.00	1.00	134	0	134	10
	40		WBT	227	3	1%	1.00	1.00	227	0	227	11
	40		WBR	326	1	0%	1.00	1.00	326	0	326	13
	40	PM Peak Hour: 4:30 PM-5:30 PM	NBL	61	0	0%	1.00	1.00	61	0	61	4
	40	PM Peak Hour Used: 4:45 PM-5:45 PM	NBT	610	12	2%	1.00	1.02	622	0	622	153
	40		NBR	65	0	0%	1.00	1.00	65	0	65	12
	40		SBL	262	4	2%	1.00	1.00	262	0	262	11
	40	PHF:	SBT	823	10	1%	1.00	1.02	839	0	839	99
	40	0.97	SBR	57	1	2%	1.00	1.00	57	0	57	0
	40		**TEV**	**2953**	**38**				**2982**	**-1**	**2981**	**328**
5	50	S Riverside Ave / E Stewart St	EBL	137	1	1%	1.00	1.00	137	0	137	132
	50		EBT	312	3	1%	1.00	1.00	312	0	312	56
	50	Count Date: 7/24/2019	EBR	214	4	2%	1.00	1.00	214	0	214	35
	50		WBL	60	1	2%	1.00	1.00	60	0	60	0
	50		WBT	342	1	0%	1.00	1.00	342	0	342	52
	50		WBR	44	3	7%	1.00	1.00	44	0	44	0
	50	PM Peak Hour: 4:45 PM-5:45 PM	NBL	313	8	3%	1.00	1.00	313	0	313	49
	50	PM Peak Hour Used: 4:45 PM-5:45 PM	NBT	567	7	1%	1.00	1.02	578	0	578	38
	50		NBR	68	3	4%	1.00	1.00	68	0	68	0
	50		SBL	94	4	4%	1.00	1.00	94	0	94	2
	50	PHF:	SBT	725	6	1%	1.00	1.02	740	1	740	50
	50	0.97	SBR	161	1	1%	1.00	1.00	161	0	161	67
	50		**TEV**	**3037**	**42**				**3063**	**0**	**3063**	**481**
6	60	Garfield St / OR 99	EBL	56	1	2%	1.00	1.00	56	0	56	0
	60		EBT	301	13	4%	1.00	1.00	301	-3	298	16
	60	Count Date: 7/24/2019	EBR	49	3	6%	1.00	1.00	49	0	49	0
	60		WBL	550	12	2%	1.00	1.00	550	*10*	560	27
	60		WBT	488	21	4%	1.00	1.00	488	*10*	498	22
	60		WBR	227	11	5%	1.00	1.00	227	*8*	235	7
	60	PM Peak Hour: 4:45 PM-5:45 PM	NBL	65	0	0%	1.00	1.00	65	0	65	0
	60	PM Peak Hour Used: 4:45 PM-5:45 PM	NBT	501	17	3%	1.00	1.02	511	0	511	0
	60		NBR	479	12	3%	1.00	1.00	479	-6	473	21
	60		SBL	329	5	2%	1.00	1.00	329	-4	325	9
	60	PHF:	SBT	556	8	1%	1.00	1.02	567	0	567	0

Project: Gaming Facility 0.02746 *1.020* *seasonal adjustment for volumes at intersections with OR 99*

Job #: AESX00000009 3% *1.020* *Ramp seasonal adjustment factor*

Subject ***PM Turning Movement Volumes***

N-S ID	Synchro ID	Intersection	Movement	Existing Counts 1-Hr Volume PM Peak	Existing Heavy Vehicle Count	Existing Heavy Vehicle Percentage	Growth Factor	Seasonal Adjustment Factor	30th Highest Hour Adjusted 1-Hr Volume PM Peak	Volume Balancing Adjustments	Use for Analysis 2019 Balanced Volumes PM Peak	Pipeline Trips PM Peak
	60	0.93	SBR	33	2	6%	1.00	1.00	33	0	33	0
	60		**TEV**	**3634**	**105**				**3655**	***15***	**3670**	**102**
7	70	Charlotte Ann / OR 99	EBL	13	0	0%	1.00	1.00	13	0	13	0
	70		EBT	0	0	0%	1.00	1.00	0	0	0	0
	70	Count Date: 7/24/2019	EBR	17	0	0%	1.00	1.00	17	0	17	0
	70		WBL	5	1	20%	1.00	1.00	5	0	5	0
	70		WBT	0	0	0%	1.00	1.00	0	0	0	0
	70		WBR	9	0	0%	1.00	1.00	9	0	9	0
	70	PM Peak Hour: 4:45 PM-5:45 PM	NBL	6	0	0%	1.00	1.00	6	0	6	0
	70	PM Peak Hour Used: 4:45 PM-5:45 PM	NBT	1006	27	3%	1.00	1.02	1026	**0**	1026	0
	70		NBR	4	0	0%	1.00	1.00	4	0	4	0
	70		SBL	7	0	0%	1.00	1.00	7	0	7	0
	70	PHF:	SBT	1094	23	2%	1.00	1.02	1116	***8***	1124	0
	70	0.94	SBR	20	0	0%	1.00	1.00	20	0	20	0
	70		**TEV**	**2181**	**51**				**2223**	***8***	**2231**	**0**
8	80	N Project Dvwy (Human Bean) / OR 99	EBL	0	0	0%	1.00	1.00	0	0	0	0
	80		EBT	0	0	0%	1.00	1.00	0	0	0	0
	80	Count Date: 7/24/2019	EBR	0	0	0%	1.00	1.00	0	0	0	0
	80		WBL	4	0	0%	1.00	1.00	4	0	4	0
	80		WBT	0	0	0%	1.00	1.00	0	0	0	0
	80		WBR	8	0	0%	1.00	1.00	8	0	8	0
	80	PM Peak Hour: 4:45 PM-5:45 PM	NBL	0	0	0%	1.00	1.00	0	0	0	0
	80	PM Peak Hour Used: 4:45 PM-5:45 PM	NBT	1015	28	3%	1.00	1.02	1035	**-7**	1028	0
	80		NBR	0	0	0%	1.00	1.00	0	***1***	1	0
	80		SBL	1	0	0%	1.00	1.00	1	0	1	0
	80	PHF:	SBT	1121	22	2%	1.00	1.02	1143	***2***	1145	0
	80	0.92	SBR	0	0	0%	1.00	1.00	0	0	0	0
	80		**TEV**	**2149**	**50**				**2192**	**-5**	**2187**	**0**
9	90	S Project Dvwy (Roxy Ann Lanes) / OR 99	EBL	0	0	0%	1.00	1.00	0	0	0	0
	90		EBT	0	0	0%	1.00	1.00	0	0	0	0
	90	Count Date: 7/24/2019	EBR	0	0	0%	1.00	1.00	0	0	0	0
	90		WBL	10	0	0%	1.00	1.00	10	0	10	0
	90		WBT	0	0	0%	1.00	1.00	0	0	0	0
	90		WBR	22	0	0%	1.00	1.00	22	0	22	0
	90	PM Peak Hour: 4:30 PM-5:30 PM	NBL	0	0	0%	1.00	1.00	0	0	0	0
	90	PM Peak Hour Used: 4:45 PM-5:45 PM	NBT	971	0	0%	1.00	1.02	990	***17***	1007	0
	90		NBR	12	0	0%	1.00	1.00	12	0	12	0
	90		SBL	41	0	0%	1.00	1.00	41	0	41	0
	90	PHF:	SBT	1086	0	0%	1.00	1.02	1108	0	1108	0
	90	0.92	SBR	0	0	0%	1.00	1.00	0	0	0	0
	90		**TEV**	**2142**	**0**				**2183**	***17***	**2200**	**0**
10	100	Cherry Ln / N Phoenix Rd	EBL	0	0	0%	1.00	1.00	0	***1***	1	0
	100		EBT	0	0	0%	1.00	1.00	0	***1***	1	0
	100	Count Date: 7/24/2019	EBR	2	0	0%	1.00	1.00	2	0	2	19
	100		WBL	125	2	2%	1.00	1.00	125	0	125	90
	100		WBT	1	0	0%	1.00	1.00	1	0	1	0
	100		WBR	47	2	4%	1.00	1.00	47	0	47	97
	100	PM Peak Hour: 4:45 PM-5:45 PM	NBL	3	0	0%	1.00	1.00	3	0	3	11
	100	PM Peak Hour Used: 4:30 PM-5:30 PM	NBT	653	13	2%	1.00	1.00	653	0	653	225
	100		NBR	204	4	2%	1.00	1.00	204	0	204	124
	100		SBL	41	1	2%	1.00	1.00	41	0	41	184
	100	PHF:	SBT	516	10	2%	1.00	1.00	516	0	516	320
	100	0.96	SBR	3	0	0%	1.00	1.00	3	0	3	0
	100		**TEV**	**1595**	**32**				**1595**	***2***	**1597**	**1070**
11	110	Barnett Rd / N Phoenix Rd	EBL	509	6	1%	1.00	1.00	509	0	509	127
	110		EBT	19	0	0%	1.00	1.00	19	0	19	286
	110	Count Date: 7/24/2019	EBR	171	7	4%	1.00	1.00	171	0	171	172
	110		WBL	11	1	9%	1.00	1.00	11	0	11	106
	110		WBT	14	1	7%	1.00	1.00	14	0	14	210
	110		WBR	20	0	0%	1.00	1.00	20	0	20	148
	110	PM Peak Hour: 4:30 PM-5:30 PM	NBL	85	0	0%	1.00	1.00	85	0	85	77
	110	PM Peak Hour Used: 4:30 PM-5:30 PM	NBT	416	12	3%	1.00	1.00	416	0	416	103
	110		NBR	18	2	11%	1.00	1.00	18	0	18	177
	110		SBL	14	0	0%	1.00	1.00	14	0	14	242
	110	PHF:	SBT	363	10	3%	1.00	1.00	363	0	363	112
	110	0.93	SBR	214	5	2%	1.00	1.00	214	0	214	47
	110		**TEV**	**1854**	**44**				**1854**	**0**	**1854**	**1807**
12	120	Juanipero Way / N Phoenix Rd	EBL	25	0	0%	1.00	1.00	25	0	25	12
	120		EBT	0	0	0%	1.00	1.00	0	***1***	1	9
	120	Count Date:	EBR	119	0	0%	1.00	1.00	119	0	119	23
	120		WBL	2	0	0%	1.00	1.00	2	0	2	16
	120		WBT	0	0	0%	1.00	1.00	0	***1***	1	5
	120		WBR	0	0	0%	1.00	1.00	0	***1***	1	34
	120	PM Peak Hour: 4:30 PM-5:30 PM	NBL	73	2	3%	1.00	1.00	73	0	73	7
	120	PM Peak Hour Used: 4:30 PM-5:30 PM	NBT	428	9	2%	1.00	1.00	428	0	428	128
	120		NBR	5	0	0%	1.00	1.00	5	0	5	27

Project: Gaming Facility 0.02746 *1.020* *seasonal adjustment for volumes at intersections with OR 99*

Job #: AESX00000009 3% *1.020* *Ramp seasonal adjustment factor*

Subject ***PM Turning Movement Volumes***

N-S ID	Synchro ID	Intersection	Movement	Existing Counts 1-Hr Volume PM Peak	Existing Heavy Vehicle Count	Existing Heavy Vehicle Percentage	Growth Factor	Seasonal Adjustment Factor	30th Highest Hour Adjusted 1-Hr Volume PM Peak	Volume Balancing Adjustments	Use for Analysis 2019 Balanced Volumes PM Peak	Pipeline Trips PM Peak
	120		SBL	8	0	0%	1.00	1.00	8	0	8	68
	120	PHF:	SBT	381	13	3%	1.00	1.00	381	0	381	146
	120	0.91	SBR	25	0	0%	1.00	1.00	25	0	25	12
	120		**TEV**	**1066**	**24**				**1066**	***3***	**1069**	**487**
13	130	Project Dvwy / N Phoenix Rd	EBL	0	0	0%	1.00	1.00	0	0	0	0
	130		EBT	0	0	0%	1.00	1.00	0	0	0	0
	130	Count Date: 7/24/2019	EBR	0	0	0%	1.00	1.00	0	0	0	0
	130		WBL	1	0	0%	1.00	1.00	1	0	1	0
	130		WBT	0	0	0%	1.00	1.00	0	0	0	0
	130		WBR	0	0	0%	1.00	1.00	0	***1***	1	0
	130	PM Peak Hour: 4:30 PM-5:30 PM	NBL	0	0	0%	1.00	1.00	0	0	0	0
	130	PM Peak Hour Used: 4:30 PM-5:30 PM	NBT	496	9	2%	1.00	1.00	496	0	496	0
	130		NBR	0	0	0%	1.00	1.00	0	***1***	1	0
	130		SBL	1	0	0%	1.00	1.00	1	0	1	0
	130	PHF:	SBT	478	9	2%	1.00	1.00	478	0	478	0
	130	0.86	SBR	0	0	0%	1.00	1.00	0	0	0	0
	130		**TEV**	**976**	**18**				**976**	***2***	**978**	**0**
14	140	IC24 NB Ramp Terminal	EBL	232	6	3%	1.00	1.02	237	0	237	0
	140		EBT	342	29	8%	1.00	1.00	342	0	342	12
	140	Count Date: 7/24/2019	EBR	0	0	0%	1.00	1.02	0	0	0	0
	140		WBL	0	0	0%	1.00	1.02	0	0	0	0
	140		WBT	501	20	4%	1.00	1.00	501	0	501	4
	140		WBR	154	24	16%	1.00	1.02	157	**0**	157	1
	140	PM Peak Hour: 4:30 PM-5:30 PM	NBL	190	7	4%	1.00	1.02	194	***1***	195	0
	140	PM Peak Hour Used: 4:30 PM-5:30 PM	NBT	0	0	0%	1.00	1.02	0	0	0	0
	140		NBR	312	28	9%	1.00	1.02	318	**0**	318	12
	140		SBL	0	0	0%	1.00	1.02	0	0	0	0
	140	PHF:	SBT	0	0	0%	1.00	1.02	0	0	0	0
	140	0.91	SBR	0	0	0%	1.00	1.02	0	0	0	0
	140		**TEV**	**1731**	**114**				**1749**	***1***	**1750**	**29**
15	150	IC24 SB Ramp Terminal	EBL	0	0	0%	1.00	1.02	0	0	0	0
	150		EBT	443	18	4%	1.00	1.00	443	0	443	0
	150	Count Date: 7/24/2019	EBR	142	3	2%	1.00	1.02	145	0	145	0
	150		WBL	241	15	6%	1.00	1.02	246	0	246	0
	150		WBT	450	12	3%	1.00	1.00	450	0	450	0
	150		WBR	0	0	0%	1.00	1.02	0	0	0	0
	150	PM Peak Hour: 4:30 PM-5:30 PM	NBL	0	0	0%	1.00	1.02	0	0	0	0
	150	PM Peak Hour Used: 4:30 PM-5:30 PM	NBT	0	0	0%	1.00	1.02	0	0	0	0
	150		NBR	0	0	0%	1.00	1.02	0	0	0	0
	150		SBL	131	17	13%	1.00	1.02	134	***2***	136	0
	150	PHF:	SBT	0	0	0%	1.00	1.02	0	0	0	0
	150	0.96	SBR	305	4	1%	1.00	1.02	311	**0**	311	0
	150		**TEV**	**1712**	**69**				**1728**	***3***	**1731**	**0**

Project: Gaming Facility 0.02746 Alt A: 44 out, 92 in
Job #: AESX00000009 Use for Analysis 0.446417999 14.73179396 Use for Analysis Alt B: 55 out, 112 in
Subject ***PM Turning Movement Volumes***

N-S ID	Synchro ID	Intersection	Movement	2022 NCHRP 255-Base Unbalanced Future Baseline	Volume Balancing Adjustments	2022 NCHRP 255-Base Balanced Future Baseline	2022 No Build +Pipeline Balanced	2042 NCHRP 255-Base Unbalanced Future Baseline	Volume Balancing Adjustments	2042 NCHRP 255-Base Balanced Future Baseline	2042 No Build +Pipeline Balanced	Alternative Trips	2022 Build	2042 Build
1	10	Barnett Rd / Highland Dr	EBL	208	0	208	208	270	0	270	270		208	270
	10		EBT	423	0	423	589	534	0	534	700		589	700
	10	Count Date: 7/24/2019	EBR	229	1	230	233	217	7	224	227	11	244	238
	10		WBL	774	1	775	900	836	0	836	961	12	912	973
	10		WBT	658	0	658	802	753	0	753	897		802	897
	10		WBR	73	0	73	110	108	0	108	145		110	145
	10	PM Peak Hour: 4:45 PM-5:45 PM	NBL	208	0	208	211	204	0	204	207		211	207
	10	PM Peak Hour Used: 4:45 PM-5:45 PM	NBT	438	0	438	444	555	0	555	561		444	561
	10		NBR	557	0	557	641	688	0	688	772	5	646	777
	10		SBL	46	0	46	83	71	0	71	108		83	108
	10	PHF:	SBT	511	2	513	519	585	0	585	591	3	522	594
	10	0.96	SBR	207	0	207	207	250	0	250	250		207	250
	10		**TEV**	**4333**	**3**	**4336**	**4947**	**5072**	**6**	**5078**	**5689**	**31**	**4978**	**5720**
2	20	Interchange 27	EBL	595	0	595	614	672	0	672	691		614	691
	20		EBT	470	0	470	509	635	-6	629	668	5	514	673
	20	Count Date: 7/24/2019	EBR	461	0	461	473	553	0	553	565	6	479	571
	20		WBL	325	-2	323	349	331	0	331	357		349	357
	20		WBT	570	0	570	623	712	0	712	765	26	649	791
	20		WBR	628	-3	625	673	602	0	602	650		673	650
	20	PM Peak Hour: 4:45 PM-5:45 PM	NBL	418	1	419	434	534	0	534	549	4	438	553
	20	PM Peak Hour Used: 4:45 PM-5:45 PM	NBT	0	0	0	0	0	0	0	0		0	0
	20		NBR	355	-3	352	373	415	0	415	436		373	436
	20		SBL	384	-3	381	414	403	0	403	436		414	436
	20	PHF:	SBT	0	0	0	0	0	0	0	0		0	0
	20	0.95	SBR	623	2	625	653	713	0	713	741		653	741
	20		**TEV**	**4830**	**-9**	**4821**	**5115**	**5570**	**-6**	**5564**	**5858**	**41**	**5156**	**5899**
3	30	Garfield St / Center Dr	EBL	174	0	174	174	191	-4	187	187		174	187
	30		EBT	944	0	944	972	1,261	0	1261	1289	11	983	1300
	30	Count Date: 7/24/2019	EBR	31	0	31	83	50	-2	48	100		83	100
	30		WBL	76	0	76	158	115	0	115	197		158	197
	30		WBT	985	0	985	1018	1,295	-20	1275	1308	30	1048	1338
	30		WBR	553	0	553	564	569	0	569	580		564	580
	30	PM Peak Hour: 4:45 PM-5:45 PM	NBL	27	2	29	92	40	0	40	103		92	103
	30	PM Peak Hour Used: 4:45 PM-5:45 PM	NBT	15	0	15	47	18	0	18	50		47	50
	30		NBR	57	0	57	120	80	0	80	143		120	143
	30		SBL	525	0	525	534	512	1	513	522		534	522
	30	PHF:	SBT	27	0	27	72	32	0	32	77		72	77
	30	0.96	SBR	331	0	331	331	341	0	341	341	3	334	344
	30		**TEV**	**3745**	**2**	**3747**	**4165**	**4504**	**-25**	**4479**	**4897**	**44**	**4209**	**4941**
4	40	S Riverside Ave / E Barnett Rd	EBL	104	0	104	104	119	0	119	119		104	119
	40		EBT	187	0	187	196	217	0	217	226		196	226
	40	Count Date: 7/24/2019	EBR	113	0	113	119	177	0	177	183	2	121	185
	40		WBL	141	0	141	151	188	0	188	198	2	153	200
	40		WBT	238	0	238	249	299	0	299	310		249	310
	40		WBR	324	0	324	337	315	0	315	328		337	328
	40	PM Peak Hour: 4:30 PM-5:30 PM	NBL	72	0	72	76	156	0	156	160		76	160
	40	PM Peak Hour Used: 4:45 PM-5:45 PM	NBT	694	0	694	847	1,171	0	1171	1324	11	858	1335
	40		NBR	73	0	73	85	124	0	124	136		85	136
	40		SBL	101	0	101	112	148	0	148	159		112	159
	40	PHF:	SBT	892	0	892	991	1,243	0	1243	1342	20	1011	1362
	40	0.97	SBR	60	0	60	60	79	45	124	124		60	124
	40		**TEV**	**2999**	**0**	**2999**	**3327**	**4236**	**45**	**4281**	**4609**	**35**	**3362**	**4644**
5	50	S Riverside Ave / E Stewart St	EBL	150	0	150	282	234	0	234	366		282	366
	50		EBT	323	0	323	379	400	0	400	456		379	456
	50	Count Date: 7/24/2019	EBR	220	0	220	255	261	0	261	296	6	261	302
	50		WBL	64	0	64	64	90	0	90	90	5	69	95
	50		WBT	359	0	359	411	470	0	470	522		411	522
	50		WBR	50	0	50	50	92	0	92	92		50	92
	50	PM Peak Hour: 4:45 PM-5:45 PM	NBL	324	0	324	373	395	0	395	444	3	376	447
	50	PM Peak Hour Used: 4:45 PM-5:45 PM	NBT	648	0	648	686	1,114	0	1114	1152	10	696	1162
	50		NBR	72	0	72	72	98	0	98	98	7	79	105
	50		SBL	101	0	101	103	148	0	148	150		103	150
	50	PHF:	SBT	789	0	789	839	1,112	0	1112	1162	23	862	1185
	50	0.97	SBR	169	0	169	236	222	0	222	289		236	289
	50		**TEV**	**3269**	**0**	**3269**	**3750**	**4636**	**0**	**4636**	**5117**	**54**	**3804**	**5171**
6	60	Garfield St / OR 99	EBL	69	0	69	69	166	0	166	166		69	166
	60		EBT	335	0	335	351	561	4	565	581		351	581
	60	Count Date: 7/24/2019	EBR	59	0	59	59	136	0	136	136	3	62	139
	60		WBL	570	0	570	597	645	-13	632	659	34	631	693
	60		WBT	533	0	533	555	754	-14	740	762		555	762
	60		WBR	242	0	242	249	290	-6	284	291		249	291
	60	PM Peak Hour: 4:45 PM-5:45 PM	NBL	75	0	75	75	149	0	149	149		75	149
	60	PM Peak Hour Used: 4:45 PM-5:45 PM	NBT	571	0	571	571	958	0	958	958	22	593	980
	60		NBR	484	0	484	505	562	4	566	587	11	516	598
	60		SBL	328	2	330	339	363	2	365	374		339	374
	60	PHF:	SBT	617	0	617	617	932	0	932	932	34	651	966
	60	0.93	SBR	38	0	38	38	71	0	71	71		38	71
	60		**TEV**	**3921**	**2**	**3923**	**4025**	**5589**	**-25**	**5564**	**5666**	**104**	**4129**	**5770**
7	70	Charlotte Ann / OR 99	EBL	13	0	13	13	13	0	13	13		13	13
	70		EBT	0	0	0	0	0	0	0	0		0	0
	70	Count Date: 7/24/2019	EBR	17	0	17	17	17	0	17	17		17	17
	70		WBL	7	0	7	7	23	0	23	23	6	13	29
	70		WBT	0	0	0	0	0	0	0	0		0	0
	70		WBR	13	0	13	13	44	0	44	44	8	21	52
	70	PM Peak Hour: 4:45 PM-5:45 PM	NBL	6	0	6	6	6	0	6	6		6	6
	70	PM Peak Hour Used: 4:45 PM-5:45 PM	NBT	1100	0	1100	1100	1,596	0	1596	1596	25	1125	1621
	70		NBR	5	0	5	5	9	0	9	9	1	6	10
	70		SBL	8	0	8	8	16	0	16	16	1	9	17
	70	PHF:	SBT	1193	0	1193	1193	1,650	0	1650	1650	71	1264	1721
	70	0.94	SBR	20	0	20	20	20	0	20	20		20	20

Project: Gaming Facility 0.02746 Alt A: 44 out, 92 in
Job #: AESX00000009 Use for Analysis 0.446417999 14.73179396 Use for Analysis Alt B: 55 out, 112 in
Subject ***PM Turning Movement Volumes***

N-S ID	Synchro ID	Intersection	Movement	2022 NCHRP 255-Base Unbalanced Future Baseline	Volume Balancing Adjustments	2022 NCHRP 255-Base Balanced Future Baseline	2022 No Build +Pipeline Balanced	2042 NCHRP 255-Base Unbalanced Future Baseline	Volume Balancing Adjustments	2042 NCHRP 255-Base Balanced Future Baseline	2042 No Build +Pipeline Balanced	Alternative Trips	2022 Build	2042 Build
	70		**TEV**	**2382**	**0**	**2382**	**2382**	**3393**	**1**	**3394**	**3394**	**112**	**2494**	**3506**
8	80	N Project Dvwy (Human Bean) / OR 99	EBL	0	0	0	0	0	0	0	0		0	0
	80		EBT	0	0	0	0	0	0	0	0		0	0
	80	Count Date: 7/24/2019	EBR	0	0	0	0	0	0	0	0		0	0
	80		WBL	4	0	4	4	4	0	4	4	-4	0	0
	80		WBT	0	0	0	0	0	0	0	0		0	0
	80		WBR	8	0	8	8	8	0	8	8	-8	0	0
	80	PM Peak Hour: 4:45 PM-5:45 PM	NBL	0	0	0	0	0	0	0	0		0	0
	80	PM Peak Hour Used: 4:45 PM-5:45 PM	NBT	1101	2	1103	1103	1,587	16	1603	1603	34	1137	1637
	80		NBR	1	0	1	1	1	0	1	1	-1	0	0
	80		SBL	1	0	1	1	1	0	1	1	-1	0	0
	80	PHF:	SBT	1216	0	1216	1216	1,689	0	1689	1689	72	1288	1761
	80	0.92	SBR	0	0	0	0	0	0	0	0		0	0
	80		**TEV**	**2331**	**2**	**2333**	**2333**	**3290**	**16**	**3306**	**3306**	**92**	**2425**	**3398**
9	90	S Project Dvwy (Roxy Ann Lanes) / OR 99	EBL	0	0	0	0	0	0	0	0		0	0
	90		EBT	0	0	0	0	0	0	0	0		0	0
	90	Count Date: 7/24/2019	EBR	0	0	0	0	0	0	0	0		0	0
	90		WBL	10	0	10	10	13	-3	10	10	11	21	21
	90		WBT	0	0	0	0	0	0	0	0		0	0
	90		WBR	22	0	22	22	19	3	22	22	33	55	55
	90	PM Peak Hour: 4:30 PM-5:30 PM	NBL	0	0	0	0	0	0	0	0		0	0
	90	PM Peak Hour Used: 4:45 PM-5:45 PM	NBT	1077	5	1082	1082	1,542	40	1582	1582		1082	1582
	90		NBR	13	0	13	13	16	-3	13	13	18	31	31
	90		SBL	40	0	40	40	37	3	40	40	74	114	114
	90	PHF:	SBT	1177	3	1180	1180	1,641	12	1653	1653		1180	1653
	90	0.92	SBR	0	0	0	0	0	0	0	0		0	0
	90		**TEV**	**2339**	**8**	**2347**	**2347**	**3268**	**52**	**3320**	**3320**	**136**	**2483**	**3456**
10	100	Cherry Ln / N Phoenix Rd	EBL	1	0	1	1	2	0	2	2	0	1	2
	100		EBT	1	0	1	1	3	0	3	3		1	3
	100	Count Date: 7/24/2019	EBR	2	0	2	21	4	0	4	23		21	23
	100		WBL	144	0	144	234	274	0	274	364	3	237	367
	100		WBT	1	0	1	1	3	0	3	3		1	3
	100		WBR	55	0	55	152	107	0	107	204		152	204
	100	PM Peak Hour: 4:45 PM-5:45 PM	NBL	3	0	3	14	6	0	6	17		14	17
	100	PM Peak Hour Used: 4:30 PM-5:30 PM	NBT	693	0	693	918	961	0	961	1186	13	931	1199
	100		NBR	239	0	239	363	469	0	469	593		363	593
	100		SBL	49	0	49	233	101	0	101	285		233	285
	100	PHF:	SBT	550	0	550	870	780	0	780	1100	18	888	1118
	100	0.96	SBR	3	0	3	3	6	0	6	6		3	6
	100		**TEV**	**1743**	**0**	**1743**	**2813**	**2715**	**1**	**2716**	**3786**	**34**	**2847**	**3820**
11	110	Barnett Rd / N Phoenix Rd	EBL	533	0	533	660	702	0	702	829		660	829
	110		EBT	27	0	27	313	76	0	76	362		313	362
	110	Count Date: 7/24/2019	EBR	194	0	194	366	341	0	341	513	10	376	523
	110		WBL	16	0	16	122	53	0	53	159	2	124	161
	110		WBT	20	0	20	230	58	0	58	268		230	268
	110		WBR	27	0	27	175	67	0	67	215		175	215
	110	PM Peak Hour: 4:30 PM-5:30 PM	NBL	97	0	97	174	173	0	173	250		174	250
	110	PM Peak Hour Used: 4:30 PM-5:30 PM	NBT	452	0	452	555	687	0	687	790	17	572	807
	110		NBR	26	0	26	203	87	0	87	264		203	264
	110		SBL	19	0	19	261	47	0	47	289		261	289
	110	PHF:	SBT	395	0	395	507	607	0	607	719	24	531	743
	110	0.93	SBR	226	0	226	273	306	0	306	353		273	353
	110		**TEV**	**2030**	**0**	**2030**	**3837**	**3205**	**-1**	**3204**	**5011**	**53**	**3890**	**5064**
12	120	Juanipero Way / N Phoenix Rd	EBL	19	0	19	31	5	0	5	17		31	17
	120		EBT	1	0	1	10	0	0	0	9		10	9
	120	Count Date:	EBR	139	0	139	162	267	0	267	290	6	168	296
	120		WBL	2	0	2	18	4	0	4	20		18	20
	120		WBT	1	0	1	6	1	-1	0	5		6	5
	120		WBR	1	0	1	35	1	-1	0	34		35	34
	120	PM Peak Hour: 4:30 PM-5:30 PM	NBL	89	0	89	96	176	0	176	183		96	183
	120	PM Peak Hour Used: 4:30 PM-5:30 PM	NBT	485	0	485	613	839	0	839	967	21	634	988
	120		NBR	6	0	6	33	12	0	12	39		33	39
	120		SBL	7	0	7	75	2	0	2	70		75	70
	120	PHF:	SBT	421	0	421	567	696	0	696	842	40	607	882
	120	0.91	SBR	20	0	20	32	5	0	5	17		32	17
	120		**TEV**	**1191**	**0**	**1191**	**1678**	**2007**	**-2**	**2006**	**2493**	**67**	**1745**	**2560**
13	130	Project Dvwy / N Phoenix Rd	EBL	0	0	0	0	0	0	0	0	23	23	23
	130		EBT	0	0	0	0	0	0	0	0		0	0
	130	Count Date: 7/24/2019	EBR	0	0	0	0	0	0	0	0	32	32	32
	130		WBL	2	0	2	2	9	0	9	9		2	9
	130		WBT	0	0	0	0	0	0	0	0		0	0
	130		WBR	3	0	3	3	18	0	18	18		3	18
	130	PM Peak Hour: 4:30 PM-5:30 PM	NBL	0	0	0	0	0	0	0	0	64	64	64
	130	PM Peak Hour Used: 4:30 PM-5:30 PM	NBT	545	0	545	545	873	0	873	873		545	873
	130		NBR	6	0	6	6	29	0	29	29		6	29
	130		SBL	7	0	7	7	51	0	51	51		7	51
	130	PHF:	SBT	516	0	516	516	774	0	774	774		516	774
	130	0.86	SBR	0	0	0	0	0	0	0	0	48	48	48
	130		**TEV**	**1079**	**0**	**1079**	**1079**	**1753**	**1**	**1754**	**1754**	**167**	**1246**	**1921**
14	140	IC24 NB Ramp Terminal	EBL	247	0	247	247	312	0	312	312		247	312
	140		EBT	386	0	386	398	681	0	681	693	45	443	738
	140	Count Date: 7/24/2019	EBR	0	0	0	0	0	0	0	0		0	0
	140		WBL	0	0	0	0	0	0	0	0		0	0
	140		WBT	547	0	547	551	847	0	847	851	17	568	868
	140		WBR	170	0	170	171	256	0	256	257	12	183	269
	140	PM Peak Hour: 4:30 PM-5:30 PM	NBL	199	0	199	199	229	0	229	229		199	229
	140	PM Peak Hour Used: 4:30 PM-5:30 PM	NBT	0	0	0	0	0	0	0	0		0	0
	140		NBR	348	0	348	360	544	0	544	556	10	370	566
	140		SBL	0	0	0	0	0	0	0	0		0	0
	140	PHF:	SBT	0	0	0	0	0	0	0	0		0	0

Project: Gaming Facility 0.02746 Alt A: 44 out, 92 in
Job #: AESX00000009 Use for Analysis 0.446417999 14.73179396 Use for Analysis Alt B: 55 out, 112 in
Subject ***PM Turning Movement Volumes***

N-S ID	Synchro ID	Intersection	Movement	2022 NCHRP 255-Base Unbalanced Future Baseline	Volume Balancing Adjustments	2022 NCHRP 255-Base Balanced Future Baseline	2022 No Build +Pipeline Balanced	2042 NCHRP 255-Base Unbalanced Future Baseline	Volume Balancing Adjustments	2042 NCHRP 255-Base Balanced Future Baseline	2042 No Build +Pipeline Balanced	Alternative Trips	2022 Build	2042 Build
	140	0.91	SBR	0	0	0	0	0	0	0	0		0	0
	140		**TEV**	**1896**	**0**	**1896**	**1925**	**2869**	**0**	**2869**	**2898**	**84**	**2009**	**2982**
15	150	IC24 SB Ramp Terminal	EBL	0	0	0	0	0	0	0	0		0	0
	150		EBT	479	0	479	479	714	0	714	714	21	500	735
	150	Count Date: 7/24/2019	EBR	142	0	142	142	127	0	127	127		142	127
	150		WBL	273	0	273	273	446	0	446	446	17	290	463
	150		WBT	478	0	478	478	670	0	670	670		478	670
	150		WBR	0	0	0	0	0	0	0	0		0	0
	150	PM Peak Hour: 4:30 PM-5:30 PM	NBL	0	0	0	0	0	0	0	0		0	0
	150	PM Peak Hour Used: 4:30 PM-5:30 PM	NBT	0	0	0	0	0	0	0	0		0	0
	150		NBR	0	0	0	0	0	0	0	0		0	0
	150		SBL	158	0	158	158	307	0	307	307	24	182	331
	150	PHF:	SBT	0	0	0	0	0	0	0	0		0	0
	150	0.96	SBR	312	0	312	312	313	0	313	313		312	313
	150		**TEV**	**1841**	**0**	**1841**	**1841**	**2577**	**0**	**2577**	**2577**	**62**	**1903**	**2639**

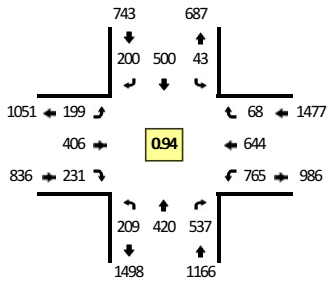
Type of peak hour being reported: Intersection Peak

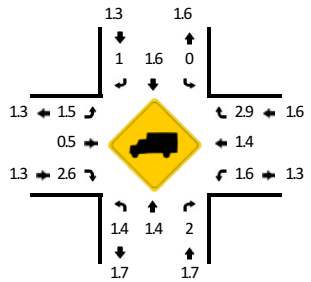
Method for determining peak hour: Total Entering Volume

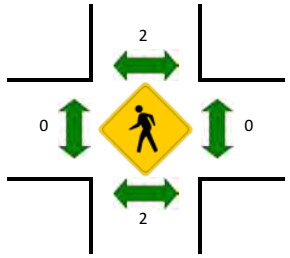
LOCATION: Highland Dr -- Barnett Rd
CITY/STATE: Medford, OR

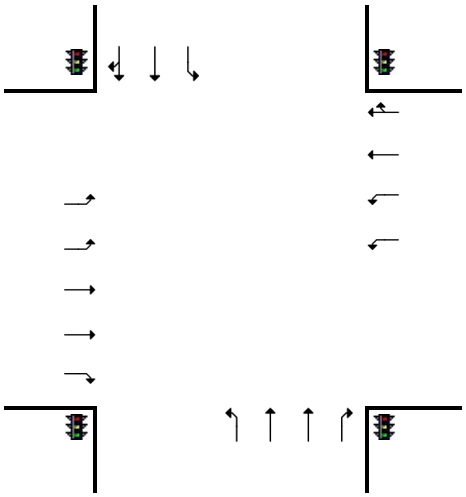
QC JOB #: 15028102
DATE: Wed, Jul 24 2019

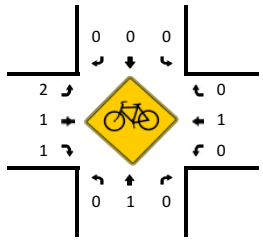
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

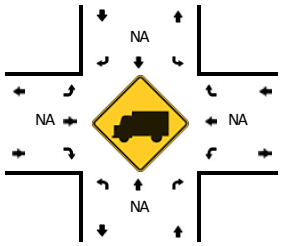


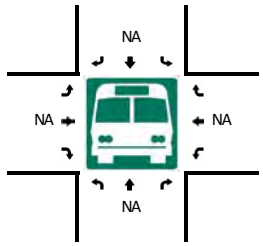












5-Min Count Period Beginning At	Highland Dr (Northbound)				Highland Dr (Southbound)				Barnett Rd (Eastbound)				Barnett Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:30 PM	12	27	41	0	4	20	5	0	7	35	26	0	61	45	4	0	287	
4:35 PM	12	41	38	0	3	36	13	0	20	30	23	0	59	54	4	1	334	
4:40 PM	20	41	48	0	6	32	12	0	14	35	18	1	48	52	1	0	328	
4:45 PM	13	30	60	0	2	26	12	0	16	25	22	0	75	49	11	0	341	
4:50 PM	19	51	45	0	1	34	14	0	13	41	14	0	61	54	5	0	352	
4:55 PM	14	34	34	0	5	54	19	0	17	34	13	0	54	43	4	0	325	
5:00 PM	16	32	51	0	7	37	14	0	18	25	15	0	72	49	3	0	339	
5:05 PM	14	25	53	0	3	41	13	0	22	31	31	0	64	51	3	0	351	
5:10 PM	10	36	42	0	3	39	10	0	15	49	26	0	81	57	10	0	378	
5:15 PM	9	30	53	0	1	50	21	0	21	32	9	0	78	62	7	0	373	
5:20 PM	24	40	50	0	5	63	17	0	17	28	19	0	57	47	6	0	373	
5:25 PM	18	38	43	2	2	54	17	0	21	34	21	0	48	57	4	0	359	4140
5:30 PM	23	33	31	0	7	26	20	0	13	31	27	0	53	55	7	0	326	4179
5:35 PM	29	30	29	0	2	30	17	0	16	37	20	0	60	62	4	0	336	4181
5:40 PM	18	41	46	0	5	46	26	0	10	39	14	0	62	58	4	0	369	4222
5:45 PM	23	33	41	0	1	39	26	0	9	24	24	0	56	26	5	0	307	4188
5:50 PM	9	27	44	0	8	44	16	0	14	36	16	0	43	24	2	0	283	4119
5:55 PM	14	29	46	0	3	20	14	0	14	32	17	0	51	29	1	1	271	4065
6:00 PM	4	18	43	0	2	37	8	0	17	33	14	0	35	26	3	0	240	3966
6:05 PM	17	32	37	1	1	28	7	0	17	20	17	0	35	28	3	0	243	3858
6:10 PM	10	33	48	1	2	42	9	0	14	11	15	0	40	19	6	0	250	3730
6:15 PM	5	19	50	0	2	30	10	0	8	30	19	0	30	27	2	0	232	3589
6:20 PM	6	28	39	0	2	21	10	0	11	44	9	0	28	37	6	0	241	3457
6:25 PM	11	31	42	0	0	29	6	0	7	25	15	0	31	28	1	0	226	3324
6:30 PM	16	25	41	0	2	29	11	0	12	24	19	0	30	32	4	0	245	3243
6:35 PM	16	22	41	0	8	30	11	0	7	24	15	0	47	33	3	0	257	3164
6:40 PM	12	15	26	0	0	24	14	0	12	19	14	0	37	27	4	0	204	2999
6:45 PM	18	23	31	0	4	29	10	0	23	23	13	0	34	23	10	0	241	2933
6:50 PM	32	22	26	1	5	18	10	0	9	18	26	1	32	17	3	0	220	2870
6:55 PM	10	12	21	0	1	24	13	0	21	33	20	0	40	38	0	0	233	2832
7:00 PM	13	29	24	0	4	23	9	0	19	23	19	0	28	14	1	0	206	2798
7:05 PM	11	21	28	2	2	21	14	0	9	17	17	1	28	29	5	0	205	2760
7:10 PM	7	16	29	0	2	12	5	0	9	28	16	1	30	27	3	0	185	2695
7:15 PM	12	29	15	0	0	20	9	0	10	21	10	0	38	24	2	0	190	2653
7:20 PM	8	16	24	0	1	23	5	0	13	10	15	0	40	30	1	0	186	2598
7:25 PM	8	20	30	2	4	28	11	0	7	20	13	0	28	23	2	0	196	2568

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	172	424	580	0	36	608	192	0	212	436	216	0	864	664	92	0	4496
Heavy Trucks	0	4	8		0	4	0		0	4	4		16	12	0		52
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		1	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 8/9/2019 8:17 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

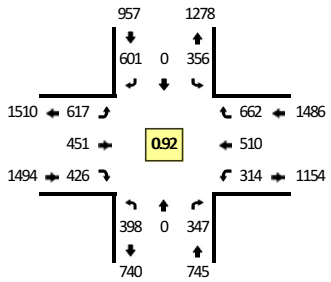
Type of peak hour being reported: Intersection Peak

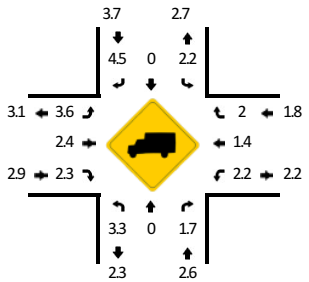
Method for determining peak hour: Total Entering Volume

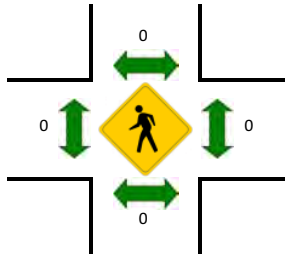
LOCATION: I-5 Exit 27 -- Garfield St/Highland Dr
CITY/STATE: Medford, OR

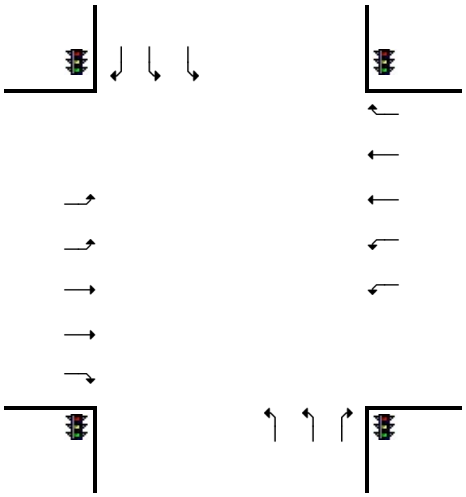
QC JOB #: 15028104
DATE: Wed, Jul 24 2019

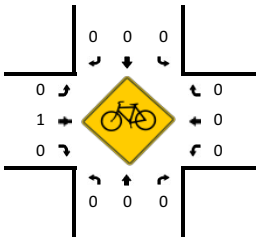
Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

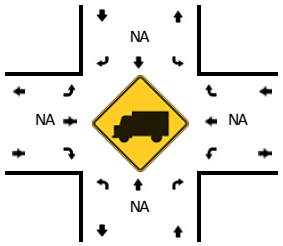


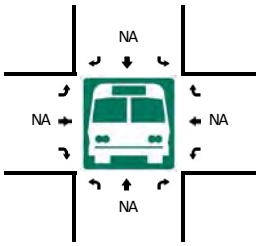












5-Min Count Period Beginning At	I-5 Exit 27 (Northbound)				I-5 Exit 27 (Southbound)				Garfield St/Highland Dr (Eastbound)				Garfield St/Highland Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:30 PM	29	0	24	0	23	0	57	0	45	35	35	0	20	37	63	0	368	
4:35 PM	33	0	29	0	26	0	55	0	63	34	24	0	18	34	62	0	378	
4:40 PM	34	0	29	0	29	0	47	0	49	42	25	1	18	34	55	0	363	
4:45 PM	35	0	30	1	32	0	51	0	46	41	39	0	19	50	55	0	399	
4:50 PM	41	0	37	0	34	0	43	0	37	35	33	0	16	48	55	0	379	
4:55 PM	35	0	26	0	30	0	56	0	45	30	36	1	22	37	52	0	370	
5:00 PM	30	0	28	0	31	0	54	0	37	30	40	0	23	39	49	0	361	
5:05 PM	25	0	27	0	30	0	38	0	51	43	39	0	20	43	61	0	377	
5:10 PM	26	0	30	0	31	0	52	0	75	34	40	0	51	44	62	0	445	
5:15 PM	44	0	31	0	39	0	41	1	38	35	36	0	23	49	54	0	391	
5:20 PM	27	0	27	0	24	0	59	0	65	44	39	0	49	47	49	1	431	
5:25 PM	38	0	30	0	33	0	55	0	59	39	36	0	29	42	49	0	410	4672
5:30 PM	29	0	23	0	16	0	50	0	50	44	39	0	25	43	59	0	378	4682
5:35 PM	34	0	20	0	32	0	54	0	33	30	29	0	21	51	45	0	349	4653
5:40 PM	30	0	27	0	42	0	53	0	41	41	34	0	22	55	42	0	387	4677
5:45 PM	37	0	23	0	32	0	59	0	57	31	29	1	42	22	42	0	375	4653
5:50 PM	26	0	19	0	26	0	51	0	26	39	34	0	23	55	35	0	334	4608
5:55 PM	29	0	16	0	32	0	41	0	40	38	22	0	19	43	42	0	322	4560
6:00 PM	14	0	14	0	29	0	37	1	42	23	33	0	20	22	33	1	269	4468
6:05 PM	23	0	26	0	29	0	51	0	41	34	27	0	17	30	31	0	309	4400
6:10 PM	17	0	21	0	31	0	43	0	26	38	28	0	22	36	34	0	296	4251
6:15 PM	28	0	16	0	27	0	35	0	30	25	35	0	18	35	32	0	281	4141
6:20 PM	17	0	20	0	22	0	55	0	35	35	22	0	13	32	13	0	264	3974
6:25 PM	18	0	14	0	27	0	32	0	24	32	29	0	11	39	32	0	258	3822
6:30 PM	26	0	16	0	42	0	33	0	25	36	18	0	17	38	23	0	274	3718
6:35 PM	15	0	22	0	29	0	38	0	27	24	23	0	26	35	37	0	276	3645
6:40 PM	21	0	12	1	27	0	36	1	25	24	23	0	15	35	29	0	249	3507
6:45 PM	11	0	19	0	30	0	30	0	27	19	29	1	13	34	17	0	230	3362
6:50 PM	13	0	20	0	28	0	36	0	17	20	23	0	16	33	37	0	243	3271
6:55 PM	7	0	10	0	17	0	31	0	22	29	28	0	8	38	36	0	226	3175
7:00 PM	20	0	15	0	13	0	22	0	30	30	21	0	16	29	25	0	221	3127
7:05 PM	7	0	11	0	15	0	28	0	29	28	22	0	15	29	29	0	213	3031
7:10 PM	16	0	15	0	16	0	32	0	23	25	23	0	16	22	18	0	206	2941
7:15 PM	16	0	9	0	11	0	23	0	36	28	18	1	13	29	30	0	214	2874
7:20 PM	15	0	11	0	11	0	22	0	30	34	23	0	14	27	31	0	218	2828
7:25 PM	19	0	11	0	14	0	28	0	26	29	16	0	14	29	27	0	213	2783

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	388	0	352	0	376	0	608	4	712	452	460	0	492	560	660	4	5068
Heavy Trucks	4	0	0		8	0	12		24	8	16		8	8	4		92
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	1	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 8/9/2019 8:21 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

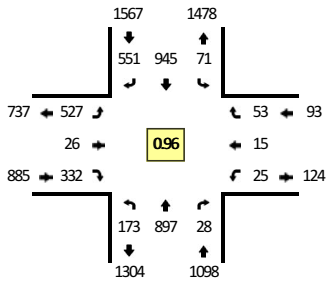
Type of peak hour being reported: Intersection Peak

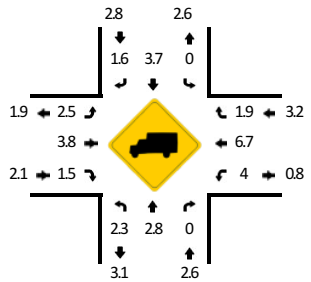
Method for determining peak hour: Total Entering Volume

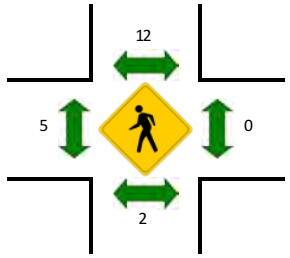
LOCATION: Garfield St -- Center Dr
CITY/STATE: Medford, OR

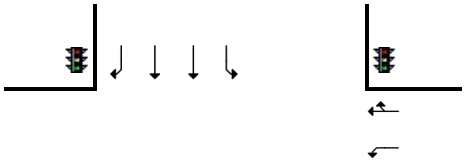
QC JOB #: 15028106
DATE: Wed, Jul 24 2019

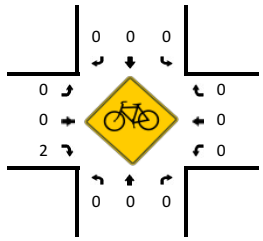
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

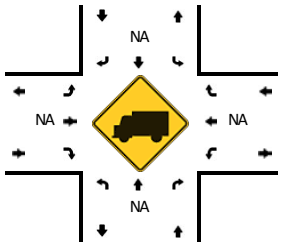


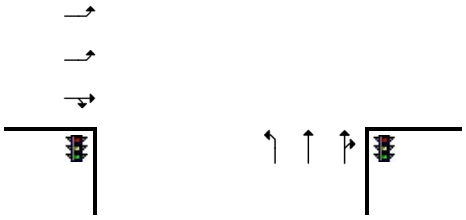


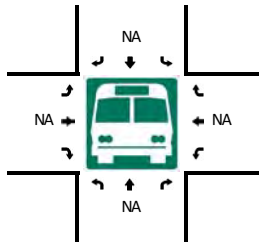












5-Min Count Period Beginning At	Garfield St (Northbound)				Garfield St (Southbound)				Center Dr (Eastbound)				Center Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:30 PM	7	83	1	0	4	68	46	0	43	1	26	0	1	0	2	0	282	
4:35 PM	19	70	0	0	3	78	44	1	49	1	21	0	3	2	2	0	293	
4:40 PM	15	60	3	0	7	51	49	1	53	0	18	0	2	1	2	0	262	
4:45 PM	18	79	1	0	3	81	54	0	48	3	20	0	0	0	3	0	310	
4:50 PM	18	70	2	0	5	78	47	0	34	5	30	0	1	0	4	0	294	
4:55 PM	14	55	2	1	9	84	56	0	40	1	28	0	3	0	0	0	293	
5:00 PM	17	60	1	1	11	56	44	1	42	2	35	0	1	4	8	0	283	
5:05 PM	10	105	1	0	5	54	40	0	55	0	21	0	4	0	2	0	297	
5:10 PM	22	93	5	0	4	84	47	0	34	0	30	0	3	2	5	0	329	
5:15 PM	14	85	0	0	4	84	40	0	31	2	37	0	3	1	2	0	303	
5:20 PM	12	84	4	0	8	59	38	0	50	4	28	0	2	3	7	0	299	
5:25 PM	13	82	1	0	5	105	52	0	52	4	25	0	2	2	2	0	345	3590
5:30 PM	14	60	1	0	5	74	38	0	48	2	29	0	2	2	11	0	286	3594
5:35 PM	13	70	4	0	8	102	52	0	29	0	23	0	0	1	2	0	304	3605
5:40 PM	6	54	6	0	3	84	43	0	64	3	26	0	4	0	7	0	300	3643
5:45 PM	22	63	2	0	5	71	38	0	27	3	26	0	1	3	3	0	264	3597
5:50 PM	13	36	1	0	4	68	39	0	47	3	26	0	2	3	8	0	250	3553
5:55 PM	16	65	4	0	9	73	50	0	42	1	18	0	5	0	8	0	291	3551
6:00 PM	7	63	0	0	4	45	39	2	30	1	26	0	2	1	7	0	227	3495
6:05 PM	15	46	6	0	5	63	33	1	47	3	26	0	3	0	6	0	254	3452
6:10 PM	10	42	4	0	5	53	37	0	40	3	26	0	2	1	4	0	227	3350
6:15 PM	15	54	3	0	5	61	41	0	30	2	24	0	2	0	6	0	243	3290
6:20 PM	11	37	1	0	5	49	40	0	50	2	15	0	3	1	5	0	219	3210
6:25 PM	7	55	2	0	4	54	30	1	30	1	24	0	3	1	0	0	212	3077
6:30 PM	14	40	5	0	9	42	38	0	26	1	27	0	2	4	4	0	212	3003
6:35 PM	13	45	6	0	4	59	30	0	34	4	15	0	3	1	5	0	219	2918
6:40 PM	8	31	1	0	5	68	33	0	29	3	18	0	1	3	6	0	206	2824
6:45 PM	10	40	2	0	8	42	21	1	28	1	27	0	0	3	5	0	188	2748
6:50 PM	14	25	1	0	6	44	27	0	25	3	24	0	1	3	4	0	177	2675
6:55 PM	15	54	0	1	6	55	27	0	37	3	19	0	1	3	5	0	226	2610
7:00 PM	8	38	1	0	3	44	23	0	30	7	18	0	1	1	11	0	185	2568
7:05 PM	8	46	3	0	4	33	31	1	24	3	11	0	4	0	5	0	173	2487
7:10 PM	8	36	3	0	2	42	27	0	39	3	23	0	2	1	3	0	189	2449
7:15 PM	4	46	4	0	5	39	24	0	33	0	17	0	5	1	4	0	182	2388
7:20 PM	13	40	4	0	2	28	35	1	32	0	17	0	3	2	6	0	183	2352
7:25 PM	3	36	0	0	4	41	25	2	21	0	17	0	3	1	7	0	160	2300

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	156	1004	20	0	68	992	520	0	532	40	360	0	28	24	44	0	3788
Heavy Trucks	4	36	0		0	24	8		8	4	0		0	0	0		84
Pedestrians		0				40				16				0			56
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 8/9/2019 8:21 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

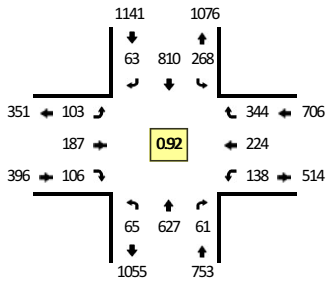
Type of peak hour being reported: Intersection Peak

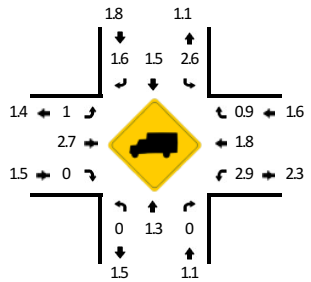
Method for determining peak hour: Total Entering Volume

LOCATION: Riverside Ave -- Barnett Rd
CITY/STATE: Medford, OR

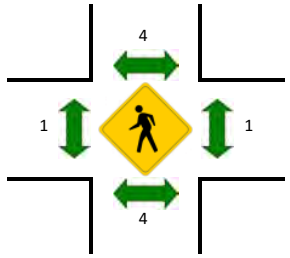
QC JOB #: 15028108
DATE: Wed, Jul 24 2019

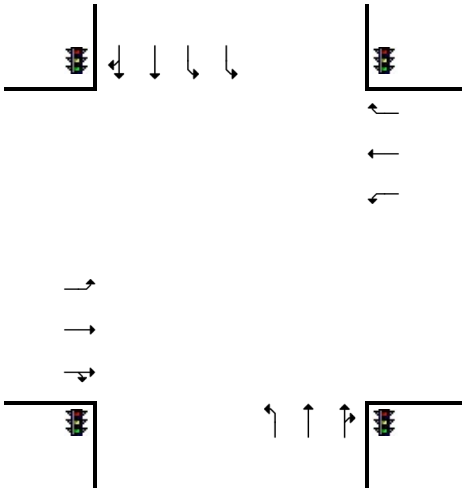
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

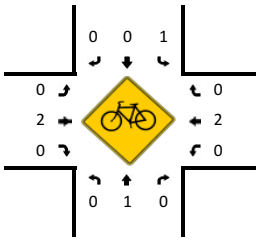


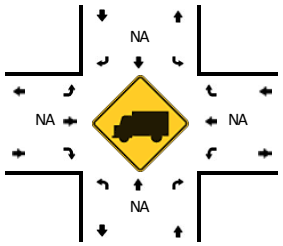


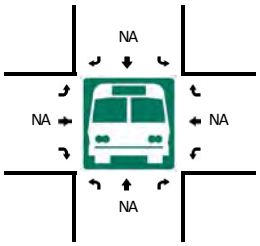
Quality Counts
DATA THAT DRIVES COMMUNITIES











5-Min Count Period Beginning At	Riverside Ave (Northbound)				Riverside Ave (Southbound)				Barnett Rd (Eastbound)				Barnett Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:30 PM	5	53	2	0	28	76	5	0	10	17	2	0	14	16	26	0	254	
4:35 PM	4	60	4	0	14	56	4	0	9	19	11	0	9	22	36	0	248	
4:40 PM	6	57	4	0	21	58	7	0	5	11	11	0	15	21	34	0	250	
4:45 PM	5	40	3	0	21	66	3	0	10	11	13	0	6	21	22	0	221	
4:50 PM	3	60	3	0	19	64	2	0	7	14	13	0	12	23	17	0	237	
4:55 PM	5	70	7	1	24	69	10	0	9	16	6	0	8	16	27	0	268	
5:00 PM	5	26	4	0	19	60	8	0	8	15	5	0	17	19	31	0	217	
5:05 PM	7	64	6	0	20	82	5	0	8	12	8	0	7	9	26	0	254	
5:10 PM	2	69	9	0	32	64	12	0	5	21	14	0	7	18	30	0	283	
5:15 PM	9	44	5	0	26	76	3	0	11	18	8	0	16	16	37	0	269	
5:20 PM	7	36	8	0	26	74	2	1	9	20	9	0	12	26	36	0	266	
5:25 PM	6	48	6	0	16	65	2	1	12	13	6	0	15	17	22	0	229	2996
5:30 PM	5	54	4	1	16	60	3	0	10	21	12	0	7	22	29	0	244	2986
5:35 PM	2	53	6	0	24	66	5	0	6	11	4	0	18	21	32	0	248	2986
5:40 PM	3	46	4	0	17	77	2	0	7	10	6	0	9	19	17	0	217	2953
5:45 PM	6	32	5	0	20	58	4	0	4	13	1	0	13	20	21	0	197	2929
5:50 PM	4	46	2	0	11	40	4	0	8	14	1	0	10	13	23	0	176	2868
5:55 PM	3	39	4	1	19	40	3	1	6	11	7	0	12	11	18	0	175	2775
6:00 PM	4	47	2	0	14	51	2	0	5	5	7	0	6	10	16	0	169	2727
6:05 PM	4	44	2	0	8	47	4	1	5	7	5	0	5	7	27	0	166	2639
6:10 PM	5	51	2	0	19	69	1	0	8	6	3	0	8	15	12	0	199	2555
6:15 PM	2	39	8	1	12	51	3	0	6	8	2	0	9	20	12	0	173	2459
6:20 PM	6	36	4	0	23	44	5	0	4	7	5	0	8	13	15	0	170	2363
6:25 PM	4	43	6	0	15	37	2	0	4	12	11	0	7	15	15	0	171	2305
6:30 PM	3	26	3	0	12	42	3	0	7	7	6	0	12	17	19	0	157	2218
6:35 PM	4	26	3	0	15	51	6	0	5	10	6	0	4	11	24	0	165	2135
6:40 PM	3	25	1	0	19	38	2	0	4	9	5	0	14	10	26	0	156	2074
6:45 PM	1	30	4	0	19	35	4	0	2	11	4	0	10	16	20	0	156	2033
6:50 PM	2	33	6	0	13	42	2	0	6	8	6	0	5	8	25	0	156	2013
6:55 PM	4	33	4	0	12	36	3	0	8	15	7	0	11	14	35	0	182	2020
7:00 PM	2	22	3	0	17	37	3	1	6	12	4	0	10	13	16	0	146	1997
7:05 PM	8	42	2	0	8	45	2	0	8	3	2	0	6	11	25	0	162	1993
7:10 PM	0	32	4	0	12	34	5	0	4	6	9	0	3	16	15	0	140	1934
7:15 PM	3	38	4	0	9	41	3	0	4	9	1	0	9	10	25	0	156	1917
7:20 PM	7	37	5	0	13	34	2	0	2	5	0	0	10	11	14	0	140	1887
7:25 PM	8	38	4	0	14	26	3	1	1	4	3	0	7	11	15	0	135	1851

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	72	596	88	0	336	856	68	4	100	236	124	0	140	240	412	0	3272
Heavy Trucks	0	0	0		12	4	4		4	8	0		4	4	0		40
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	1	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 8/9/2019 8:22 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

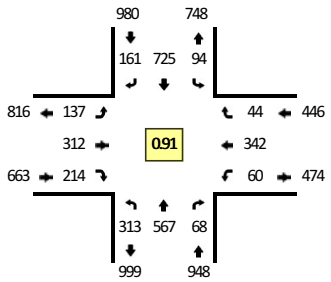
Type of peak hour being reported: Intersection Peak

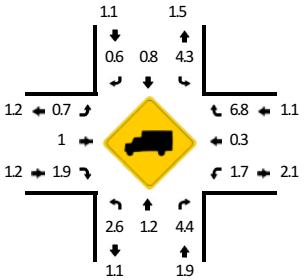
Method for determining peak hour: Total Entering Volume

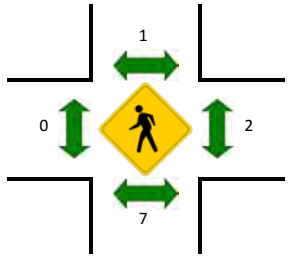
LOCATION: Riverside Ave/S Pacific Hwy -- Stewart Ave
CITY/STATE: Medford, OR

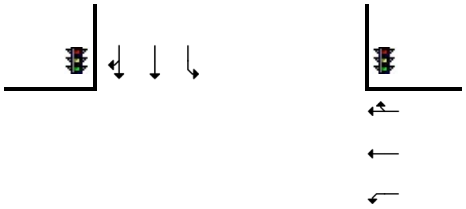
QC JOB #: 15028110
DATE: Wed, Jul 24 2019

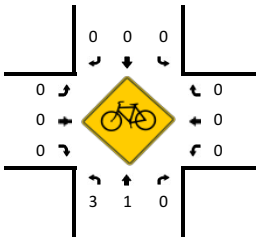
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

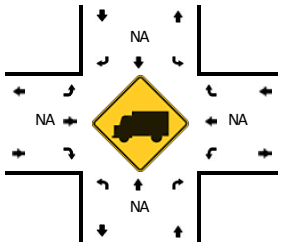


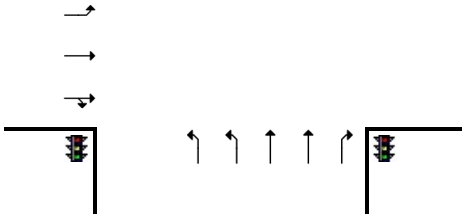


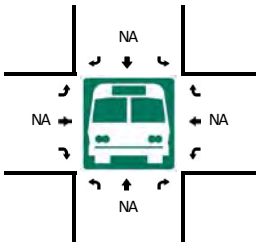












5-Min Count Period Beginning At	Riverside Ave/S Pacific Hwy (Northbound)				Riverside Ave/S Pacific Hwy (Southbound)				Stewart Ave (Eastbound)				Stewart Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:30 PM	36	44	4	0	13	58	9	0	12	26	11	0	7	26	5	0	251	
4:35 PM	27	45	3	0	6	49	14	0	22	22	15	0	2	26	2	0	233	
4:40 PM	23	52	4	0	7	52	16	0	10	16	14	0	2	27	6	0	229	
4:45 PM	20	45	8	0	8	73	8	0	9	22	15	0	5	21	1	0	235	
4:50 PM	27	60	5	0	8	71	14	0	12	32	8	0	3	37	7	0	284	
4:55 PM	26	62	1	0	7	54	13	0	15	18	19	0	3	20	2	0	240	
5:00 PM	28	33	8	0	3	59	7	0	15	25	13	0	5	24	5	0	225	
5:05 PM	30	54	8	0	5	62	15	0	18	16	21	0	6	29	2	0	266	
5:10 PM	32	55	7	0	8	62	9	0	9	17	25	0	5	41	5	0	275	
5:15 PM	37	47	5	0	9	60	18	0	14	29	25	0	6	26	3	0	279	
5:20 PM	25	57	9	0	14	70	21	0	6	30	13	0	9	22	3	0	279	
5:25 PM	13	22	7	0	5	45	12	0	4	43	28	0	3	37	8	0	227	3023
5:30 PM	20	45	5	0	5	60	11	0	8	35	15	0	5	37	3	0	249	3021
5:35 PM	35	50	3	0	10	48	16	0	12	20	14	0	5	25	1	0	239	3027
5:40 PM	20	37	2	0	12	61	17	0	15	25	18	0	5	23	4	0	239	3037
5:45 PM	15	34	4	0	7	57	19	0	10	24	18	0	6	29	3	0	226	3028
5:50 PM	38	24	5	0	9	26	8	0	18	23	17	0	5	18	5	0	196	2940
5:55 PM	16	40	7	0	4	48	17	0	8	19	15	0	8	22	1	0	205	2905
6:00 PM	18	23	2	0	3	25	12	0	13	19	11	0	4	26	8	0	164	2844
6:05 PM	36	54	5	0	8	38	9	0	13	16	14	0	2	15	3	0	213	2791
6:10 PM	19	47	3	0	9	59	13	0	15	20	16	0	9	21	1	0	232	2748
6:15 PM	19	26	6	0	5	30	13	0	15	25	24	0	2	22	3	1	191	2660
6:20 PM	16	30	2	0	13	37	7	0	9	13	12	0	3	14	6	0	162	2543
6:25 PM	12	36	6	0	8	43	11	0	10	18	15	0	2	16	5	0	182	2498
6:30 PM	20	33	1	0	5	37	10	0	4	15	8	0	1	15	1	0	150	2399
6:35 PM	14	23	2	0	6	33	12	0	14	14	18	0	4	13	2	0	155	2315
6:40 PM	15	14	6	0	5	42	3	0	4	15	19	0	5	25	4	0	157	2233
6:45 PM	29	28	1	1	5	33	11	0	8	17	13	0	3	18	5	0	172	2179
6:50 PM	12	21	2	1	7	36	4	0	12	27	18	0	4	15	1	0	160	2143
6:55 PM	20	21	3	0	8	31	14	0	11	11	13	0	4	25	6	0	167	2105
7:00 PM	9	26	3	0	6	30	13	0	14	17	6	0	7	13	0	0	144	2085
7:05 PM	18	30	2	0	13	21	7	0	4	15	5	0	6	20	4	0	145	2017
7:10 PM	17	21	4	0	5	44	4	0	7	19	12	0	3	11	3	0	150	1935
7:15 PM	21	37	3	0	5	33	12	0	3	18	7	0	3	21	3	0	166	1910
7:20 PM	12	23	3	0	4	29	4	0	14	10	10	0	3	18	4	0	134	1882
7:25 PM	11	29	5	0	4	26	8	0	13	8	5	0	0	13	2	0	124	1824

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	376	636	84	0	124	768	192	0	116	304	252	0	80	356	44	0	3332
Heavy Trucks	12	4	0		4	0	0		0	4	0		0	0	0		24
Pedestrians		16				0				0				0			16
Bicycles	2	0	0		0	0	0		0	0	0		0	0	0		2
Railroad																	
Stopped Buses																	

Comments:

Report generated on 8/9/2019 8:22 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

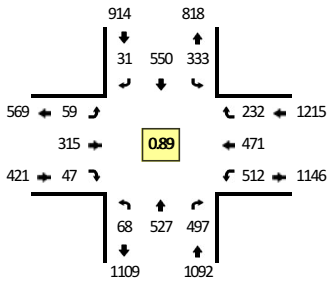
Type of peak hour being reported: Intersection Peak

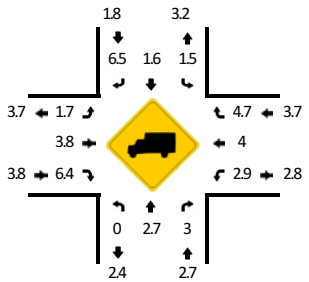
Method for determining peak hour: Total Entering Volume

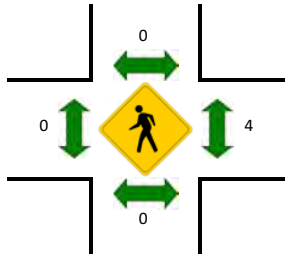
LOCATION: S Pacific Hwy -- Garfield St
CITY/STATE: Medford, OR

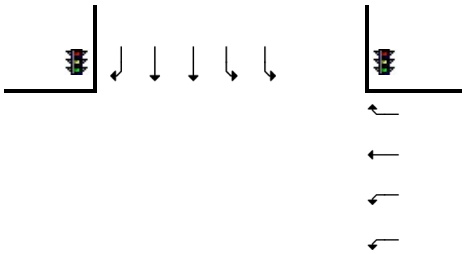
QC JOB #: 15028112
DATE: Wed, Jul 24 2019

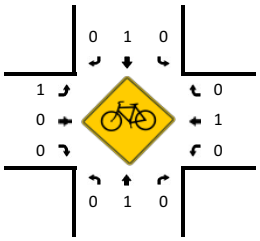
Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

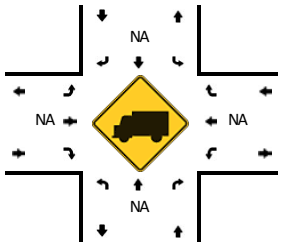


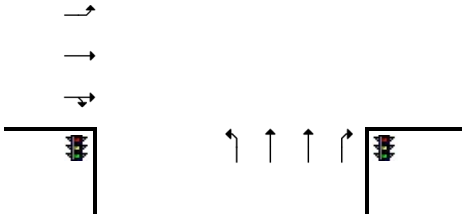


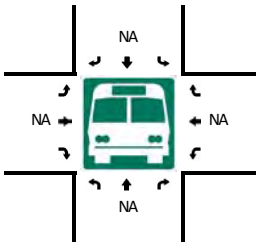












5-Min Count Period Beginning At	S Pacific Hwy (Northbound)				S Pacific Hwy (Southbound)				Garfield St (Eastbound)				Garfield St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:30 PM	1	38	32	0	25	46	1	0	4	26	4	0	42	31	17	0	267	
4:35 PM	8	44	48	0	21	28	3	0	3	32	4	0	42	49	19	0	301	
4:40 PM	7	49	30	0	24	50	2	0	4	23	6	0	27	27	21	0	270	
4:45 PM	3	44	44	0	22	37	4	0	6	27	5	0	51	36	11	0	290	
4:50 PM	0	60	34	0	29	52	4	0	4	31	6	0	30	28	18	0	296	
4:55 PM	11	28	18	0	28	34	3	0	2	19	5	0	56	44	32	0	280	
5:00 PM	5	40	51	0	29	26	3	0	6	21	3	0	41	35	15	0	275	
5:05 PM	7	49	52	0	28	55	3	0	5	34	2	0	34	36	23	0	328	
5:10 PM	7	58	53	0	35	65	2	0	6	26	3	0	34	45	16	1	351	
5:15 PM	6	44	46	0	34	38	1	0	5	23	5	0	58	53	25	0	338	
5:20 PM	5	41	47	1	43	62	2	0	7	32	4	0	45	31	17	0	337	
5:25 PM	5	32	31	0	16	50	2	0	7	25	2	0	68	42	18	0	298	3631
5:30 PM	3	38	43	0	24	53	2	0	4	22	2	0	25	45	17	0	278	3642
5:35 PM	6	29	28	0	16	43	5	0	3	21	7	0	62	50	20	0	290	3631
5:40 PM	6	38	32	0	25	41	2	0	1	20	5	0	45	43	15	0	273	3634
5:45 PM	8	31	33	0	24	41	5	0	2	23	5	1	53	32	24	0	282	3626
5:50 PM	2	33	24	0	13	36	3	0	2	22	7	0	66	40	16	0	264	3594
5:55 PM	1	39	34	0	29	42	2	0	1	15	2	0	36	25	18	0	244	3558
6:00 PM	1	36	35	0	12	30	3	0	5	16	3	0	43	19	17	0	220	3503
6:05 PM	7	52	28	0	22	28	2	0	6	23	3	0	32	32	21	0	256	3431
6:10 PM	5	50	16	0	22	40	4	0	4	15	9	0	40	28	12	0	245	3325
6:15 PM	3	22	29	0	22	40	1	0	4	15	4	0	39	37	14	0	230	3217
6:20 PM	2	32	21	0	19	32	6	0	6	11	4	0	30	31	9	0	203	3083
6:25 PM	6	35	36	0	11	25	2	0	5	16	1	0	40	25	10	0	212	2997
6:30 PM	4	17	18	0	16	24	1	0	2	23	4	0	45	28	14	0	196	2915
6:35 PM	1	18	21	0	22	34	1	1	8	13	3	0	30	28	12	0	192	2817
6:40 PM	5	14	17	0	21	37	4	0	4	11	3	0	41	28	12	0	197	2741
6:45 PM	3	31	19	0	19	21	2	1	3	8	8	0	41	25	6	0	187	2646
6:50 PM	3	20	26	0	15	39	4	0	4	14	5	0	46	22	11	2	211	2593
6:55 PM	5	23	20	1	14	22	3	0	5	20	3	0	35	22	10	0	183	2532
7:00 PM	0	18	17	0	12	25	1	0	4	13	4	0	40	18	12	0	164	2476
7:05 PM	1	29	35	0	12	22	4	0	2	7	2	0	25	17	9	0	165	2385
7:10 PM	4	28	20	0	14	35	3	0	2	17	2	0	29	16	11	0	181	2321
7:15 PM	2	32	29	0	14	22	3	0	4	7	2	0	29	18	15	0	177	2268
7:20 PM	7	21	30	0	16	27	2	0	5	17	3	0	24	16	9	0	177	2242
7:25 PM	3	23	36	0	5	11	1	0	1	11	6	0	30	16	12	0	155	2185

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	72	572	584	4	448	660	20	0	72	324	48	0	548	516	232	4	4104
Heavy Trucks	0	16	20		4	0	0		0	12	8		8	16	8		92
Pedestrians		0				0				0				8			8
Bicycles	0	1	0		0	0	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 8/9/2019 8:23 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

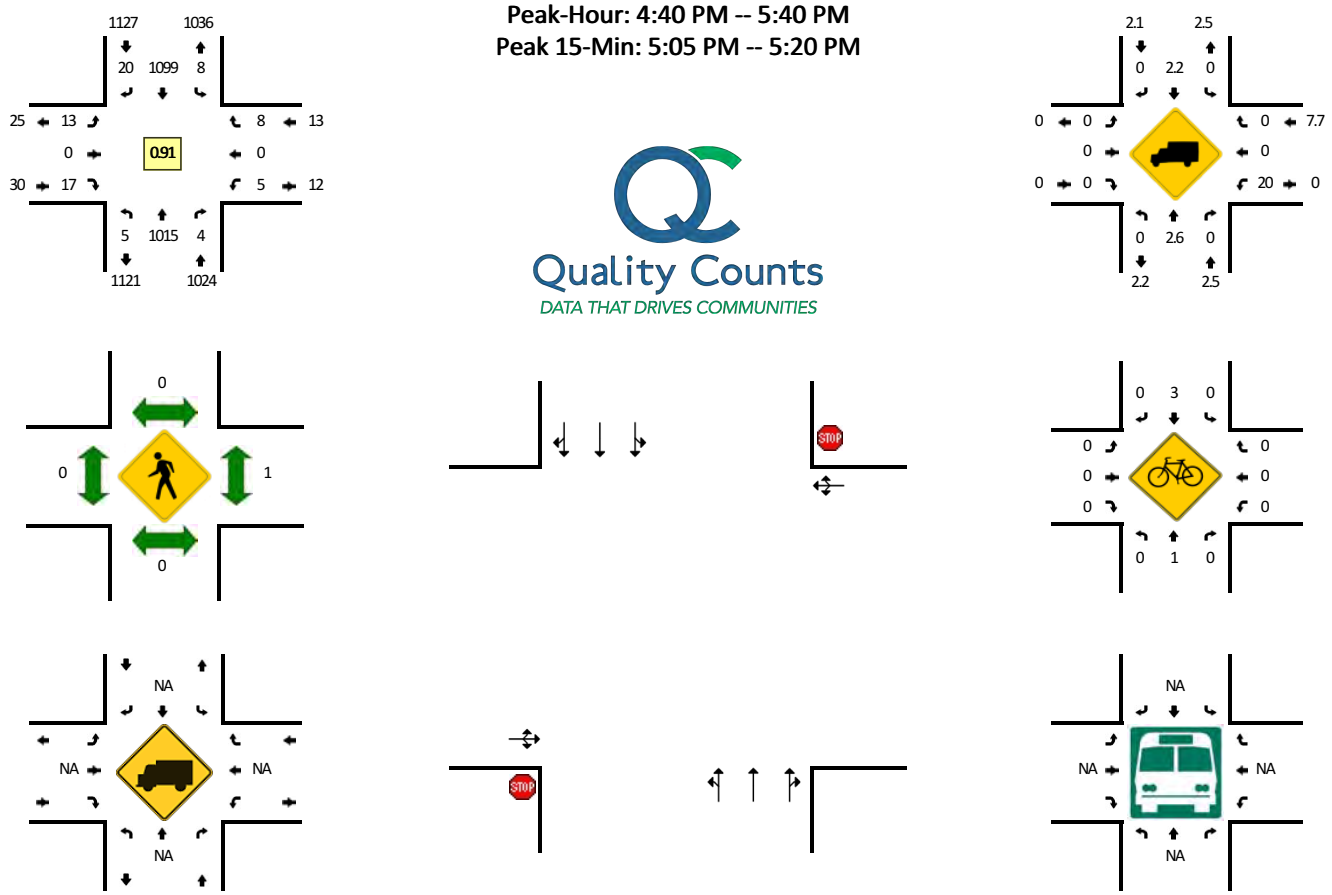
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: S Pacific Hwy -- Charlotte Ann Rd
CITY/STATE: Medford, OR

QC JOB #: 15028114
DATE: Wed, Jul 24 2019

Peak-Hour: 4:40 PM -- 5:40 PM
Peak 15-Min: 5:05 PM -- 5:20 PM



5-Min Count Period Beginning At	S Pacific Hwy (Northbound)				S Pacific Hwy (Southbound)				Charlotte Ann Rd (Eastbound)				Charlotte Ann Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:30 PM	0	70	0	0	0	92	1	0	2	0	0	0	0	0	0	0	165	
4:35 PM	0	96	0	0	0	74	2	0	0	0	2	0	0	0	1	0	175	
4:40 PM	0	84	0	0	1	84	1	0	0	0	1	0	0	0	0	0	171	
4:45 PM	0	96	1	0	1	77	1	0	0	0	0	0	1	0	0	0	177	
4:50 PM	0	81	3	0	0	96	1	0	2	0	1	0	1	0	1	0	186	
4:55 PM	1	57	0	0	1	96	2	0	1	0	1	0	1	0	3	0	163	
5:00 PM	0	90	0	0	0	65	0	0	0	0	0	0	0	0	0	0	155	
5:05 PM	1	102	0	0	1	90	4	0	4	0	1	0	0	0	2	0	205	
5:10 PM	0	100	0	0	1	88	1	0	1	0	2	0	1	0	0	0	194	
5:15 PM	1	107	0	0	0	92	4	0	0	0	2	0	0	0	0	0	206	
5:20 PM	0	87	0	0	1	106	1	0	2	0	2	0	0	0	1	0	200	
5:25 PM	1	65	0	0	0	107	1	0	1	0	2	0	0	0	0	0	177	2174
5:30 PM	1	76	0	0	2	74	2	0	1	0	2	0	1	0	0	0	159	2168
5:35 PM	0	70	0	0	0	124	2	0	1	0	3	0	0	0	1	0	201	2194
5:40 PM	1	75	0	0	0	79	1	0	0	0	1	0	0	0	1	0	158	2181
5:45 PM	0	69	0	0	3	106	0	0	1	0	1	0	0	0	0	0	180	2184
5:50 PM	0	53	1	0	1	103	0	0	0	0	0	0	1	0	0	0	159	2157
5:55 PM	1	61	0	0	1	82	1	0	0	0	2	0	0	0	1	0	149	2143
6:00 PM	0	79	0	0	2	66	2	0	0	0	0	0	0	0	1	0	150	2138
6:05 PM	1	81	0	0	0	69	1	0	0	0	1	0	0	0	0	0	153	2086
6:10 PM	0	57	0	0	1	80	2	0	1	0	2	0	0	0	4	0	147	2039
6:15 PM	1	57	0	0	4	82	0	0	1	0	2	0	0	0	1	0	148	1981
6:20 PM	0	51	0	0	0	60	1	0	0	0	1	0	0	0	2	0	115	1896
6:25 PM	0	73	0	0	0	65	2	0	1	0	0	0	0	0	0	0	141	1860
6:30 PM	0	37	0	0	0	78	0	0	0	0	1	0	0	0	1	0	117	1818
6:35 PM	0	39	0	0	2	63	0	0	0	0	0	0	0	0	0	0	104	1721
6:40 PM	1	45	0	0	0	70	1	0	0	0	1	0	0	0	0	0	118	1681
6:45 PM	0	41	0	0	0	78	0	0	0	0	1	0	0	0	0	0	120	1621
6:50 PM	0	51	1	0	0	85	0	0	0	0	0	0	0	0	0	0	137	1599
6:55 PM	0	52	0	0	0	66	1	0	0	0	0	0	0	0	0	0	119	1569
7:00 PM	0	41	0	0	1	70	0	0	0	0	0	0	0	0	2	0	114	1533
7:05 PM	0	64	0	0	0	42	2	0	0	0	1	0	0	0	0	0	109	1489
7:10 PM	0	46	0	0	1	58	3	0	0	0	2	0	0	0	0	0	110	1452
7:15 PM	0	59	0	0	2	57	3	0	0	0	3	0	0	0	1	0	125	1429
7:20 PM	0	64	0	0	1	42	0	0	0	0	1	0	0	0	0	0	108	1422
7:25 PM	2	67	0	0	0	50	0	0	1	0	2	0	0	0	0	0	122	1403

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	8	1236	0	0	8	1080	36	0	20	0	20	0	4	0	8	0	2420
Heavy Trucks	0	28	0		0	24	0		0	0	0		4	0	0		56
Pedestrians		0				0				0				4			4
Bicycles	0	1	0		0	0	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 8/9/2019 8:23 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

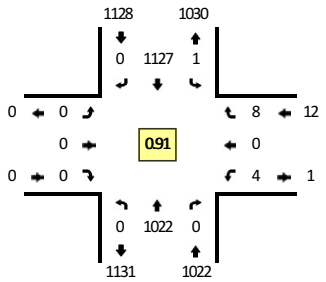
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

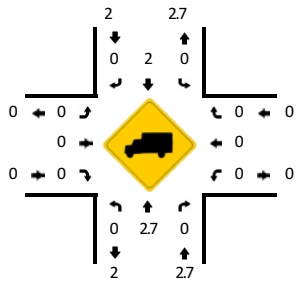
LOCATION: S Pacific Hwy -- Human Bean Dwy
CITY/STATE: Medford, OR

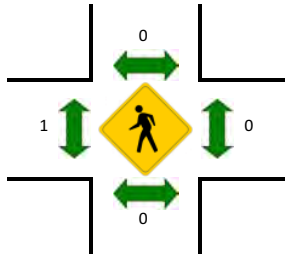
QC JOB #: 15028116
DATE: Wed, Jul 24 2019

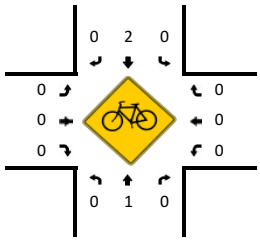
Peak-Hour: 4:40 PM -- 5:40 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

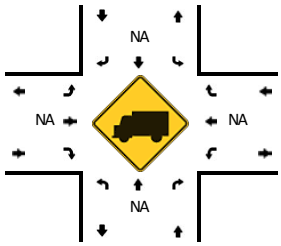


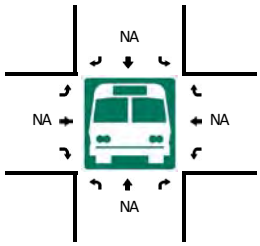
Quality Counts
DATA THAT DRIVES COMMUNITIES











5-Min Count Period Beginning At	S Pacific Hwy (Northbound)				S Pacific Hwy (Southbound)				Human Bean Dwy (Eastbound)				Human Bean Dwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:30 PM	0	71	0	0	0	91	0	0	0	0	0	0	0	0	0	0	162	
4:35 PM	0	97	0	0	0	78	0	0	0	0	0	0	0	0	1	0	176	
4:40 PM	0	82	0	0	0	85	0	0	0	0	0	0	0	0	0	0	167	
4:45 PM	0	96	0	0	0	78	0	0	0	0	0	0	1	0	0	0	175	
4:50 PM	0	83	0	0	1	97	0	0	0	0	0	0	1	0	1	0	183	
4:55 PM	0	58	0	0	0	98	0	0	0	0	0	0	1	0	3	0	160	
5:00 PM	0	91	0	0	0	65	0	0	0	0	0	0	0	0	0	0	156	
5:05 PM	0	102	0	0	0	91	0	0	0	0	0	0	0	0	2	0	195	
5:10 PM	0	101	0	0	0	86	0	0	0	0	0	0	1	0	0	0	188	
5:15 PM	0	106	0	0	0	98	0	0	0	0	0	0	0	0	0	0	204	
5:20 PM	0	91	0	0	0	112	0	0	0	0	0	0	0	0	1	0	204	
5:25 PM	0	67	0	0	0	111	0	0	0	0	0	0	0	0	0	0	178	2148
5:30 PM	0	78	0	0	0	74	0	0	0	0	0	0	0	0	0	0	152	2138
5:35 PM	0	67	0	0	0	132	0	0	0	0	0	0	0	0	1	0	200	2162
5:40 PM	0	75	0	0	0	79	0	0	0	0	0	0	0	0	0	0	154	2149
5:45 PM	0	70	0	0	0	106	0	0	0	0	0	0	0	0	0	0	176	2150
5:50 PM	0	56	0	0	0	100	0	0	0	0	0	0	0	0	0	0	156	2123
5:55 PM	0	63	0	0	0	86	0	0	0	0	0	0	0	0	0	0	149	2112
6:00 PM	0	80	0	0	0	66	0	0	0	0	0	0	1	0	0	0	147	2103
6:05 PM	0	81	0	0	0	67	0	0	0	0	0	0	0	0	1	0	149	2057
6:10 PM	0	58	0	0	0	84	0	0	0	0	0	0	1	0	1	0	144	2013
6:15 PM	0	58	0	0	0	82	0	0	0	0	0	0	0	0	0	0	140	1949
6:20 PM	0	52	0	0	0	61	0	0	0	0	0	0	0	0	0	0	113	1858
6:25 PM	0	72	0	0	0	64	0	0	0	0	0	0	0	0	1	0	137	1817
6:30 PM	0	38	0	0	0	79	0	0	0	0	0	0	0	0	1	0	118	1783
6:35 PM	0	39	0	0	0	64	0	0	0	0	0	0	1	0	0	0	104	1687
6:40 PM	0	46	0	0	0	69	0	0	0	0	0	0	0	0	0	0	115	1648
6:45 PM	0	44	0	0	1	78	0	0	0	0	0	0	0	0	0	0	123	1595
6:50 PM	0	52	0	0	0	87	0	0	0	0	0	0	0	0	0	0	139	1578
6:55 PM	0	52	0	0	1	65	0	0	0	0	0	0	0	0	0	0	118	1547
7:00 PM	0	41	0	0	0	68	0	0	0	0	0	0	0	0	0	0	109	1509
7:05 PM	0	64	0	0	0	45	0	0	0	0	0	0	0	0	2	0	111	1471
7:10 PM	0	47	0	0	0	59	0	0	0	0	0	0	0	0	1	0	107	1434
7:15 PM	0	59	0	0	0	58	0	0	0	0	0	0	0	0	0	0	117	1411
7:20 PM	0	63	0	0	0	43	0	0	0	0	0	0	0	0	1	0	107	1405
7:25 PM	0	69	0	0	0	54	0	0	0	0	0	0	0	0	0	0	123	1391

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	1192	0	0	0	1184	0	0	0	0	0	0	4	0	4	0	2384
Heavy Trucks	0	40	0		0	20	0		0	0	0		0	0	0		60
Pedestrians		0				0				0				0			0
Bicycles	0	1	0		0	0	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 8/9/2019 8:23 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

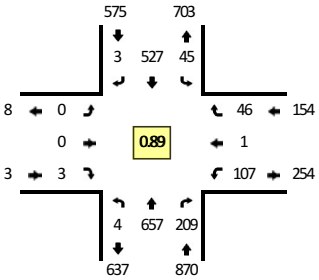
Type of peak hour being reported: Intersection Peak

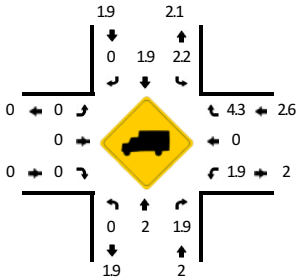
Method for determining peak hour: Total Entering Volume

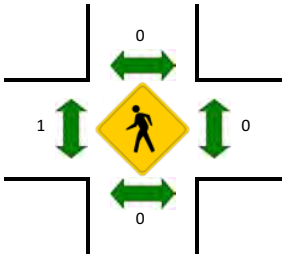
LOCATION: N Phoenix Rd -- Cherry Ln
CITY/STATE: Medford, OR

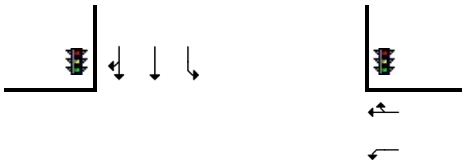
QC JOB #: 15028118
DATE: Wed, Jul 24 2019

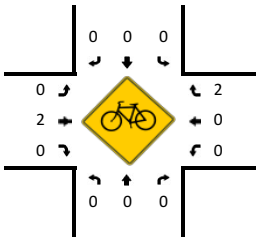
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

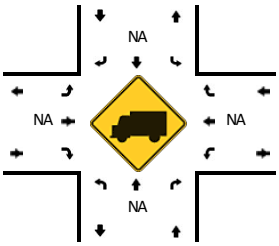


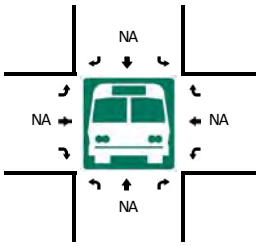












5-Min Count Period Beginning At	N Phoenix Rd (Northbound)				N Phoenix Rd (Southbound)				Cherry Ln (Eastbound)				Cherry Ln (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:30 PM	0	45	22	0	2	43	0	0	0	0	0	0	12	0	3	0	127	
4:35 PM	1	51	17	0	5	36	0	0	0	0	0	0	12	0	2	0	124	
4:40 PM	0	44	14	0	2	28	0	0	0	0	0	0	18	0	5	0	111	
4:45 PM	1	63	15	0	2	44	1	0	0	0	0	0	7	0	5	0	138	
4:50 PM	0	59	16	0	3	46	0	0	0	0	1	0	16	0	2	0	143	
4:55 PM	1	47	11	0	6	44	0	0	0	0	0	0	10	0	6	0	125	
5:00 PM	0	41	16	0	3	53	1	0	0	0	1	0	6	1	1	0	123	
5:05 PM	0	68	13	0	1	33	0	0	0	0	0	0	10	0	2	0	127	
5:10 PM	0	69	21	0	4	51	0	0	0	0	0	0	11	0	7	0	163	
5:15 PM	0	49	25	0	4	39	1	0	0	0	0	0	10	0	3	0	131	
5:20 PM	0	64	15	0	4	64	0	0	0	0	0	0	7	0	3	0	157	
5:25 PM	0	53	19	0	5	35	0	0	0	0	0	0	6	0	8	0	126	1595
5:30 PM	1	49	23	0	6	39	0	0	0	0	1	0	9	0	0	0	128	1596
5:35 PM	0	40	12	0	5	43	0	0	0	0	0	0	11	0	4	0	115	1587
5:40 PM	1	55	23	0	2	36	0	0	0	0	0	0	4	0	5	0	126	1602
5:45 PM	0	47	16	0	1	29	0	0	0	0	1	0	8	0	2	0	104	1568
5:50 PM	0	40	15	0	3	43	0	0	0	0	0	0	12	0	3	0	116	1541
5:55 PM	1	40	18	0	2	34	0	0	0	0	2	0	6	1	3	0	107	1523
6:00 PM	1	43	17	0	3	31	0	0	0	0	1	0	8	0	4	0	108	1508
6:05 PM	1	31	15	0	2	29	0	0	0	0	0	0	8	0	1	0	87	1468
6:10 PM	1	27	8	0	2	35	0	0	0	0	1	0	8	0	0	0	82	1387
6:15 PM	1	33	10	0	1	34	0	0	0	0	0	0	5	0	2	0	86	1342
6:20 PM	1	20	10	0	5	24	0	0	0	0	0	0	13	0	2	0	75	1260
6:25 PM	0	28	16	0	6	26	0	0	0	0	0	0	10	0	1	0	87	1221
6:30 PM	0	32	7	0	4	23	1	0	0	0	0	0	9	0	2	0	78	1171
6:35 PM	0	31	12	0	2	27	0	0	0	0	0	0	14	0	2	0	88	1144
6:40 PM	0	19	15	0	2	24	0	0	0	0	0	0	12	0	1	0	73	1091
6:45 PM	0	27	6	0	2	25	0	0	0	0	0	0	13	0	3	0	76	1063
6:50 PM	1	20	8	0	0	17	1	0	1	0	1	0	8	0	2	0	59	1006
6:55 PM	0	24	15	0	3	19	0	0	0	0	0	0	9	0	3	0	73	972
7:00 PM	0	28	12	0	3	19	0	0	0	0	0	0	4	0	1	0	67	931
7:05 PM	1	28	11	0	3	17	0	0	0	0	0	0	6	0	7	0	73	917
7:10 PM	0	20	8	0	2	24	0	0	0	0	0	0	3	0	0	0	57	892
7:15 PM	0	24	9	0	2	10	0	0	0	0	0	0	8	0	3	0	56	862
7:20 PM	0	19	7	0	2	20	0	0	0	0	0	0	4	0	3	0	55	842
7:25 PM	0	19	11	0	4	26	0	0	0	0	0	0	4	0	2	0	66	821

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	728	244	0	48	616	4	0	0	0	0	0	112	0	52	0	1804
Heavy Trucks	0	12	4		0	16	0		0	0	0		0	0	0		32
Pedestrians		0				0				4				0			4
Bicycles	0	0	0		0	0	0		0	2	0		0	0	0		2
Railroad																	
Stopped Buses																	

Comments:

Report generated on 8/9/2019 8:24 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

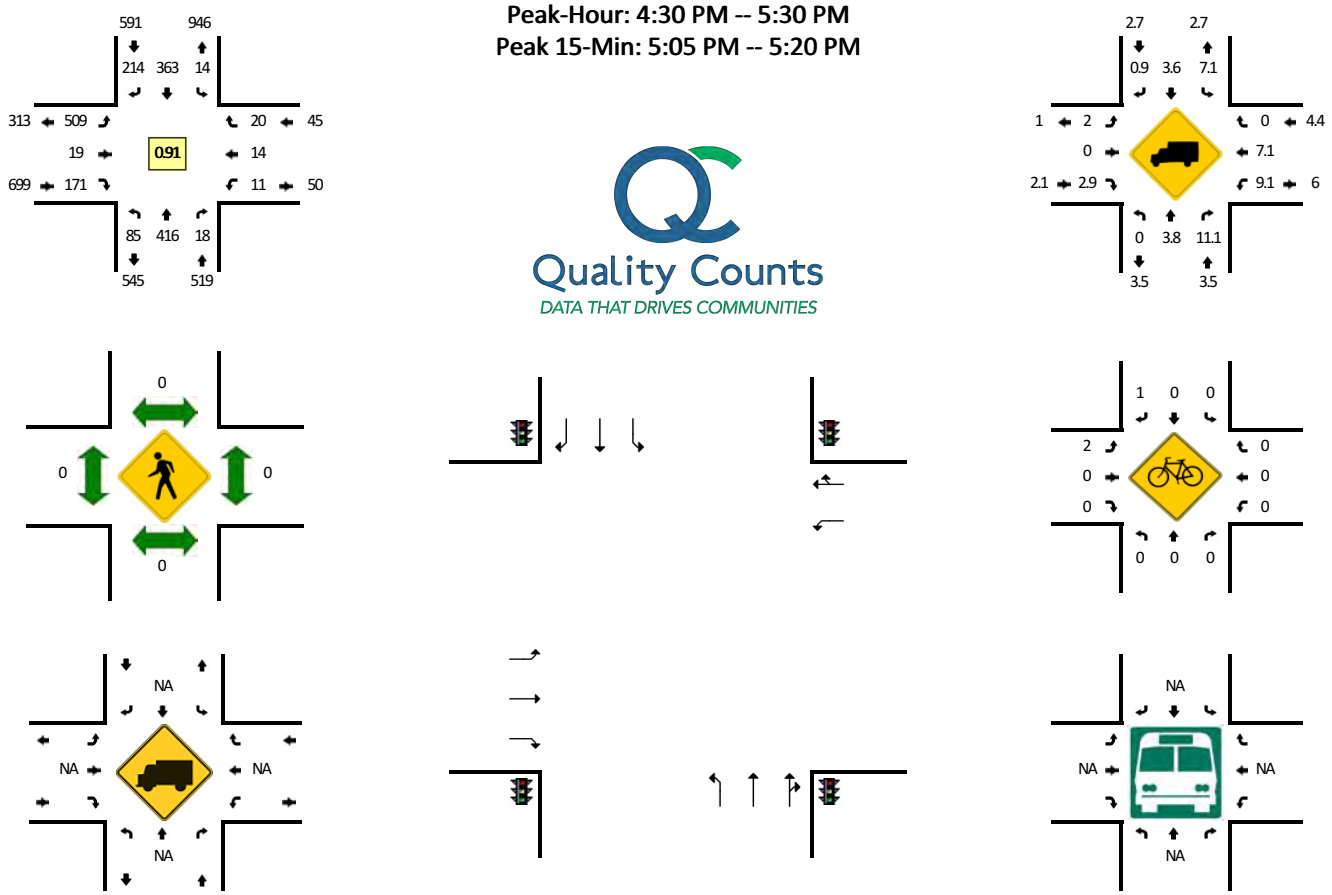
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: N Phoenix Rd -- Barnett Rd
CITY/STATE: Medford, OR

QC JOB #: 15028120
DATE: Wed, Jul 24 2019

Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:05 PM -- 5:20 PM



5-Min Count Period Beginning At	N Phoenix Rd (Northbound)				N Phoenix Rd (Southbound)				Barnett Rd (Eastbound)				Barnett Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:30 PM	10	30	2	0	2	29	19	0	44	0	16	0	0	1	1	0	154	
4:35 PM	4	29	4	0	1	25	18	0	47	4	15	0	0	0	2	0	149	
4:40 PM	8	24	4	0	1	25	25	0	39	1	12	0	1	2	0	0	142	
4:45 PM	7	35	1	0	1	31	16	0	37	2	16	0	1	1	2	0	150	
4:50 PM	5	42	1	0	0	37	22	0	37	2	11	0	3	1	1	0	162	
4:55 PM	6	33	2	0	2	26	18	0	24	0	11	0	1	4	3	0	130	
5:00 PM	10	26	0	0	2	41	16	1	42	0	11	0	0	0	0	0	149	
5:05 PM	6	42	1	0	0	30	17	0	51	3	21	0	1	1	3	0	176	
5:10 PM	10	37	0	0	2	24	17	0	67	3	6	0	2	1	3	0	172	
5:15 PM	5	35	1	0	2	36	22	0	45	0	14	0	0	1	1	0	162	
5:20 PM	7	43	2	0	0	30	12	0	38	2	19	0	1	2	3	0	159	
5:25 PM	7	40	0	0	0	29	12	0	38	2	19	0	1	0	1	0	149	1854
5:30 PM	6	34	2	0	2	36	13	0	34	1	12	0	0	4	0	0	144	1844
5:35 PM	7	35	0	0	0	26	19	0	34	0	19	0	1	3	0	0	144	1839
5:40 PM	7	34	4	0	1	25	11	1	44	1	10	0	3	0	3	0	144	1841
5:45 PM	12	31	4	0	1	30	11	0	37	0	19	0	2	1	1	0	149	1840
5:50 PM	7	31	1	0	0	27	19	0	26	1	14	0	2	3	1	0	132	1810
5:55 PM	7	25	0	0	0	31	7	0	27	1	11	0	0	1	1	0	111	1791
6:00 PM	5	35	1	0	1	25	17	0	35	1	4	0	0	1	1	0	126	1768
6:05 PM	4	21	1	0	0	23	6	0	24	1	2	0	0	0	1	0	83	1675
6:10 PM	6	21	1	0	0	26	20	0	29	0	11	0	1	1	0	0	116	1619
6:15 PM	6	24	1	0	2	27	14	0	20	1	4	0	1	1	0	0	101	1558
6:20 PM	3	16	0	0	1	20	19	0	23	2	12	0	0	2	3	0	101	1500
6:25 PM	6	15	0	0	0	23	12	0	21	1	2	0	2	1	1	0	84	1435
6:30 PM	9	25	1	0	0	22	9	0	16	1	10	0	0	1	0	0	94	1385
6:35 PM	4	20	1	0	1	25	19	0	30	0	9	0	1	0	0	0	110	1351
6:40 PM	7	22	0	0	0	21	15	0	19	0	5	0	1	0	0	0	90	1297
6:45 PM	8	19	0	0	0	21	20	0	19	0	6	0	0	0	0	0	93	1241
6:50 PM	0	23	2	0	0	21	14	0	17	3	4	0	0	0	1	0	85	1194
6:55 PM	5	23	2	0	0	17	8	0	16	0	7	0	1	3	1	0	83	1166
7:00 PM	6	25	0	0	0	17	7	0	27	0	8	0	1	1	2	0	94	1134
7:05 PM	5	16	1	0	0	18	9	0	12	1	9	0	0	1	1	0	73	1124
7:10 PM	4	19	0	1	0	12	13	0	19	0	7	0	0	0	1	0	76	1084
7:15 PM	9	18	0	0	0	15	6	0	18	0	6	0	0	0	0	0	72	1055
7:20 PM	5	11	0	0	0	23	8	0	8	0	3	0	0	0	0	0	58	1012
7:25 PM	1	19	0	0	2	19	12	0	18	0	1	0	0	0	0	0	72	1000

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	84	456	8	0	16	360	224	0	652	24	164	0	12	12	28	0	2040
Heavy Trucks	0	20	0		0	8	4		12	0	4		4	4	0		56
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		2	0	0		0	0	0		2
Railroad																	
Stopped Buses																	

Comments:

Report generated on 8/9/2019 8:24 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

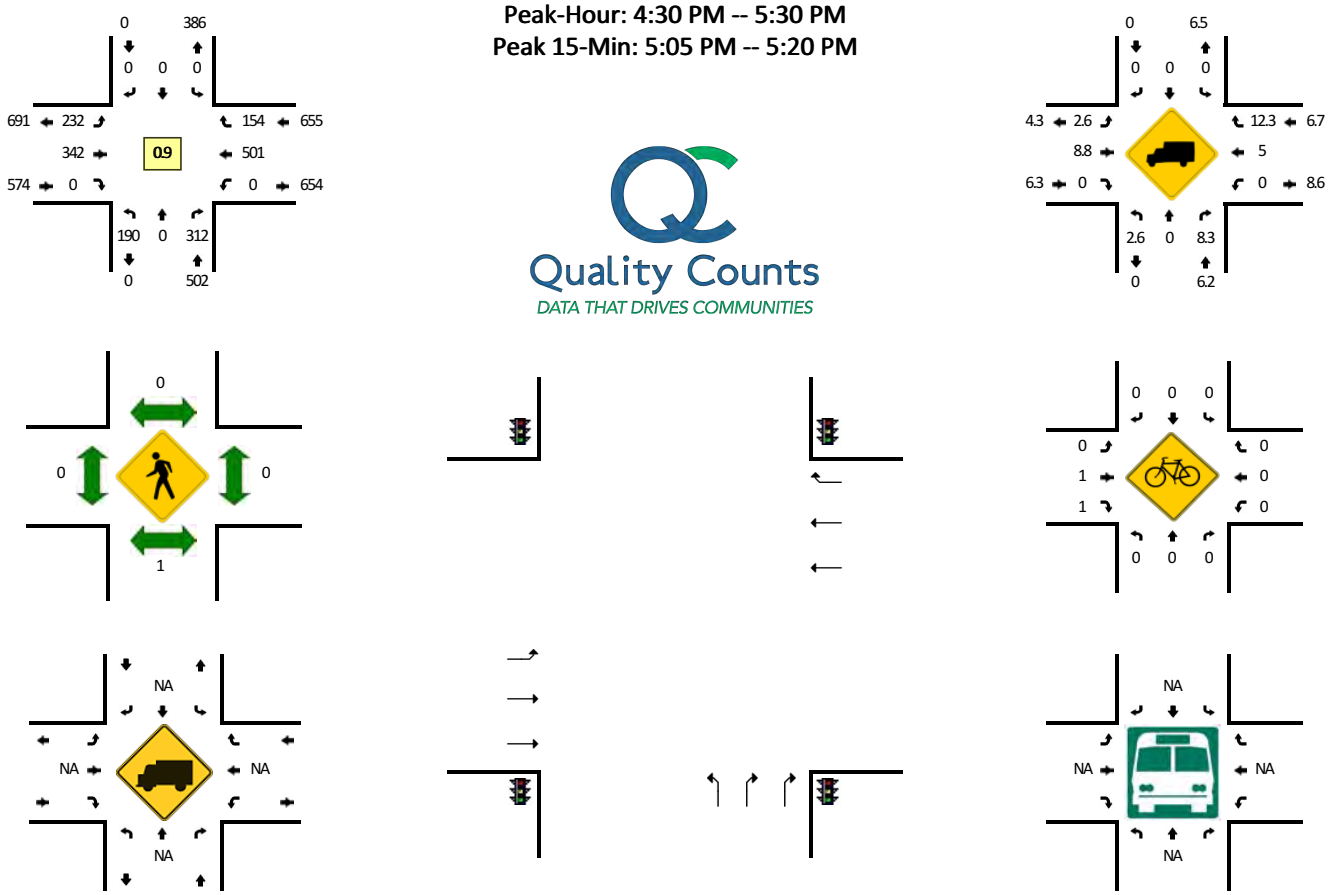
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: I- 5 NB -- N Phoenix Rd
CITY/STATE: Phoenix, OR

QC JOB #: 15028122
DATE: Wed, Jul 24 2019

Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:05 PM -- 5:20 PM



Quality Counts
DATA THAT DRIVES COMMUNITIES

5-Min Count Period Beginning At	I- 5 NB (Northbound)				I- 5 NB (Southbound)				N Phoenix Rd (Eastbound)				N Phoenix Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:30 PM	9	0	20	0	0	0	0	0	16	24	0	0	0	44	11	0	124	
4:35 PM	24	0	24	0	0	0	0	0	25	26	0	0	0	46	14	0	159	
4:40 PM	13	0	21	0	0	0	0	0	25	29	0	0	0	38	14	0	140	
4:45 PM	12	0	22	0	0	0	0	0	21	32	0	0	0	36	10	0	133	
4:50 PM	17	0	30	0	0	0	0	0	18	20	0	0	0	34	12	0	131	
4:55 PM	20	0	12	0	0	0	0	0	12	28	0	0	0	35	13	0	120	
5:00 PM	11	0	30	0	0	0	0	0	23	25	0	0	0	29	10	0	128	
5:05 PM	13	0	18	0	0	0	0	0	15	33	0	0	0	63	13	0	155	
5:10 PM	19	0	40	0	0	0	0	0	25	28	0	0	0	41	15	0	168	
5:15 PM	15	0	34	0	0	0	0	0	23	30	0	0	0	43	13	0	158	
5:20 PM	17	0	26	0	0	0	0	0	9	35	0	0	0	47	13	0	147	
5:25 PM	20	0	35	0	0	0	0	0	20	32	0	0	0	45	16	0	168	1731
5:30 PM	23	0	24	0	0	0	0	0	16	21	0	0	0	28	12	0	124	1731
5:35 PM	22	0	26	0	0	0	0	0	22	27	0	0	0	36	8	0	141	1713
5:40 PM	20	0	17	0	0	0	0	0	19	28	0	0	0	36	15	0	135	1708
5:45 PM	8	0	30	0	0	0	0	0	16	28	0	0	0	48	12	0	142	1717
5:50 PM	16	0	16	0	0	0	0	0	11	31	0	0	0	39	5	0	118	1704
5:55 PM	9	0	15	0	0	0	0	0	10	24	0	0	0	35	7	0	100	1684
6:00 PM	15	0	17	0	0	0	0	0	9	22	0	0	0	30	7	0	100	1656
6:05 PM	9	0	11	0	0	0	0	0	19	33	0	0	0	33	7	0	112	1613
6:10 PM	6	0	17	0	0	0	0	0	13	25	0	0	0	33	9	0	103	1548
6:15 PM	9	0	19	0	0	0	0	0	8	18	0	0	0	26	7	0	87	1477
6:20 PM	6	0	19	0	0	0	0	0	12	19	0	0	0	33	9	0	98	1428
6:25 PM	9	0	14	0	0	0	0	0	16	22	0	0	0	32	8	0	101	1361
6:30 PM	10	0	16	0	0	0	0	0	14	19	0	0	0	23	3	0	85	1322
6:35 PM	11	0	13	0	0	0	0	0	16	16	0	0	0	23	6	0	85	1266
6:40 PM	8	0	11	0	0	0	0	0	15	19	0	0	0	36	6	0	95	1226
6:45 PM	5	0	13	0	0	0	0	0	17	18	0	0	0	30	4	0	87	1171
6:50 PM	9	0	12	0	0	0	0	0	8	24	0	0	0	28	4	0	85	1138
6:55 PM	8	0	14	0	0	0	0	0	4	21	0	0	0	22	4	0	73	1111
7:00 PM	6	0	6	0	0	0	0	0	9	14	0	0	0	28	6	0	69	1080
7:05 PM	5	0	8	0	0	0	0	0	12	24	0	0	0	22	7	0	78	1046
7:10 PM	8	0	9	0	0	0	0	0	4	19	0	0	0	20	5	0	65	1008
7:15 PM	4	0	14	0	0	0	0	0	10	16	0	0	0	20	3	0	67	988
7:20 PM	8	0	17	0	0	0	0	0	16	11	0	0	0	8	4	0	64	954
7:25 PM	5	0	8	0	0	0	0	0	7	27	0	0	0	17	8	0	72	925

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	188	0	368	0	0	0	0	0	252	364	0	0	0	588	164	0	1924
Heavy Trucks	0	0	16		0	0	0		0	28	0		0	28	20		92
Pedestrians		4				0				0				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 8/9/2019 8:25 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

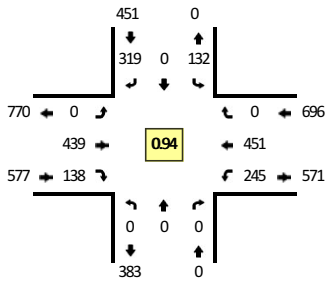
Type of peak hour being reported: Intersection Peak

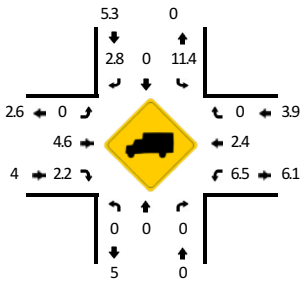
Method for determining peak hour: Total Entering Volume

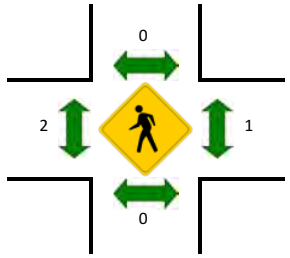
LOCATION: I- 5 SB -- N Phoenix Rd
CITY/STATE: Phoenix, OR

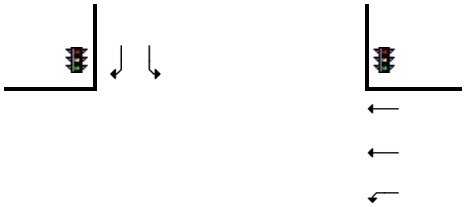
QC JOB #: 15028124
DATE: Wed, Jul 24 2019

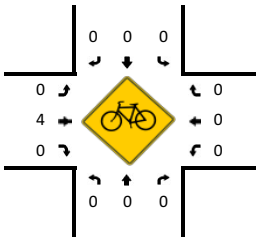
Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

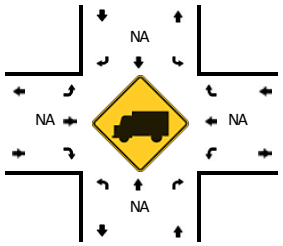


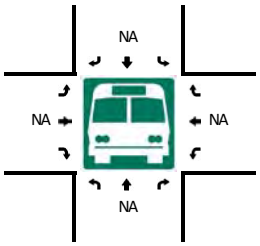












5-Min Count Period Beginning At	I- 5 SB (Northbound)				I- 5 SB (Southbound)				N Phoenix Rd (Eastbound)				N Phoenix Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:30 PM	0	0	0	0	5	0	20	0	0	35	12	0	22	31	0	0	125	
4:35 PM	0	0	0	0	8	0	26	0	0	44	10	0	25	45	0	0	158	
4:40 PM	0	0	0	0	9	0	36	0	0	44	9	0	18	33	0	0	149	
4:45 PM	0	0	0	0	11	0	24	0	0	42	14	0	18	30	0	0	139	
4:50 PM	0	0	0	0	9	0	30	0	0	31	11	0	19	32	0	0	132	
4:55 PM	0	0	0	0	11	0	20	0	0	27	7	0	14	46	0	0	125	
5:00 PM	0	0	0	0	8	0	29	0	0	40	13	0	9	26	0	0	125	
5:05 PM	0	0	0	0	9	0	22	0	0	39	19	0	31	42	0	0	162	
5:10 PM	0	0	0	0	17	0	19	0	0	35	16	0	32	31	0	0	150	
5:15 PM	0	0	0	0	21	0	24	0	0	33	11	0	21	37	0	0	147	
5:20 PM	0	0	0	0	10	0	31	0	0	34	7	0	11	53	0	0	146	
5:25 PM	0	0	0	0	13	0	24	0	0	39	13	0	21	44	0	0	154	1712
5:30 PM	0	0	0	0	6	0	34	0	0	31	8	0	26	32	0	0	137	1724
5:35 PM	0	0	0	0	9	0	18	0	0	39	11	0	21	30	0	0	128	1694
5:40 PM	0	0	0	0	17	0	28	0	0	31	14	0	17	39	0	0	146	1691
5:45 PM	0	0	0	0	19	0	24	0	0	26	9	0	22	34	0	0	134	1686
5:50 PM	0	0	0	0	12	0	28	0	0	29	9	0	20	34	0	0	132	1686
5:55 PM	0	0	0	0	10	0	19	0	0	24	9	0	19	27	0	0	108	1669
6:00 PM	0	0	0	0	9	0	17	0	0	24	8	0	20	24	0	0	102	1646
6:05 PM	0	0	0	0	17	0	21	0	0	32	13	0	21	21	0	0	125	1609
6:10 PM	0	0	0	0	6	0	23	0	0	32	8	0	13	20	0	0	102	1561
6:15 PM	0	0	0	0	10	0	16	0	0	16	6	0	12	29	0	0	89	1503
6:20 PM	0	0	0	0	5	0	17	0	0	26	12	0	20	19	0	0	99	1456
6:25 PM	0	0	0	0	7	0	14	0	0	31	11	0	18	23	0	0	104	1406
6:30 PM	0	0	0	0	9	0	20	0	0	25	4	0	12	21	0	0	91	1360
6:35 PM	0	0	0	0	7	0	21	0	0	25	14	0	12	22	0	0	101	1333
6:40 PM	0	0	0	0	13	0	13	0	0	20	6	0	21	23	0	0	96	1283
6:45 PM	0	0	0	0	2	0	14	0	0	33	8	0	7	23	0	0	87	1236
6:50 PM	0	0	0	0	6	0	11	0	0	27	8	0	12	30	0	0	94	1198
6:55 PM	0	0	0	0	8	0	10	0	0	17	6	0	10	20	0	1	72	1162
7:00 PM	0	0	0	0	8	0	13	0	0	16	2	0	14	19	0	0	72	1132
7:05 PM	0	0	0	0	8	0	11	0	0	27	6	0	11	17	0	0	80	1087
7:10 PM	0	0	0	0	6	0	13	0	0	17	8	0	11	17	0	0	72	1057
7:15 PM	0	0	0	0	5	0	12	0	0	21	5	0	8	16	0	0	67	1035
7:20 PM	0	0	0	0	7	0	9	0	0	21	6	0	6	10	0	0	59	995
7:25 PM	0	0	0	0	14	0	9	0	0	19	6	0	11	11	0	0	70	961

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	188	0	260	0	0	428	184	0	336	440	0	0	1836
Heavy Trucks	0	0	0		20	0	4		0	8	0		16	12	0		60
Pedestrians		0				0				4				4			8
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 8/9/2019 8:25 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

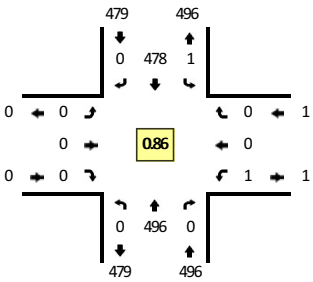
Type of peak hour being reported: Intersection Peak

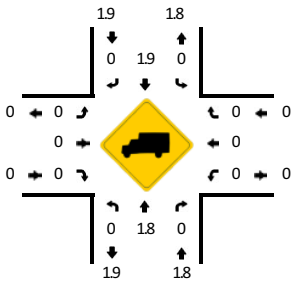
Method for determining peak hour: Total Entering Volume

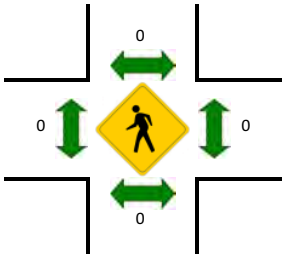
LOCATION: N Phoenix Rd -- Arrowhead Ranch Dwy
CITY/STATE: Medford, OR

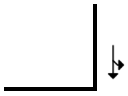
QC JOB #: 15028126
DATE: Wed, Jul 24 2019

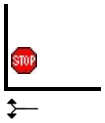
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

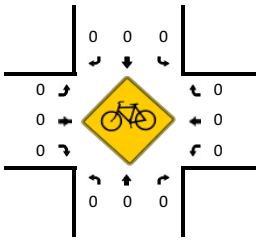


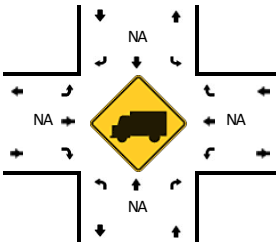


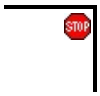


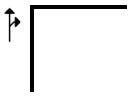


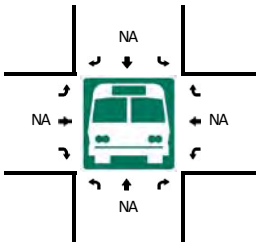












5-Min Count Period Beginning At	N Phoenix Rd (Northbound)				N Phoenix Rd (Southbound)				Arrowhead Ranch Dwy (Eastbound)				Arrowhead Ranch Dwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:30 PM	0	40	0	0	0	35	0	0	0	0	0	0	0	0	0	0	75	
4:35 PM	0	36	0	0	0	45	0	0	0	0	0	0	0	0	0	0	81	
4:40 PM	0	37	0	0	0	35	0	0	0	0	0	0	0	0	0	0	72	
4:45 PM	0	40	0	0	0	39	0	0	0	0	0	0	0	0	0	0	79	
4:50 PM	0	46	0	0	0	41	0	0	0	0	0	0	0	0	0	0	87	
4:55 PM	0	27	0	0	1	26	0	0	0	0	0	0	0	0	0	0	54	
5:00 PM	0	37	0	0	0	31	0	0	0	0	0	0	0	0	0	0	68	
5:05 PM	0	38	0	0	0	56	0	0	0	0	0	0	0	0	0	0	94	
5:10 PM	0	36	0	0	0	45	0	0	0	0	0	0	0	0	0	0	81	
5:15 PM	0	60	0	0	0	40	0	0	0	0	0	0	0	0	0	0	100	
5:20 PM	0	46	0	0	0	43	0	0	0	0	0	0	0	0	0	0	89	
5:25 PM	0	53	0	0	0	42	0	0	0	0	0	0	1	0	0	0	96	976
5:30 PM	0	29	1	0	0	36	0	0	0	0	0	0	0	0	0	0	66	967
5:35 PM	0	39	0	0	0	40	0	1	0	0	0	0	0	0	0	0	80	966
5:40 PM	0	25	0	0	0	34	0	0	0	0	0	0	0	0	0	0	59	953
5:45 PM	0	33	0	0	0	36	0	0	0	0	0	0	0	0	0	0	69	943
5:50 PM	0	31	0	0	0	34	0	0	0	0	0	0	0	0	0	0	65	921
5:55 PM	0	33	0	0	0	42	0	0	0	0	0	0	0	0	0	0	75	942
6:00 PM	0	31	0	0	0	26	0	0	0	0	0	0	0	0	0	0	57	931
6:05 PM	0	19	0	0	0	19	0	0	0	0	0	0	0	0	0	0	38	875
6:10 PM	0	33	0	0	0	28	0	0	0	0	0	0	0	0	0	0	61	855
6:15 PM	0	24	0	0	0	22	0	0	0	0	0	0	0	0	0	0	46	801
6:20 PM	0	18	0	0	0	22	0	0	0	0	0	0	0	0	0	0	40	752
6:25 PM	0	18	0	0	0	27	0	0	0	0	0	0	0	0	0	0	45	701
6:30 PM	0	22	0	0	0	15	0	0	0	0	0	0	0	0	0	0	37	672
6:35 PM	0	17	0	0	0	29	0	0	0	0	0	0	0	0	0	0	46	638
6:40 PM	0	18	0	0	0	21	0	0	0	0	0	0	0	0	0	0	39	618
6:45 PM	0	17	0	0	0	29	0	0	0	0	0	0	0	0	0	0	46	595
6:50 PM	0	19	0	0	0	22	0	0	0	0	0	0	0	0	0	0	41	571
6:55 PM	0	22	0	0	0	13	0	0	0	0	0	0	0	0	0	0	35	531
7:00 PM	0	12	0	0	0	21	0	0	0	0	0	0	0	0	0	0	33	507
7:05 PM	0	24	0	0	0	18	0	0	0	0	0	0	0	0	0	0	42	511
7:10 PM	0	14	0	0	0	17	0	0	0	0	0	0	0	0	0	0	31	481
7:15 PM	0	26	0	0	0	15	0	0	0	0	0	0	1	0	0	0	42	477
7:20 PM	0	22	0	0	0	9	0	0	0	0	0	0	0	0	0	0	31	468
7:25 PM	0	17	0	0	0	23	0	0	0	0	0	0	0	0	0	0	40	463

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	636	0	0	0	500	0	0	0	0	0	0	4	0	0	0	1140
Heavy Trucks	0	4	0		0	12	0		0	0	0		0	0	0		16
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 8/9/2019 8:25 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

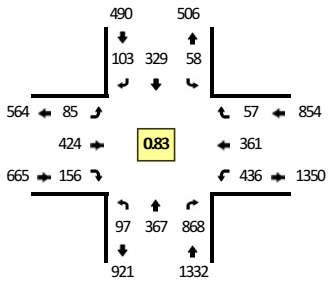
Type of peak hour being reported: Intersection Peak

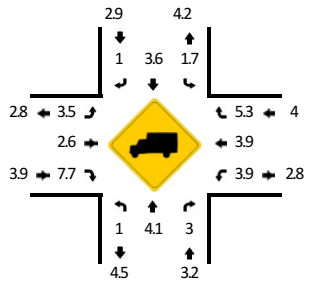
Method for determining peak hour: Total Entering Volume

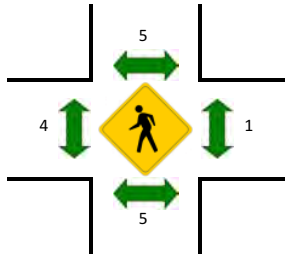
LOCATION: Highland Dr -- Barnett Rd
CITY/STATE: Medford, OR

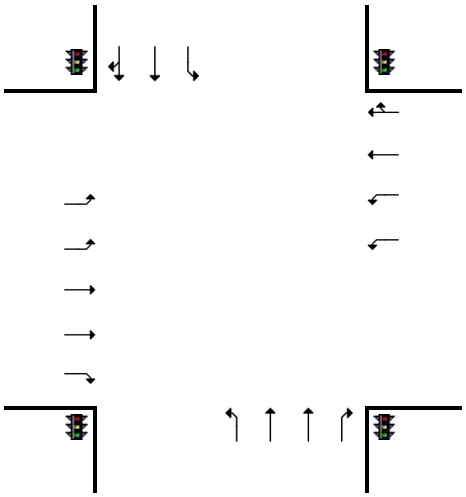
QC JOB #: 15028131
DATE: Thu, Jul 25 2019

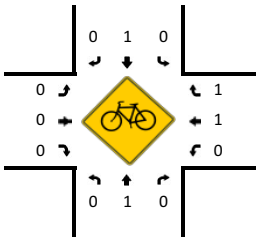
Peak-Hour: 7:40 AM -- 8:40 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

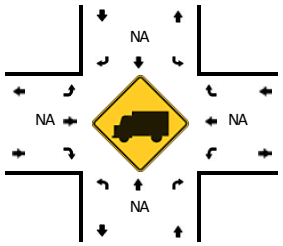


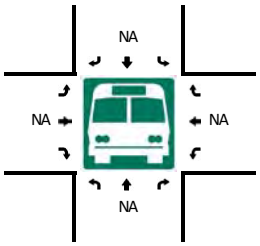












5-Min Count Period Beginning At	Highland Dr (Northbound)				Highland Dr (Southbound)				Barnett Rd (Eastbound)				Barnett Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:30 AM	1	16	45	0	2	16	6	0	3	18	7	0	18	10	3	0	145	
6:35 AM	5	9	44	0	3	19	5	0	1	20	6	0	16	11	0	0	139	
6:40 AM	2	9	46	0	0	22	4	0	1	24	6	0	22	12	3	0	151	
6:45 AM	7	11	56	0	4	23	6	0	5	13	7	0	28	20	2	0	182	
6:50 AM	9	24	56	0	1	20	6	0	3	14	7	0	24	7	0	0	171	
6:55 AM	4	11	49	0	1	16	5	0	2	25	7	0	21	15	0	0	156	
7:00 AM	10	11	43	0	2	14	4	0	6	16	5	0	23	17	2	0	153	
7:05 AM	4	10	30	0	1	10	7	0	4	17	15	0	23	25	3	0	149	
7:10 AM	5	20	52	0	2	13	4	0	9	17	9	0	26	15	1	0	173	
7:15 AM	6	14	60	0	6	19	5	0	0	16	7	0	55	34	2	0	224	
7:20 AM	8	22	50	0	3	27	5	0	6	32	14	0	43	27	3	0	240	
7:25 AM	6	19	54	0	6	19	6	0	4	23	9	0	33	26	4	0	209	2092
7:30 AM	3	37	77	0	5	32	9	0	5	32	11	0	39	15	4	0	269	2216
7:35 AM	3	33	79	1	5	31	7	0	3	29	8	0	28	27	3	0	257	2334
7:40 AM	6	32	77	0	4	35	6	0	4	44	23	0	33	37	5	0	306	2489
7:45 AM	4	40	90	0	4	46	15	0	4	47	11	0	54	30	4	0	349	2656
7:50 AM	14	37	85	0	7	29	8	0	6	46	15	0	52	27	6	0	332	2817
7:55 AM	9	50	90	0	6	42	14	0	6	33	12	0	30	29	4	0	325	2986
8:00 AM	7	24	65	0	4	27	10	0	9	30	9	0	33	27	3	0	248	3081
8:05 AM	10	24	61	0	7	21	6	0	7	27	11	0	32	38	6	0	250	3182
8:10 AM	9	13	53	0	1	25	7	0	11	30	18	0	28	22	2	0	219	3228
8:15 AM	8	21	65	0	5	18	5	0	4	32	10	0	39	19	4	0	230	3234
8:20 AM	7	28	77	0	6	19	6	0	5	35	13	2	29	43	8	0	278	3272
8:25 AM	6	40	76	0	6	19	12	0	7	26	9	0	37	19	2	0	259	3322
8:30 AM	8	32	65	0	4	23	4	0	4	32	14	0	30	30	2	0	248	3301
8:35 AM	9	26	64	0	4	25	10	0	15	42	11	1	39	40	11	0	297	3341
8:40 AM	5	38	56	0	3	25	5	0	6	29	8	0	47	34	6	0	262	3297
8:45 AM	19	28	64	0	9	17	7	0	5	30	14	0	26	32	5	0	256	3204
8:50 AM	13	37	66	0	6	32	18	0	17	18	18	0	45	23	4	0	297	3169
8:55 AM	10	27	62	1	7	23	10	0	10	34	11	0	49	40	3	0	287	3131
9:00 AM	14	34	50	0	8	21	8	0	7	29	8	0	32	35	5	1	252	3135
9:05 AM	9	15	58	0	2	22	13	0	6	40	11	0	38	41	8	0	263	3148
9:10 AM	7	18	39	0	9	14	4	0	8	30	10	0	41	38	7	0	225	3154
9:15 AM	7	25	46	0	6	24	10	0	14	27	18	0	49	30	4	0	260	3184
9:20 AM	4	26	49	0	5	17	7	0	12	27	12	3	38	48	7	0	255	3161
9:25 AM	7	20	51	0	6	18	9	0	4	24	16	0	48	41	8	0	252	3154

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	108	508	1060	0	68	468	148	0	64	504	152	0	544	344	56	0	4024
Heavy Trucks	0	28	12		0	8	0		4	12	8		20	8	4		104
Pedestrians		8				0				4				4			16
Bicycles	0	1	0		0	0	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 8/9/2019 8:27 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

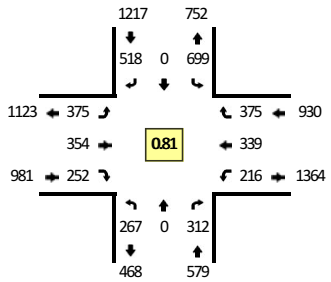
Type of peak hour being reported: Intersection Peak

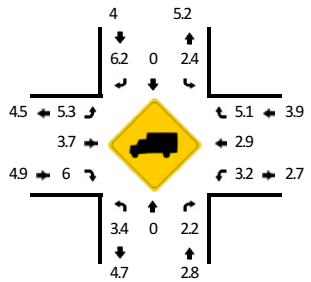
Method for determining peak hour: Total Entering Volume

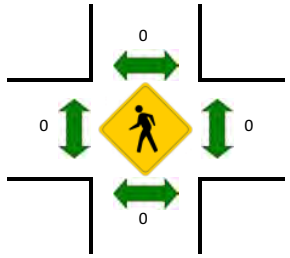
LOCATION: I-5 Exit 27 -- Garfield St/Highland Dr
CITY/STATE: Medford, OR

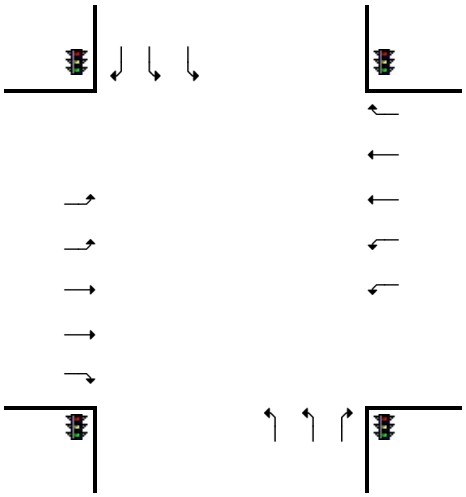
QC JOB #: 15028132
DATE: Thu, Jul 25 2019

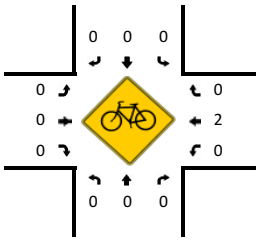
Peak-Hour: 7:25 AM -- 8:25 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

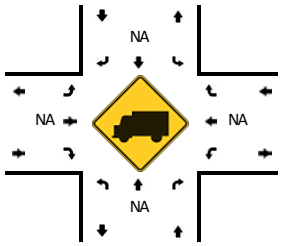


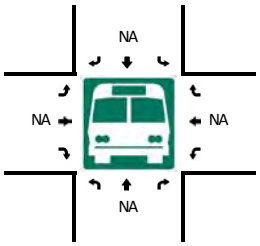












5-Min Count Period Beginning At	I-5 Exit 27 (Northbound)				I-5 Exit 27 (Southbound)				Garfield St/Highland Dr (Eastbound)				Garfield St/Highland Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:30 AM	5	0	14	0	34	0	22	0	36	12	9	0	6	15	22	0	175	
6:35 AM	3	0	12	0	31	0	34	0	22	24	12	0	15	14	13	0	180	
6:40 AM	12	0	12	0	28	0	31	0	27	12	14	0	10	20	20	0	186	
6:45 AM	12	0	15	0	45	0	44	0	23	18	22	0	6	21	24	0	230	
6:50 AM	11	0	12	0	48	0	47	0	28	24	14	0	11	19	26	0	240	
6:55 AM	9	0	18	0	32	0	27	0	18	16	16	0	8	21	23	0	188	
7:00 AM	7	0	9	0	32	0	33	0	17	16	9	0	6	13	13	0	155	
7:05 AM	8	0	11	0	21	0	28	0	27	14	17	0	15	14	25	0	180	
7:10 AM	6	0	22	0	37	0	16	0	29	13	15	0	11	13	17	0	179	
7:15 AM	7	0	22	0	44	0	36	0	23	17	18	0	9	32	34	0	242	
7:20 AM	19	0	19	0	39	0	38	0	23	20	18	0	15	34	39	0	264	
7:25 AM	12	0	17	0	54	0	39	0	32	25	17	0	17	19	34	0	266	2485
7:30 AM	14	0	21	1	64	0	40	0	37	19	22	0	17	21	33	0	289	2599
7:35 AM	8	0	20	0	67	0	41	0	42	41	25	0	15	26	20	0	305	2724
7:40 AM	21	0	26	0	68	0	43	1	25	33	26	0	31	34	31	0	339	2877
7:45 AM	27	0	33	0	72	0	57	0	38	38	22	0	20	42	46	0	395	3042
7:50 AM	37	0	31	0	74	0	60	1	31	47	30	0	26	36	41	0	414	3216
7:55 AM	32	0	32	0	66	0	53	0	32	29	17	0	17	29	35	0	342	3370
8:00 AM	34	0	13	0	58	0	49	0	25	26	22	0	12	31	28	0	298	3513
8:05 AM	16	0	20	0	42	0	37	0	31	21	17	0	17	22	28	1	252	3585
8:10 AM	24	0	19	0	32	0	33	0	25	30	20	0	10	28	28	0	249	3655
8:15 AM	17	0	29	0	48	0	35	0	18	23	16	0	17	27	24	0	254	3667
8:20 AM	24	0	51	0	52	0	31	0	39	22	18	0	16	24	27	0	304	3707
8:25 AM	13	0	21	0	51	0	37	0	33	26	25	0	5	20	32	0	263	3704
8:30 AM	22	0	29	1	48	0	30	0	20	23	24	0	22	30	25	0	274	3689
8:35 AM	18	0	27	0	54	0	39	0	9	36	35	0	8	31	35	0	292	3676
8:40 AM	18	0	25	0	26	0	45	1	39	30	31	1	12	24	32	0	284	3621
8:45 AM	22	0	37	1	41	0	36	0	15	33	22	0	13	34	29	0	283	3509
8:50 AM	19	0	38	0	51	0	36	0	32	24	30	0	19	31	29	0	309	3404
8:55 AM	16	0	26	0	44	0	27	0	16	34	27	0	19	31	44	0	284	3346
9:00 AM	19	0	31	0	37	0	36	1	27	19	25	0	11	17	32	0	255	3303
9:05 AM	15	0	25	0	31	0	27	0	21	35	25	0	11	30	29	0	249	3300
9:10 AM	16	0	15	0	26	0	33	0	21	22	14	0	15	19	34	0	215	3266
9:15 AM	16	0	12	0	20	0	26	1	36	34	22	0	19	30	34	0	250	3262
9:20 AM	15	0	24	0	48	0	22	0	14	24	19	0	7	30	30	0	233	3191
9:25 AM	16	0	23	0	19	0	22	0	30	26	25	0	16	26	46	0	249	3177

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	384	0	384	0	848	0	680	4	404	456	276	0	252	428	488	0	4604
Heavy Trucks	8	0	8		8	0	24		24	12	4		8	4	24		124
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 8/9/2019 8:27 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

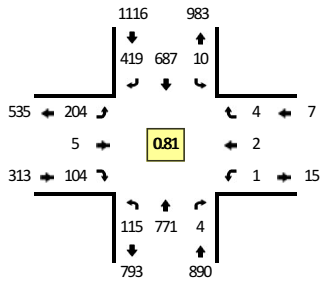
Type of peak hour being reported: Intersection Peak

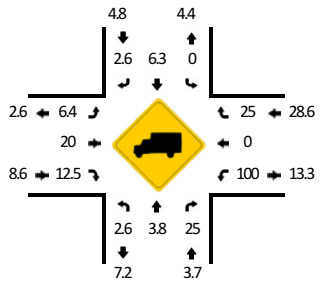
Method for determining peak hour: Total Entering Volume

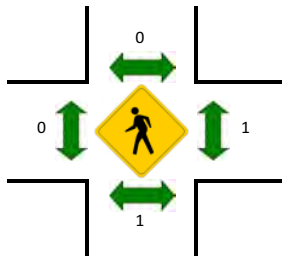
LOCATION: Garfield St -- Center Dr
CITY/STATE: Medford, OR

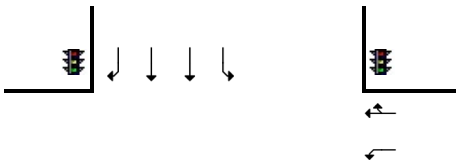
QC JOB #: 15028133
DATE: Thu, Jul 25 2019

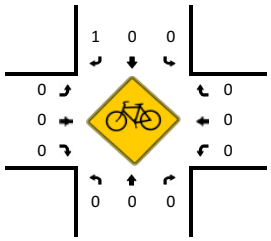
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

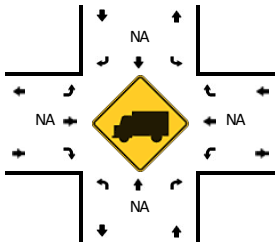


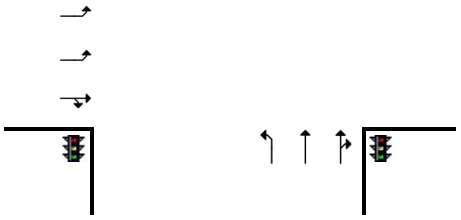


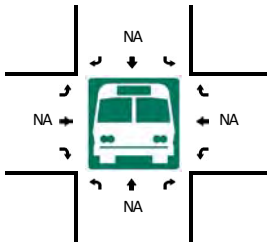












5-Min Count Period Beginning At	Garfield St (Northbound)				Garfield St (Southbound)				Center Dr (Eastbound)				Center Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:30 AM	3	48	0	0	1	31	12	0	5	0	1	0	0	0	0	0	101	
6:35 AM	3	44	0	0	1	41	11	0	12	0	2	0	0	0	0	0	114	
6:40 AM	2	53	1	0	0	36	21	0	9	0	5	0	0	0	0	0	127	
6:45 AM	5	61	1	0	1	42	33	0	7	0	0	0	1	0	0	0	151	
6:50 AM	5	44	0	0	0	50	31	0	15	0	6	0	0	1	2	0	154	
6:55 AM	8	40	1	0	1	33	21	0	2	0	3	0	0	0	0	0	109	
7:00 AM	1	39	0	0	1	28	29	0	10	1	4	0	0	0	0	0	113	
7:05 AM	3	46	0	0	0	26	25	0	17	0	3	0	0	0	1	0	121	
7:10 AM	4	43	0	0	1	22	15	0	13	0	8	0	0	0	0	0	106	
7:15 AM	4	49	1	0	0	45	19	0	14	0	10	0	0	1	0	0	143	
7:20 AM	4	48	0	0	0	56	35	0	14	0	2	0	0	0	1	0	160	
7:25 AM	7	64	0	0	0	43	28	0	12	0	6	0	1	0	0	0	161	1560
7:30 AM	7	67	0	0	1	46	24	0	13	0	12	0	0	0	0	0	170	1629
7:35 AM	11	73	0	0	1	53	27	0	19	0	3	0	0	0	0	0	187	1702
7:40 AM	6	89	1	0	0	57	32	1	17	2	5	0	0	1	0	0	211	1786
7:45 AM	9	80	0	0	0	78	36	0	22	2	7	0	0	0	1	0	235	1870
7:50 AM	16	79	0	0	0	77	47	0	16	0	8	0	0	0	0	0	243	1959
7:55 AM	10	61	0	0	0	85	47	0	20	1	12	0	1	0	0	0	237	2087
8:00 AM	6	53	0	1	1	56	45	0	15	0	8	0	0	1	0	0	186	2160
8:05 AM	11	48	1	0	1	57	29	0	16	0	11	0	0	0	1	0	175	2214
8:10 AM	5	49	0	0	0	48	33	0	17	0	10	0	0	0	1	0	163	2271
8:15 AM	9	57	1	0	1	54	27	0	11	0	10	0	0	0	0	0	170	2298
8:20 AM	14	49	1	0	0	43	36	1	24	0	8	0	0	0	1	0	177	2315
8:25 AM	10	66	0	0	1	33	36	2	14	0	10	0	0	0	0	0	172	2326
8:30 AM	6	55	1	0	2	44	30	0	16	0	10	0	0	1	0	0	165	2321
8:35 AM	12	64	0	0	1	44	33	0	13	1	4	0	0	0	0	0	172	2306
8:40 AM	11	67	0	0	4	51	34	0	36	0	8	0	0	1	0	0	212	2307
8:45 AM	7	55	0	0	4	58	27	0	23	0	8	0	0	0	0	0	182	2254
8:50 AM	9	53	0	0	3	61	25	1	25	1	10	0	0	1	1	0	190	2201
8:55 AM	16	45	0	0	1	39	33	2	26	0	8	0	1	0	0	0	171	2135
9:00 AM	12	51	0	0	0	42	34	0	26	0	8	0	0	0	0	0	173	2122
9:05 AM	12	48	0	0	2	37	36	1	26	0	8	0	0	0	0	0	170	2117
9:10 AM	9	52	0	0	0	43	30	0	20	0	5	0	1	0	0	0	160	2114
9:15 AM	10	45	1	0	1	38	28	0	38	0	16	0	0	0	0	0	177	2121
9:20 AM	4	50	0	1	1	40	25	0	17	1	11	0	0	0	1	0	151	2095
9:25 AM	10	57	1	0	0	37	33	0	21	0	18	0	1	0	0	0	178	2101

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	140	880	0	0	0	960	520	0	232	12	108	0	4	0	4	0	2860
Heavy Trucks	0	24	0		0	32	12		12	0	20		4	0	0		104
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 8/9/2019 8:27 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

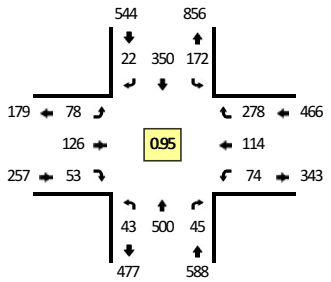
Type of peak hour being reported: Intersection Peak

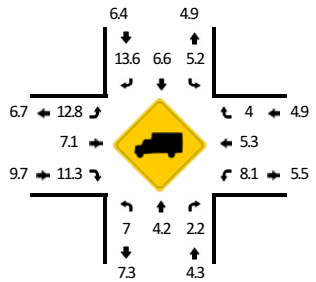
Method for determining peak hour: Total Entering Volume

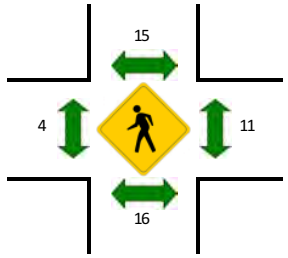
LOCATION: Riverside Ave -- Barnett Rd
CITY/STATE: Medford, OR

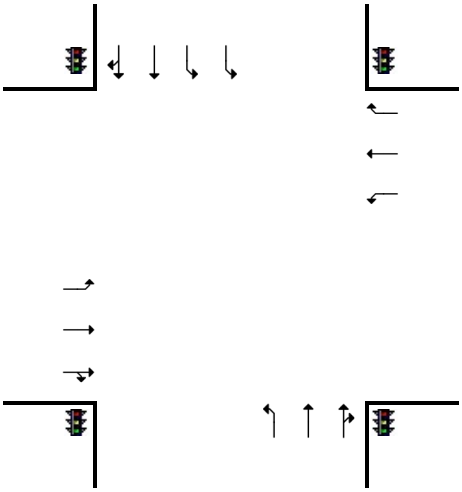
QC JOB #: 15028134
DATE: Thu, Jul 25 2019

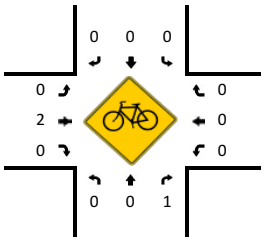
Peak-Hour: 8:30 AM -- 9:30 AM
Peak 15-Min: 8:45 AM -- 9:00 AM

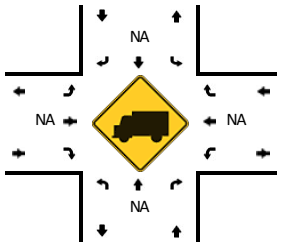


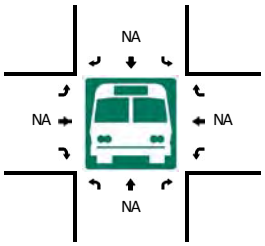












5-Min Count Period Beginning At	Riverside Ave (Northbound)				Riverside Ave (Southbound)				Barnett Rd (Eastbound)				Barnett Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:30 AM	1	6	3	0	4	12	1	0	5	10	2	0	2	11	2	0	59	
6:35 AM	1	12	3	0	2	12	1	0	2	4	0	0	4	5	3	0	49	
6:40 AM	0	7	2	0	5	16	1	0	0	9	2	0	4	9	8	0	63	
6:45 AM	3	23	0	0	3	14	3	0	2	5	3	0	4	6	13	0	79	
6:50 AM	3	22	2	0	4	13	4	0	3	10	2	0	3	6	6	0	78	
6:55 AM	2	17	0	0	9	7	3	0	3	4	3	0	3	11	6	0	68	
7:00 AM	2	13	2	0	5	12	4	0	2	4	1	0	5	8	11	0	69	
7:05 AM	5	14	2	1	8	15	0	0	4	4	1	0	4	10	11	0	79	
7:10 AM	3	24	2	0	8	21	1	0	3	7	1	0	2	9	11	0	92	
7:15 AM	6	26	1	0	15	21	3	1	2	7	5	0	4	8	13	0	112	
7:20 AM	6	24	0	0	10	19	3	0	8	10	7	0	7	12	14	0	120	
7:25 AM	8	49	3	0	11	21	3	0	6	7	3	0	1	8	8	0	128	996
7:30 AM	4	32	4	0	11	19	3	0	6	5	5	0	6	10	8	0	113	1050
7:35 AM	3	28	4	0	11	19	4	0	16	15	6	0	7	18	15	0	146	1147
7:40 AM	3	35	3	0	11	26	4	0	11	13	4	0	2	14	23	0	149	1233
7:45 AM	5	64	3	0	16	26	6	0	7	15	2	0	2	11	17	0	174	1328
7:50 AM	3	49	2	0	9	32	4	0	9	9	4	0	10	13	16	0	160	1410
7:55 AM	3	59	0	0	17	26	5	0	10	10	4	0	2	8	20	0	164	1506
8:00 AM	3	41	2	0	12	29	2	0	5	13	3	0	5	13	10	0	138	1575
8:05 AM	7	32	4	0	12	24	3	0	10	10	1	0	1	8	24	0	136	1632
8:10 AM	2	36	4	0	10	16	5	0	7	11	5	0	3	9	18	0	126	1666
8:15 AM	3	45	4	0	5	25	4	0	6	13	2	0	6	6	12	0	131	1685
8:20 AM	6	49	1	0	8	20	0	0	4	12	6	0	1	7	17	0	131	1696
8:25 AM	4	40	3	0	6	33	1	0	5	6	4	0	3	12	13	0	130	1698
8:30 AM	4	37	7	0	10	32	1	0	12	13	5	0	3	12	23	0	159	1744
8:35 AM	4	47	3	0	12	20	4	0	5	16	6	0	11	9	23	0	160	1758
8:40 AM	3	41	0	0	16	35	1	0	5	8	6	0	5	5	18	0	143	1752
8:45 AM	5	42	4	0	14	27	0	0	7	9	2	0	4	16	24	0	154	1732
8:50 AM	3	44	2	0	18	38	1	0	8	13	5	0	5	8	35	0	180	1752
8:55 AM	4	42	4	0	15	22	3	0	10	10	5	0	5	13	19	0	152	1740
9:00 AM	3	44	1	0	16	22	0	0	9	8	2	0	4	7	29	0	145	1747
9:05 AM	4	41	2	0	14	28	7	0	5	17	4	0	9	10	26	0	167	1778
9:10 AM	1	36	8	0	11	27	2	0	3	4	6	0	7	11	19	0	135	1787
9:15 AM	5	51	7	0	12	29	0	0	4	14	4	0	4	10	22	0	162	1818
9:20 AM	4	39	3	0	12	33	2	0	3	9	4	0	10	7	18	0	144	1831
9:25 AM	3	36	4	0	22	37	1	0	7	5	4	0	7	6	22	0	154	1855

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	48	512	40	0	188	348	16	0	100	128	48	0	56	148	312	0	1944
Heavy Trucks	4	8	0		12	20	4		12	12	4		8	4	4		92
Pedestrians		20				24				4				8			56
Bicycles	0	0	1		0	0	0		0	1	0		0	0	0		2
Railroad																	
Stopped Buses																	

Comments:

Report generated on 8/9/2019 8:27 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

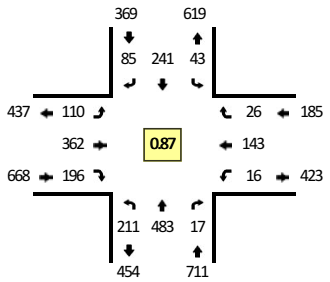
Type of peak hour being reported: Intersection Peak

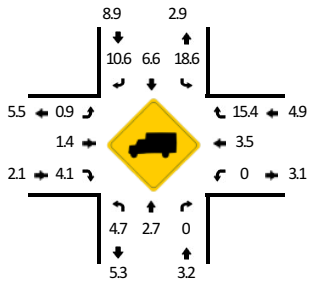
Method for determining peak hour: Total Entering Volume

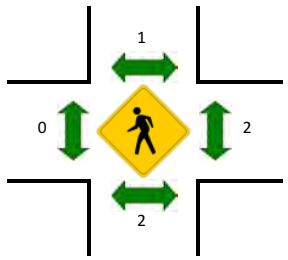
LOCATION: Riverside Ave/S Pacific Hwy -- Stewart Ave
CITY/STATE: Medford, OR

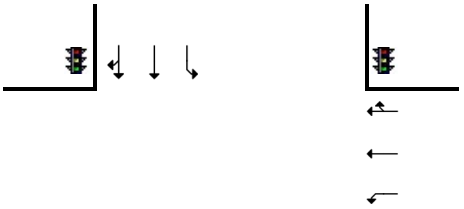
QC JOB #: 15028135
DATE: Thu, Jul 25 2019

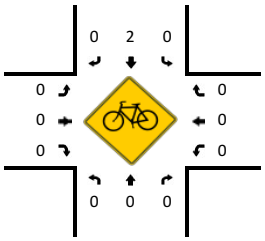
Peak-Hour: 7:40 AM -- 8:40 AM
Peak 15-Min: 7:40 AM -- 7:55 AM

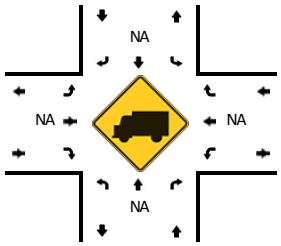


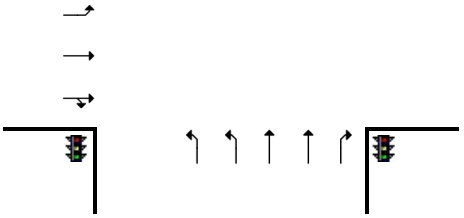


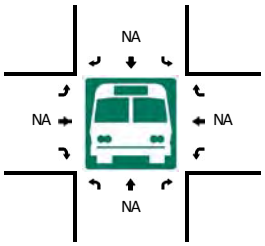












5-Min Count Period Beginning At	Riverside Ave/S Pacific Hwy (Northbound)				Riverside Ave/S Pacific Hwy (Southbound)				Stewart Ave (Eastbound)				Stewart Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:30 AM	9	13	0	0	1	10	3	0	3	15	4	0	0	2	0	0	60	
6:35 AM	4	9	1	0	1	6	2	0	3	20	9	0	0	3	0	0	58	
6:40 AM	11	10	3	0	3	13	2	0	2	18	15	0	1	1	1	0	80	
6:45 AM	8	21	0	0	1	17	1	0	0	23	15	0	1	7	0	0	94	
6:50 AM	19	23	4	0	2	13	2	0	7	21	13	0	2	1	0	0	107	
6:55 AM	8	22	1	0	1	10	2	0	2	24	11	0	0	4	0	0	85	
7:00 AM	10	14	2	0	2	10	1	0	1	16	6	0	2	4	0	0	68	
7:05 AM	9	22	0	0	3	15	5	0	6	17	9	0	1	5	1	0	93	
7:10 AM	6	26	3	0	1	15	7	0	6	18	13	0	0	12	1	0	108	
7:15 AM	13	34	1	0	1	18	6	0	3	17	9	0	0	3	0	0	105	
7:20 AM	9	17	1	0	3	20	8	0	3	18	10	0	2	11	0	0	102	
7:25 AM	24	53	4	0	4	18	4	0	6	23	10	0	0	9	1	0	156	1116
7:30 AM	9	34	0	0	2	13	6	0	3	19	13	0	2	14	3	0	118	1174
7:35 AM	15	22	5	0	1	21	4	0	4	40	18	0	0	13	2	0	145	1261
7:40 AM	21	43	1	0	3	25	4	0	9	28	18	0	0	8	1	0	161	1342
7:45 AM	25	51	1	0	5	16	9	0	9	45	22	0	2	15	2	0	202	1450
7:50 AM	20	62	0	0	6	31	9	0	10	30	10	0	1	12	3	0	194	1537
7:55 AM	15	33	2	0	5	17	5	0	7	34	18	0	2	14	5	0	157	1609
8:00 AM	7	28	0	0	2	9	11	0	7	22	15	0	1	14	0	0	116	1657
8:05 AM	31	36	2	1	6	20	11	0	12	29	14	0	2	12	1	0	177	1741
8:10 AM	15	27	3	0	3	13	5	0	15	32	17	0	0	15	2	0	147	1780
8:15 AM	21	49	2	1	2	25	10	0	4	16	14	0	2	8	3	0	157	1832
8:20 AM	26	43	2	0	3	13	3	0	12	25	21	0	1	14	2	0	165	1895
8:25 AM	9	38	0	0	3	17	10	0	7	37	10	0	2	3	2	1	139	1878
8:30 AM	8	39	2	0	3	35	3	0	6	36	18	0	1	16	3	0	170	1930
8:35 AM	11	34	2	0	2	20	5	0	12	28	19	0	1	12	2	0	148	1933
8:40 AM	6	42	1	0	3	35	8	0	9	20	14	0	5	16	1	0	160	1932
8:45 AM	21	41	2	0	6	23	14	0	10	22	14	0	1	6	2	0	162	1892
8:50 AM	14	44	4	0	4	28	12	0	13	35	15	0	4	13	2	0	188	1886
8:55 AM	16	32	1	0	6	18	5	0	10	30	16	0	1	9	3	0	147	1876
9:00 AM	10	28	7	0	2	20	7	0	11	39	20	0	1	11	5	0	161	1921
9:05 AM	12	38	7	0	5	26	3	0	7	25	6	0	1	11	4	0	145	1889
9:10 AM	13	23	2	0	6	18	11	0	10	32	21	0	2	10	5	0	153	1895
9:15 AM	12	52	5	0	4	22	11	0	16	29	12	0	1	13	5	0	182	1920
9:20 AM	9	35	2	0	5	22	6	0	7	22	7	0	2	9	4	0	130	1885
9:25 AM	13	26	1	0	10	24	13	0	9	22	19	0	1	17	1	0	156	1902

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	264	624	8	0	56	288	88	0	112	412	200	0	12	140	24	0	2228
Heavy Trucks	8	16	0		12	36	8		0	4	12		0	8	4		108
Pedestrians		0				0				0				4			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 8/9/2019 8:27 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

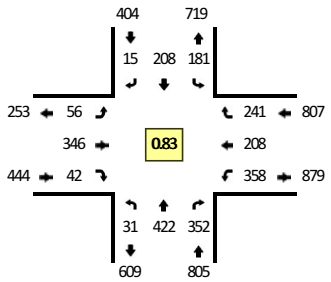
Type of peak hour being reported: Intersection Peak

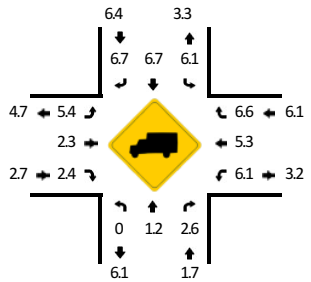
Method for determining peak hour: Total Entering Volume

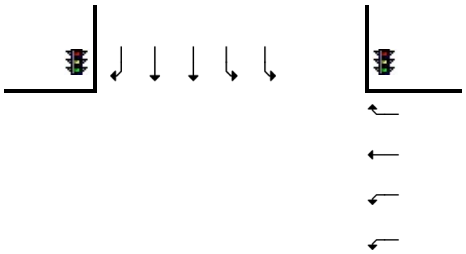
LOCATION: S Pacific Hwy -- Garfield St
CITY/STATE: Medford, OR

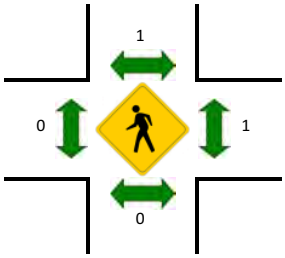
QC JOB #: 15028136
DATE: Thu, Jul 25 2019

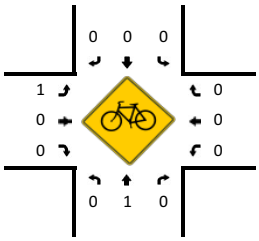
Peak-Hour: 7:25 AM -- 8:25 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

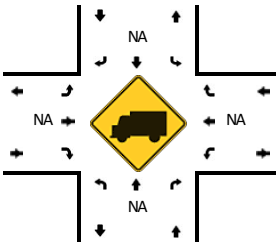


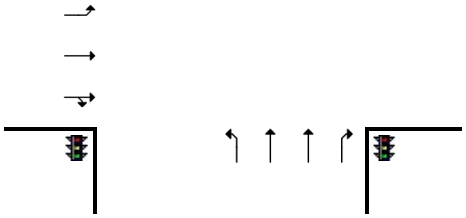


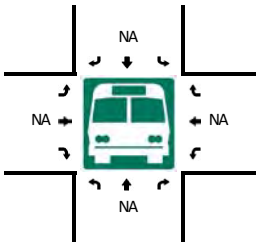












5-Min Count Period Beginning At	S Pacific Hwy (Northbound)				S Pacific Hwy (Southbound)				Garfield St (Eastbound)				Garfield St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:30 AM	2	16	11	0	7	6	0	0	1	29	2	0	10	13	6	0	103	
6:35 AM	1	12	16	0	7	8	2	0	2	22	2	0	13	24	4	0	113	
6:40 AM	1	12	19	0	13	7	4	0	4	28	2	0	23	13	8	0	134	
6:45 AM	2	26	22	0	15	15	5	0	3	28	3	0	19	12	10	0	160	
6:50 AM	2	23	20	0	8	13	3	0	6	21	4	0	21	15	13	0	149	
6:55 AM	0	18	19	0	11	8	0	0	1	17	3	0	22	11	10	0	120	
7:00 AM	0	15	14	0	6	8	1	0	6	19	5	0	7	13	13	0	107	
7:05 AM	1	20	19	0	9	12	1	0	6	17	6	0	12	8	10	0	121	
7:10 AM	1	18	16	0	14	15	1	0	4	25	2	0	10	5	7	0	118	
7:15 AM	2	29	19	0	9	12	1	0	3	18	1	0	24	17	17	0	152	
7:20 AM	0	24	13	0	15	11	1	0	3	29	5	0	21	22	13	0	157	
7:25 AM	1	45	28	0	18	13	0	0	3	25	1	0	19	8	24	0	185	1619
7:30 AM	0	17	30	0	16	11	1	0	4	35	2	0	27	22	15	0	180	1696
7:35 AM	4	43	32	0	18	22	1	0	3	23	2	0	31	13	12	0	204	1787
7:40 AM	3	42	44	0	19	18	1	0	6	34	5	0	32	11	16	0	231	1884
7:45 AM	3	43	39	0	13	19	1	0	10	37	3	0	48	17	25	0	258	1982
7:50 AM	0	29	43	0	12	25	1	0	4	45	8	0	28	23	35	0	253	2086
7:55 AM	7	35	24	0	12	22	1	0	6	27	7	0	42	24	27	0	234	2200
8:00 AM	5	28	27	0	13	17	0	0	5	20	5	0	27	18	13	0	178	2271
8:05 AM	1	30	20	1	11	14	3	0	5	29	2	0	34	21	20	0	191	2341
8:10 AM	1	36	17	0	16	16	1	0	2	28	2	0	23	19	20	0	181	2404
8:15 AM	3	32	22	0	17	12	3	0	6	18	3	0	30	19	18	0	183	2435
8:20 AM	2	42	26	0	16	19	2	0	2	25	2	0	17	13	16	0	182	2460
8:25 AM	3	24	26	0	22	16	1	0	2	28	2	0	20	13	14	0	171	2446
8:30 AM	0	36	33	0	15	17	2	0	1	22	1	0	11	15	21	0	174	2440
8:35 AM	1	35	22	0	25	24	1	0	8	33	4	0	18	14	17	0	202	2438
8:40 AM	5	28	32	0	10	24	2	0	4	27	5	0	35	18	15	0	205	2412
8:45 AM	7	38	20	0	18	22	2	0	4	18	4	0	21	15	18	0	187	2341
8:50 AM	2	40	34	0	14	26	1	0	9	19	8	0	29	16	18	0	216	2304
8:55 AM	1	25	25	0	13	21	1	0	8	20	5	0	22	19	20	0	180	2250
9:00 AM	1	38	29	0	15	18	1	0	6	17	6	0	25	17	12	0	185	2257
9:05 AM	1	21	21	0	12	17	1	0	7	28	3	0	18	11	12	0	152	2218
9:10 AM	2	34	33	0	12	24	5	0	4	15	5	0	18	12	9	0	173	2210
9:15 AM	3	30	25	0	13	19	0	0	4	17	6	0	29	7	18	0	171	2198
9:20 AM	1	35	25	0	7	18	3	0	5	19	6	0	21	22	14	0	176	2192
9:25 AM	6	32	20	0	19	21	1	0	4	23	8	0	25	19	16	0	194	2215

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	40	428	424	0	148	264	12	0	80	436	72	0	472	256	348	0	2980
Heavy Trucks	0	8	16		0	20	0		8	4	4		20	20	16		116
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 8/9/2019 8:27 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

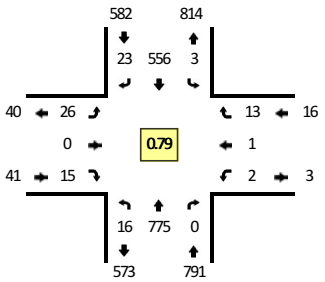
Type of peak hour being reported: Intersection Peak

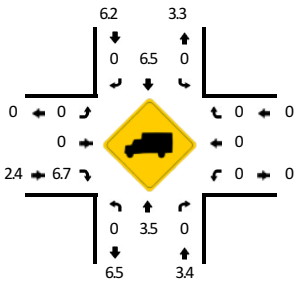
Method for determining peak hour: Total Entering Volume

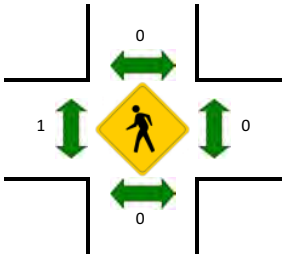
LOCATION: S Pacific Hwy -- Charlotte Ann Rd
CITY/STATE: Medford, OR

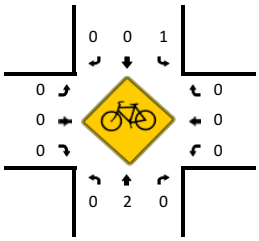
QC JOB #: 15028137
DATE: Thu, Jul 25 2019

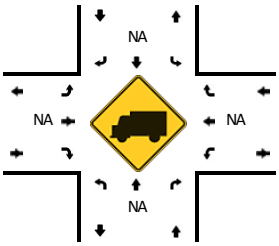
Peak-Hour: 7:25 AM -- 8:25 AM
Peak 15-Min: 7:40 AM -- 7:55 AM

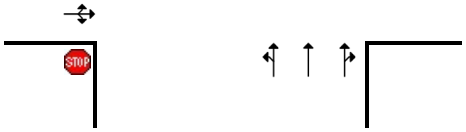


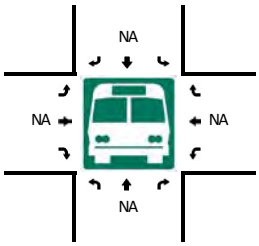












5-Min Count Period Beginning At	S Pacific Hwy (Northbound)				S Pacific Hwy (Southbound)				Charlotte Ann Rd (Eastbound)				Charlotte Ann Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:30 AM	1	25	0	0	0	18	1	0	2	0	1	0	0	0	1	0	49	
6:35 AM	1	25	0	0	0	22	2	0	1	0	0	0	0	0	1	0	52	
6:40 AM	2	38	0	0	0	31	1	0	2	0	1	0	0	0	0	0	75	
6:45 AM	2	46	0	0	0	35	2	0	1	0	0	0	0	0	0	0	86	
6:50 AM	2	44	0	0	0	37	1	0	3	0	2	0	0	0	1	0	90	
6:55 AM	2	31	0	0	0	30	2	0	3	0	1	0	0	0	1	0	70	
7:00 AM	1	22	0	0	0	16	4	0	2	0	2	0	1	0	0	0	48	
7:05 AM	1	36	0	0	1	23	4	0	4	0	1	0	0	0	0	0	70	
7:10 AM	1	34	0	0	0	25	2	0	2	0	2	0	1	0	1	0	68	
7:15 AM	1	48	0	0	1	37	0	0	1	0	1	0	0	0	0	0	89	
7:20 AM	4	45	0	0	0	35	2	0	1	0	1	0	0	0	2	0	90	
7:25 AM	1	66	0	0	1	26	2	0	5	0	0	0	0	0	0	0	101	888
7:30 AM	1	62	0	0	0	38	2	0	2	0	0	0	0	0	2	0	107	946
7:35 AM	3	70	0	0	0	44	4	0	2	0	4	0	0	1	2	0	130	1024
7:40 AM	1	88	0	0	0	50	5	0	3	0	2	0	1	0	0	0	150	1099
7:45 AM	0	82	0	0	0	51	2	0	1	0	3	0	1	0	0	0	140	1153
7:50 AM	2	81	0	0	0	71	1	0	3	0	3	0	0	0	1	0	162	1225
7:55 AM	0	52	0	0	2	63	2	0	0	0	1	0	0	0	2	0	122	1277
8:00 AM	0	64	0	0	0	51	2	0	1	0	1	0	0	0	1	0	120	1349
8:05 AM	2	45	0	0	0	45	0	0	1	0	1	0	0	0	0	0	94	1373
8:10 AM	1	50	0	0	0	42	0	0	2	0	0	0	0	0	1	0	96	1401
8:15 AM	3	58	0	0	0	34	2	0	4	0	0	0	0	0	0	0	101	1413
8:20 AM	2	57	0	0	0	41	1	0	2	0	0	0	0	0	4	0	107	1430
8:25 AM	1	47	1	0	0	39	0	0	2	0	1	0	0	0	1	0	92	1421
8:30 AM	1	63	0	0	0	32	3	0	3	0	1	0	1	0	0	0	104	1418
8:35 AM	0	60	0	0	0	42	3	0	3	0	1	0	0	0	1	0	110	1398
8:40 AM	1	74	0	0	0	56	4	0	1	0	1	0	0	0	2	0	139	1387
8:45 AM	2	49	0	0	0	46	3	0	1	1	2	0	0	0	1	0	105	1352
8:50 AM	0	75	0	0	0	56	1	0	2	0	2	0	0	0	1	0	137	1327
8:55 AM	2	53	0	0	1	49	2	0	2	0	2	0	0	0	1	0	112	1317
9:00 AM	0	64	0	0	0	38	1	0	1	0	1	0	0	0	2	0	107	1304
9:05 AM	3	51	0	0	0	37	2	0	0	0	2	0	0	0	1	0	96	1306
9:10 AM	0	71	0	0	1	44	3	0	4	0	0	0	0	0	0	0	123	1333
9:15 AM	3	53	0	0	1	50	2	0	3	0	3	0	0	0	0	0	115	1347
9:20 AM	0	52	1	0	1	43	0	0	2	0	2	0	0	0	0	0	101	1341
9:25 AM	1	51	1	0	0	49	1	0	1	0	0	0	0	0	0	0	104	1353

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	12	1004	0	0	0	688	32	0	28	0	32	0	8	0	4	0	1808
Heavy Trucks	0	24	0		0	64	0		0	0	0		0	0	0		88
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 8/9/2019 8:27 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

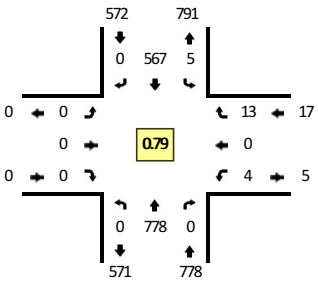
Type of peak hour being reported: Intersection Peak

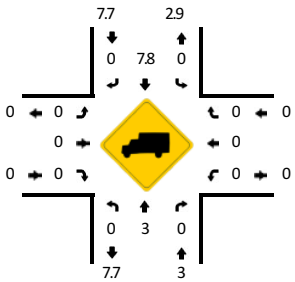
Method for determining peak hour: Total Entering Volume

LOCATION: S Pacific Hwy -- Human Bean Dwy
CITY/STATE: Medford, OR

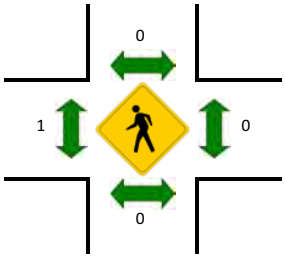
QC JOB #: 15028138
DATE: Thu, Jul 25 2019

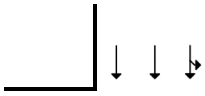
Peak-Hour: 7:25 AM -- 8:25 AM
Peak 15-Min: 7:40 AM -- 7:55 AM

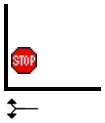


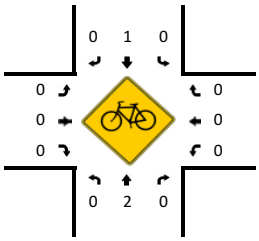


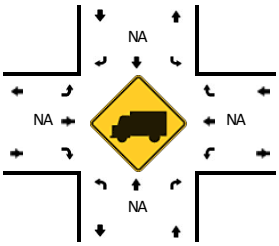
Quality Counts
DATA THAT DRIVES COMMUNITIES

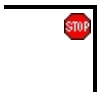


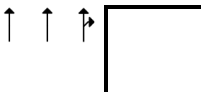


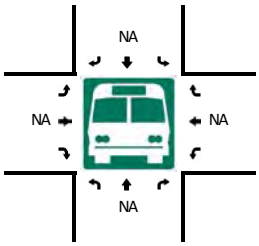












5-Min Count Period Beginning At	S Pacific Hwy (Northbound)				S Pacific Hwy (Southbound)				Human Bean Dwy (Eastbound)				Human Bean Dwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:30 AM	0	26	0	0	0	19	0	0	0	0	0	0	0	0	1	0	46	
6:35 AM	0	25	0	0	0	22	0	0	0	0	0	0	0	0	0	0	47	
6:40 AM	0	39	0	0	1	30	0	0	0	0	0	0	0	0	0	0	70	
6:45 AM	0	49	0	0	0	35	0	0	0	0	0	0	0	0	0	0	84	
6:50 AM	0	45	0	0	0	39	0	0	0	0	0	0	0	0	1	0	85	
6:55 AM	0	33	0	0	0	31	0	0	0	0	0	0	0	0	1	0	65	
7:00 AM	0	23	0	0	1	18	0	0	0	0	0	0	0	0	2	0	44	
7:05 AM	0	37	0	0	0	24	0	0	0	0	0	0	0	0	1	0	62	
7:10 AM	0	35	0	0	1	28	0	0	0	0	0	0	0	0	2	0	66	
7:15 AM	0	48	0	0	0	38	0	0	0	0	0	0	1	0	0	0	87	
7:20 AM	0	49	0	0	0	37	0	0	0	0	0	0	0	0	0	0	86	
7:25 AM	0	67	0	0	0	26	0	0	0	0	0	0	1	0	1	0	95	837
7:30 AM	0	63	0	0	0	38	0	0	0	0	0	0	0	0	0	0	101	892
7:35 AM	0	69	0	0	0	50	0	0	0	0	0	0	0	0	3	0	122	967
7:40 AM	0	89	0	0	0	55	0	0	0	0	0	0	0	0	1	0	145	1042
7:45 AM	0	80	0	0	0	53	0	0	0	0	0	0	0	0	1	0	134	1092
7:50 AM	0	82	0	0	1	70	0	0	0	0	0	0	0	0	0	0	153	1160
7:55 AM	0	52	0	0	4	62	0	0	0	0	0	0	0	0	0	0	118	1213
8:00 AM	0	60	0	0	0	52	0	0	0	0	0	0	0	0	3	0	115	1284
8:05 AM	0	46	0	0	0	45	0	0	0	0	0	0	1	0	1	0	93	1315
8:10 AM	0	50	0	0	0	40	0	0	0	0	0	0	0	0	1	0	91	1340
8:15 AM	0	59	0	0	0	35	0	0	0	0	0	0	0	0	2	0	96	1349
8:20 AM	0	61	0	0	0	41	0	0	0	0	0	0	2	0	0	0	104	1367
8:25 AM	0	49	0	0	0	39	0	0	0	0	0	0	0	0	0	0	88	1360
8:30 AM	0	66	0	0	0	34	0	0	0	0	0	0	0	0	0	0	100	1359
8:35 AM	0	59	0	0	0	43	0	0	0	0	0	0	0	0	1	0	103	1340
8:40 AM	0	75	0	0	1	53	0	0	0	0	0	0	0	0	1	0	130	1325
8:45 AM	0	51	0	0	0	50	0	0	0	0	0	0	0	0	1	0	102	1293
8:50 AM	0	75	0	0	1	57	0	0	0	0	0	0	1	0	1	0	135	1275
8:55 AM	0	57	0	0	1	50	0	0	0	0	0	0	0	0	2	0	110	1267
9:00 AM	0	62	0	0	1	38	0	0	0	0	0	0	0	0	0	0	101	1253
9:05 AM	0	55	0	0	0	39	0	0	0	0	0	0	0	0	0	0	94	1254
9:10 AM	0	70	0	0	0	45	0	0	0	0	0	0	1	0	0	0	116	1279
9:15 AM	0	56	0	0	0	53	0	0	0	0	0	0	0	0	0	0	109	1292
9:20 AM	0	53	0	0	0	46	0	0	0	0	0	0	0	0	2	0	101	1289
9:25 AM	0	53	0	0	0	49	0	0	0	0	0	0	0	0	1	0	103	1304

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	1004	0	0	4	712	0	0	0	0	0	0	0	0	8	0	1728
Heavy Trucks	0	12	0		0	68	0		0	0	0		0	0	0		80
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 8/9/2019 8:27 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

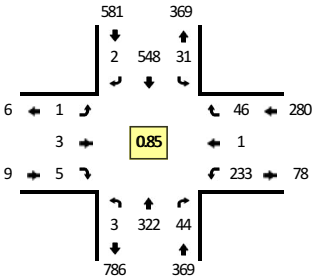
Type of peak hour being reported: Intersection Peak

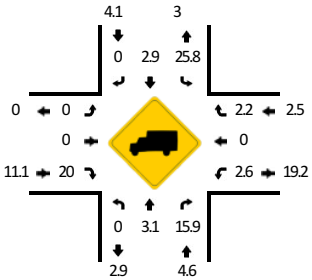
Method for determining peak hour: Total Entering Volume

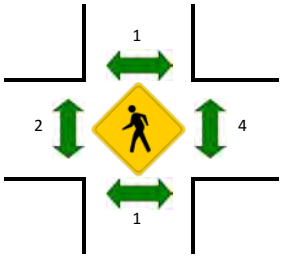
LOCATION: N Phoenix Rd -- Cherry Ln
CITY/STATE: Medford, OR

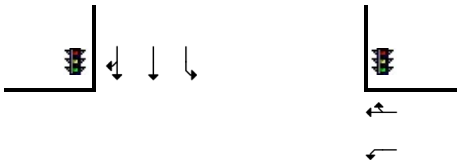
QC JOB #: 15028139
DATE: Thu, Jul 25 2019

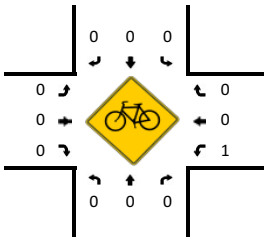
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:40 AM -- 7:55 AM

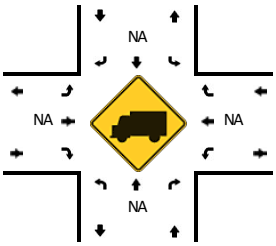


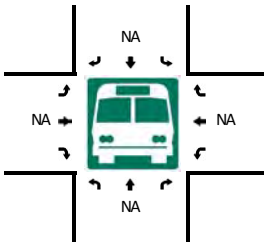












5-Min Count Period Beginning At	N Phoenix Rd (Northbound)				N Phoenix Rd (Southbound)				Cherry Ln (Eastbound)				Cherry Ln (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:30 AM	0	14	2	0	1	29	0	0	0	0	0	0	5	0	0	0	51	
6:35 AM	0	18	3	0	3	22	0	0	0	0	0	0	10	0	0	0	56	
6:40 AM	0	7	0	0	2	24	0	0	0	0	0	0	4	0	2	0	39	
6:45 AM	1	28	5	0	3	20	0	0	0	0	0	0	6	0	3	0	66	
6:50 AM	0	16	4	0	2	20	0	0	0	0	0	0	14	0	1	0	57	
6:55 AM	0	21	7	0	3	31	0	0	0	0	0	0	12	0	1	0	75	
7:00 AM	0	8	3	0	2	24	0	0	0	0	1	0	12	0	3	0	53	
7:05 AM	0	19	5	0	1	21	0	0	0	0	0	0	8	0	3	0	57	
7:10 AM	0	9	4	0	2	31	0	0	0	0	0	0	16	0	3	0	65	
7:15 AM	0	19	4	0	0	38	0	0	0	0	1	0	9	0	1	0	72	
7:20 AM	0	15	4	0	0	39	0	0	0	0	1	0	17	0	5	0	81	
7:25 AM	0	18	5	0	4	45	0	0	0	0	0	0	15	0	6	0	93	765
7:30 AM	0	30	5	0	2	37	0	0	0	0	0	0	11	0	3	0	88	802
7:35 AM	1	32	5	0	1	60	0	0	0	0	0	0	16	0	5	0	120	866
7:40 AM	0	28	4	0	2	60	0	0	0	0	1	0	23	0	6	0	124	951
7:45 AM	0	28	3	0	0	45	0	0	0	0	1	0	36	0	6	0	119	1004
7:50 AM	0	38	2	0	2	55	1	0	0	0	0	0	19	0	4	0	121	1068
7:55 AM	0	28	1	0	3	45	1	0	0	0	2	0	28	0	3	0	111	1104
8:00 AM	0	22	4	0	3	48	0	0	0	0	1	0	21	0	2	0	101	1152
8:05 AM	0	17	4	0	3	32	0	0	0	0	0	0	10	0	2	0	68	1163
8:10 AM	2	25	1	0	2	43	0	0	0	0	0	0	19	0	5	0	97	1195
8:15 AM	0	25	4	0	4	35	0	0	0	1	0	0	18	0	3	0	90	1213
8:20 AM	0	22	6	0	5	39	0	0	1	0	0	0	13	1	5	0	92	1224
8:25 AM	0	27	5	0	4	49	0	0	0	2	0	0	19	0	2	0	108	1239
8:30 AM	0	21	7	0	3	27	0	0	0	0	1	0	22	0	3	0	84	1235
8:35 AM	0	22	3	0	3	49	0	0	0	0	1	0	18	0	4	0	100	1215
8:40 AM	0	20	8	0	3	39	0	0	0	0	0	0	17	0	7	0	94	1185
8:45 AM	0	27	13	0	5	36	0	0	0	0	0	0	20	0	4	0	105	1171
8:50 AM	0	19	4	0	3	57	0	0	0	0	0	0	21	0	9	0	113	1163
8:55 AM	0	38	8	0	1	22	0	0	0	0	0	0	25	0	7	0	101	1153
9:00 AM	0	22	6	0	2	38	1	0	1	0	0	0	11	1	5	0	87	1139
9:05 AM	0	19	3	0	3	44	0	0	0	1	0	0	11	0	5	0	86	1157
9:10 AM	0	21	14	0	1	35	0	0	0	0	0	0	14	0	2	0	87	1147
9:15 AM	0	35	8	0	2	37	0	0	0	0	0	0	7	0	5	0	94	1151
9:20 AM	0	25	5	0	2	39	0	0	0	0	1	0	8	0	3	0	83	1142
9:25 AM	0	22	15	0	1	46	0	0	0	0	0	0	13	0	5	0	102	1136

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	376	36	0	16	640	4	0	0	0	8	0	312	0	64	0	1456
Heavy Trucks	0	8	4		4	16	0		0	0	0		0	0	0		32
Pedestrians		4				0				4				12			20
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 8/9/2019 8:28 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

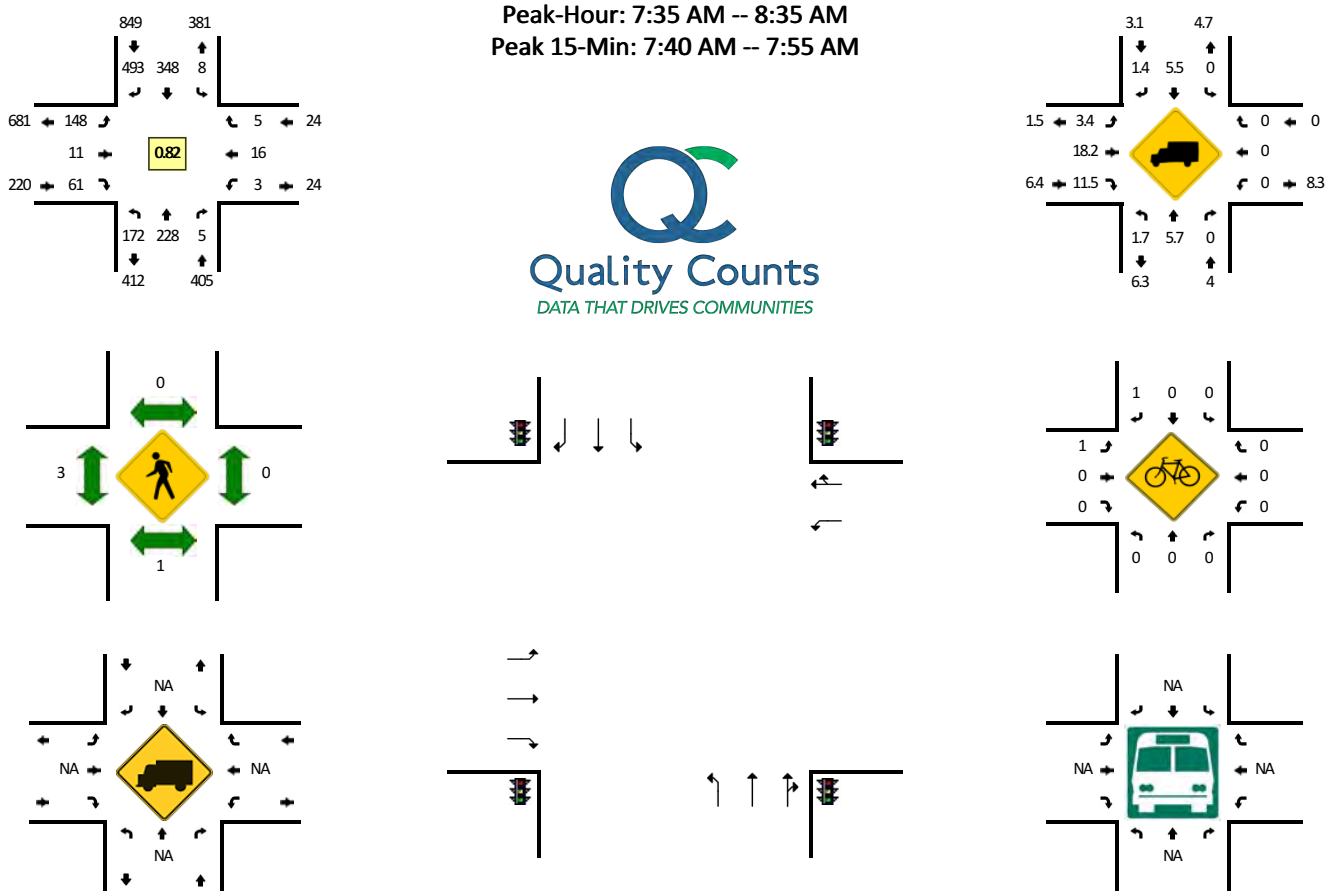
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: N Phoenix Rd -- Barnett Rd
CITY/STATE: Medford, OR

QC JOB #: 15028140
DATE: Thu, Jul 25 2019

Peak-Hour: 7:35 AM -- 8:35 AM
Peak 15-Min: 7:40 AM -- 7:55 AM



Quality Counts
DATA THAT DRIVES COMMUNITIES

5-Min Count Period Beginning At	N Phoenix Rd (Northbound)				N Phoenix Rd (Southbound)				Barnett Rd (Eastbound)				Barnett Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:30 AM	11	10	1	0	0	19	18	0	8	0	2	0	1	0	0	0	70	
6:35 AM	6	14	0	0	0	10	19	0	6	1	4	0	0	0	1	0	61	
6:40 AM	4	8	0	0	0	20	17	0	4	0	0	0	0	0	0	0	53	
6:45 AM	8	14	0	0	0	16	11	0	10	0	3	0	0	0	0	0	62	
6:50 AM	4	19	1	0	0	18	24	0	5	0	2	0	0	0	0	0	73	
6:55 AM	5	8	1	0	1	15	27	0	13	1	2	0	0	0	0	0	73	
7:00 AM	9	4	0	0	0	15	24	0	9	0	4	0	0	1	0	0	66	
7:05 AM	9	14	0	0	0	18	20	0	9	0	0	0	0	0	0	0	70	
7:10 AM	8	8	0	0	0	20	22	0	8	0	4	0	1	1	0	0	72	
7:15 AM	17	9	2	0	0	25	22	0	12	0	6	0	0	0	1	0	94	
7:20 AM	8	10	0	0	1	23	34	0	8	2	5	0	2	1	1	0	95	
7:25 AM	6	13	0	0	1	31	41	0	6	0	5	0	1	0	1	0	105	894
7:30 AM	7	19	0	0	1	24	29	0	13	0	5	0	0	0	0	0	98	922
7:35 AM	7	26	0	0	1	24	45	0	17	1	3	0	0	1	0	0	125	986
7:40 AM	26	18	1	0	2	32	50	0	12	0	3	0	0	1	0	0	145	1078
7:45 AM	19	15	0	0	0	42	57	0	11	1	3	0	0	2	0	0	150	1166
7:50 AM	26	33	0	0	1	32	54	0	10	0	4	0	0	2	0	0	162	1255
7:55 AM	14	8	1	0	1	28	41	0	14	1	8	0	0	1	3	0	120	1302
8:00 AM	14	17	1	0	0	40	58	0	10	1	8	0	2	0	0	0	151	1387
8:05 AM	9	11	0	0	1	19	20	0	11	0	5	0	0	0	0	0	76	1393
8:10 AM	6	18	1	0	0	26	41	0	15	0	1	0	1	1	0	0	110	1431
8:15 AM	16	15	0	0	0	33	25	0	9	2	2	0	0	1	0	0	103	1440
8:20 AM	13	18	0	0	1	24	40	0	10	1	11	0	0	2	0	0	120	1465
8:25 AM	12	26	0	0	1	27	35	0	14	3	4	0	0	3	0	0	125	1485
8:30 AM	10	23	1	0	0	21	27	0	15	1	9	0	0	2	2	0	111	1498
8:35 AM	11	11	0	0	0	39	31	0	8	1	6	0	1	0	1	0	109	1482
8:40 AM	15	17	0	0	1	27	32	0	13	1	6	0	0	2	2	0	116	1453
8:45 AM	15	21	1	0	0	28	32	0	21	0	5	0	0	1	0	0	124	1427
8:50 AM	7	16	0	0	0	39	38	0	9	0	1	0	1	0	0	0	111	1376
8:55 AM	13	21	2	0	2	23	36	0	24	2	8	0	0	1	3	0	135	1391
9:00 AM	8	16	1	0	2	16	30	0	11	0	11	0	1	4	0	0	100	1340
9:05 AM	9	17	2	0	2	28	29	0	19	0	5	0	0	1	0	0	112	1376
9:10 AM	8	19	1	0	3	24	26	0	13	1	1	0	0	1	2	0	99	1365
9:15 AM	4	21	1	0	0	27	17	0	22	0	7	0	0	1	2	0	102	1364
9:20 AM	2	21	2	0	2	26	24	0	14	1	9	0	1	1	2	0	105	1349
9:25 AM	9	20	1	0	0	34	31	0	14	1	5	0	1	1	2	0	119	1343

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	284	264	4	0	12	424	644	0	132	4	40	0	0	20	0	0	1828
Heavy Trucks	4	16	0		0	12	4		8	0	8		0	0	0		52
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 8/9/2019 8:28 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

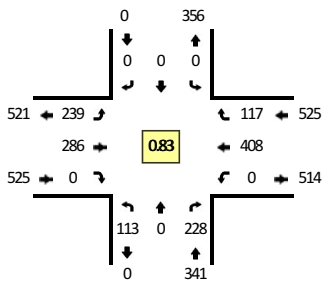
Type of peak hour being reported: Intersection Peak

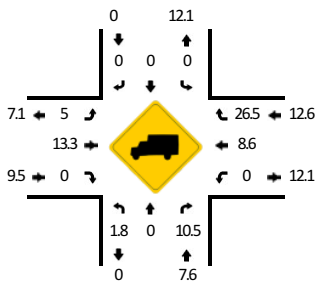
Method for determining peak hour: Total Entering Volume

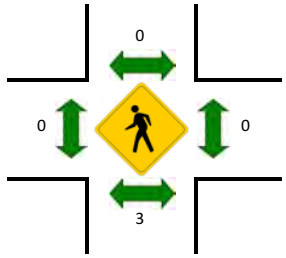
LOCATION: I- 5 NB -- N Phoenix Rd
CITY/STATE: Phoenix, OR

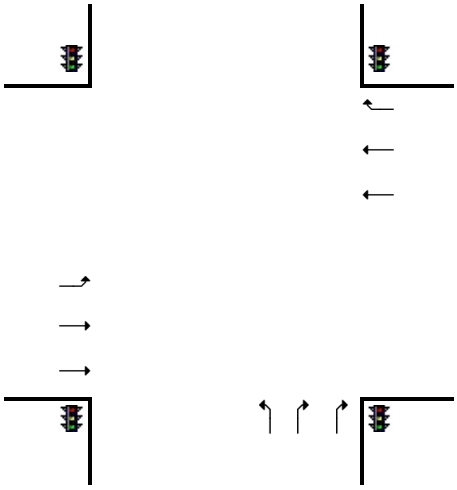
QC JOB #: 15028141
DATE: Thu, Jul 25 2019

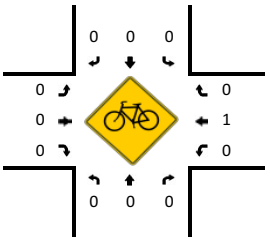
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:40 AM -- 7:55 AM

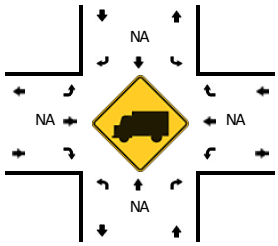


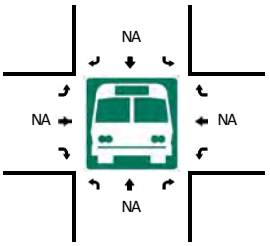












5-Min Count Period Beginning At	I- 5 NB (Northbound)				I- 5 NB (Southbound)				N Phoenix Rd (Eastbound)				N Phoenix Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:30 AM	2	0	7	0	0	0	0	0	10	9	0	0	0	12	2	0	42	
6:35 AM	4	0	6	0	0	0	0	0	14	12	0	0	0	24	7	0	67	
6:40 AM	2	0	10	0	0	0	0	0	15	16	0	0	0	25	5	0	73	
6:45 AM	4	0	9	0	0	0	0	0	21	15	0	0	0	9	4	0	62	
6:50 AM	3	0	12	0	0	0	0	0	9	13	0	0	0	20	8	0	65	
6:55 AM	6	0	8	0	0	0	0	0	9	18	0	0	0	18	8	0	67	
7:00 AM	3	0	14	0	0	0	0	0	9	15	0	0	0	27	4	0	72	
7:05 AM	4	0	6	0	0	0	0	0	12	14	0	0	0	14	4	0	54	
7:10 AM	4	0	6	0	0	0	0	0	14	13	0	0	0	21	8	0	66	
7:15 AM	3	0	12	0	0	0	0	0	13	16	0	0	0	26	8	0	78	
7:20 AM	4	0	6	0	0	0	0	0	18	18	0	0	0	21	10	0	77	
7:25 AM	8	0	7	0	0	0	0	0	16	16	0	0	0	21	9	0	77	800
7:30 AM	4	0	19	0	0	0	0	0	19	15	0	0	0	41	14	0	112	870
7:35 AM	8	0	21	0	0	0	0	0	19	18	0	0	0	26	10	0	102	905
7:40 AM	12	0	21	0	0	0	0	0	28	35	0	0	0	38	10	0	144	976
7:45 AM	16	0	27	0	0	0	0	0	31	23	0	0	0	29	15	0	141	1055
7:50 AM	12	0	29	0	0	0	0	0	18	27	0	0	0	42	7	0	135	1125
7:55 AM	16	0	17	0	0	0	0	0	14	28	0	0	0	31	10	0	116	1174
8:00 AM	5	0	11	0	0	0	0	0	18	25	0	0	0	29	9	0	97	1199
8:05 AM	5	0	16	0	0	0	0	0	13	23	0	0	0	40	11	0	108	1253
8:10 AM	10	0	13	0	0	0	0	0	19	19	0	0	0	32	11	0	104	1291
8:15 AM	8	0	14	0	0	0	0	0	14	26	0	0	0	29	9	0	100	1313
8:20 AM	8	0	23	0	0	0	0	0	25	23	0	0	0	35	5	0	119	1355
8:25 AM	9	0	17	0	0	0	0	0	21	24	0	0	0	36	6	0	113	1391
8:30 AM	9	0	19	0	0	0	0	0	13	22	0	0	0	26	12	0	101	1380
8:35 AM	4	0	19	0	0	0	0	0	12	29	0	0	0	35	8	0	107	1385
8:40 AM	8	0	23	0	0	0	0	0	14	17	0	0	0	48	6	0	116	1357
8:45 AM	11	0	13	0	0	0	0	0	18	18	0	0	0	36	11	0	107	1323
8:50 AM	14	0	19	0	0	0	0	0	15	32	0	0	0	41	10	1	132	1320
8:55 AM	14	0	15	0	0	0	0	0	13	21	0	0	0	33	9	0	105	1309
9:00 AM	2	0	12	0	0	0	0	0	20	22	0	0	0	43	7	0	106	1318
9:05 AM	6	0	11	0	0	0	0	0	14	25	0	0	0	23	5	0	84	1294
9:10 AM	10	0	15	0	0	0	0	0	12	13	0	0	0	28	10	0	88	1278
9:15 AM	12	0	20	0	0	0	0	0	16	19	0	0	0	25	12	0	104	1282
9:20 AM	7	0	12	0	0	0	0	0	13	24	0	0	0	42	6	0	104	1267
9:25 AM	9	0	14	0	0	0	0	0	12	28	0	0	0	30	6	0	99	1253

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	160	0	308	0	0	0	0	0	308	340	0	0	0	436	128	0	1680
Heavy Trucks	0	0	40		0	0	0		16	40	0		0	44	32		172
Pedestrians		4				0				0				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	1	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 8/9/2019 8:28 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

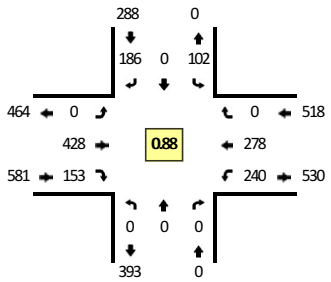
Type of peak hour being reported: Intersection Peak

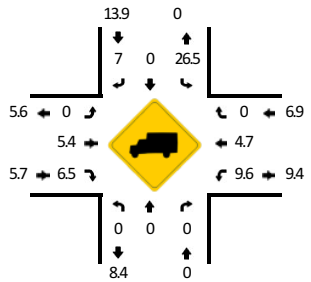
Method for determining peak hour: Total Entering Volume

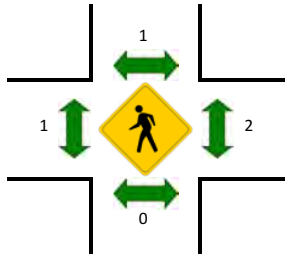
LOCATION: I- 5 SB -- N Phoenix Rd
CITY/STATE: Phoenix, OR

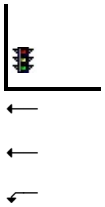
QC JOB #: 15028142
DATE: Thu, Jul 25 2019

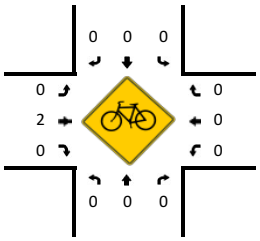
Peak-Hour: 7:35 AM -- 8:35 AM
Peak 15-Min: 7:40 AM -- 7:55 AM

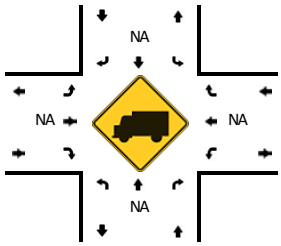


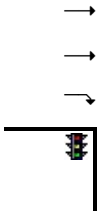


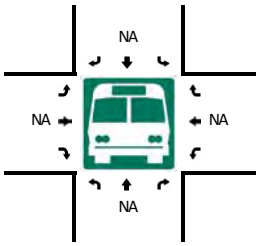












5-Min Count Period Beginning At	I- 5 SB (Northbound)				I- 5 SB (Southbound)				N Phoenix Rd (Eastbound)				N Phoenix Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:30 AM	0	0	0	0	5	0	4	0	0	15	7	0	3	10	0	0	44	
6:35 AM	0	0	0	0	2	0	11	0	0	27	9	0	17	13	0	0	79	
6:40 AM	0	0	0	0	3	0	14	0	0	24	11	0	16	13	0	0	81	
6:45 AM	0	0	0	0	4	0	9	0	0	31	18	0	4	10	0	0	76	
6:50 AM	0	0	0	0	3	0	18	0	0	25	2	0	12	10	0	0	70	
6:55 AM	0	0	0	0	6	0	11	0	0	17	8	0	14	9	0	0	65	
7:00 AM	0	0	0	0	6	0	5	0	0	19	5	0	17	15	0	0	67	
7:05 AM	0	0	0	0	6	0	11	0	0	23	12	0	9	9	0	0	70	
7:10 AM	0	0	0	0	4	0	11	0	0	21	9	0	12	12	0	0	69	
7:15 AM	0	0	0	0	3	0	13	0	0	28	4	0	20	12	0	0	80	
7:20 AM	0	0	0	0	7	0	15	0	0	31	18	0	11	13	0	0	95	
7:25 AM	0	0	0	0	3	0	13	0	0	28	7	0	15	13	0	0	79	875
7:30 AM	0	0	0	0	6	0	10	0	0	28	9	0	23	19	0	0	95	926
7:35 AM	0	0	0	0	6	0	17	0	0	35	17	0	16	22	0	0	113	960
7:40 AM	0	0	0	0	7	0	19	0	0	54	16	0	29	18	0	0	143	1022
7:45 AM	0	0	0	0	10	0	16	0	0	46	9	0	15	26	0	0	122	1068
7:50 AM	0	0	0	0	12	0	16	0	0	31	14	0	24	34	0	0	131	1129
7:55 AM	0	0	0	0	7	0	17	0	0	37	12	0	17	33	0	0	123	1187
8:00 AM	0	0	0	0	9	0	12	0	0	31	13	0	18	20	0	0	103	1223
8:05 AM	0	0	0	0	8	0	20	0	0	29	10	0	18	18	0	0	103	1256
8:10 AM	0	0	0	0	8	0	19	0	0	36	9	0	22	23	0	0	117	1304
8:15 AM	0	0	0	0	6	0	8	0	0	36	21	0	24	15	0	0	110	1334
8:20 AM	0	0	0	0	9	0	15	0	0	35	12	0	20	21	0	0	112	1351
8:25 AM	0	0	0	0	9	0	13	0	0	36	9	0	15	24	0	0	106	1378
8:30 AM	0	0	0	0	11	0	14	0	0	22	11	0	22	24	0	0	104	1387
8:35 AM	0	0	0	0	7	0	19	0	0	31	11	0	24	14	0	0	106	1380
8:40 AM	0	0	0	0	4	0	20	0	0	27	12	0	23	32	0	0	118	1355
8:45 AM	0	0	0	0	5	0	11	0	0	34	14	0	26	23	0	0	113	1346
8:50 AM	0	0	0	0	6	0	20	0	0	43	19	0	22	25	0	0	135	1350
8:55 AM	0	0	0	0	8	0	20	0	0	23	10	0	15	38	0	0	114	1341
9:00 AM	0	0	0	0	10	0	9	0	0	32	5	0	23	25	0	0	104	1342
9:05 AM	0	0	0	0	10	0	16	0	0	28	15	0	11	14	0	0	94	1333
9:10 AM	0	0	0	0	4	0	10	0	0	20	12	0	14	28	0	0	88	1304
9:15 AM	0	0	0	0	8	0	19	0	0	28	16	0	12	24	0	0	107	1301
9:20 AM	0	0	0	0	8	0	16	0	0	30	9	0	18	28	0	0	109	1298
9:25 AM	0	0	0	0	10	0	12	0	0	34	15	0	22	20	0	0	113	1305

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	116	0	204	0	0	524	156	0	272	312	0	0	1584
Heavy Trucks	0	0	0		28	0	16		0	28	4		24	20	0		120
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 8/9/2019 8:28 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

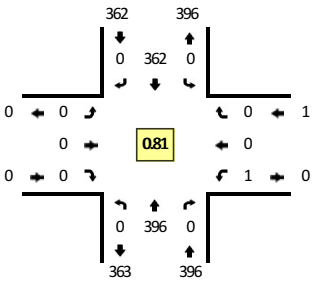
Type of peak hour being reported: Intersection Peak

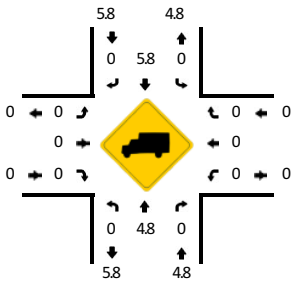
Method for determining peak hour: Total Entering Volume

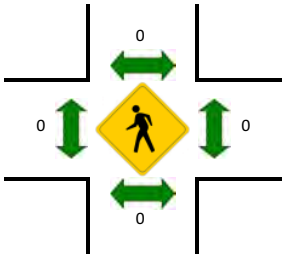
LOCATION: N Phoenix Rd -- Arrowhead Ranch Dwy
CITY/STATE: Medford, OR

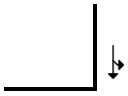
QC JOB #: 15028143
DATE: Thu, Jul 25 2019

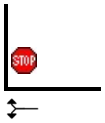
Peak-Hour: 7:35 AM -- 8:35 AM
Peak 15-Min: 7:40 AM -- 7:55 AM

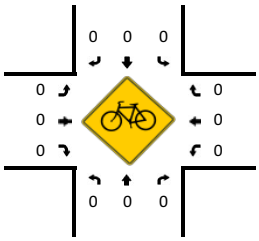


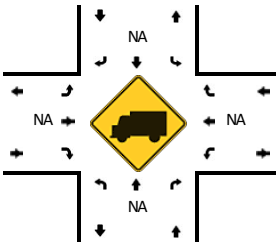


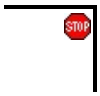


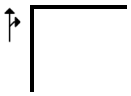


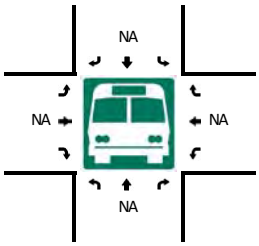












5-Min Count Period Beginning At	N Phoenix Rd (Northbound)				N Phoenix Rd (Southbound)				Arrowhead Ranch Dwy (Eastbound)				Arrowhead Ranch Dwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:30 AM	0	13	0	0	0	13	0	0	0	0	0	0	0	0	0	0	26	
6:35 AM	0	11	0	0	0	22	0	0	0	0	0	0	0	0	0	0	33	
6:40 AM	0	22	0	0	0	19	0	0	0	0	0	0	0	0	0	0	41	
6:45 AM	0	16	0	0	0	9	0	0	0	0	0	0	0	0	0	0	25	
6:50 AM	0	18	0	0	0	14	0	0	0	0	0	0	0	0	0	0	32	
6:55 AM	0	13	0	0	0	21	0	0	0	0	0	0	0	0	0	0	34	
7:00 AM	0	19	0	0	0	14	0	0	0	0	0	0	0	0	0	0	33	
7:05 AM	0	17	0	0	0	16	0	0	0	0	0	0	0	0	0	0	33	
7:10 AM	0	10	0	0	0	19	0	0	0	0	0	0	0	0	0	0	29	
7:15 AM	0	30	0	0	0	25	0	0	0	0	0	0	0	0	0	0	55	
7:20 AM	0	20	0	0	0	25	0	0	0	0	0	0	0	0	0	0	45	
7:25 AM	0	17	0	0	0	27	0	0	0	0	0	0	0	0	0	0	44	430
7:30 AM	0	27	0	0	0	28	0	0	0	0	0	0	0	0	0	0	55	459
7:35 AM	0	37	0	0	0	25	0	0	0	0	0	0	0	0	0	0	62	488
7:40 AM	0	49	0	0	0	33	0	0	0	0	0	0	0	0	0	0	82	529
7:45 AM	0	48	0	0	0	33	0	0	0	0	0	0	0	0	0	0	81	585
7:50 AM	0	40	0	0	0	32	0	0	0	0	0	0	0	0	0	0	72	625
7:55 AM	0	23	0	0	0	34	0	0	0	0	0	0	0	0	0	0	57	648
8:00 AM	0	33	0	0	0	33	0	0	0	0	0	0	0	0	0	0	66	681
8:05 AM	0	21	0	0	0	30	0	0	0	0	0	0	0	0	0	0	51	699
8:10 AM	0	23	0	0	0	25	0	0	0	0	0	0	0	0	0	0	48	718
8:15 AM	0	25	0	0	0	29	0	0	0	0	0	0	0	0	0	0	54	717
8:20 AM	0	38	0	0	0	25	0	0	0	0	0	0	1	0	0	0	64	736
8:25 AM	0	36	0	0	0	30	0	0	0	0	0	0	0	0	0	0	66	758
8:30 AM	0	23	0	0	0	33	0	0	0	0	0	0	0	0	0	0	56	759
8:35 AM	0	27	0	0	0	24	0	0	0	0	0	0	0	0	0	0	51	748
8:40 AM	0	34	0	0	0	46	0	0	0	0	0	0	0	0	0	0	80	746
8:45 AM	0	31	0	1	0	24	0	0	0	0	0	0	0	0	0	0	56	721
8:50 AM	0	30	0	0	0	38	0	0	0	0	0	0	0	0	0	0	68	717
8:55 AM	0	39	0	0	0	34	0	0	0	0	0	0	0	0	0	0	73	733
9:00 AM	0	20	0	0	0	30	0	0	0	0	0	0	0	0	0	0	50	717
9:05 AM	0	18	0	0	0	22	0	0	0	0	0	0	0	0	0	0	40	706
9:10 AM	0	26	0	0	0	24	0	0	0	0	0	0	0	0	0	0	50	708
9:15 AM	0	14	0	0	0	25	0	0	0	0	0	0	0	0	0	0	39	693
9:20 AM	0	19	0	1	0	33	0	0	0	0	0	0	0	0	0	0	53	682
9:25 AM	0	32	0	0	0	26	0	0	0	0	0	0	0	0	0	0	58	674

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	548	0	0	0	392	0	0	0	0	0	0	0	0	0	0	940
Heavy Trucks	0	28	0		0	20	0		0	0	0		0	0	0		48
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 8/9/2019 8:28 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

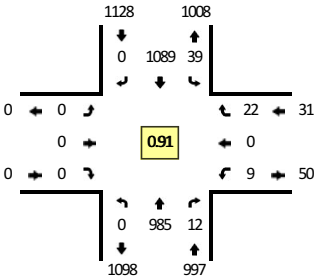
Type of peak hour being reported: Intersection Peak

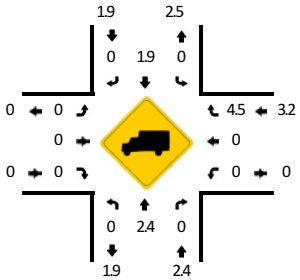
Method for determining peak hour: Total Entering Volume

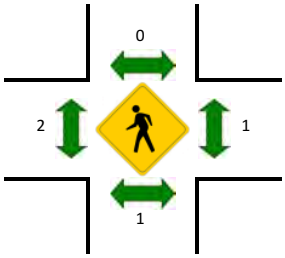
LOCATION: S Pacific Hwy -- Roxy Ann Lanes Dwy
CITY/STATE: Medford, OR

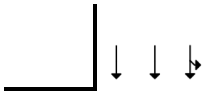
QC JOB #: 15028144
DATE: Wed, Jul 24 2019

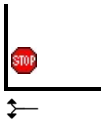
Peak-Hour: 4:40 PM -- 5:40 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

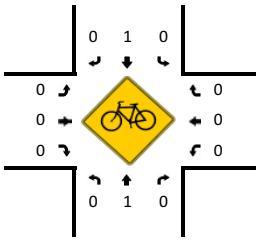


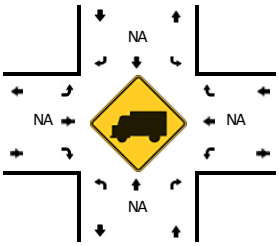


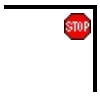


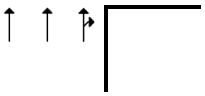


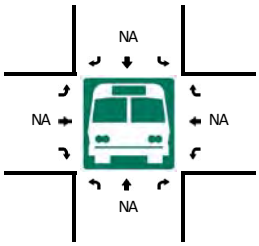












5-Min Count Period Beginning At	S Pacific Hwy (Northbound)				S Pacific Hwy (Southbound)				Roxy Ann Lanes Dwy (Eastbound)				Roxy Ann Lanes Dwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:30 PM	0	65	2	0	4	85	0	0	0	0	0	0	2	0	2	0	160	
4:35 PM	0	98	3	0	1	76	0	0	0	0	0	0	0	0	3	0	181	
4:40 PM	0	83	2	0	2	80	0	0	0	0	0	0	1	0	3	0	171	
4:45 PM	0	91	0	0	6	73	0	0	0	0	0	0	0	0	3	0	173	
4:50 PM	0	77	2	0	4	93	0	0	0	0	0	0	0	0	1	0	177	
4:55 PM	0	61	0	0	3	97	0	0	0	0	0	0	2	0	1	0	164	
5:00 PM	0	85	0	0	2	63	0	0	0	0	0	0	2	0	3	0	155	
5:05 PM	0	94	2	0	1	90	0	0	0	0	0	0	0	0	0	0	187	
5:10 PM	0	107	0	0	3	81	0	0	0	0	0	0	0	0	0	0	191	
5:15 PM	0	104	4	0	4	92	0	0	0	0	0	0	0	0	0	0	204	
5:20 PM	0	77	0	0	6	110	0	1	0	0	0	0	1	0	4	0	199	
5:25 PM	0	67	1	0	4	106	0	0	0	0	0	0	2	0	1	0	181	2143
5:30 PM	0	72	1	0	2	73	0	0	0	0	0	0	1	0	4	0	153	2136
5:35 PM	0	67	0	0	1	131	0	0	0	0	0	0	0	0	2	0	201	2156
5:40 PM	0	69	2	0	4	77	0	0	0	0	0	0	2	0	3	0	157	2142
5:45 PM	0	71	0	0	5	100	0	0	0	0	0	0	3	0	3	0	182	2151
5:50 PM	0	53	1	0	5	96	0	0	0	0	0	0	2	0	0	0	157	2131
5:55 PM	0	64	0	0	9	79	0	0	0	0	0	0	1	0	1	0	154	2121
6:00 PM	0	81	0	0	3	63	0	0	0	0	0	0	1	0	0	0	148	2114
6:05 PM	0	78	2	0	6	66	0	0	0	0	0	0	1	0	0	0	153	2080
6:10 PM	0	59	2	0	10	68	0	0	0	0	0	0	0	0	0	0	139	2028
6:15 PM	0	58	0	0	7	81	0	0	0	0	0	0	0	0	0	0	146	1970
6:20 PM	0	51	4	0	4	57	0	0	0	0	0	0	3	0	2	0	121	1892
6:25 PM	0	69	3	0	4	58	0	0	0	0	0	0	0	0	2	0	136	1847
6:30 PM	0	33	0	0	3	75	0	0	0	0	0	0	2	0	2	0	115	1809
6:35 PM	0	40	0	0	0	65	0	0	0	0	0	0	1	0	0	0	106	1714
6:40 PM	0	45	0	0	2	67	0	0	0	0	0	0	0	0	0	0	114	1671
6:45 PM	0	45	2	0	2	75	0	0	0	0	0	0	0	0	1	0	125	1614
6:50 PM	0	52	0	0	1	87	0	0	0	0	0	0	3	0	0	0	143	1600
6:55 PM	0	51	2	0	1	65	0	0	0	0	0	0	0	0	1	0	120	1566
7:00 PM	0	37	3	0	2	66	0	0	0	0	0	0	2	0	1	0	111	1529
7:05 PM	0	60	1	0	2	44	0	0	0	0	0	0	0	0	4	0	111	1487
7:10 PM	0	45	0	0	1	62	0	0	0	0	0	0	2	0	2	0	112	1460
7:15 PM	0	59	0	0	2	56	0	0	0	0	0	0	0	0	0	0	117	1431
7:20 PM	0	67	4	0	1	43	0	0	0	0	0	0	0	0	1	0	116	1426
7:25 PM	0	66	2	0	2	53	0	0	0	0	0	0	1	0	0	0	124	1414

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	1152	16	0	52	1132	0	4	0	0	0	0	4	0	16	0	2376
Heavy Trucks	0	36	0		0	16	0		0	0	0		0	0	0		52
Pedestrians		0				0				0				4			4
Bicycles	0	1	0		0	0	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 8/9/2019 8:28 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

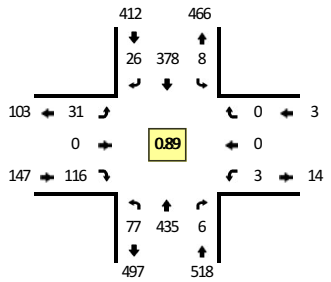
Type of peak hour being reported: Intersection Peak

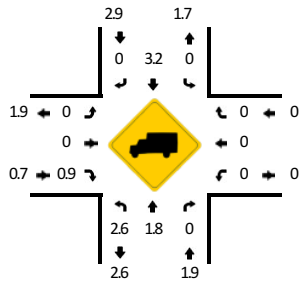
Method for determining peak hour: Total Entering Volume

LOCATION: N Phoenix Rd -- Juanipero Way
CITY/STATE: Medford, OR

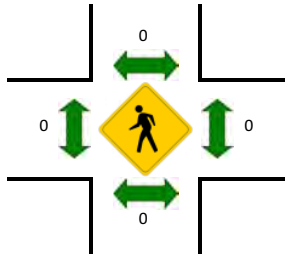
QC JOB #: 15028146
DATE: Wed, Jul 24 2019

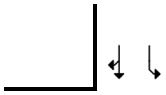
Peak-Hour: 4:40 PM -- 5:40 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

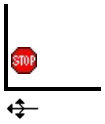


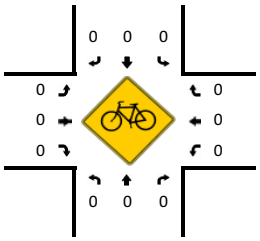


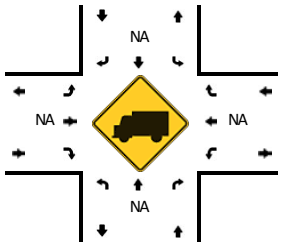
Quality Counts
DATA THAT DRIVES COMMUNITIES

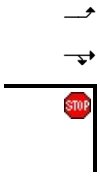


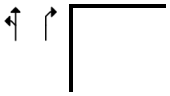


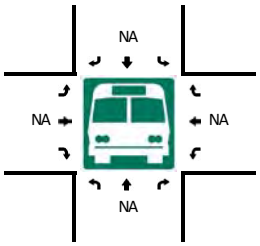












5-Min Count Period Beginning At	N Phoenix Rd (Northbound)				N Phoenix Rd (Southbound)				Juanipero Way (Eastbound)				Juanipero Way (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:30 PM	6	36	0	0	1	36	2	0	0	0	9	0	0	0	0	0	90	
4:35 PM	1	34	0	0	0	34	3	0	1	0	8	0	0	0	0	0	81	
4:40 PM	11	39	0	0	0	22	0	0	1	0	5	0	0	0	0	0	78	
4:45 PM	7	27	0	0	0	32	3	0	1	0	9	0	1	0	0	0	80	
4:50 PM	8	38	1	0	1	27	1	0	2	0	18	0	0	0	0	0	96	
4:55 PM	6	34	0	0	1	24	3	0	3	0	3	0	0	0	0	0	74	
5:00 PM	1	30	1	0	0	31	1	0	2	0	11	0	1	0	0	0	78	
5:05 PM	6	35	1	0	0	34	4	0	4	0	16	0	0	0	0	0	100	
5:10 PM	3	32	1	0	1	39	1	0	3	0	17	0	0	0	0	0	97	
5:15 PM	10	42	0	0	1	38	0	0	2	0	10	0	0	0	0	0	103	
5:20 PM	11	44	1	0	1	32	3	0	3	0	7	0	0	0	0	0	102	
5:25 PM	3	37	0	0	2	32	4	0	3	0	6	0	0	0	0	0	87	1066
5:30 PM	7	40	0	0	1	33	3	0	3	0	8	0	1	0	0	0	96	1072
5:35 PM	4	37	1	0	0	34	3	0	4	0	6	0	0	0	0	0	89	1080
5:40 PM	0	18	0	0	1	29	2	0	2	0	7	0	0	0	0	0	59	1061
5:45 PM	1	44	0	0	1	28	4	0	1	0	5	0	0	0	0	0	84	1065
5:50 PM	3	30	0	0	0	40	6	0	6	0	11	0	0	0	0	0	96	1065
5:55 PM	3	23	1	0	0	24	2	0	2	0	8	0	0	0	0	0	63	1054
6:00 PM	4	33	0	0	1	19	1	0	2	0	7	0	0	0	0	0	67	1043
6:05 PM	5	20	0	0	0	18	0	0	0	0	3	0	0	0	0	0	46	989
6:10 PM	3	25	0	0	2	25	3	0	0	0	7	0	0	0	0	0	65	957
6:15 PM	5	28	0	0	1	23	3	0	0	0	8	0	0	0	0	0	68	922
6:20 PM	3	18	0	0	0	23	4	0	0	1	4	0	0	0	0	0	53	873
6:25 PM	4	15	0	0	2	20	0	0	0	0	5	0	0	1	0	0	47	833
6:30 PM	1	16	0	0	1	13	1	0	4	0	2	0	0	0	0	0	38	775
6:35 PM	0	23	2	0	0	29	5	0	1	0	3	0	0	0	0	0	63	749
6:40 PM	1	16	1	0	0	17	3	0	2	0	5	0	0	1	1	0	47	737
6:45 PM	2	17	0	0	0	19	2	0	2	0	3	0	0	0	0	0	45	698
6:50 PM	1	19	0	0	0	18	1	0	1	0	1	0	0	0	1	0	42	644
6:55 PM	1	26	0	0	1	18	1	0	1	0	5	0	0	0	0	0	53	634
7:00 PM	3	12	0	0	1	14	1	0	4	0	2	0	0	0	0	0	37	604
7:05 PM	4	17	0	0	0	16	3	0	2	0	3	0	1	0	0	0	46	604
7:10 PM	1	20	0	0	1	13	3	0	0	0	3	0	0	0	0	0	41	580
7:15 PM	7	22	1	0	2	9	1	0	1	0	3	0	0	0	0	0	46	558
7:20 PM	6	17	1	0	0	14	0	0	0	0	1	0	0	0	1	0	40	545
7:25 PM	4	19	1	0	1	15	3	0	0	0	3	0	1	0	0	0	47	545

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	96	472	8	0	12	436	16	0	32	0	136	0	0	0	0	0	1208
Heavy Trucks	0	4	0		0	16	0		0	0	0		0	0	0		20
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 8/20/2019 1:02 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of report: Tube Count - Volume Data

LOCATION: North Phoenix Road south of Juanipero Way
QC JOB #: 15028148
SPECIFIC LOCATION:
DIRECTION: NB
CITY/STATE: Medford, OR
DATE: Jul 24 2019 - Jul 25 2019

Start Time	Mon	Tue	Wed 24 Jul 19	Thu 25 Jul 19	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				17		17			17	
01:00 AM				11		11			11	
02:00 AM				4		4			4	
03:00 AM				3		3			3	
04:00 AM				21		21			21	
05:00 AM				53		53			53	
06:00 AM				146		146			146	
07:00 AM				331		331			331	
08:00 AM				**344**		**344**			**344**	
09:00 AM				310		310			310	
10:00 AM				328		328			328	
11:00 AM				336		336			336	
12:00 PM			371			371			371	
01:00 PM			370			370			370	
02:00 PM			413			413			413	
03:00 PM			396			396			396	
04:00 PM			449			449			449	
05:00 PM			**459**			**459**			**459**	
06:00 PM			284			284			284	
07:00 PM			255			255			255	
08:00 PM			185			185			185	
09:00 PM			118			118			118	
10:00 PM			65			65			65	
11:00 PM			45			45			45	
Day Total			3410	1904		5314			5314	
% Weekday Average			64.2%	35.8%						
% Week Average			64.2%	35.8%		100%				
AM Peak Volume			12:00 AM	8:00 AM 344		8:00 AM 344			8:00 AM 344	
PM Peak Volume			5:00 PM 459	12:00 PM		5:00 PM 459			5:00 PM 459	

Comments:

Report generated on 7/31/2019 4:02 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Quality Counts
DATA THAT DRIVES COMMUNITIES

Type of report: Tube Count - Volume Data

LOCATION: North Phoenix Road south of Juanipero Way
QC JOB #: 15028148
SPECIFIC LOCATION:
DIRECTION: NB, SB
CITY/STATE: Medford, OR
DATE: Jul 24 2019 - Jul 25 2019

Start Time	Mon	Tue	Wed 24 Jul 19	Thu 25 Jul 19	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				31		31			31	
01:00 AM				22		22			22	
02:00 AM				6		6			6	
03:00 AM				12		12			12	
04:00 AM				42		42			42	
05:00 AM				131		131			131	
06:00 AM				330		330			330	
07:00 AM				674		674			674	
08:00 AM				**743**		**743**			**743**	
09:00 AM				659		659			659	
10:00 AM				706		706			706	
11:00 AM				722		722			722	
12:00 PM			737			737			737	
01:00 PM			744			744			744	
02:00 PM			772			772			772	
03:00 PM			794			794			794	
04:00 PM			883			883			883	
05:00 PM			**960**			**960**			**960**	
06:00 PM			575			575			575	
07:00 PM			456			456			456	
08:00 PM			345			345			345	
09:00 PM			240			240			240	
10:00 PM			123			123			123	
11:00 PM			80			80			80	
Day Total			6709	4078		10787			10787	
% Weekday Average			62.2%	37.8%						
% Week Average			62.2%	37.8%		100%				
AM Peak Volume			12:00 AM	8:00 AM 743		8:00 AM 743			8:00 AM 743	
PM Peak Volume			5:00 PM 960	12:00 PM		5:00 PM 960			5:00 PM 960	

Comments:

Report generated on 7/31/2019 4:02 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Quality Counts
DATA THAT DRIVES COMMUNITIES

Type of report: Tube Count - Volume Data

LOCATION: North Phoenix Road south of Juanipero Way
QC JOB #: 15028148
SPECIFIC LOCATION:
DIRECTION: SB
CITY/STATE: Medford, OR
DATE: Jul 24 2019 - Jul 25 2019

Start Time	Mon	Tue	Wed 24 Jul 19	Thu 25 Jul 19	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				14		14			14	
01:00 AM				11		11			11	
02:00 AM				2		2			2	
03:00 AM				9		9			9	
04:00 AM				21		21			21	
05:00 AM				78		78			78	
06:00 AM				184		184			184	
07:00 AM				343		343			343	
08:00 AM				**399**		**399**			**399**	
09:00 AM				349		349			349	
10:00 AM				378		378			378	
11:00 AM				386		386			386	
12:00 PM			366			366			366	
01:00 PM			374			374			374	
02:00 PM			359			359			359	
03:00 PM			398			398			398	
04:00 PM			434			434			434	
05:00 PM			**501**			**501**			**501**	
06:00 PM			291			291			291	
07:00 PM			201			201			201	
08:00 PM			160			160			160	
09:00 PM			122			122			122	
10:00 PM			58			58			58	
11:00 PM			35			35			35	
Day Total			3299	2174		5473			5473	
% Weekday Average			60.3%	39.7%						
% Week Average			60.3%	39.7%		100%				
AM Peak Volume			12:00 AM	8:00 AM 399		8:00 AM 399			8:00 AM 399	
PM Peak Volume			5:00 PM 501	12:00 PM		5:00 PM 501			5:00 PM 501	

Comments:

Report generated on 7/31/2019 4:02 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Quality Counts
DATA THAT DRIVES COMMUNITIES

Type of report: Tube Count - Volume Data

LOCATION: S Pacific Hwy near Human Bean Dwy
QC JOB #: 15028149
SPECIFIC LOCATION:
DIRECTION: NB
CITY/STATE: Medford, OR
DATE: Jul 24 2019 - Jul 25 2019

Start Time	Mon	Tue	Wed 24 Jul 19	Thu 25 Jul 19	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				76		76			76	
01:00 AM				54		54			54	
02:00 AM				28		28			28	
03:00 AM				35		35			35	
04:00 AM				92		92			92	
05:00 AM				180		180			180	
06:00 AM				365		365			365	
07:00 AM				688		688			688	
08:00 AM				703		703			703	
09:00 AM				719		719			719	
10:00 AM				746		746			746	
11:00 AM				**887**		**887**			**887**	
12:00 PM			**949**			**949**			**949**	
01:00 PM			848			848			848	
02:00 PM			886			886			886	
03:00 PM			912			912			912	
04:00 PM			926			926			926	
05:00 PM			948			948			948	
06:00 PM			674			674			674	
07:00 PM			568			568			568	
08:00 PM			475			475			475	
09:00 PM			449			449			449	
10:00 PM			224			224			224	
11:00 PM			105			105			105	
Day Total			7964	4573		12537			12537	
% Weekday Average			63.5%	36.5%						
% Week Average			63.5%	36.5%		100%				
AM Peak Volume			12:00 AM	11:00 AM 887		11:00 AM 887			11:00 AM 887	
PM Peak Volume			12:00 PM 949	12:00 PM		12:00 PM 949			12:00 PM 949	

Comments:

Report generated on 7/31/2019 4:02 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Quality Counts
DATA THAT DRIVES COMMUNITIES

Type of report: Tube Count - Volume Data

LOCATION: S Pacific Hwy near Human Bean Dwy
QC JOB #: 15028149
SPECIFIC LOCATION:
DIRECTION: NB, SB
CITY/STATE: Medford, OR
DATE: Jul 24 2019 - Jul 25 2019

Start Time	Mon	Tue	Wed 24 Jul 19	Thu 25 Jul 19	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				149		149			149	
01:00 AM				86		86			86	
02:00 AM				61		61			61	
03:00 AM				63		63			63	
04:00 AM				216		216			216	
05:00 AM				334		334			334	
06:00 AM				658		658			658	
07:00 AM				1174		1174			1174	
08:00 AM				1234		1234			1234	
09:00 AM				1264		1264			1264	
10:00 AM				1349		1349			1349	
11:00 AM				**1612**		**1612**			**1612**	
12:00 PM			1736			1736			1736	
01:00 PM			1637			1637			1637	
02:00 PM			1715			1715			1715	
03:00 PM			1788			1788			1788	
04:00 PM			1837			1837			1837	
05:00 PM			**2016**			**2016**			**2016**	
06:00 PM			1496			1496			1496	
07:00 PM			1165			1165			1165	
08:00 PM			969			969			969	
09:00 PM			815			815			815	
10:00 PM			447			447			447	
11:00 PM			233			233			233	
Day Total			15854	8200		24054			24054	
% Weekday Average			65.9%	34.1%						
% Week Average			65.9%	34.1%		100%				
AM Peak Volume			12:00 AM	11:00 AM 1612		11:00 AM 1612			11:00 AM 1612	
PM Peak Volume			5:00 PM 2016	12:00 PM		5:00 PM 2016			5:00 PM 2016	

Comments:

Report generated on 7/31/2019 4:02 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Quality Counts
DATA THAT DRIVES COMMUNITIES

Type of report: Tube Count - Volume Data

LOCATION: S Pacific Hwy near Human Bean Dwy
QC JOB #: 15028149
SPECIFIC LOCATION:
DIRECTION: SB
CITY/STATE: Medford, OR
DATE: Jul 24 2019 - Jul 25 2019

Start Time	Mon	Tue	Wed 24 Jul 19	Thu 25 Jul 19	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				73		73			73	
01:00 AM				32		32			32	
02:00 AM				33		33			33	
03:00 AM				28		28			28	
04:00 AM				124		124			124	
05:00 AM				154		154			154	
06:00 AM				293		293			293	
07:00 AM				486		486			486	
08:00 AM				531		531			531	
09:00 AM				545		545			545	
10:00 AM				603		603			603	
11:00 AM				**725**		**725**			**725**	
12:00 PM			787			787			787	
01:00 PM			789			789			789	
02:00 PM			829			829			829	
03:00 PM			876			876			876	
04:00 PM			911			911			911	
05:00 PM			**1068**			**1068**			**1068**	
06:00 PM			822			822			822	
07:00 PM			597			597			597	
08:00 PM			494			494			494	
09:00 PM			366			366			366	
10:00 PM			223			223			223	
11:00 PM			128			128			128	
Day Total			7890	3627		11517			11517	
% Weekday Average			68.5%	31.5%						
% Week Average			68.5%	31.5%		100%				
AM Peak Volume			12:00 AM	11:00 AM 725		11:00 AM 725			11:00 AM 725	
PM Peak Volume			5:00 PM 1068	12:00 PM		5:00 PM 1068			5:00 PM 1068	

Comments:

Report generated on 7/31/2019 4:02 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Quality Counts
DATA THAT DRIVES COMMUNITIES

ATR on OR 99 + Commuter Factor
Used for seasonal adjustment of OR 99

ATR 15-014: Talent (0.33m NW of Talent Ave)* 9048

	July	AWT	% of ADT
	2017	10295	110
	2016	10894	111
	2015	10374	~~113~~
	2014	9861	112
	2013	9061	~~110~~
	Average=	10097	111

Peak Mo.		AWT	% of ADT
June	2017	10295	~~110~~
May	2016	11320	116
June	2015	10562	115
May	2014	11089	~~125~~
October	2013	9333	113
	Average=	10211	115

July Seasonal Factor =	1.011	1.03

OR 99 FACTOR: 1.02
ATR 15-014 and seasonal trends for summer/commuter

ATR Characteristic Table + Seasonal Trend
Used for developing adjustment factors for I-5 Ramp Terminals

15-001: Gold Hill

	July	AWT	% of ADT
	2017	46272	116
	2016	44516	115
	2015	42941	~~113~~
	2014	40345	~~118~~
	2013	38701	118
	Average=	42555	116

Peak Mo.		AWT	% of ADT
August	2017	47421	~~119~~
July	2016	44516	115
July	2015	42941	~~113~~
July	2014	40345	118
July	2013	38701	118
	Average=	42785	117

July Seasonal Factor =	1.005	1.01

15-019: Medford Viaduct

	July	AWT	% of ADT
	2017	60026	113
	2016	59099	~~113~~
	2015	58458	~~116~~
	2014	54934	116
	2013	54450	116
	Average=	57393	115

Peak Mo.		AWT	% of ADT
August	2017	61702	~~116~~
June	2016	59650	~~114~~
July	2015	58458	116
July	2014	54934	116
July	2013	54450	116
	Average=	57839	116

July Seasonal Factor =	1.008	1.01

Ramps FACT 1.02
ATRs 15-001, 15-019 and seasonal trents for Interstate Urbanand commuter

SEASONAL TREND TABLE (Updated: 6/26/19)

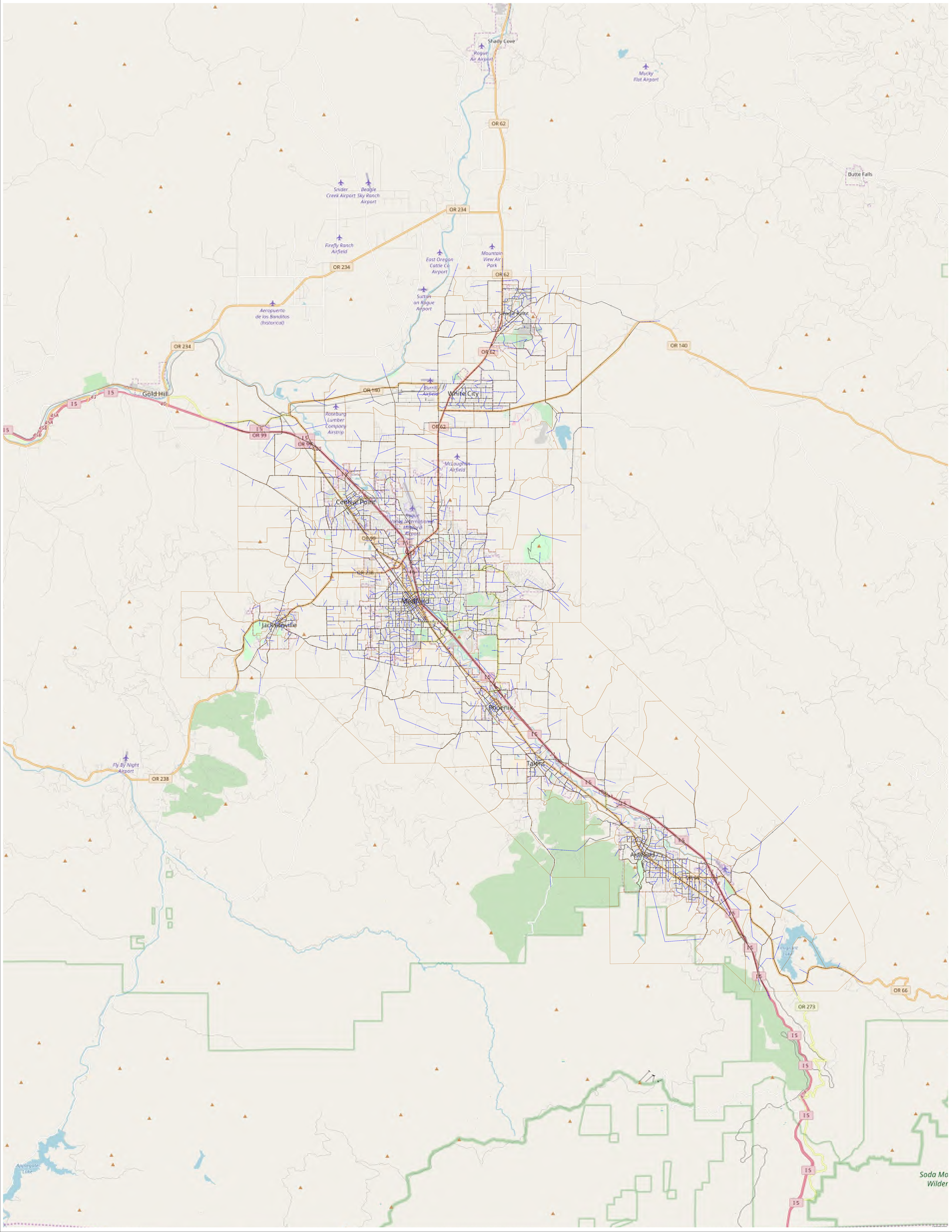
TREND	1-May	15-May	1-Jun	15-Jun	1-Jul	15-Jul	1-Aug	15-Aug	1-Sep	15-Sep	Seasonal Trend Peak Period
INTERSTATE URI	0.9768	0.9711	0.9558	0.9404	0.9561	0.9718	0.9804	0.9890	0.9860	0.9830	0.9404
INTERSTATE NO	0.9863	0.9561	0.9075	0.8588	0.8422	0.8256	0.8325	0.8394	0.8806	0.9218	0.8256
COMMUTER	0.9711	0.9645	0.9542	0.9438	0.9544	0.9649	0.9592	0.9535	0.9637	0.9738	0.9438
COASTAL DESTI	1.0125	0.9714	0.9394	0.9074	0.8574	0.8074	0.8100	0.8126	0.8635	0.9145	0.8074
COASTAL DESTI	1.0308	0.9478	0.9031	0.8584	0.7781	0.6978	0.7080	0.7182	0.7932	0.8682	0.6978
AGRICULTURE	0.9843	0.9043	0.8736	0.8429	0.8259	0.8089	0.8114	0.8140	0.7847	0.7554	0.7554
RECREATIONAL	1.0325	0.8742	0.8177	0.7611	0.7119	0.6626	0.6933	0.7239	0.7598	0.7957	0.6626
RECREATIONAL	1.1496	1.0021	0.9514	0.9006	0.8005	0.7005	0.7590	0.8176	0.9133	1.0091	0.7005
RECREATIONAL	1.1918	1.1270	1.1295	1.1321	1.0004	0.8687	0.9344	1.0001	1.0823	1.1646	0.6528
SUMMER	0.9810	0.9368	0.9061	0.8753	0.8535	0.8317	0.8437	0.8557	0.8872	0.9188	0.8317
SUMMER < 2500	0.9592	0.9036	0.8816	0.8595	0.8489	0.8382	0.8564	0.8746	0.8721	0.8696	0.8382

***Seasonal Trend Table factors are based on previous year ATR data. The table is updated yearly.**
***Grey shading indicates months were seasonal factor is greater than or less than 30%**

	15-Jul	AVERAGE Interpolated 23-Jul	1-Aug	Peak Period	July
Interstate Urbanized	0.9718	**0.9758**	0.9804	0.9404	1.04
Commuter	0.9649	**0.9622**	0.9592	0.9438	1.02
Summer	0.8317	**0.8373**	0.8437	0.8317	1.01

Seasonal Adjustment Factors - AVERAGE	July
Interstate Urbanized	**1.04**
Commuter/Summer Trend Average	**1.01**
Commuter Trend	**1.02**

APPENDIX D – Future Volume Data


Shady Cove
Roger Air Airport
Mucky Flat Airport
OR 62
Butte Falls
Snider Creek Airport
Beagle Sky Ranch Airport
OR 234
Firefly Ranch Airfield
East Oregon Cattle Co Airport
Mountain View Air Park
Aeropuerto de los Bandidos (historical)
OR 140
Gold Hill
White City
Rogue Valley Airport
Rosebug Lumber Company Airstrip
OR 99
Central Point
Medford
Jacksonville
Phoenix
Talent
Ashland
Fly By Night Airport
OR 66
OR 273
Soda Mo
Wilder

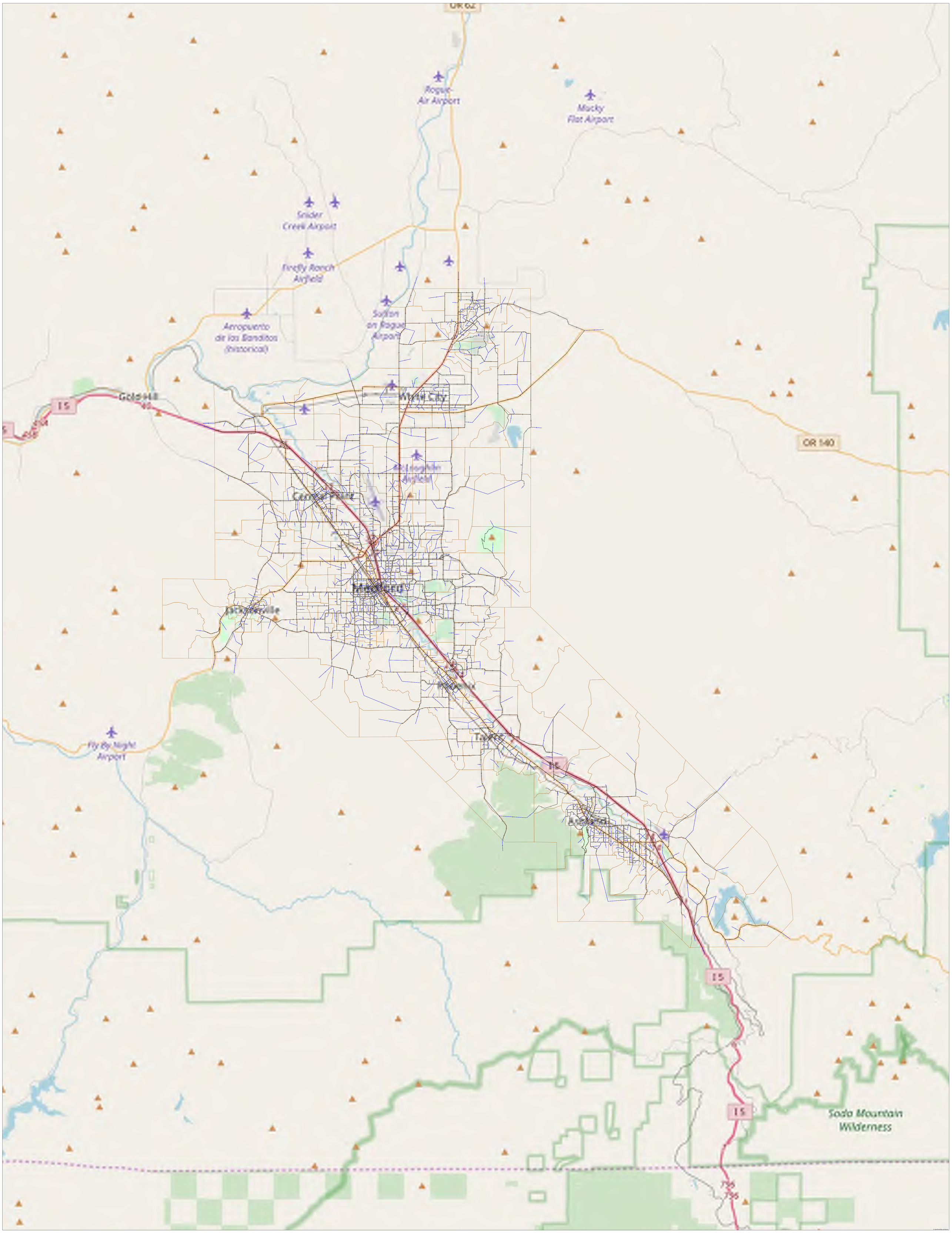
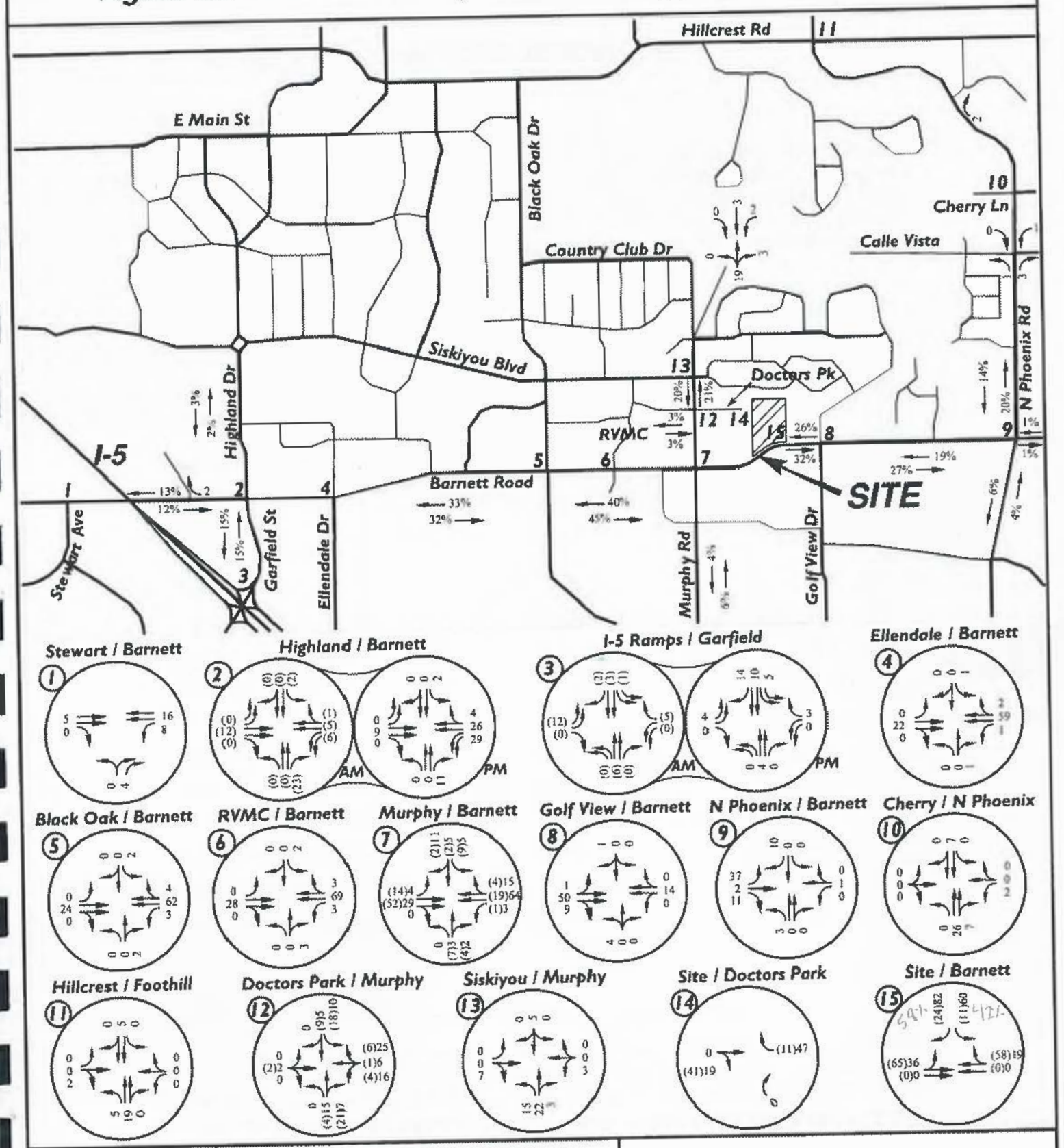

OR 62
Rogue Air Airport
Macky Flat Airport
Snider Creek Airport
Firefly Ranch Airfield
Aeropuerto de los Bandidos (historical)
Sanson on Rogue Airport
Gold Hill
I5
Medford
Central Point
Jacksonville
Talent
Ashland
Fly By Night Airport
OR 140
Soda Mountain Wilderness

Figure 7b: Two Access Trip Distributions, (AM) PM Peak Hour

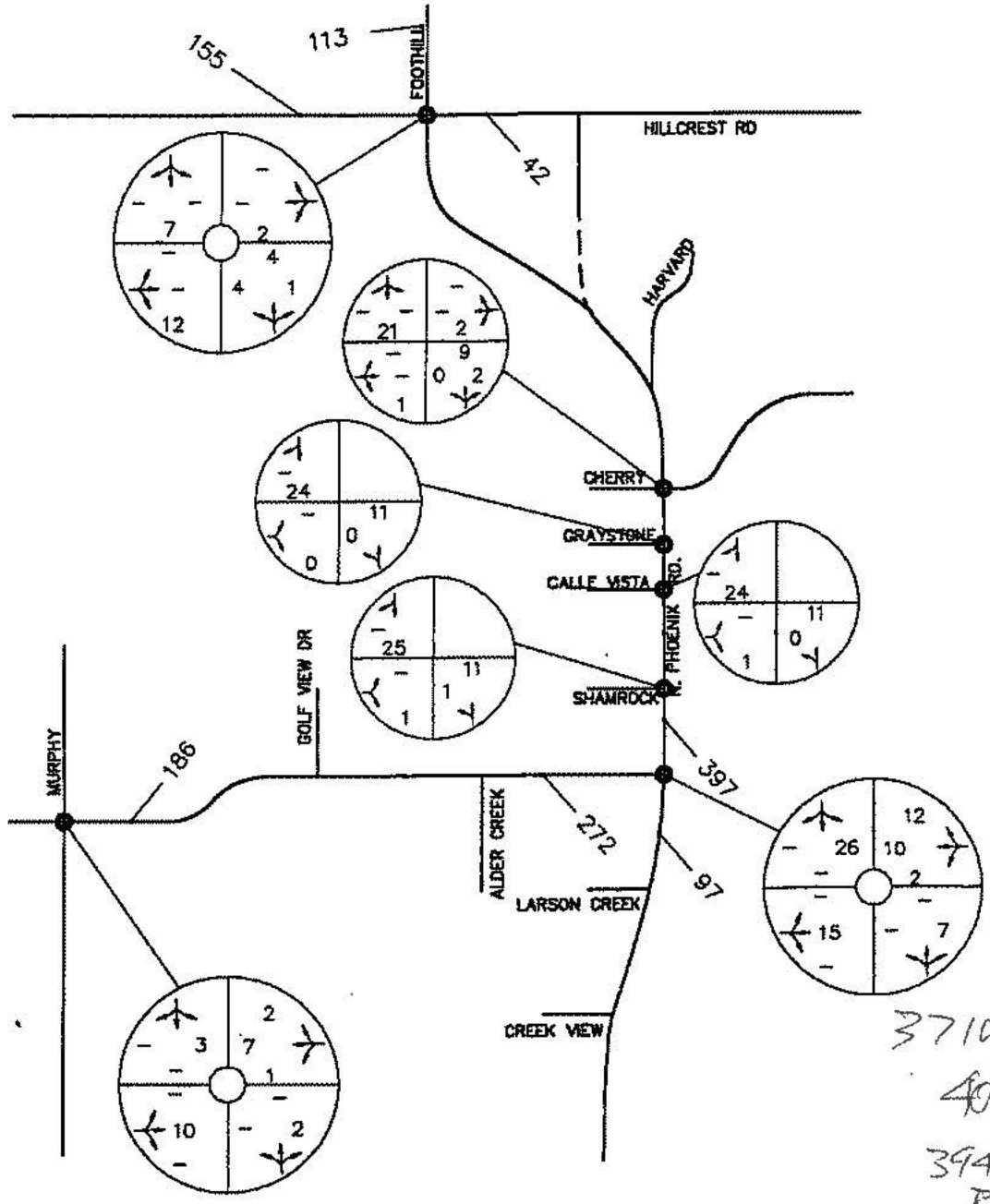


NOT TO SCALE

SOUTHERN OREGON TRANSPORTATION ENGINEERING, LLC
Medford, Oregon 97504
ph 541.608.9923 fax 541.535.6873
Kim.parducci@gmail.com

MFR-30 to C-S/P Zone Change
Traffic Impact Analysis
Medford, Oregon

ZC-00-130



371W34
400
3940
Barnett

LEGEND

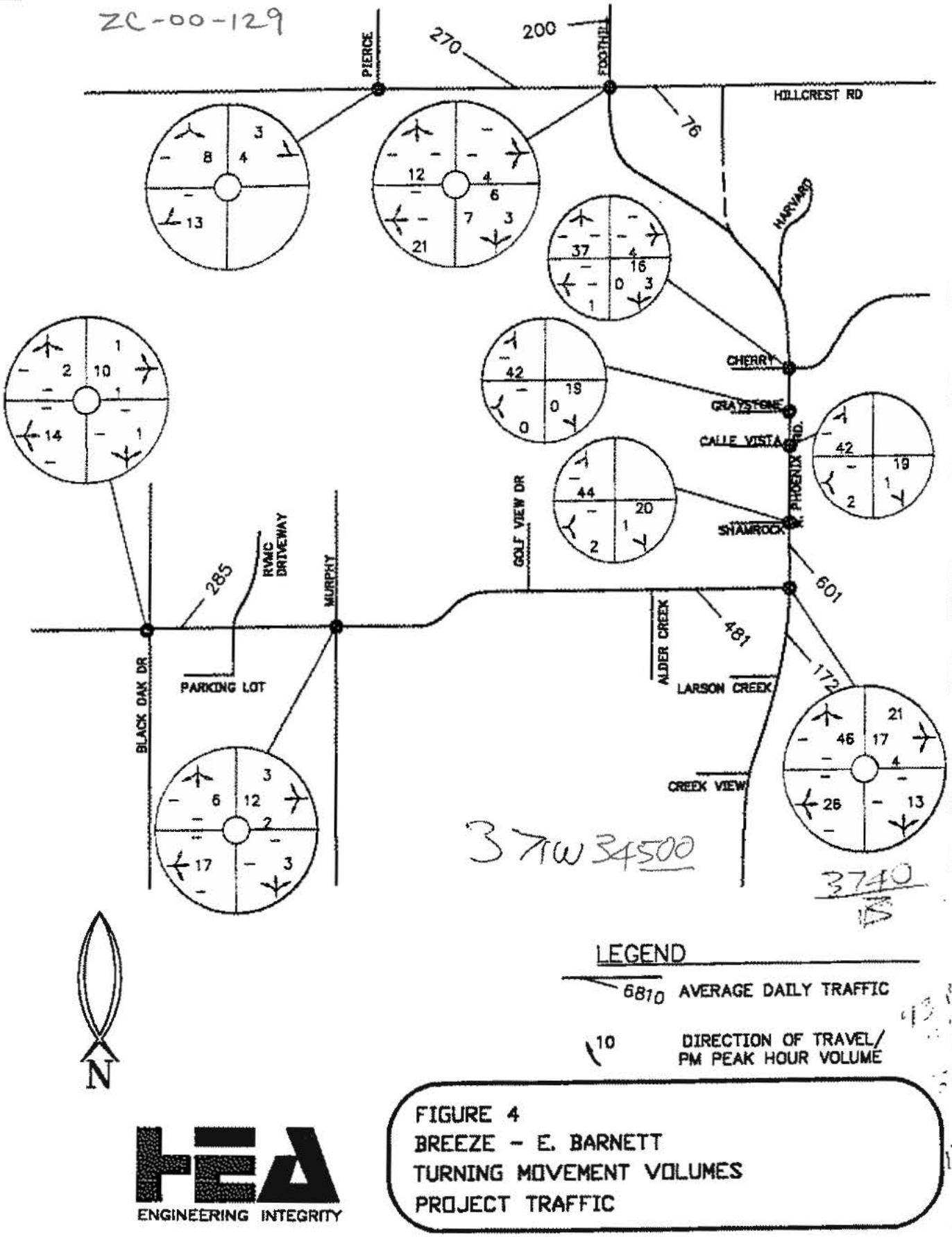
6810 AVERAGE DAILY TRAFFIC

10 DIRECTION OF TRAVEL/ PM PEAK HOUR VOLUME

HEA
ENGINEERING INTEGRITY

FIGURE 4
BECKER - E. BARNETT
TURNING MOVEMENT VOLUMES
PROJECT TRAFFIC

ZC-00-129



37TW34500

3740
15

LEGEND

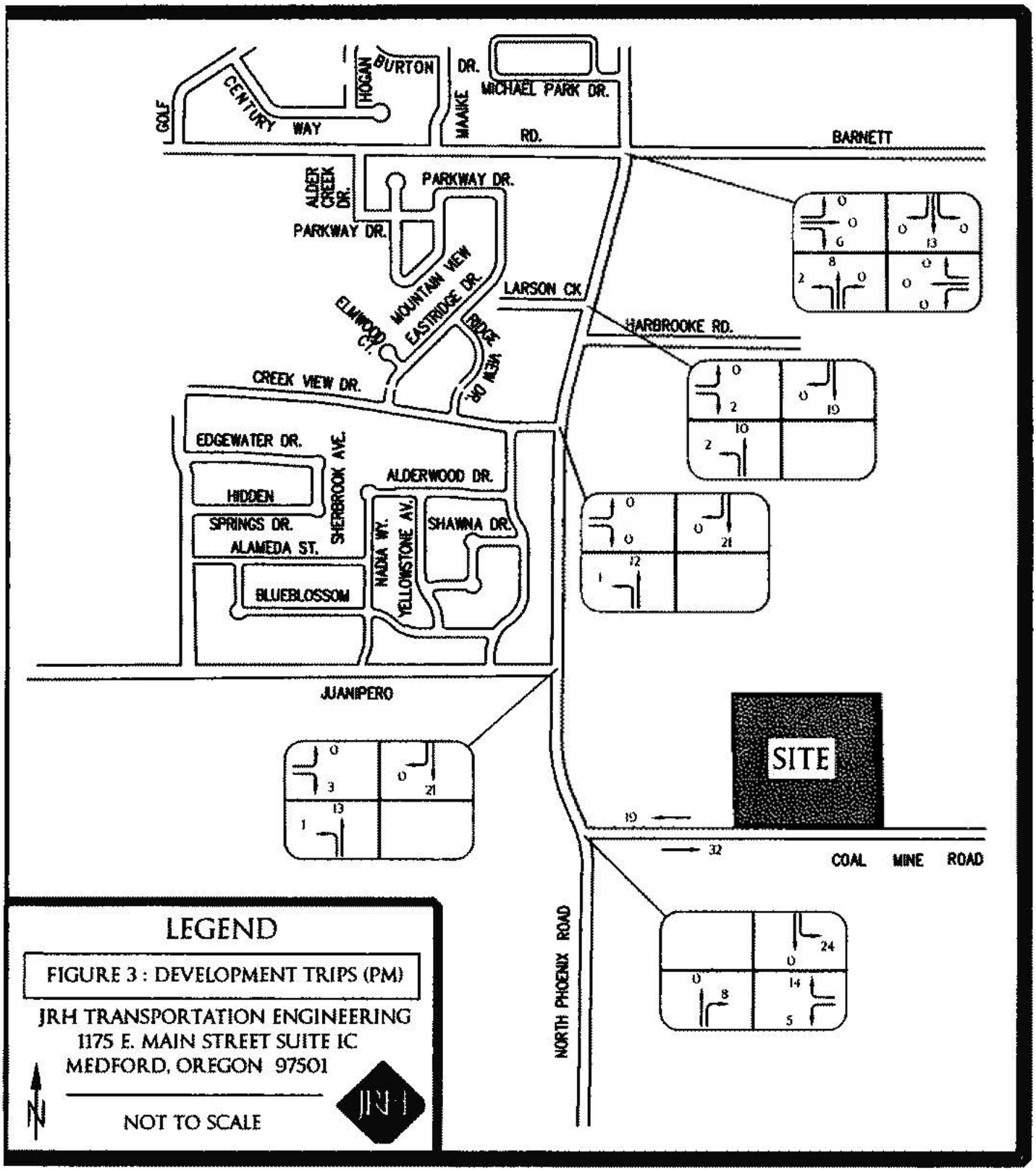
6810 AVERAGE DAILY TRAFFIC

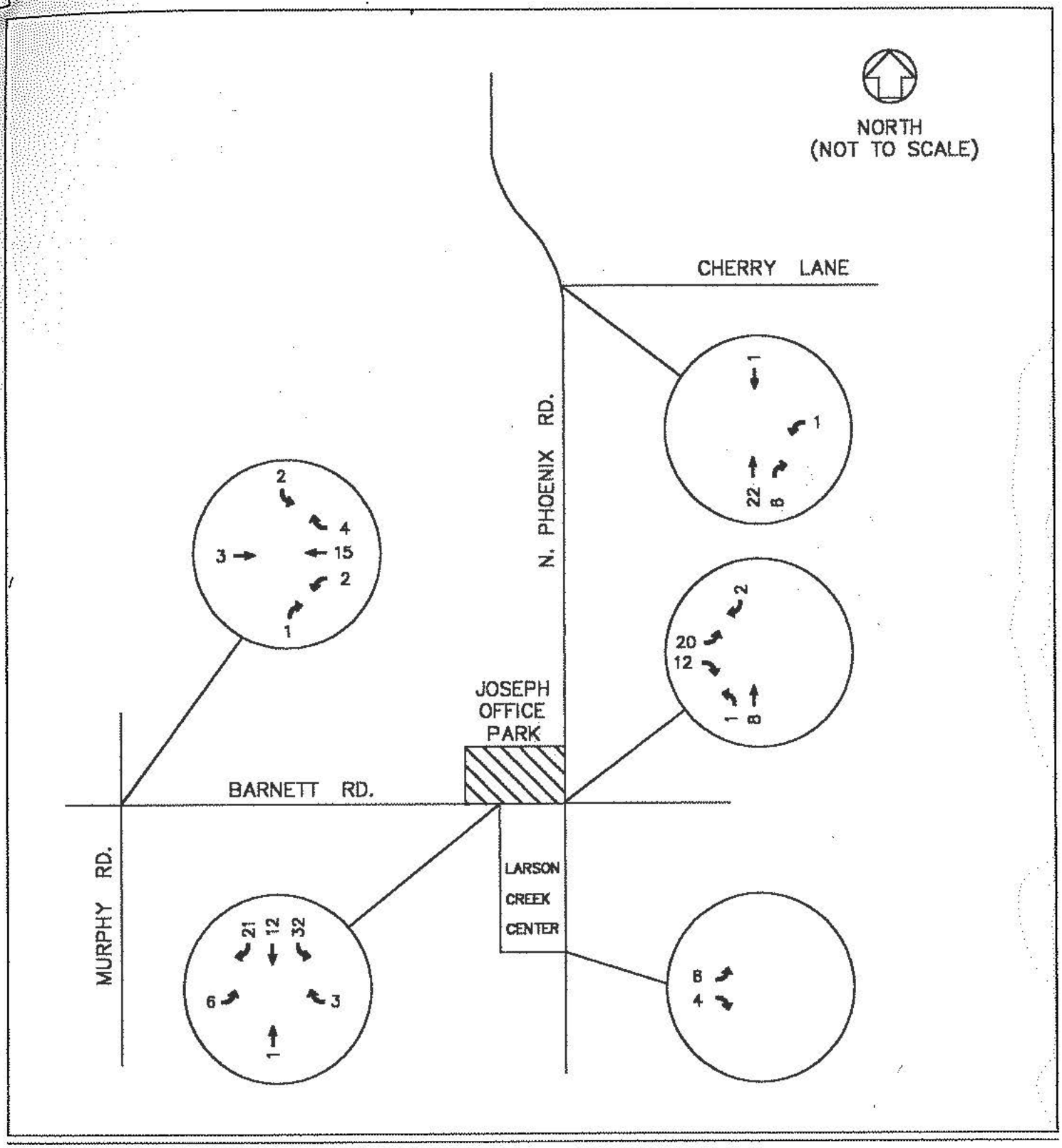
10 DIRECTION OF TRAVEL/ PM PEAK HOUR VOLUME

ENGINEERING INTEGRITY

FIGURE 4
BREEZE - E. BARNETT
TURNING MOVEMENT VOLUMES
PROJECT TRAFFIC

FIGURE 3 : DEVELOPMENT TRIPS (PM)

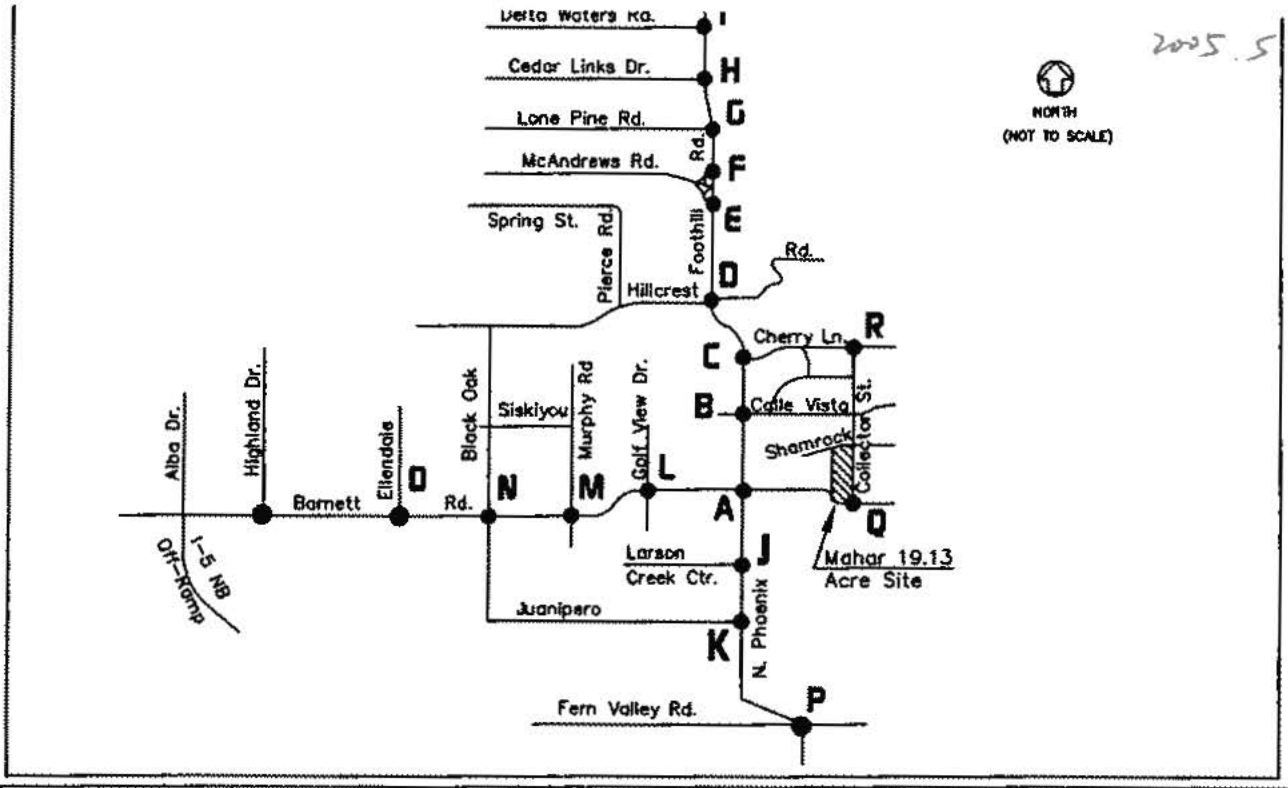




RDK Engineering

Figure 7
PM Peak Hour
Site Trip Assignment

R.H. Joseph
Office Park



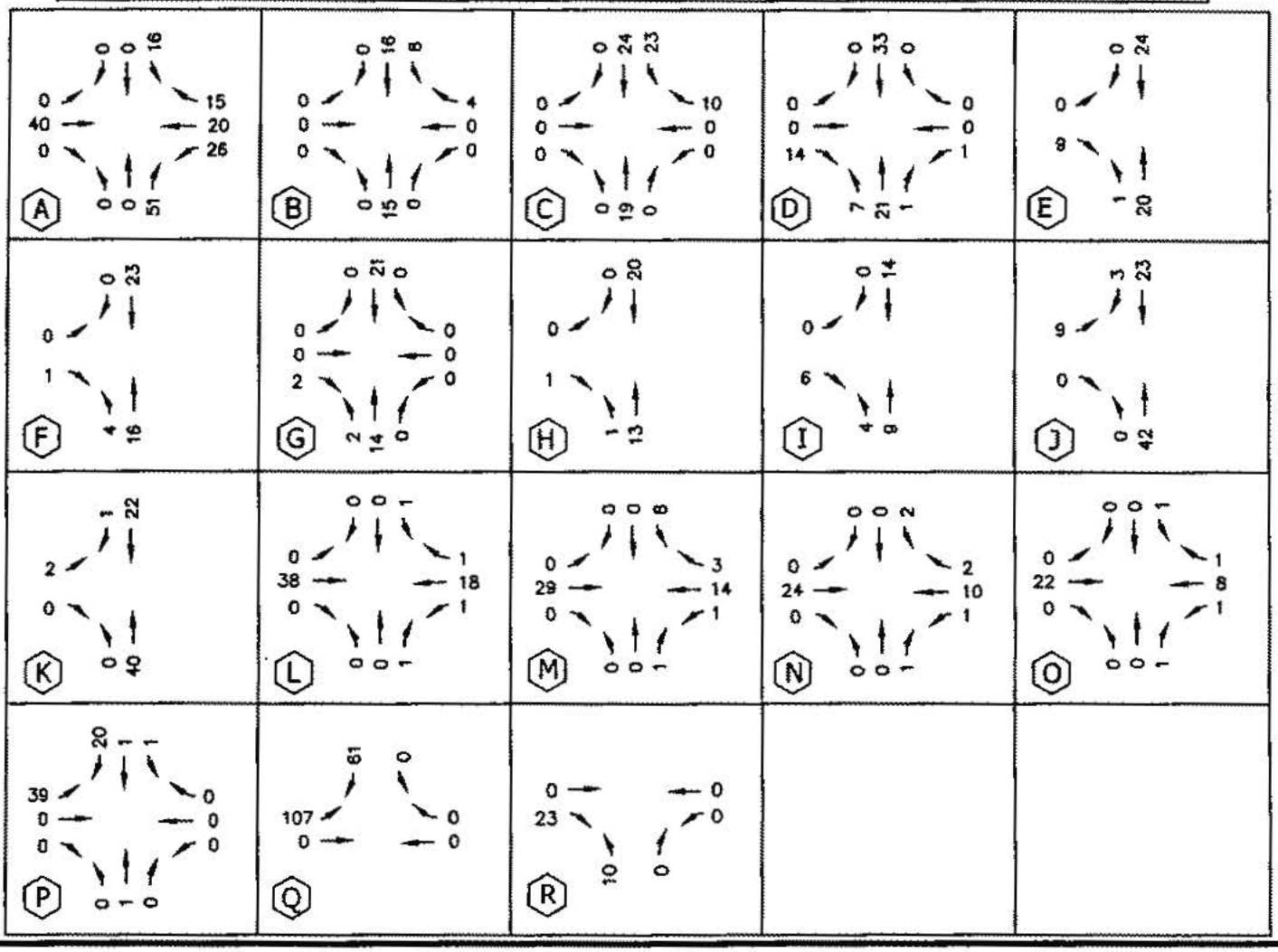
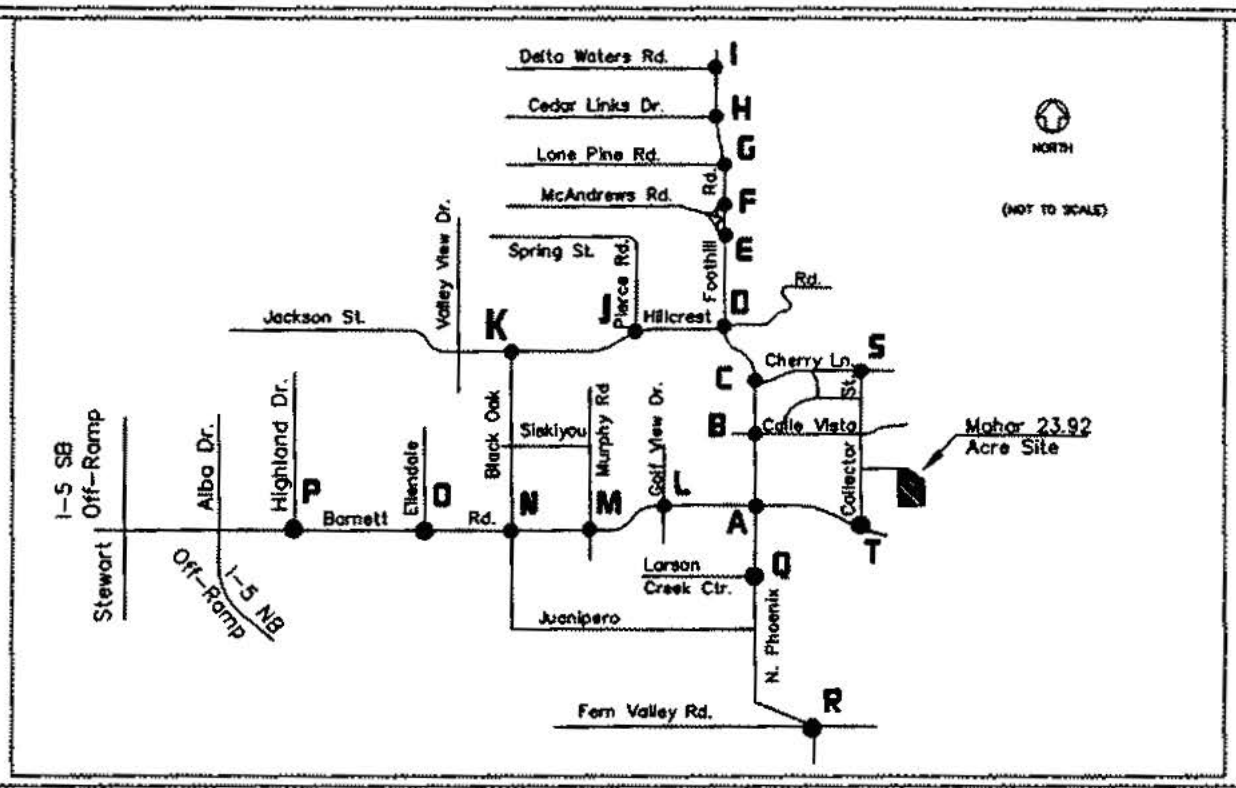


FIGURE 11
P.M. PEAK HOUR
SITE TRIP ASSIGNMENT

RDK Engineering

MAHAR 19.13 ACRE SITE
SOUTHEAST PLAN



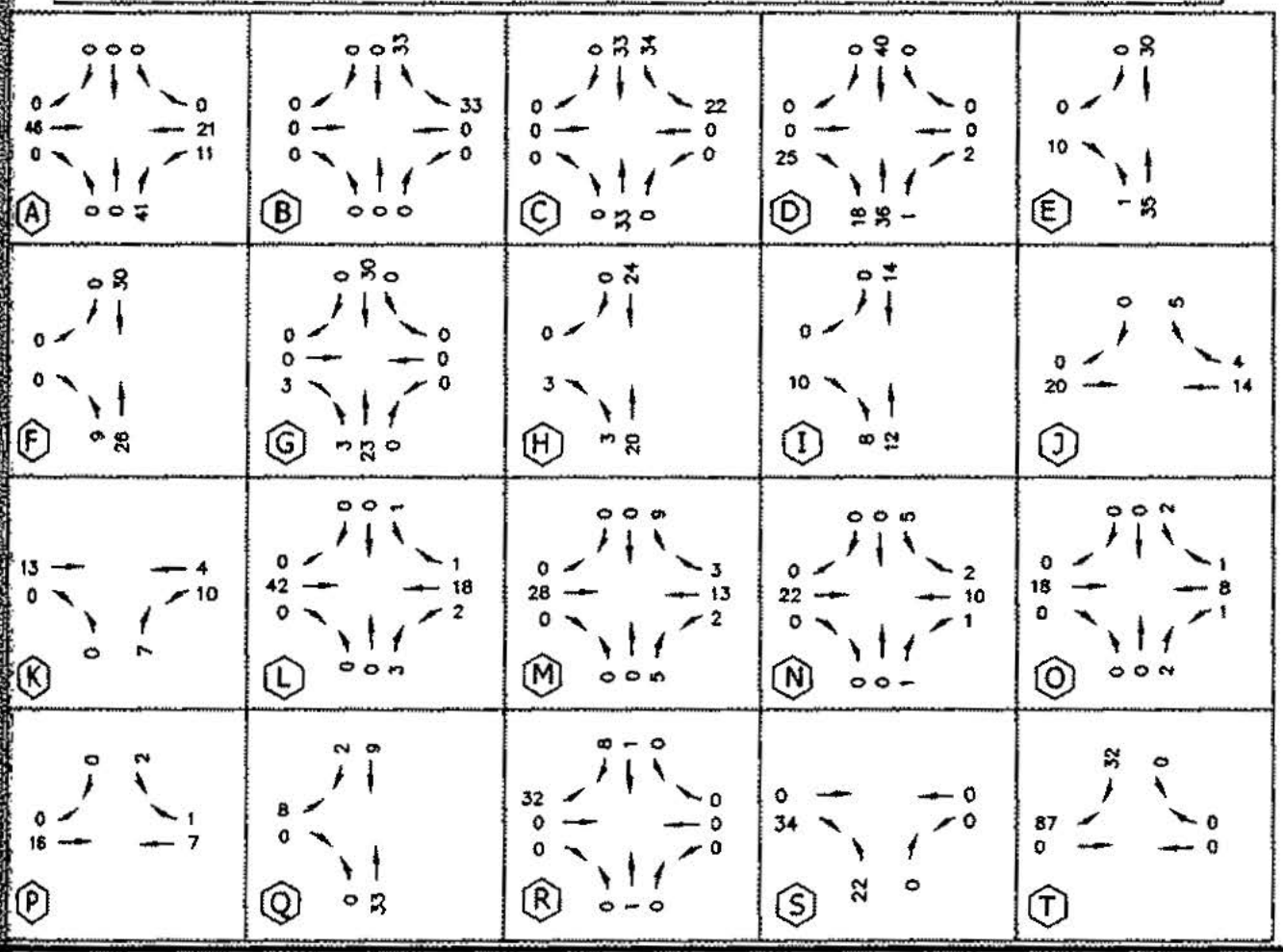
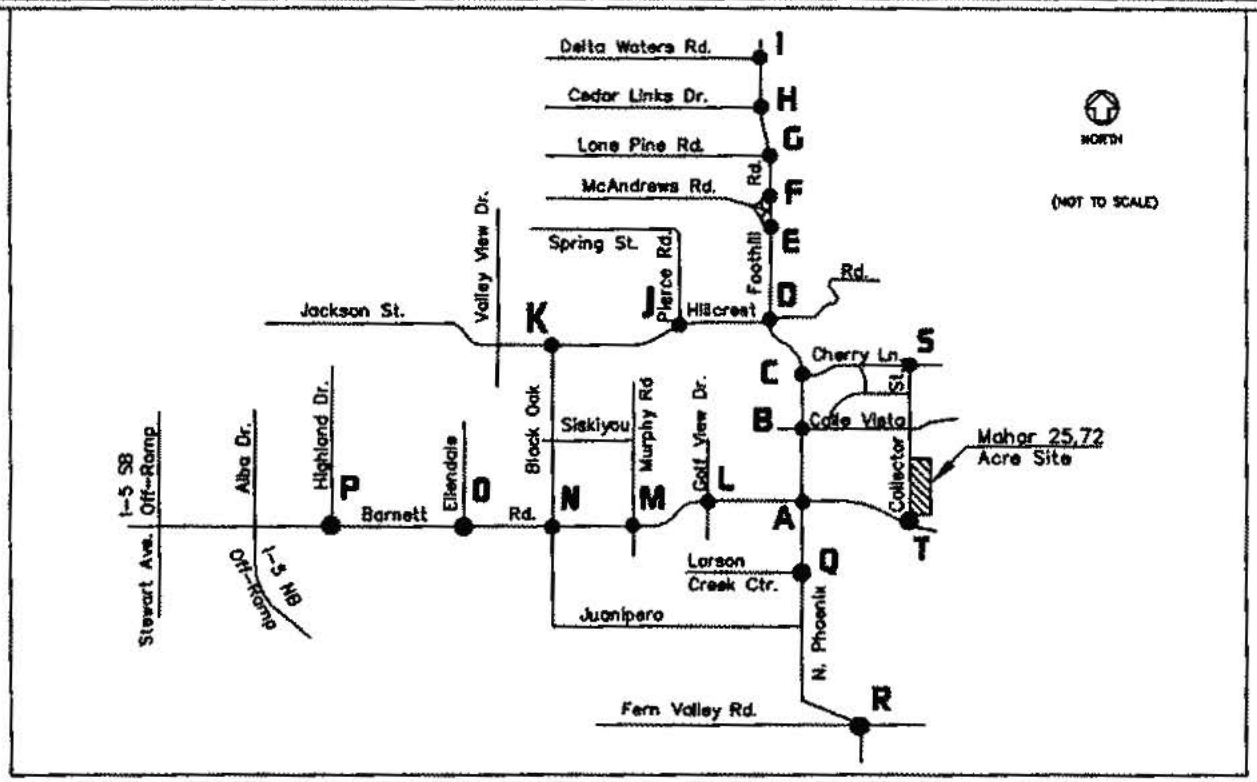
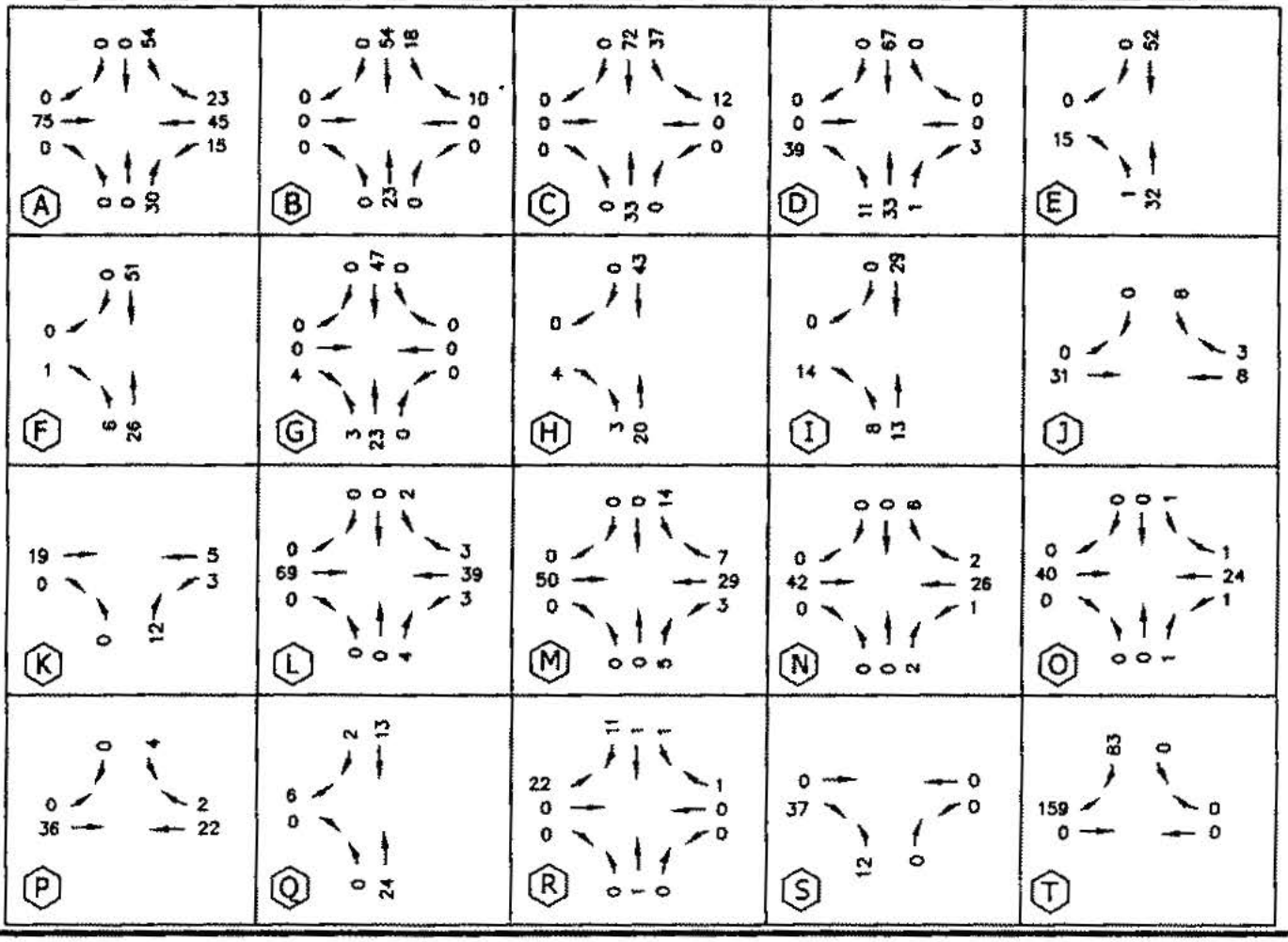


Figure 11
PM PEAK HOUR
SITE TRIP ASSIGNMENT

RDK Engineering

Mahar 23.92 Acre Site
Southeast Plan



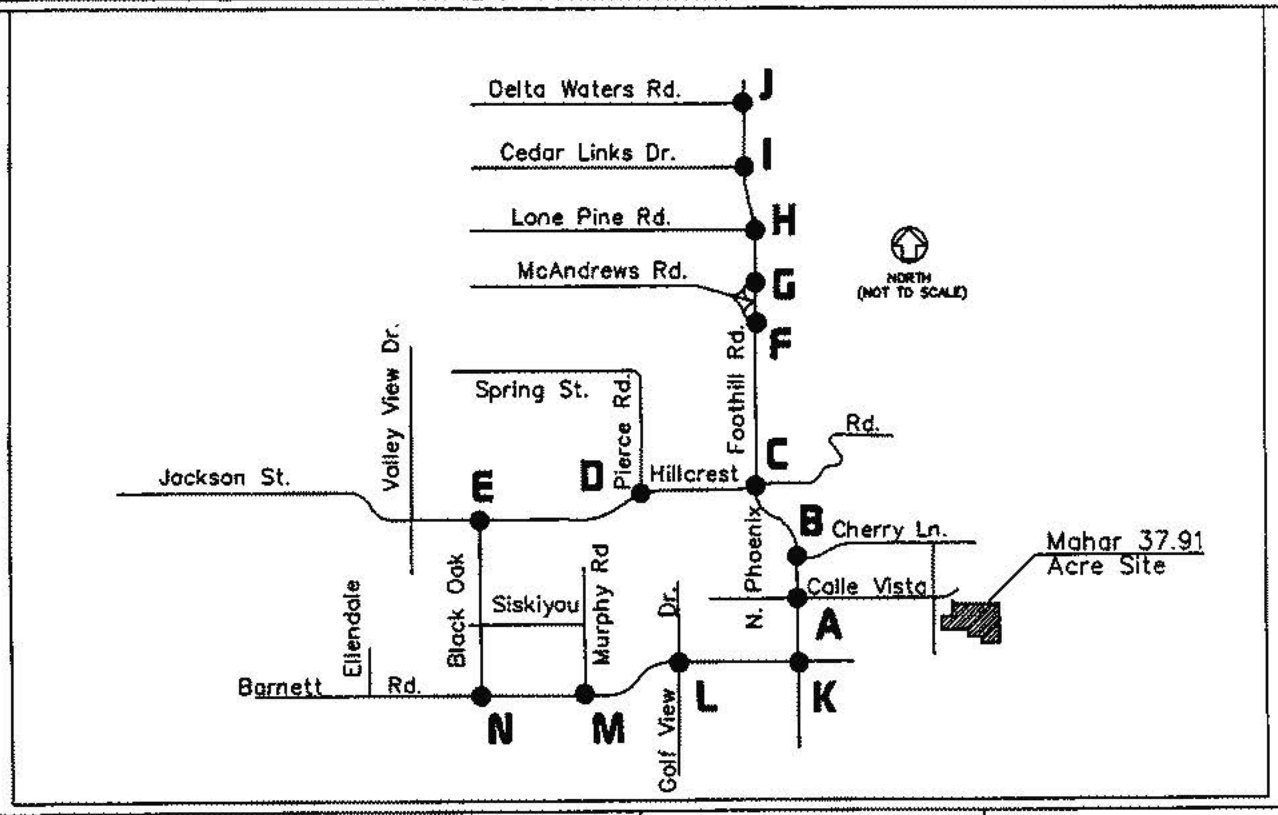


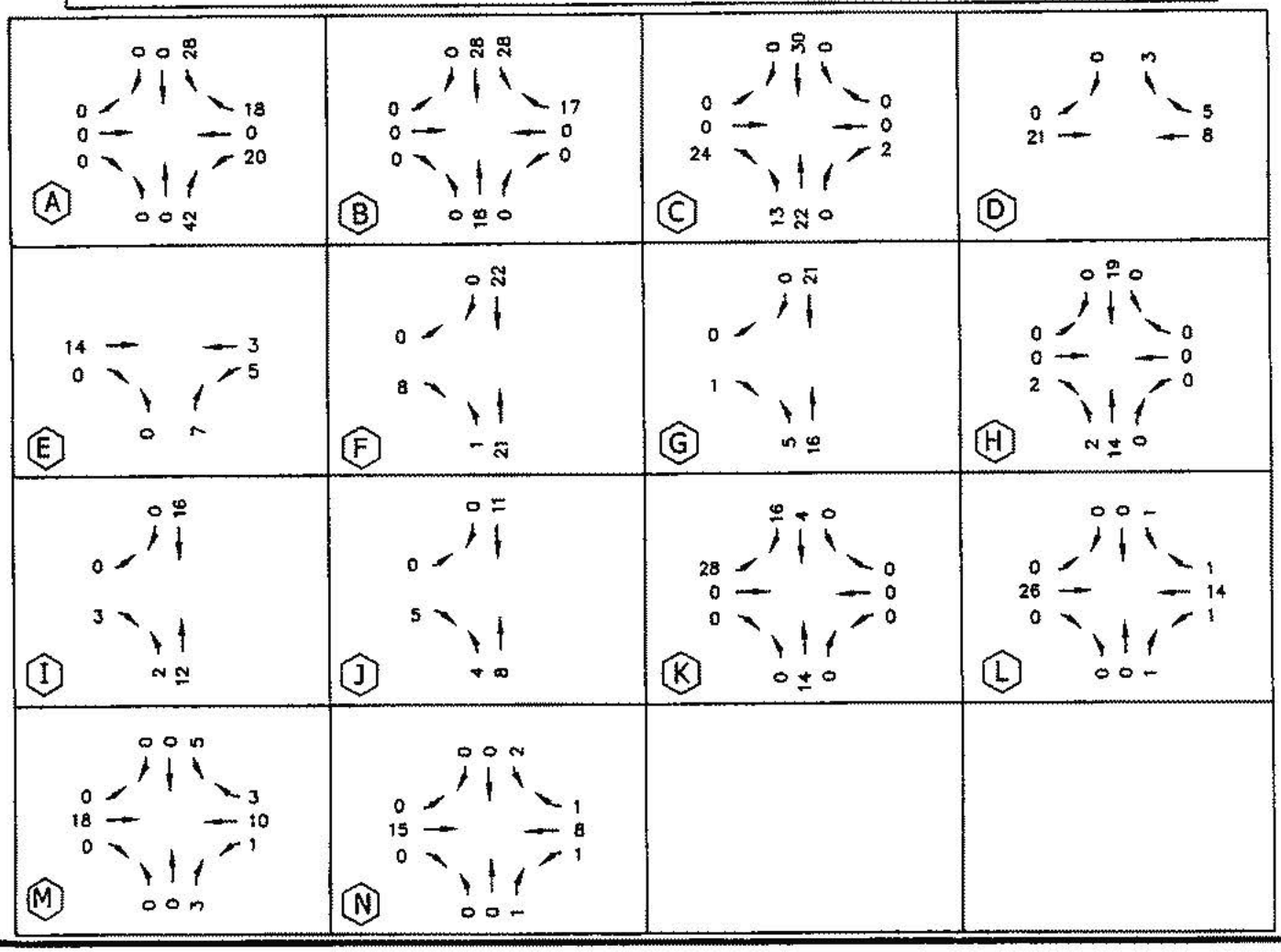
RDK Engineering

Figure 11
PM PEAK HOUR
SITE TRIP ASSIGNMENT

Mahar 25.72 Acre Site
Southeast Plan

Apr 1, 2013

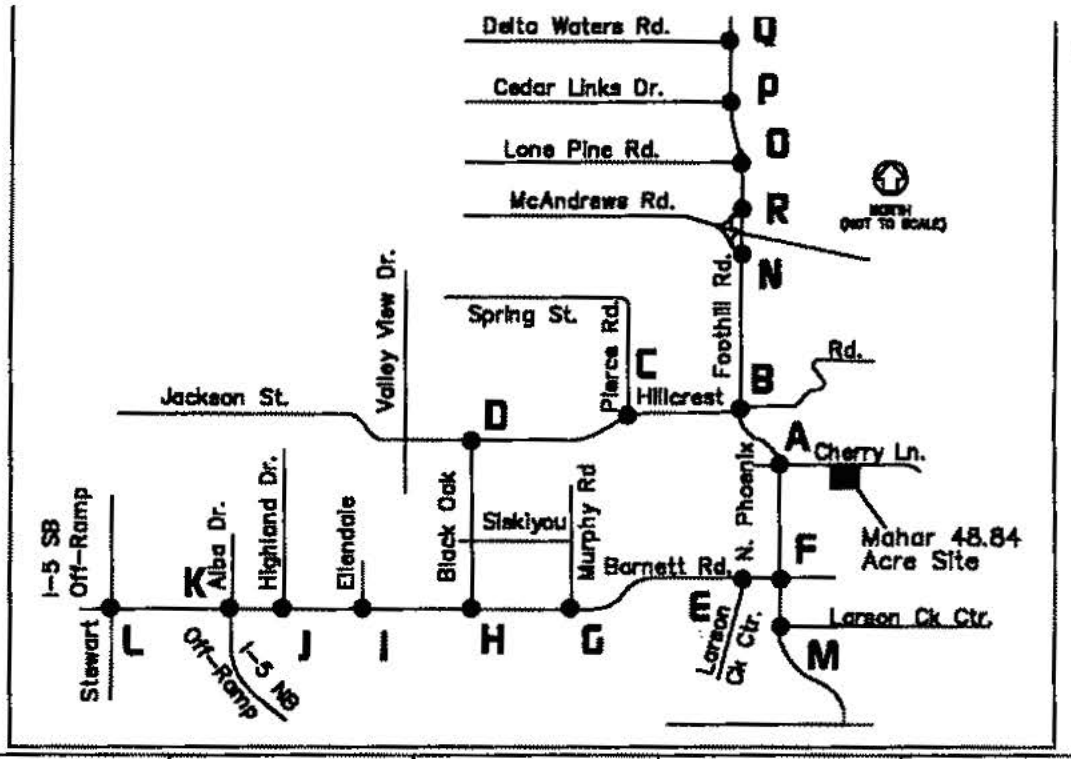




RDK Engineering

Figure 9
PM PEAK HOUR
SITE TRIP ASSIGNMENT

Mahar 37.91
Acre Site



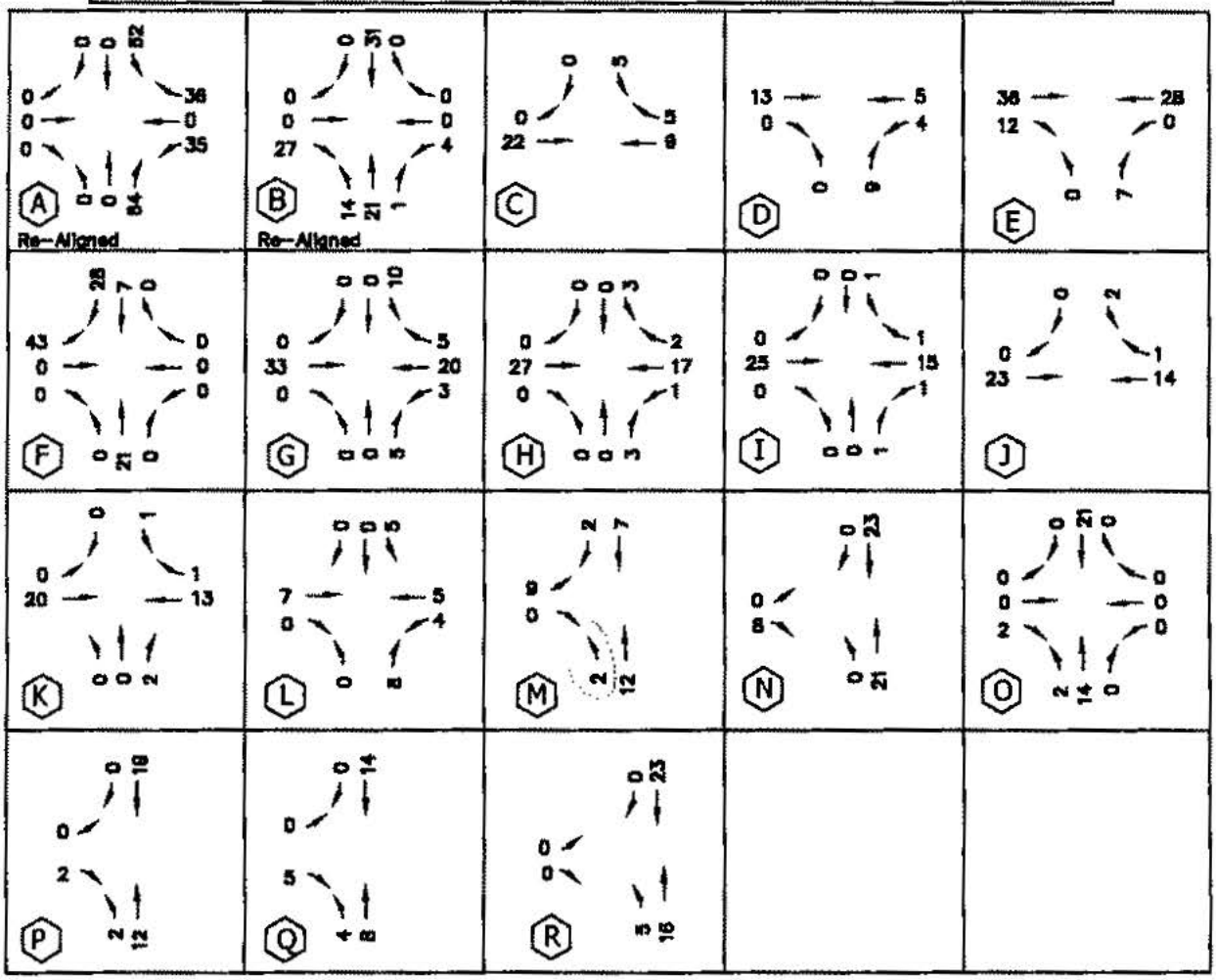


Figure 10
PM PEAK HOUR
SITE TRIP ASSIGNMENT

RDK Engineering

Mahar 48.84
Acre Site

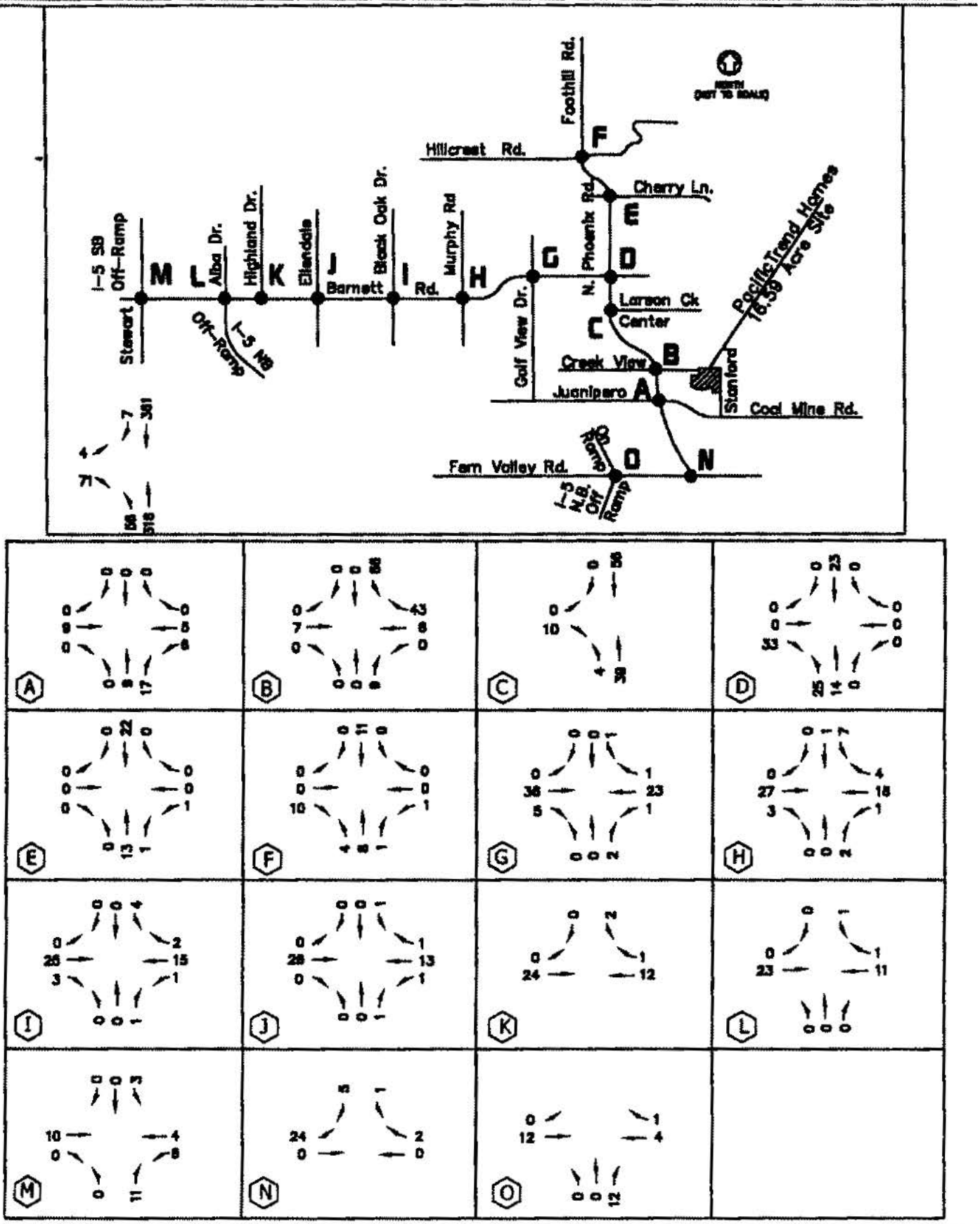
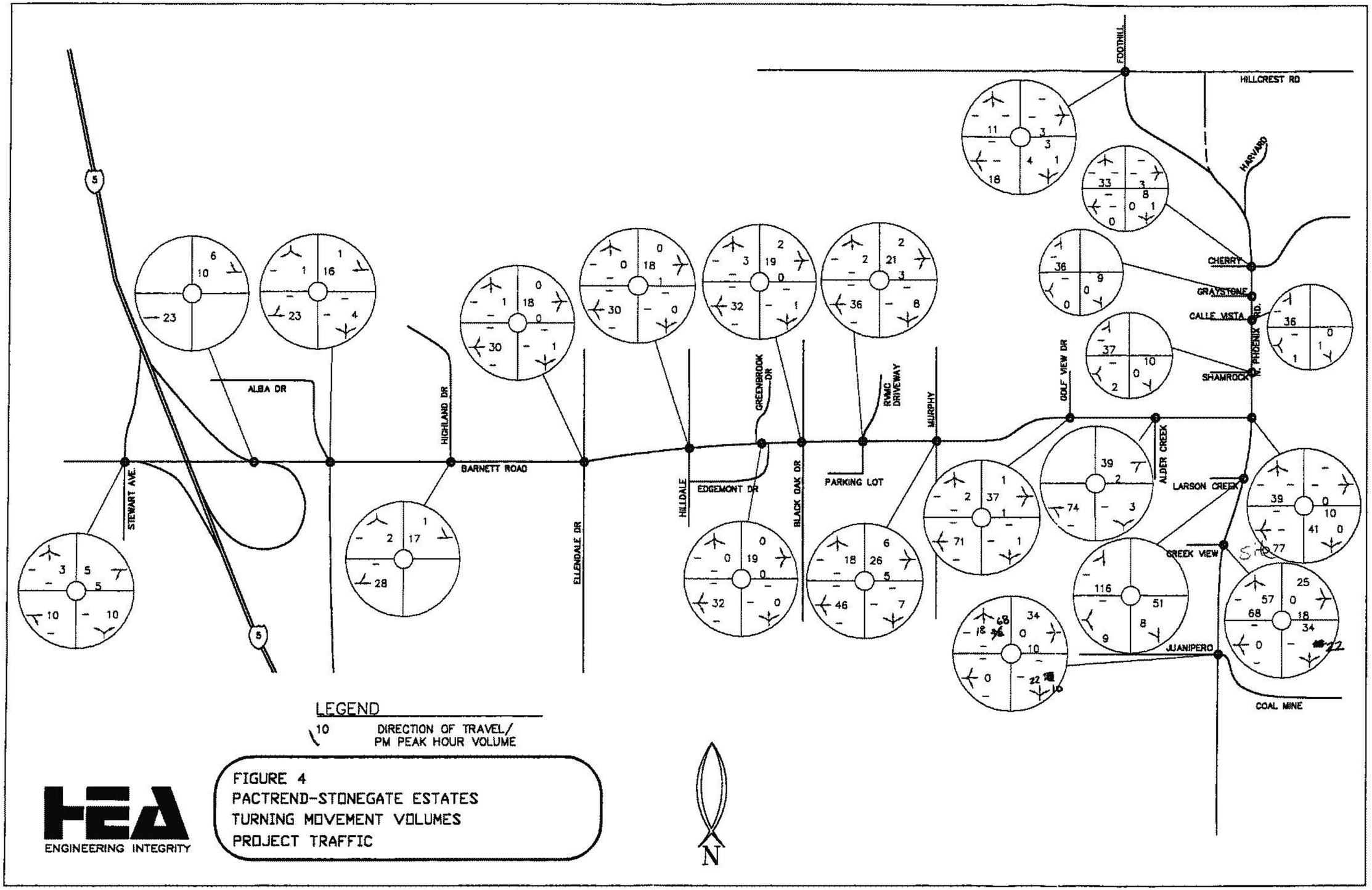


FIGURE 10
PM PEAK HOUR
SITE TRIP ASSIGNMENT

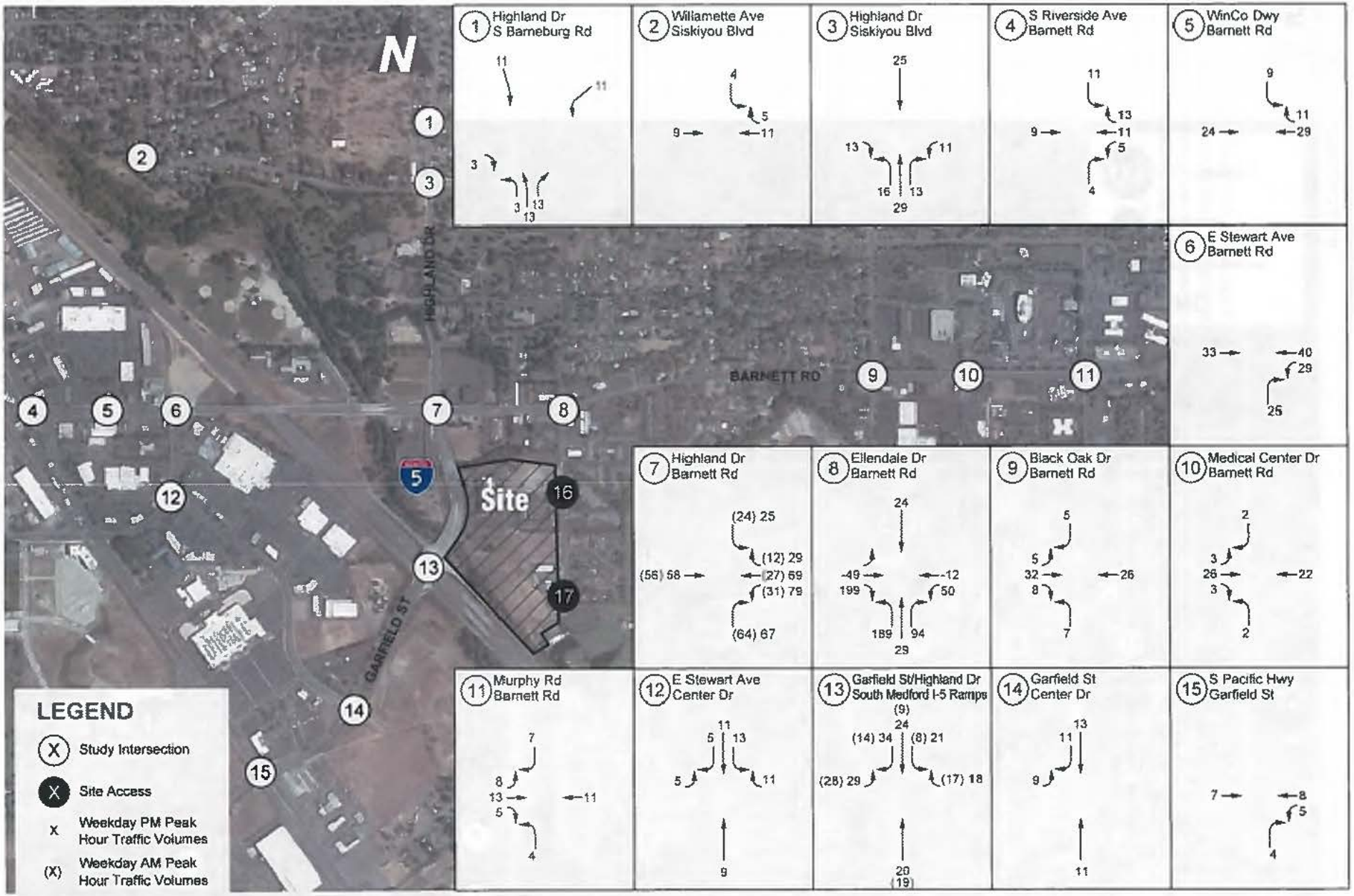
RDK Engineering

PacTrend Inc
16.59 Acre Site



ENGINEERING INTEGRITY

FIGURE 4
PACTREND-STONEGATE ESTATES
TURNING MOVEMENT VOLUMES
PROJECT TRAFFIC



Weekday AM and PM Peak Hour Trip Assignment

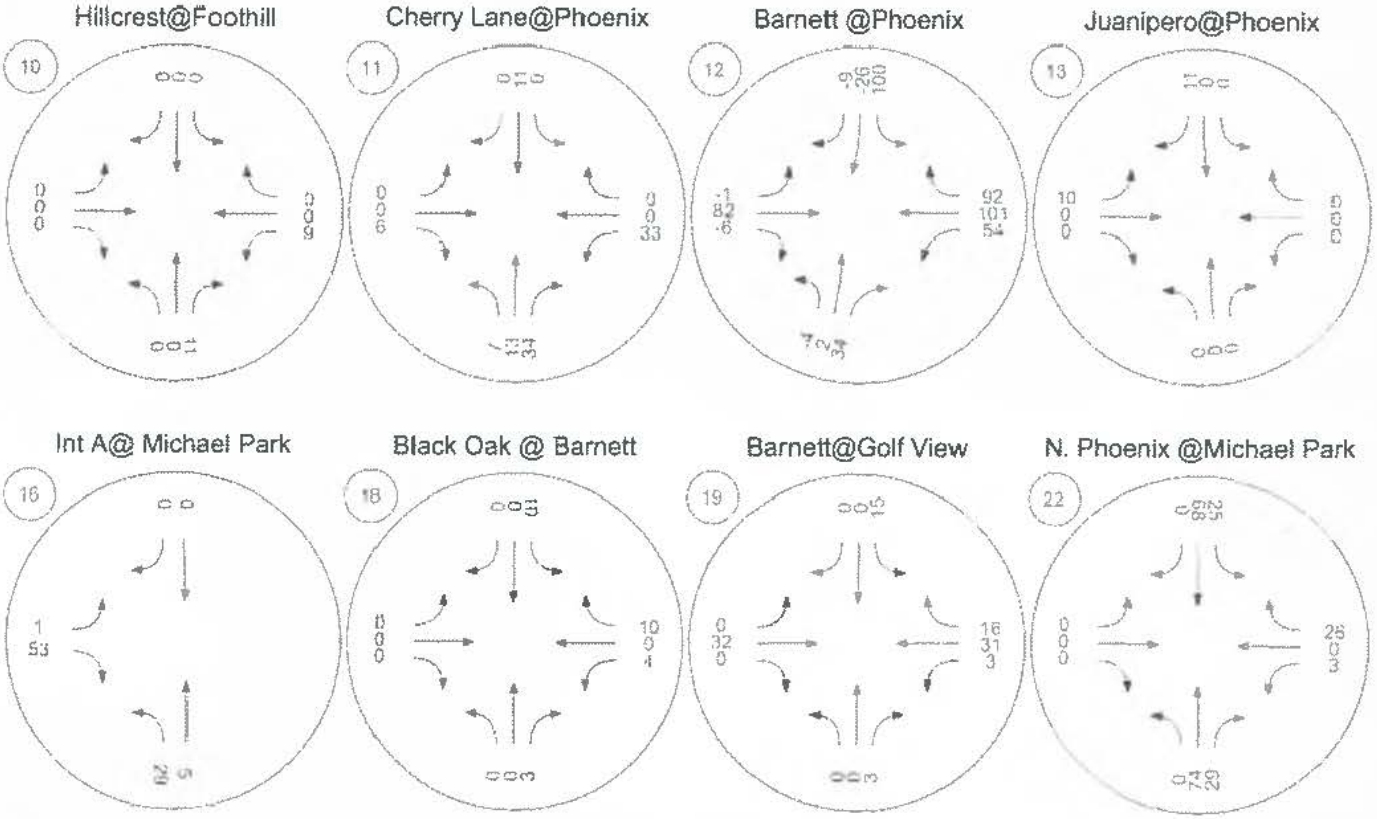
Rogue Valley Manor - Commercial Village

FIGURE 6

transpogroup

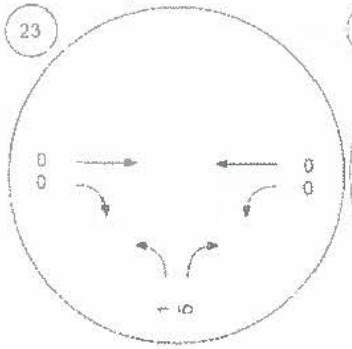
Apr 09 2019 - 11:26am nickg M:\18\18056.00 Rogue Valley Manor\Graphics\Graphics_18056.dwg Layout: Figure 6 Trip Assignment

Report Figure 19d: Traffic Volume - Net New Site Trips

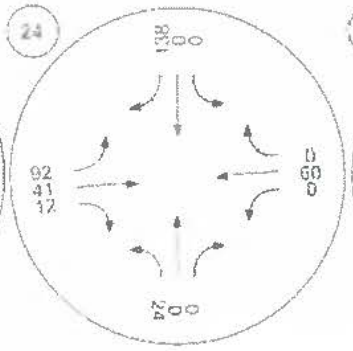


Report Figure 19d: Traffic Volume - Net New Site Trips

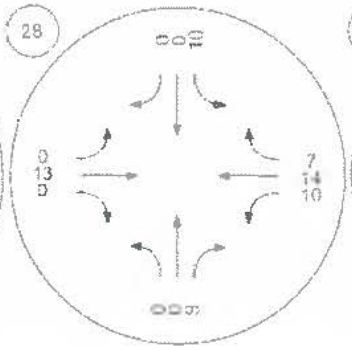
Int B @Michael Park



Site Drive H@Barnett Rd



Murphy Rd. at Barnett Rd.



Site Drive I/Fire@ Barnett

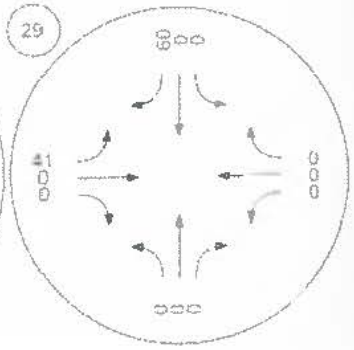
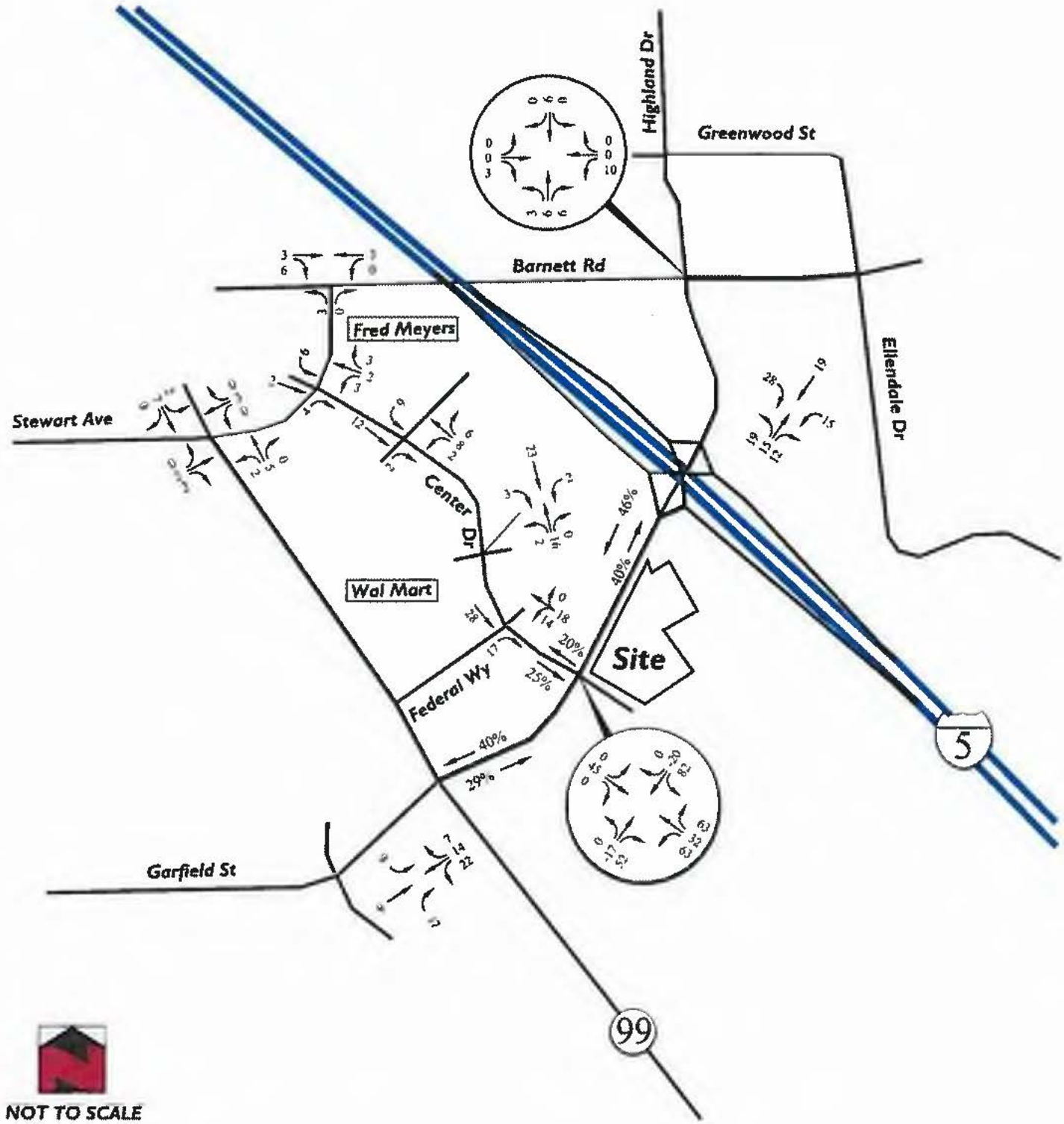


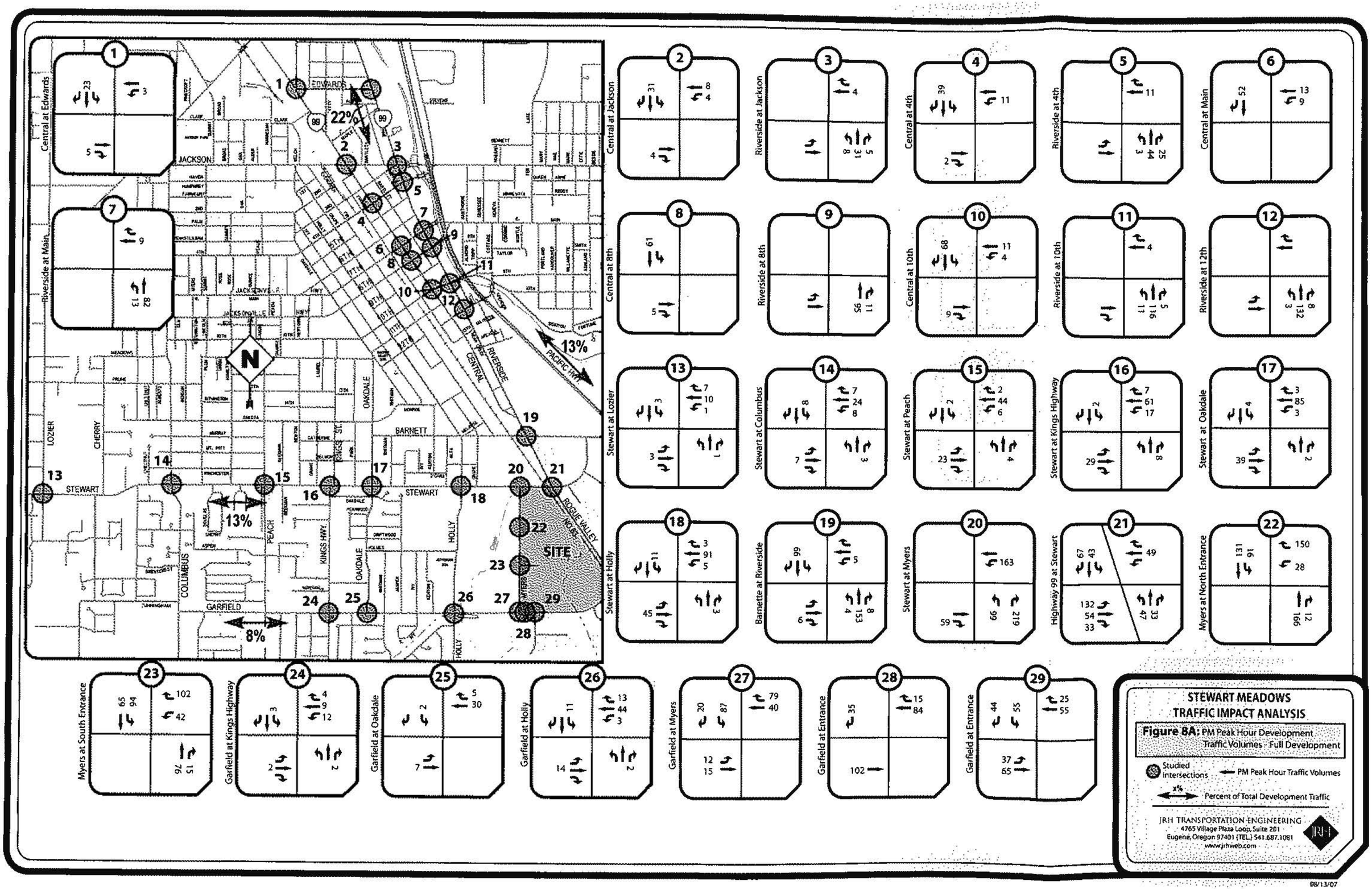
Figure 8: Development Trip Assignment - PM Peak Hour



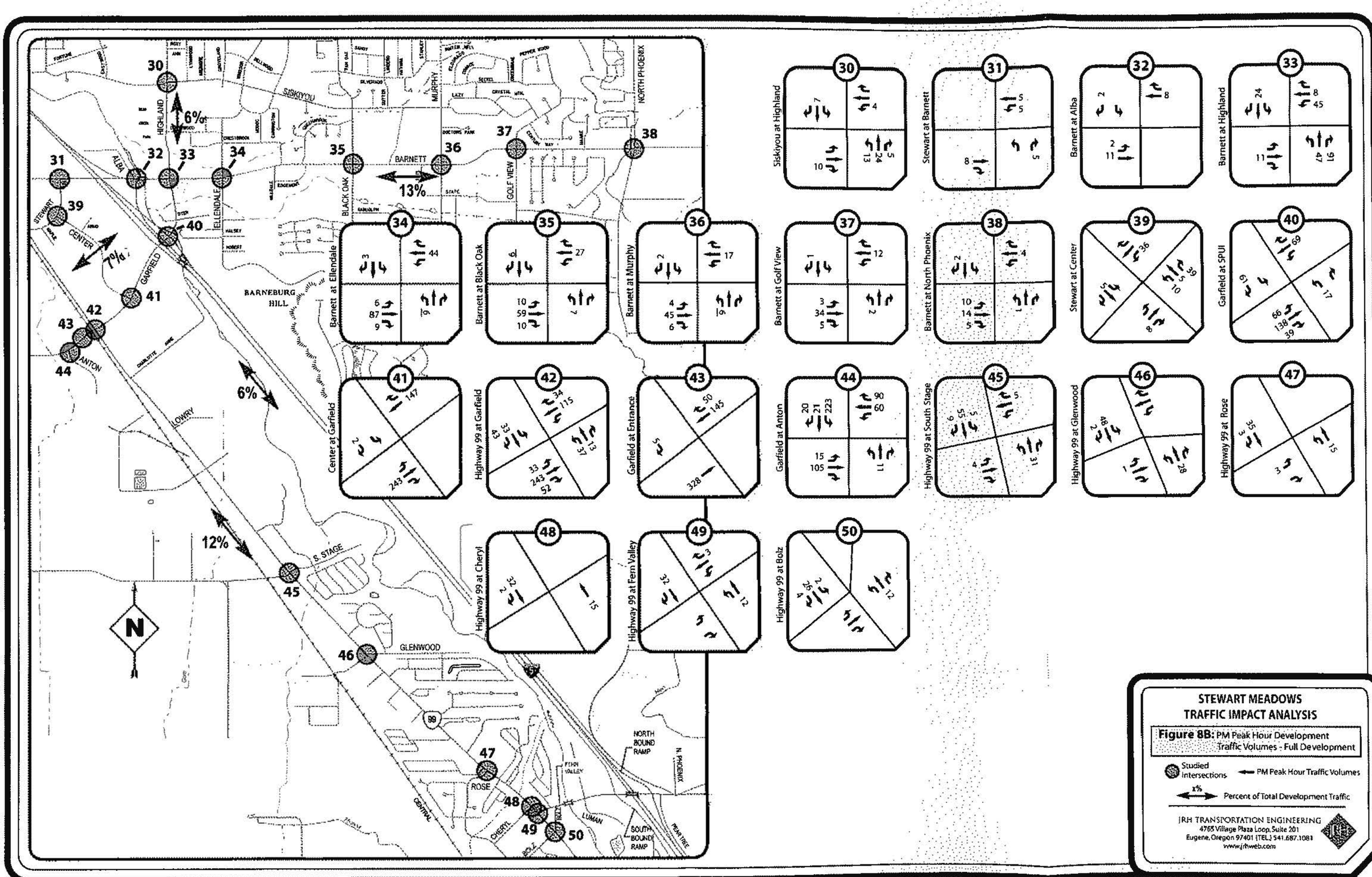
SOUTHERN OREGON
TRANSPORTATION ENGINEERING, LLC

Medford, Oregon 97504
ph 541.608.9923 fax 541.535.6873
email: kwkp1@q.com

South Side Center Zone Change
SFR-00 to C-R
Traffic Impact Analysis
Medford, Oregon



Central at Edwards
Riverside at Main
Central at Jackson
Riverside at Jackson
Central at 4th
Riverside at 4th
Central at Main
Central at 8th
Riverside at 8th
Central at 10th
Riverside at 10th
Riverside at 12th
Stewart at Lozier
Stewart at Columbus
Stewart at Peach
Stewart at Kings Highway
Stewart at Oakdale
Stewart at Holly
Barnette at Riverside
Stewart at Myers
Highway 99 at Stewart
Myers at North Entrance
Myers at South Entrance
Garfield at Kings Highway
Garfield at Oakdale
Garfield at Holly
Garfield at Myers
Garfield at Entrance
Garfield at Entrance
JACKSON
EDWARDS
STEWART
BARNETT
GARFIELD
LOZIER
CHERRY
COLUMBUS
PEACH
KINGS HWY
OAKDALE
HOLLY
RIVERSIDE
CENTRAL
PACIFIC HWY
ROGUE VALLEY
SITE
22%
13%
13%
8%
N
STEWART MEADOWS
TRAFFIC IMPACT ANALYSIS
Figure 8A: PM Peak Hour Development Traffic Volumes - Full Development
Studied intersections
PM Peak Hour Traffic Volumes
x%
Percent of Total Development Traffic
JRH TRANSPORTATION ENGINEERING
4765 Village Plaza Loop, Suite 201
Eugene, Oregon 97401 (TEL) 541.687.1081
www.jrhweb.com
08/13/07



STEWART MEADOWS
TRAFFIC IMPACT ANALYSIS
Figure 8B: PM Peak Hour Development Traffic Volumes - Full Development
Studied Intersections
PM Peak Hour Traffic Volumes
x%
Percent of Total Development Traffic
JRH TRANSPORTATION ENGINEERING
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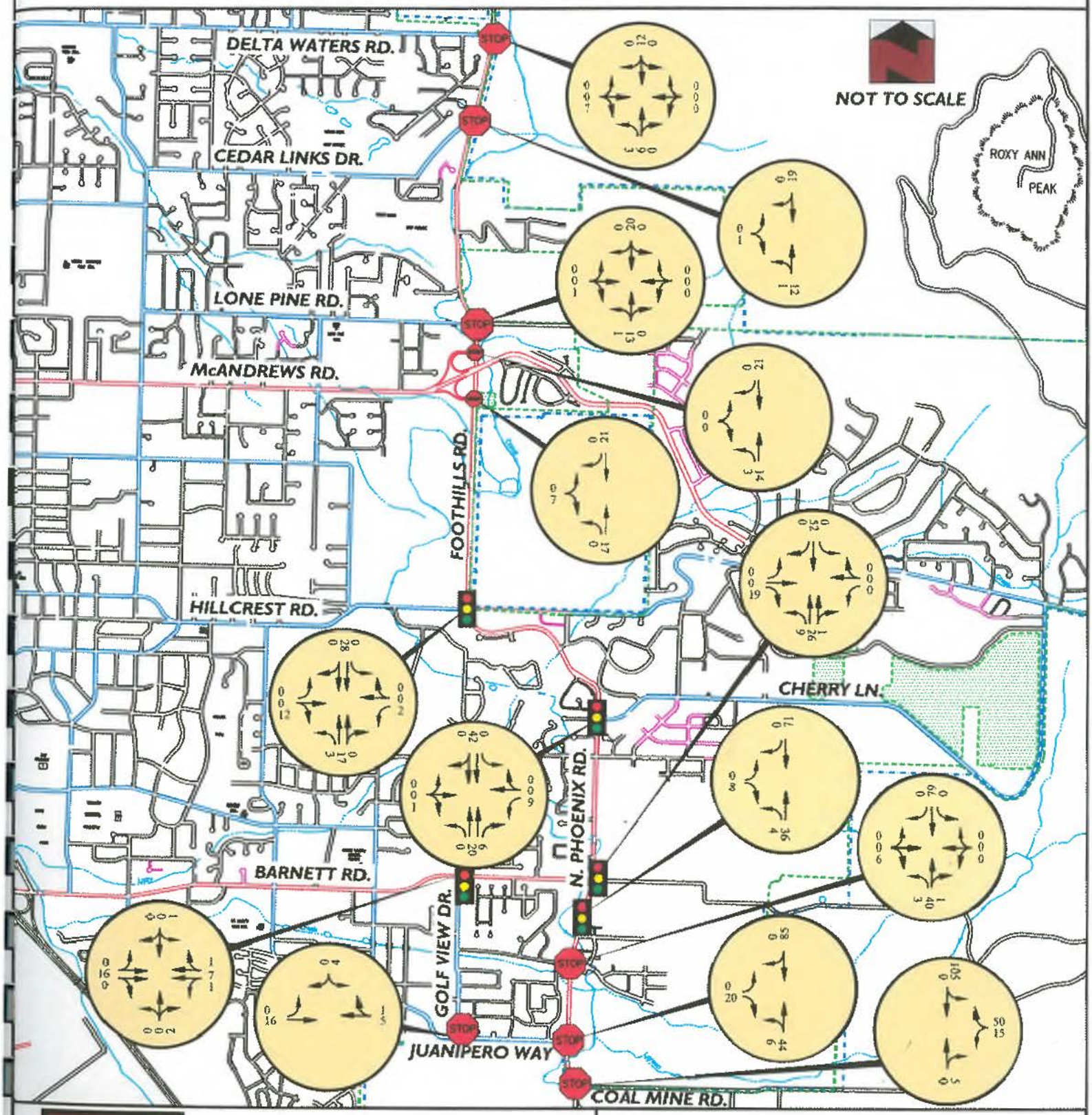
www.jrhweb.com
Siskiyou at Highland
Stewart at Barnett
Barnett at Alba
Barnett at Highland
Barnett at Ellendale
Barnett at Black Oak
Barnett at Murphy
Barnett at Golf View
Barnett at North Phoenix
Stewart at Center
Garfield at SPUI
Center at Garfield
Highway 99 at Garfield
Garfield at Entrance
Garfield at Anton
Highway 99 at South Stage
Highway 99 at Glenwood
Highway 99 at Rose
Highway 99 at Cheryl
Highway 99 at Fern Valley
Highway 99 at Bolz
SISKIYOU
HIGHLAND
ALBA
STEWART
CENTER
GARFIELD
ANTON
ELLENDALE
BLACK OAK
BARNETT
GOLF VIEW
MURPHY
NORTH PHOENIX
BARNEBURG HILL
LOWRY
S. STAGE
GLENWOOD
ROSE
CHERYL
LUMAN
NORTH BOUND RAMP
SOUTH BOUND RAMP
N. PHOENIX
PEAR TREE
CENTRAL
6%
7%
13%
12%
N

Figure 9 : Development Trip Assignments (PM Peak Hour)



SOUTHERN OREGON
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Suncrest Homes Zone Change

Traffic Impact Analysis

APPENDIX E –

Trip Generation Memo (JRH Transportation Engineering)

ENGINEERS | PROJECT MANAGERS | PLANNERS

August 19, 2015

Ron Hughes
Oregon Dept of Transportation
3500 NW Stewart Parkway
Roseburg, OR 97470

Re: Coquille Tribe Casino Work Scope

Dear Ron,

The following outlines the traffic analysis work scope and trip distribution for a gaming facility proposed by the Coquille Indian Tribe. The proposed location of the project is in the City of Medford and Jackson County, Oregon. In addition to the Medford site there are two alternative sites. A description of alternatives to be considered within the traffic study are provided below.

1.0 Project Alternatives

Alternative A: Medford Site

The proposed location is 2375 S Pacific Highway, adjacent to the northeastern boundary of Highway 99, between Charlotte Ann Road and Lowry Lane. The facility is currently in use as Roxy Ann Lanes Bowling Alley. The proposed action would transfer approximately 2.4 acres of land from fee to trust status, upon which the existing bowling alley would be converted into a gaming facility. Adjacent fee land would be used for parking. The full planned building size is 29,345 sq. ft. total which includes a 16,600 sq. ft. gaming facility, 7,565 sq. ft. of restaurant, and the remainder being support facilities. Existing project access points will be used. No new project access points are planned. The anticipated completion date is 2018.

Alternative C: Phoenix Site

The proposed location is north of the City of Phoenix, Oregon within Jackson County. The site is the 49.35-acre Arrowhead Land and Cattle property along North Phoenix Road within view of Interstate 5 A new building would be constructed identical to the one proposed under Alternative A as well as surface parking. Existing site access will be used. No new site access points are planned. The anticipated completion date is 2018.

Alternative D: Expansion of Mill Casino in North Bend

This alternative will expand the Coquille Tribe's existing 30,000-square-foot Mill Casino located on the Tribe's existing trust land in North Bend. The construction of an approximately 5,000 square foot addition with 650 gaming machines at the south end of the building is proposed. Existing project access points will be used. No new project access points are planned. The anticipated completion date is 2018.

2.0 Traffic Counts

Traffic counts were collected for all identified study area intersections. Counts used in the analysis were taken within the last three years. Counts on Oregon Department of Transportation Facilities will be collected for 3 hour minimum. Other counts were conducted for a minimum of two-hours.
Due to ongoing roadway improvements, viable traffic counts were not possible near the Fern Valley Road Interchange. Anticipated traffic volumes for this area were provided in the Fern Valley Interchange Unit 2A Environmental Assessment Project Report, prepared by ODOT Transportation Planning and Analysis Unit.

2.1 Seasonal Adjustment

Seasonal adjustments were determined based on *Analysis Procedures Manual* (APM) methodology for on-site ATR. Calculations for intersections along Highway 99 were be made using the Talent ATR #(15-014); OR99; MP 15.93; ROGUE VALLEY HIGHWAY NO. 63; 0.33 mile northwest of Talent Avenue. Where applicable seasonal adjustments be applied to the through volumes on Highways.

2.2. Peak Hour Factors

Existing peak hour factors will be calculated using the following formula.

$$PHF = \frac{\text{Volume during Peak 60-Minute Period}}{4 \times (\text{Max. Volume During Peak 15-Minute Period})}$$

For existing conditions calculated peak hour factors will be used. For future year projection conditions, the following values will be used: 0.85 for Minor Streets; 0.90 for Minor Arterials; 0.95 for Major Streets.

2.3 Base Volumes

Base traffic volumes will be for counted global peak hour. Where applicable, traffic volumes were balanced between intersections yielding final base volumes.

3.0 Crash Analysis

The crash analysis will be based on the last 5 years of crash data. The intersections will be screened first comparing intersection crash rates with the 90th percentile published rates in **Exhibit 4-1** in the *APMv2*. Intersections with crash rates higher than this 90th percentile rate or identified SPIS sites will be analyzed further using agency-approved methodologies.

Crash analysis was not performed for the Fern Valley Interchange. This interchange is under construction and there is no data available for existing conditions.

4.0 Trip Generation

The trip generation for the proposed casino was determined by JRH Transportation Engineering in cooperation with the Oregon Department of Transportation. The methodology is described briefly below. The original report is attached to this letter.

An examination of numerous tribal casino Traffic Impact Analyses (TIAs) were collected and analyzed. Those with similar characteristics (size, use, etc) to the subject development were selected for use. From these the trip generation was developed for the proposed project. The methodology and resulting rate were approved for use in this analysis by Oregon Department of Transportation, June 2015. A copy of the analysis is attached.

The Medford alternative proposes to occupy the site of Roxy Ann Lanes bowling alley. The bowling alley is currently in use. To obtain accurate estimates of new trips as a result of the project, the trips generated by the bowling alley were subtracted from the Casino trips. This ensures the analysis will not include existing trips.

Table 1: Medford Site – Trip Generation

Land Use Type	Variable	PM Peak Hour						AM Peak Hour					
		Peak Hour		Inbound		Outbound		Peak Hour		Inbound		Outbound	
		Rate	Trips	Split	Trips	Split	Trips	Rate	Trips	Split	Trips	Split	Trips
	KSF												
Casino*	29.34	5.5	161	67%	108	33%	53	3.10	91	53%	48	47%	43
	Lanes												
Bowling Alley**	24	2.542	-61	39%	-24	61%	-37	3.13	-75	60%	-45	40%	-30
Net Trips			100		84		16		16		3		13

**Casino Trip Rate from JRH Study - Approved by ODOT

**Bowling Alley PM peak hour data from on-site traffic count. AM Peak Hour data from ITE "Trip Generation Manual" 9th Edition - Land Use 437

Table 2: Phoenix Site – Trip Generation

Land Use Type	Variable KSF	PM Peak Hour						AM Peak Hour					
		Peak Hour		Inbound		Outbound		Peak Hour		Inbound		Outbound	
		Rate	Trips	Split	Trips	Split	Trips	Rate	Trips	Split	Trips	Split	Trips
Casino*	29.34	5.5	161	67%	108	33%	53	3.10	91	53%	48	47%	43
Net Trips			161		108		53		91		48		43

*Casino Trip Rate from JRH Study Approved by ODOT

Table 3: North Bend Mill Casino Expansion – Trip Generation

Land Use Type	Variable KSF	PM Peak Hour						AM Peak Hour					
		Peak Hour		Inbound		Outbound		Peak Hour		Inbound		Outbound	
		Rate	Trips	Split	Trips	Split	Trips	Rate	Trips	Split	Trips	Split	Trips
Casino*	5	5.5	28	67%	18	33%	9	3.10	16	53%	8	47%	7
Net Trips			28		18		9		16		8		7

*Casino Trip Rate from JRH Study Approved by ODOT

5.0 Trip Distribution

Trip distributions for Alternatives A and C are calculated based on the current RVMPO travel demand model. The ODOT Transportation Planning and Analysis Unit (TPAU) prepared a distribution model specifically for this project. The distribution model was a select link analysis based on addition of employment to the related Transportation Analysis Zone. Two distribution models were provided. One is a 2020 PM Peak Hour distribution and the other is 2038 PM Peak Hour. It turns out there is little difference between the two model years. The 2020 model sends a few more trips north both for the Medford Alternative A and the Phoenix Alternative C. The 2020 model was used for this analysis for both Alternatives.

A spreadsheet was developed that calculates trip distribution percentages based on the 2020 TPAU PM Peak Hour model at all intersections in the system expected to be impacted by development trips. The spreadsheet shows the intersection "node" number and street name for each intersection. It also tabulates the "node-to-node" links, their compass direction and whether the trips are inbound or outbound. The actual volume found on any link is divided by the total inbound or outbound volume at the source node to determine the trip percentages at any given node. These percentages are then applied to the actual calculated trips generated by the development to determine the number of development trips at any of the nodes. These results are the totaled for each node to show how many development trips are

entering each intersection/node. Intersections which exceed the jurisdictional agency new-trip limit require analysis.

The TPAU models are only for the PM Peak Hour. To determine AM Peak Hour distribution percentages, the volumes given in the PM model for each link are "reversed" in the spreadsheet -- PM inbound trips become AM outbound trips and PM outbound trips become AM inbound. As in the PM distribution calculation, these percentages are applied to the AM Peak Hour development-generated trips for each intersection/node. These trips are summed to determine total development trips entering the intersection. Again, if the total exceeds the agency new-trip threshold, the intersection requires full analysis.

Copies of the spreadsheet results for Alternative A (Roxy Ann Lanes Bowling Alley) and Alternative C (North Phoenix Road) are included. As shown in Table 3 above, Alternative D (Mill Casino Expansion) would only generate 28 new peak hour trips. Because this falls below the 50-trip threshold for analysis, no analysis is anticipated.

6.0 Intersection Performance Analysis

6.1 Selection of Study Intersections

Study intersections were selected based on state and local agency requirements. Intersections under the City of Medford's jurisdiction were studied if the proposed development added 25 or more peak hour trips on Arterial and Collector roads, and project access. Intersections under the Oregon Department of Transportation's jurisdiction were studied if the proposed development added more than 50 peak hour trips. Intersections under the Jackson County's jurisdiction were studied if the proposed development added more than 50 peak hour trips on Arterial and Collector roads and project access. Study intersections are shown below. The North Bend alternative was under the 50 vehicle threshold so no performance analysis is anticipated.

Medford Site Study Intersections:

- S. Riverside Ave at E. Barnett Rd.
- Pacific Highway 99 at Stewart Ave.
- Pacific Highway 99 at Garfield St.
- Garfield St. at Center Drive
- Highland Drive at E. Barnett Rd.
- Pacific Highway 99 at Charlotte Ann Rd.
- Pacific Highway 99 at North Project Access
- Pacific Highway 99 at Main Project Access

Phoenix Site Study Intersections:

- Fern Valley Road at I-5 SB Ramp (New alignment)
- N. Phoenix Rd. at Cherry Lane
- N. Phoenix Rd. at E. Barnett Rd.
- N. Phoenix Rd. at Juanipero Way
- N. Phoenix Rd. at Project Access (New alignment)
- N. Phoenix Rd/Fern Valley Road at Home Depot Access (New alignment)

Performance analysis will be conducted on all intersections during the PM Peak hour. The intersections of: N. Phoenix Rd. at E. Barnett Rd.; N. Phoenix Rd. at Juanipero Way; N. Phoenix Rd/Fern Valley Road at Home Depot Access, N. Phoenix Rd. at Project Driveway will also be analyzed during the AM Peak Hour.

6.2 Analysis Time Period

Performance analysis will be conducted at existing intersections for the following conditions:

- Year 2015 existing conditions
- 2018 conditions with and without planned development Alternatives
- 2038 conditions with and without planned development Alternatives

6.3 Performance Analysis Modeling

Modeling will be prepared using VISTRO. Saturation flow rates will be 1750 outside the MPO urban areas and 1900 inside. Performance Standards of study intersections is shown in Table 4.

TABLE 4: INTERSECTION PERFORMANCE STANDARDS

Intersection	Intersection Control	Performance Standard	Jurisdiction
Medford Site			
S. Riverside at E. Barnett Road	Signalized	LOS D	City of Medford
Pacific Hwy 99 at Stewart Ave	Signalized	v/c 0.90	City of Medford/ODOT
Pacific Hwy 99 at Garfield St.	Signalized	v/c 0.90	City of Medford/ODOT
Garfield St. at Center Drive	Signalized	LOS D	City of Medford
Highland Drive at Barnett Rd.	Signalized	LOS D	City of Medford
Pacific Hwy 99 at Charlotte Ann	Stop-Control	LOS D - v/c 0.90	City of Medford/ODOT
Pacific Hwy 99 at North Site	Stop-Control	LOS D - v/c 0.90	City of Medford/ODOT
Pacific Hwy 99 at Main Site Drive	Stop-Control	LOS D - v/c 0.90	City of Medford/ODOT
Phoenix Site			
N. Phoenix Rd/Fern Valley at I-5	Signalized	v/c 0.85	ODOT
N. Phoenix Rd. at Cherry Lane	Signalized	LOS D	City of Medford
N. Phoenix Rd. at E. Barnett Rd.	Signalized	LOS D	City of Medford
N. Phoenix Rd. at Juanipero Way	Stop-Control	LOS D	City of Medford/ Jackson County
N. Phoenix Rd/Fern Valley at Home Depot	Signalized	LOS D	Jackson County
N. Phoenix Rd/Fern Valley at Project Access	N/A	LOS D	Jackson County

Let me know if you have any questions. My phone number is (541) 687-1081 and my cell phone is (541) 513-3510.

Janis Casto

2418 Coquille Indian Tribe Gaming Project

Title: Trip Distribution for year 2020 AM Peak (ALT A)

AM Peak Hour Trips				
Intersection	Inbound/outbound	Designated value for ease of calc	Volume	Trip Rate from ODOT
901-1656	I	1	84	3
	O	0	60	13

HWY 99

Intersection ID	Name of the Intersection	Node No.	Approach Direction	Inbound/Outbound	Model Volume	% model volume	Adjusted Trip	No. of trips	Total
2925	S Riverside ave-North of Barnett Road	3882-2925	SB	1	18	21%	3	1	3
		2869-2925	NB	0	13	22%	13	3	
2869	S Riverside Ave @ E Barnett St	2925-2869	SB	1	21	25%	3	1	4
		2705-2869	NB	0	13	22%	13	3	
		1872-2869	EB	1	1	1%	3	0	
		1834-2869	WB	1	1	1%	3	0	
2705	S Pacific Hwy @ E Stewart Ave	2869-2705	SB	1	38	45%	3	1	5
		2538-2705	NB	0	15	25%	13	3	
		1886-2705	EB	1	3	4%	3	0	
		3044-2705	WB	1	4	5%	3	0	
2538	S Pacific Hwy @ Garfield St	2705-2538	SB	1	63	75%	3	2	8
		1357-2538	NB	0	22	37%	13	5	
		3488-2538	EB	1	22	26%	3	1	
		3101-2538	WB	1	2	2%	3	0	
1357	S Pacific Hwy @ Charlotte Ann Rd	2538-1357	SB	1	64	76%	3	2	12
		1656-1357	NB	0	46	77%	13	10	
		454-1357	WB	1	1	1%	3	0	
1656	S Pacific Hwy @ Lowry Ln	1357-1656	SB	1	12	14%	3	0	15
		2951-1656	NB	1	47	56%	3	2	
		901-1656	WB	0	60	100%	13	13	
2951	S Pacific Hwy @ Bear Creek Corporation	1656-2951	SB	0	10	17%	13	2	3
		452-2951	NB	1	20	24%	3	1	
		3109-2951	EB	0	2	3%	13	0	
2361	S Pacific Hwy @ S Stage Rd	2951-2361	SB	0	9	15%	13	2	3
		2814-2361	NB	1	18	21%	3	1	
		2572-2361	EB	1	0	0%	3	0	
		651-2361	WB	0	1	2%	13	0	

Garfield St

Intersection ID	Name of the Intersection	Node No.	Approach Direction	Inbound/Outbound	Model Volume	% model volume	Adjusted Trip	No. of trips	Total
3101	Garfield St - E of S Pacific HWY	2538-3101	EB	0	22	37%	13	5	5
		5300-3101	WB	1	20	24%	3	1	
5300	Garfield St @ Center Dr	3101-5300	EB	0	20	33%	13	4	5
		5302-5300	WB	1	20	24%	3	1	
		5308-5300	SB	1	0	0%	3	0	
		455-5300	NWB	1	2	2%	3	0	
5309	SPUI- Pacific Hwy @ Garfield St	5302-5309	EB	0	9	15%	13	2	5
		5303-5309	WB	1	19	23%	3	1	
		5313-5309	SEB	0	10	17%	13	2	
		5311-5309	NWB	1	10	12%	3	0	
5301	E Pacific Hwy	5303-5301	NEB	0	6	10%	13	1	2
		3159-5301	SB	1	9	11%	3	0	
3159	Highland Dr @ E Barnett Rd	5301-3159	NB	0	2	3%	13	0	1
		1641-3159	SB	1	9	11%	3	0	
		1526-3159	EB	1	8	10%	3	0	
		3096-3159	WB	1	7	8%	3	0	

= Intersection exceeds Agency trip threshold - Requires analysis

2418 Coquille Indian Tribe Gaming Project

Title: Trip Distribution for year 2020 PM Peak (ALT A)

PM Peak Hour Trips				
Intersection	Inbound/outbound	Designated value for ease of calc	Volume	Trip Rate from ODOT
901-1656	I	1	60	84
	O	0	84	16

HWY 99

Intersection ID	Name of the Intersection	Node No.	Approach Direction	Inbound/Outbound	Model Volume	% model volume	Adjusted Trip	No. of trips	Total
2925	S Riverside Ave-North of Barnett Road	3882-2925	SB	1	13	22%	84	18	22
		2869-2925	NB	0	18	21%	16	3	
2869	S Riverside Ave @ E Barnett Rd	2925-2869	SB	1	13	22%	84	18	25
		2705-2869	NB	0	21	25%	16	4	
		1872-2869	EB	1	1	2%	84	1	
		1834-2869	WB	1	1	2%	84	1	
2705	S Pacific Hwy @ E Stewart Ave	2869-2705	SB	1	15	25%	84	21	38
		2538-2705	NB	0	38	45%	16	7	
		1886-2705	EB	1	4	7%	84	6	
		3044-2705	WB	1	3	5%	84	4	
2538	S Pacific Hwy @ Garfield St	2705-2538	SB	1	22	37%	84	31	76
		1357-2538	NB	0	63	75%	16	12	
		3488-2538	EB	1	2	3%	84	3	
		3101-2538	WB	1	22	37%	84	31	
1357	S Pacific Hwy @ Charlotte Ann Rd	2538-1357	SB	1	46	77%	84	64	78
		1656-1357	NB	0	64	76%	16	12	
		454-1357	WB	1	1	2%	84	1	
1656	S Pacific Hwy @ Site Driveway	1357-1656	SB	1	47	78%	84	66	99
		2951-1656	NB	1	12	20%	84	17	
		901-1656	WB	0	84	100%	16	16	
2951	S Pacific Hwy @ Bear Creek Corporation	1656-2951	SB	0	20	24%	16	4	18
		452-2951	NB	1	10	17%	84	14	
		3109-2951	EB	0	2	2%	16	0	
2361	S Pacific Hwy @ S Stage Rd	2951-2361	SB	0	18	21%	16	3	17
		2814-2361	NB	1	9	15%	84	13	
		2572-2361	EB	1	1	2%	84	1	
		651-2361	WB	0	0	0%	16	0	

Garfield St

Intersection ID	Name of the Intersection	Node No.	Approach Direction	Inbound/Outbound	Model Volume	% model volume	Adjusted Trip	No. of trips	Total
3101	Garfield St - E of S Pacific HWY	2538-3101	EB	0	20	24%	16	4	35
		5300-3101	WB	1	22	37%	84	31	
5300	Garfield St @ Center Dr	3101-5300	EB	0	20	24%	16	4	35
		5302-5300	WB	1	20	33%	84	28	
		5308-5300	SB	1	2	3%	84	3	
		455-5300	NWB	1	0	0%	84	0	
5309	SPUI- Pacific Hwy @ Garfield St	5302-5309	EB	0	19	23%	16	4	32
		5303-5309	WB	1	9	15%	84	13	
		5313-5309	SEB	0	10	12%	16	2	
		5311-5309	NWB	1	10	17%	84	14	
3159	Highland Dr. @ E Barnett Rd	5301-3159	NB	0	9	11%	16	2	26
		1641-3159	SB	1	2	3%	84	3	
		1526-3159	EB	1	7	12%	84	10	
		3096-3159	WB	1	8	13%	84	11	

= Intersection exceeds Agency trip threshold - Requires analysis

2418 Coquille Indian Tribe Gaming Project

Title: Trip Distribution for year 2020 AM Peak (ALT C)

AM Peak Hour Trips				
Intersection	Inbound/outbound	Designated value for ease of calc	Volume	Trip Rate from ODOT
901-2236	I	1	81	48
	O	0	58	43

N. Phoenix Rd.

Intersection ID	Name of the Intersection	Node No.	Approach Direction	Inbound/Outbound	Model Volume	% model volume	Adjusted Trip	No. of trips	Total
3322	N. Phoenix at Hillcrest	3102-3322	SB	1	10	12%	48	6	14
		8002-3322	NB	0	9	16%	43	7	
		3776-3322	EB	1	3	4%	48	2	
		1146-3322	WB	1	0	0%	48	0	
3858	N. Phoenix at Princeton Way	8000-3858	SB	1	13	16%	48	8	16
		1036-3858	NB	0	9	16%	43	7	
			EB		0	0%	43	0	
		1146-3858	WB	1	3	4%	48	2	
2340	N. Phoenix at Cherry Lane	1601-2340	SB	1	16	20%	48	9	19
		3724-2340	NB	0	11	19%	43	8	
		425-2340	EB	1	0	0%	48	0	
		1445-2340	WB	1	2	2%	48	1	
3724	N. Phoenix at Shamrock	2340-3724	SB	1	19	23%	48	11	21
		3241-3724	NB	0	12	21%	43	9	
		427-3724	EB	1	1	1%	48	1	
						0%	43	0	
3241	N. Phoenix at Barnett	3274-3241	SB	1	20	25%	48	12	28
		3240-3241	NB	0	18	31%	43	13	
		1619-3241	EB	1	3	4%	48	2	
		1326-3241	WB	1	2	2%	48	1	
1257	N. Phoenix at Harbrooke	3420-1257	SB	1	24	30%	48	14	29
		9168-1257	NB	0	19	33%	43	14	
		421-1257	WB	1	2	2%	48	1	
						0%	43	0	
9168	N. Phoenix at Creek View	1257-9168	SB	1	26	32%	48	15	32
		2616-9168	NB	0	21	36%	43	16	
		9174-9168	EB	1	1	1%	48	1	
						0%	43	0	
2616	N. Phoenix at Juanipero	9168-2616	SB	1	28	35%	48	17	37
		1653-2616	NB	0	24	41%	43	18	
		2071-2616	EB	1	4	5%	48	2	
					0	0%	43	0	
3511	N. Phoenix at Coal Mine Road	1653-3511	SB	1	31	38%	48	18	38
		2781-3511	NB	0	25	43%	43	19	
		5012-3511	WB	0	1	2%	43	1	
		871-3511	SEB	1	0	0%	48	0	
2781	N. Phoenix at Centennial Golf Club	3511-2781	SB	1	33	41%	48	20	38
		3583-2781	NB	0	25	43%	43	19	
		443-2781	EB	0	0	0%	43	0	
2236	N. Phoenix at Site Driveway	2373-2236	SB	1	33	41%	48	20	90
		2251-2236	NB	1	47	58%	48	28	
		901-2236	EB	0	58	100%	43	43	
3000	N. Phoenix at Home Depot (OLD)	2680-3000	SEB	0	33	57%	43	24	54
		1710-3000	SB	1	47	58%	48	28	
		658-3000	WB	1	3	4%	48	2	
5812	N. Phoenix at Fern Valley (OLD)	4913-5812	SB	0	29	50%	43	22	49
		4907-5812	NB	0	0	0%	43	0	
		2604-5812	EB	1	45	56%	48	27	
		2886-5812	WB	1	1	1%	48	1	

Intersection ID	Name of the Intersection	Node No.	Approach Direction	Inbound/Outbound	Model Volume	% model volume	Adjusted Trip	No. of trips	Total
2185	Fern Valley at I-5 Ramp NB	2109-2185	NB	1	12	15%	48	7	42
		1796-2185	EB	1	24	30%	48	14	
		3128-2185	WB	0	28	48%	43	21	
						0%	43	0	
3219	Fern Valley at I-5 Ramp SB	2568-3219	SB	1	5	6%	48	3	27
		3013-3219	EB	1	12	15%	48	7	
		2876-3219	WB	0	23	40%	43	17	
						0%	43	0	
3013	Fern Valley and Lumen	644-3013	NB	0	1	2%	43	1	16
		4906-3013	SB	0	0	0%	43	0	
		3120-3013	EB	1	12	15%	48	7	
		3219-3013	WB	0	11	19%	43	8	
3120	Fern Valley and Bolz	2106-3120	NB	1	0	0%	48	0	15
			SB	0	0	0%	43	0	
		1014-3120	EB	1	12	15%	48	7	
		3013-3120	WB	0	10	17%	43	7	
2940	Fern Valley and Hwy 99	2106-2940	NB	1	5	6%	48	3	10
		3171-2940	SB	1	6	7%	48	4	
		3120-2940	EB	0	0	0%	43	0	
			WB	0	5	9%	43	4	

= Intersection exceeds Agency trip threshold - Requires analysis

2418 Coquille Indian Tribe Gaming Project

Title: Trip Distribution for year 2020 PM Peak (ALT C)

PM Peak Hour Trips				
Intersection	Inbound/outbound	Designated value for ease of calc	Volume	Trip Rate from ODOT
901-2236	I	1	58	108
	O	0	81	53

N. Phoenix Rd.

Intersection ID	Name of the Intersection	Node No.	Approach Direction	Inbound/Outbound	Model Volume	% model volume	Adjusted Trip	No. of trips	Total
3322	N. Phoenix at Hillcrest	3102-3322	SB	1	5	9%	108	9	23
		8002-3322	NB	0	13	16%	53	9	
		3776-3322	EB	1	3	5%	108	6	
		1146-3322	WB	1	0	0%	108	0	
3858	N. Phoenix at Princeton Way	8000-3858	SB	1	9	16%	108	17	27
		1036-3858	NB	0	16	20%	53	10	
			EB	1	0	0%	108	0	
		1146-3858	WB	1	0	0%	108	0	
2340	N. Phoenix at Cherry Lane	1601-2340	SB	1	9	16%	108	17	33
		3724-2340	NB	0	19	23%	53	12	
		425-2340	EB	1	0	0%	108	0	
		1445-2340	WB	1	2	3%	108	4	
3724	N. Phoenix at Shamrock	2340-3724	SB	1	11	19%	108	20	35
		3241-3724	NB	0	20	25%	53	13	
		427-3724	EB	1	1	2%	108	2	
						0%	53	0	
3241	N. Phoenix at Barnett	3274-3241	SB	1	12	21%	108	22	49
		3240-3241	NB	0	24	30%	53	16	
		1619-3241	EB	1	5	9%	108	9	
		1326-3241	WB	1	1	2%	108	2	
1257	N. Phoenix at Harbrooke	3420-1257	SB	1	18	31%	108	34	52
		9168-1257	NB	0	26	32%	53	17	
		421-1257	WB	1	1	2%	108	2	
						0%	53	0	
9168	N. Phoenix at Creek View	1257-9168	SB	1	19	33%	108	35	56
		2616-9168	NB	0	28	35%	53	18	
		9174-9168	EB	1	1	2%	108	2	
						0%	53	0	
2616	N. Phoenix at Juanipero	9168-2616	SB	1	21	36%	108	39	65
		1653-2616	NB	0	31	38%	53	20	
		2071-2616	EB	1	3	5%	108	6	
					0	0%	53	0	
3511	N. Phoenix at Coal Mine Road	1653-3511	SB	1	24	41%	108	45	67
		2781-3511	NB	0	33	41%	53	22	
		5012-3511	EB	0	1	1%	53	1	
		871-3511	SEB	1	0	0%	108	0	
2781	N. Phoenix at Centennial Golf Club	3511-2781	SB	1	25	43%	108	47	68
		3583-2781	NB	0	33	41%	53	22	
		443-2781	EB	0	0	0%	53	0	
2236	N. Phoenix at Site Driveway	2373-2236	SB	1	25	43%	108	47	161
		2251-2236	NB	1	33	57%	108	61	
		901-2236	EB	0	81	100%	53	53	
3000	N. Phoenix at Home Depot (OLD)	2680-3000	SEB	0	47	58%	53	31	92
		1710-3000	SB	1	29	50%	108	54	
		658-3000	WB	1	4	7%	108	7	
5812	N. Phoenix at Fern Valley (OLD)	4913-5812	SB	0	45	56%	53	29	84
		4907-5812	NB	0	1	1%	53	1	
		2604-5812	EB	1	28	48%	108	52	
		2886-5812	WB	1	1	2%	108	2	

Intersection ID	Name of the Intersection	Node No.	Approach Direction	Inbound/Outbound	Model Volume	% model volume	Adjusted Trip	No. of trips	Total
2185	Fern Valley at I-5 Ramp NB	2109-2185	NB	1	5	9%	108	9	80
		1796-2185	EB	1	23	40%	108	43	
		3128-2185	WB	0	43	53%	53	28	
						0%	53	0	
3219	Fern Valley at I-5 Ramp SB	2568-3219	SB	1	12	21%	108	22	59
		3013-3219	EB	1	11	19%	108	20	
		2876-3219	WB	0	24	30%	53	16	
						0%	53	0	
3013	Fern Valley and Lumen	644-3013	NB	0	0	0%	53	0	26
		4906-3013	SB	0	0	0%	53	0	
		3120-3013	EB	1	10	17%	108	19	
		3219-3013	WB	0	12	15%	53	8	
3120	Fern Valley and Bolz	2106-3120	NB	1	5	9%	108	9	26
			SB	0	0	0%	53	0	
		1014-3120	EB	1	5	9%	108	9	
		3013-3120	WB	0	12	15%	53	8	
2940	Fern Valley and Hwy 99	2106-2940	NB	1	0	0%	108	0	9
		3171-2940	SB	1	5	9%	108	9	
			EB	0	0	0%	53	0	
		3120-2940	WB	0	0	0%	53	0	

= Intersection exceeds Agency trip threshold - Requires analysis

Alternative A: PM

		From previous TIA approved methodology	Revised trip gen per ITE 10th ed.													
		% Model Vol	In/Outs	Trips	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Riverside at Barnett	SB	22%	92	20			2	2				11			20	
	NB	25%	44	11												
	EB	2%	92	2												
	WB	2%	92	2												
OR 99 at Stewart	SB	25%	92	23			6	5			3	10	7		23	
	NB	45%	44	20												
	EB	7%	92	6												
	WB	5%	92	5												
OR 99 at Garfield	SB	37%	92	34			3	34				22	11		34	
	NB	75%	44	33												
	EB	3%	92	3												
	WB	37%	92	34												
OR 99 at Charlotte Ann	SB	77%	92	71				2				33			71	
	NB	76%	44	33												
	WB	2%	92	2												
OR 99 at Site Driveway	SB	78%	92	72				0		0		33		72		
	NB	76%	44	33												
	WB	0%	44	0												
OR 99 at Site Driveway	SB	80%	92	74				11		33			18	74		
	NB	20%	92	18												
	WB	100%	44	44												
Garfield at Center	EB	24%	44	11		11			30							3
	WB	33%	92	30												
	SB	3%	92	3												
	NWB	0%	92	0												
SPUI IC 27						5	6		26		4					
Highland at E barnett	NB	11%	44	5			11	12					5		3	
	SB	3%	92	3												
	EB	12%	92	11												
	WB	13%	92	12												

Alternative B: PM

		% Model Vol	In/Outs	Trips	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
N Phoenix at Cherry Lane	SB	16%	112	18	0			3				13			18	
	NB	23%	55	13												
	EB	0%	112	0												
	WB	3%	112	3												
N Phoenix at Barnett	SB	21%	112	24			10	2				17			24	
	NB	30%	55	17												
	EB	9%	112	10												
	WB	2%	112	2												
N Phoenix at Juanipero	SB	36%	112	40			6					21			40	
	NB	38%	55	21												
	EB	5%	112	6												
	WB	0%	55	0												
N Phoenix at Site Driveway	SB	43%	112	48	23		32				64					48
	NB	57%	112	64												
	EB	100%	55	55												
I-5 NB	NB	9%	112	10		45			17	12			10			
	EB	40%	112	45												
	WB	53%	55	29												
	SB	0%	55	0												
I-5 SB	SB	21%	112	24		21		17						24		
	EB	19%	112	21												
	WB	30%	55	17												
	NB	0%	55	0												

June 17, 2015

Wei (Michael) Wang, PE
Oregon Department of Transportation (ODOT)
100 Antelope Road
White City, Oregon 97503

Peter T. MackPrang
Associate Traffic Engineer
411 West 8th Street
Medford, OR 97501

Proposed Tribal Casino Trip Generation Rates

Dear Michael and Peter,

As you know, JRH is providing a traffic engineering analysis of a proposed tribal casino on the east side of Highway 99, south of its intersection with Charlotte Anne Road. The 29,340 square ft. facility will include a 16,700 square-foot gaming area, and a 5,000 square-foot restaurant. The rest of the building is for supporting uses. The purpose of this letter is provide ODOT with the trip generation rates that JRH proposes to use in its analysis.

The ITE *Trip Generation Manual* rate for Casino/Video Lottery Establishment (ITE Code 473) clearly does not apply, as the studies provided in the ITE analysis were for small facilities of less than ten-percent of the size of the proposed development. Because of this, we have conducted a review of numerous Traffic Impact Analyses (TIAs) for tribal casinos with varying attributes (size, location (urban and rural), and type) to determine an appropriate trip generation rate to use for the proposed tribal casino.

We examined seven TIAs to determine appropriate trip generation rates for the proposed Tribal casino. We attached salient sections of each of the studies to assist in your review of our analysis. The studies are:

- *San Pablo Lytton Casino Expansion Project Traffic Engineering Analysis*, Administrative Draft Report; Omni-Means; November 2009 – (San Pablo)

- *Traffic Impact Study, Bear River Expansion in Humboldt County*; Abrams Associates; March 2007 (Bear River)

- *Karuk Casino Yreka, California*; Kittelson Associates, September 2013 (Karuk)

- *Traffic Impact Study, Osage Nation Casino, US 60 & City View Road, Ponca City, Oklahoma;* Traffic Engineering Consultants, Inc. September 2010. (Ponca City)

- *Samish Tribe Casino, Anacortes, WA, Transportation* Impact *Study Draft;* Transportation Engineering NorthWest, llc, January 28, 2015. (Samish)

- *Cowlitz Indian Tribe Casino Project, Traffic Impact Study, Final;* February 2006 (Cowlitz)

- *Thunder Valley Casino Expansion Project, Revised Transportation Impact Study;* Fehr & Peers; August 2009 (Thunder Valley)

Tables 1 and **2** summarize the trip generation rates used in the studies for the AM and PM peak hours. A weighted average trip generation rate was calculated for both AM and PM peak hours. The PM peak period average was adjusted by eliminating both highest and lowest trip generation rate values, both of which appear to be outliers. All of the AM peak rates are included in calculating an appropriate trip generation rate.

The weighted average trip generation rates are designated in bold font in **Tables 1** and **2**. Per ODOT Scope of Work described in the May 12, 2015 communication from from Michael Wang to Janis Casto, JRH will use the RVMPO travel demand model to determine trip distribution.

Table 1 -- PM Casino Trip Generation

Name	Casino Size	PM Trips	PM Rate trips/kfs	PM Split In	PM Split Out	PM Split Percent In	PM Split Percent Out
San Pablo	31,400	528	16.8	282	246	53%	47%
Bear River	12,155	98	8.1	51	47	52%	48%
Karuk	23,700	141	5.9	65	76	46%	54%
Ponca City	44,000	345	7.8	177	168	51%	49%
Samish, Alternative A	50,000	206	4.1	122	84	59%	41%
Cowlitz Alternate A/B	134,150	664	4.9	352	312	53%	47%
Thunder Valley	117,760	377	3.2	198	179	53%	47%
Weighted Average	413,165	2,359	5.7	1,247	1,112	53%	47%
Without High and Low	264,005	1,454	**5.5**	767	687	53%	47%

Table 2
AM Casino Trip Generation

Name	Casino Size	PM Trips	AM Rate trips/kfs	AM Split In	AM Split Out	AM Split Percent In	AM Split Percent Out
San Pablo	31,400	213	6.8	133	80	62%	38%
Bear River	12,155	47	3.9	32	15	68%	32%
Karuk		Rates not Provided					
Ponca City	44,000	40	0.9	27	13	68%	33%
Samish, Alternative A		Rates not Provided					
Cowlitz Alternate A/B	134,150	396	3.0	277	119	70%	30%
Thunder Valley		Rates not Provided					
Summary Calculations Using Weighted Average	221,705	696	**3.1**	469	227	67%	33%

Using the rates established above, the trip generation for the proposed tribal casino is shown in Table 3.

Table 3 – Trip Generation PM & AM Peak Hours

Land Use Type	Variable	PM Peak Hour						AM Peak Hour					
		Peak Hour		Inbound		Outbound		Peak Hour		Inbound		Outbound	
		Rate	Trips	Split	Trips	Split	Trips	Rate	Trips	Split	Trips	Split	Trips
	KSF												
Casino	29.34	5.5	161	67%	108	33%	53	3.10	91	53%	48	47%	43
Totals	29.34		161		108		53		91		48		43

Please let me know if you have any questions.
Very truly yours,

James R. Hanks, PE

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APPENDIX F –

Signal Timing Plans

INTERSECTION: Barnett & Highland

Group Assignment: **Barnett Rd - Telephone**
Field Master Assignment: **NONE**
System Reference Number: **90**

N/S Street Name: **Highland Ave.**
E/W Street Name: **Barnett Road**

Last Database Change: **11/14/2018 15:28**

Change Record					
Change	By	Date	Change	By	Date

Notes: ***04/26/2007 ODOT takes jurisdiction for operation and maintenance for SMI construction.***
MM/DD/YYY Resumed jurisdiction from ODOT.
04/23/2014 Changed Add/Act from 0.8 to 1.1 sec per ODOT request.

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Drop Number	**3**	<C/0+0+0>
Zone Number	**0**	<C/0+0+1>
Area Number	**1**	<C/0+0+2>
Area Address	**90**	<C/0+0+3>
QuicNet Channel	**COM15:**	(QuicNet)

Communication Addresses

Manual Plan		<C/0+A+1>
Manual Offset		<C/0+B+1>

Manual Selection

Flash Start	**0**	<F/1+0+E>
Red Revert	**5.0**	<F/1+0+F>
All Red Start	**5.0**	<F/1+C+0>
FYA Red Clear	**1.0**	<F/1+0+5>

Start / Revert Times

Exclusive Walk	**0**	<F/1+0+0>
Exclusive FDW	**0**	<F/1+0+1>
All Red Clear	**0.0**	<F/1+0+2>

Exclusive Ped Phase
(Outputs specified in Assignable Outputs at E/127+A+E & F)

Row	Column Numbers ---->	Phase 1	2	3	4	5	6	7	8
	Phase Names ----->								
0	Ped Walk	0	7	0	5	0	7	0	5
1	Ped FDW	0	22	0	26	0	22	0	26
2	Min Green	5	5	5	8	5	5	5	8
3	Type 3 Disconnect	0	0	0	0	0	0	0	0
4	Added per Vehicle	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.8
5	Veh Extension	1.5	2.5	1.5	4.2	1.5	2.5	1.5	4.2
6	Max Gap	1.5	2.5	1.5	4.2	1.5	2.5	1.5	4.2
7	Min Gap	1.5	1.0	1.5	2.0	1.5	1.0	1.5	2.0
8	Max Limit	30	40	60	50	30	40	60	50
9	Max Limit 2	35	45	55	65	35	45	55	65
A	Adv. / Delay Walk	0	0	0	0	0	0	0	0
B	PE Min Ped FDW	0	0	0	0	0	0	0	0
C	BusMax/CondSvc	0	0	15	0	0	0	0	0
D	Reduce Every	0.0	10.0	0.0	5.0	0.0	10.0	0.0	5.0
E	Yellow Change	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
F	Red Clear	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

Phase Timing - Bank 1 <C+0+F=1>

	9	A	B	C	D
	- - -	- - -	- - -	- - -	- - -
Phase 1	5	0	0	0	0.0
Phase 2	5	0	0	0	0.0
Phase 3	5	0	0	0	0.0
Phase 4	15	0	0	0	0.0
Phase 5	5	0	0	0	0.0
Phase 6	5	0	0	0	0.0
Phase 7	5	0	0	0	0.0
Phase 8	15	0	0	0	0.0
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing <C+0+F=1>

	E
RR-1 Delay	0
RR-1 Clear	0
EV-A Delay	0
EV-A Clear	0
EV-B Delay	0
EV-B Clear	0
EV-C Delay	0
EV-C Clear	0
EV-D Delay	0
EV-D Clear	0
RR-2 Delay	0
RR-2 Clear	0
View EV Delay	- - -
View EV Clear	- - -
View RR Delay	- - -
View RR Clear	- - -

Preempt Timing

	F	Row
Permit	**12345678**	0
Red Lock	_____	1
Yellow Lock	**12345678**	2
Min Recall	___4___8	3
Ped Recall	_____	4
View Set Peds	**- - - - -**	5
Rest In Walk	_____	6
Red Rest	_____	7
Dual Entry	_2___6__	8
Max Recall	_____	9
Soft Recall	_____	A
Max 2	_____	B
Cond. Service	__3_____	C
Man Cntrl Calls	_____	D
Yellow Start	_____	E
First Phases	___4___8	F

Phase Functions <C+0+F=1>

Row	Column Numbers ---->	Overlap 1	2	3	4	5	6	7	8
	Overlap Name ----->								
0	Load Switch Number	0	0	0	0	0	0	0	0
1	Veh Set 1 - Phases								
2	Veh Set 2 - Phases								
3	Veh Set 3 - Phases								
4	Neg Veh Phases								
5	Neg Ped Phases								
6	Green Omit Phases								
7	Green Clear Omit Phs.								
8	Recall	N	N	N	N	N	N	N	N
9									
A									
B	Minimum Green	0	0	0	0	0	0	0	0
C	Maximum Green	0	0	0	0	0	0	0	0
D	Green Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	Yellow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Overlap Assignments <C+0+E=29>

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = Solid FDW on EV
5 = Extended Status
6 = International Ped
7 = Flash - Clear Outputs
8 = Split Ring

Extra 2 Flags
1 = AWB During Initial
2 = LMU Installed
3 = Disable Min Walk
4 = QuicNet/4 System
5 = Ignore P/P on EV
6 =
7 = Reserved
8 =

Row		C
0	EV-A	0
1	EV-B	0
2	EV-C	0
3	EV-D	0
4	RR-1 *	- - -
5	RR-2 *	- - -
6	SE-1	0
7	SE-2	0
8		
9		
A		
B		
C		
D		
E		
F		

Preempt Priority
<C+0+E=125>
(* RR-1 is always Highest, and RR-2 is always Second Highest)

Row	Column Numbers ---->	E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Flash to PE Circuits	
6	Flash Entry Phases	
7	Disable Yellow Range	
8	Disable Ovp Yel Range	
9	Overlap Yellow Flash	
A	EV-A Phases	2 5
B	EV-B Phases	4 7
C	EV-C Phases	1 6
D	EV-D Phases	3 8
E	Extra 1 Config. Bits	1 3 5
F	IC Select (Interconnect)	2

Configuration <C+0+E=125>

	F
Prot/Perm Flash Arrow	
Ext. Permit 1 Phases	
Ext. Permit 2 Phases	
Exclusive Ped Assign	
Preempt Non-Lock	
Ped for 2P Output	2
Ped for 6P Output	6
Ped for 4P Output	4
Ped for 8P Output	8
Yellow Flash Phases	
Low Priority A Phases	
Low Priority B Phases	
Low Priority C Phases	
Low Priority D Phases	
Restricted Phases	
Extra 2 Config. Bits	

Configuration <C+0+E=125>

	F
Fast Green Flash Phase	
Green Flash Phases	
Flashing Walk Phases	
Guaranteed Passage	
Simultaneous Gap Term	
Sequential Timing	
Advance Walk Phases	
Delay Walk Phases	
External Recall	
Start-up Overlap Green	
Max Extension	
Inhibit Ped Reservice	
Semi-Actuated	
Start-up Overlap Yellow	
Start-up Vehicle Calls	12345678
Start-up Ped Calls	2 4 6 8

Specials <C+0+F=2>

Flash to PE & PE Non-Lock
1 = EV A 5 = RR 1
2 = EV B 6 = RR 2
3 = EV C 7 = SE 1
4 = EV D 8 = SE 2

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

Row		2
0		
1	Phase 1	10
2	Phase 2	10
3	Phase 3	10
4	Phase 4	10
5	Phase 5	10
6	Phase 6	10
7	Phase 7	10
8	Phase 8	10
9		
A		
B		
C		
D		
E		
F		

Coordination Transition Minimums
<C+0+C=5>

Coord Extra
1 = Programmed WALK Time for Sync Phases
2 = Always Terminate Sync Phase Peds

Row	*Column Numbers ---->*	Plan 1	2	3	4	5	6	7	8	9	Row
0	Cycle Length	120	95	120	130	100	100	100	100	100	0
1	Phase 1 - ForceOff	15	15	62	19	0	0	0	0	0	1
2	Phase 2 - ForceOff	47	35	89	59	0	0	0	0	0	2
3	Phase 3 - ForceOff	87	63	42	89	0	0	0	0	0	3
4	Phase 4 - ForceOff	0	0	0	0	0	0	0	0	0	4
5	Phase 5 - ForceOff	15	15	60	19	0	0	0	0	0	5
6	Phase 6 - ForceOff	47	35	89	59	0	0	0	0	0	6
7	Phase 7 - ForceOff	79	58	1	89	0	0	0	0	0	7
8	Phase 8 - ForceOff	0	0	0	0	0	0	0	0	0	8
9	Ring Offset	0	0	0	0	0	0	0	0	0	9
A	Offset 1	90	64	11	11	0	0	0	0	0	A
B	Offset 2	0	0	0	0	0	0	0	0	0	B
C	Offset 3	0	0	0	0	0	0	0	0	0	C
D	Perm 1 - End	0	0	43	0	0	0	0	0	0	D
E	Output On	0	0	0	0	0	0	0	0	0	E
F	Output Off	0	0	0	0	0	0	0	0	0	F

Coordination - Bank 1 <C+0+C=1>

	E	Row
		0
Plan 1 - Sync	__3____8	1
Plan 2 - Sync	___4___8	2
Plan 3 - Sync	___4___8	3
Plan 4 - Sync	___4___8	4
Plan 5 - Sync	_____	5
Plan 6 - Sync	_____	6
Plan 7 - Sync	_____	7
Plan 8 - Sync	_____	8
Plan 9 - Sync	_____	9
NEMA Sync	_____	A
NEMA Hold	_____	B
		C
		D
Coord Extra	_____	E
		F

Sync Phases <C+0+C=1>

Row											Row
0	Ped Adjustment	0	0	0	0	0	0	0	0	0	0
1	Perm 2 - Start	0	0	0	0	0	0	0	0	0	1
2	Perm 2 - End	0	0	0	0	0	0	0	0	0	2
3	Perm 3 - Start	0	0	0	0	0	0	0	0	0	3
4	Perm 3 - End	0	0	0	0	0	0	0	0	0	4
5	Reservice Time	0	0	0	0	0	0	0	0	0	5
6	Reservice Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____	6
7											7
8	Pretimed Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____	8
9	Max Recall	_____	_____	_____	_____	_____	_____	_____	_____	_____	9
A	Perm 1 Veh Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	A
B	Perm 1 Ped Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	B
C	Perm 2 Veh Phase	_____	_____	_____	_____	_____	_____	_____	_____	_____	C
D	Perm 2 Ped Phase	_____	_____	_____	_____	_____	_____	_____	_____	_____	D
E	Perm 3 Veh Phase	_____	_____	_____	_____	_____	_____	_____	_____	_____	E
F	Perm 3 Ped Phase	_____	_____	_____	_____	_____	_____	_____	_____	_____	F

Coordination - Bank 2 <C+0+C=2>

	F	Row
Free Lag	_2_4_6_8	0
Plan 1 - Lag	_2_4_6_8	1
Plan 2 - Lag	_2_4_6_8	2
Plan 3 - Lag	_23__6_8	3
Plan 4 - Lag	_2_4_6_8	4
Plan 5 - Lag	_____	5
Plan 6 - Lag	_____	6
Plan 7 - Lag	_____	7
Plan 8 - Lag	_____	8
Plan 9 - Lag	_____	9
External Lag	_____	A
		B
		C
		D
		E
		F

Lag Phases <C+0+C=1>

Row	Column 8		Column 9		Column A		Column B		Column C		Column D		Column E		Column F		Row
0	Reserved	0	Latch 1 Set	0	NOT-3	0	Max 2	0	Pretimed	0	Set Monday	0	Dial 2 (7-Wire)	0	Sim Term	0	0
1	Reserved	0	Latch 1 Reset	0	NOT-4	0	Bus Checkin A	0	Plan 1	0	Ext. Perm 1	0	Dial 3 (7-Wire)	0	EV-A	71	1
2	Reserved	0	Latch 2 Set	0	OR-4 (a)	0	Bus Checkin B	0	Plan 2	0	Ext. Perm 2	0	Offset 1 (7-Wire)	0	EV-B	72	2
3	Reserved	0	Latch 2 Reset	0	OR-4 (b)	0	Bus Checkin C	0	Plan 3	0	Reserved	0	Offset 2 (7-Wire)	0	EV-C	73	3
4	Reserved	0	NAND-3 (a)	0	OR-5 (a)	0	Bus Checkin D	0	Plan 4	0	Set Clock	0	Offset 3 (7-Wire)	0	EV-D	74	4
5	Reserved	0	NAND-3 (b)	0	OR-5 (b)	0	Bus Checkout A	0	Plan 5	0	Stop Time	82	Free (7-Wire)	0	RR-1	51	5
6	Reserved	0	NAND-4 (a)	0	OR-6 (a)	0	Bus Checkout B	0	Plan 6	0	Flash Sense	81	Flash (7-Wire)	0	RR-2	52	6
7	Reserved	0	NAND-4 (b)	0	OR-6 (b)	0	Bus Checkout C	0	Plan 7	0	Manual Enable	0	Excl. Ped Omit	0	Spec. Event 1	0	7
8	Spec. Funct. 1	0	OR-7 (a)	0	Fig 3 Diamond	0	Bus Checkout D	0	Plan 8	0	Man. Advance	0	NOT-1	0	Spec. Event 2	0	8
9	Spec. Funct. 2	0	OR-7 (b)	0	Fig 4 Diamond	0	Max Inhibit (nema)	0	Plan 9	0	External Alarm	0	NOT-2	0	External Lag	0	9
A	Spec. Funct. 3	0	OR-7 (c)	0	AND-4 (a)	0	Force A (nema)	0	DELAY-A	0	Phase Bank 2	0	OR-1 (a)	0	AND-1 (a)	0	A
B	Spec. Funct. 4	0	OR-7 (d)	0	AND-4 (b)	0	Force B (nema)	0	DELAY-B	0	Phase Bank 3	0	OR-1 (b)	0	AND-1 (b)	0	B
C	Reserved	0	OR-8 (a)	0	NAND-1 (a)	0	C.N.A. (nema)	0	DELAY-C	0	Overlap Set 2	0	OR-2 (a)	0	AND-2 (a)	0	C
D	Reserved	0	OR-8 (b)	0	NAND-1 (b)	0	Hold (nema)	0	DELAY-D	0	Overlap Set 3	0	OR-2 (b)	0	AND-2 (b)	0	D
E	Reserved	0	OR-8 (c)	0	NAND-2 (a)	0	Max Recall	0	DELAY-E	0	Detector Set 2	0	OR-3 (a)	0	AND-3 (a)	0	E
F	Reserved	0	OR-8 (d)	0	NAND-2 (b)	0	Min Recall	0	DELAY-F	0	Detector Set 3	0	OR-3 (b)	0	AND-3 (b)	0	F

Assignable Inputs <C+0+E=126>

Row	Column 9		Column A		Column B		Column C		Column D		Column E		Column F		Row
0	Phase ON - 1	0	Preempt Fail	0	Flasher 0	0	Free	0	NOT-1	0	TOD Out 1	0	Dial 2 (7-Wire)	0	0
1	Phase ON - 2	0	Sp Evnt Out 1	0	Flasher 1	0	Plan 1	0	OR-1	0	TOD Out 2	0	Dial 3 (7-Wire)	0	1
2	Phase ON - 3	0	Sp Evnt Out 2	0	Fast Flasher	0	Plan 2	0	OR-2	0	TOD Out 3	0	Offset 1 (7-Wire)	0	2
3	Phase ON - 4	0	Sp Evnt Out 3	0	Fig 3 Diamond	0	Plan 3	0	OR-3	0	TOD Out 4	0	Offset 2 (7-Wire)	0	3
4	Phase ON - 5	0	Sp Evnt Out 4	0	Fig 4 Diamond	0	Plan 4	0	AND-1	0	TOD Out 5	0	Offset 3 (7-Wire)	0	4
5	Phase ON - 6	0	Sp Evnt Out 5	0			Plan 5	0	AND-2	0	TOD Out 6	0	Free (7-Wire)	0	5
6	Phase ON - 7	0	Sp Evnt Out 6	0	Latch 1		Plan 6	0	AND-3	0	TOD Out 7	0	Flash (7-Wire)	0	6
7	Phase ON - 8	0	Sp Evnt Out 7	0	Latch 2		Plan 7	0	NOT-2	0	TOD Out 8	0	Preempt	0	7
8	Ph. Check - 1	0	Sp Evnt Out 8	0	NOT-3	0	Plan 8	0	EV-A	0	Adv. Warn - 1	0	Low Priority A	0	8
9	Ph. Check - 2	0	Cyclic Output		NOT-4	0	Plan 9	0	EV-B	0	Adv. Warn - 2	0	Low Priority B	0	9
A	Ph. Check - 3	0	Detector Fail	0	OR-4	0	Spec. Funct. 3	0	EV-C	0	DELAY-A	0	Low Priority C	0	A
B	Ph. Check - 4	0	Spec. Funct. 1	0	OR-5	0	Spec. Funct. 4	0	EV-D	0	DELAY-B	0	Low Priority D	0	B
C	Ph. Check - 5	0	Spec. Funct. 2	0	OR-6	0	NAND-3	0	RR-1	0	DELAY-C	0			C
D	Ph. Check - 6	0	Central Control	0	AND-4	0	NAND-4	0	RR-2	0	DELAY-D	0			D
E	Ph. Check - 7	0	Excl. Ped DW	0	NAND-1	0	OR-7	0	Spec. Event 1	0	DELAY-E	0			E
F	Ph. Check - 8	0	Excl. Ped WK	0	NAND-2	0	OR-8	0	Spec. Event 2	0	DELAY-F	0			F

Assignable Outputs <C+0+E=127>

Row	Column Numbers ----> / Phase Names ---->	Phase 1	2	3	4	5	6	7	8
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	15	0	15	0	15	0	15
2	Min Green	4	7	4	4	4	7	4	4
3	Type 3 Disconnect	0	20	0	20	0	20	0	20
4	Added per Vehicle	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
5	Veh Extension	2.0	4.0	2.0	2.5	2.0	4.0	2.0	2.5
6	Max Gap	3.0	6.0	3.0	3.0	3.0	6.0	3.0	3.0
7	Min Gap	0.5	2.0	0.5	1.5	0.5	2.0	0.5	1.5
8	Max Limit	20	30	20	25	20	30	20	25
9	Max Limit 2	30	50	30	40	30	50	30	40
A	Adv. / Delay Walk	0	0	0	0	0	0	0	0
B	PE Min Ped FDW	7	7	7	7	7	7	7	7
C	Cond Serv Check	10	10	10	10	10	10	10	10
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	3.0	3.0	4.0	3.0	3.0
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 2 <C+0+F=2>

	9	A	B	C	D
	- - -	- - -	- - -	- - -	- - -
Phase 1	0	0	0	0	0.0
Phase 2	20	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	20	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	20	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	20	0	0	0	0.0
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing

Transition Type
0.X = Shortway
1.X = Lengthen
X.1 thru X.4 = Number of cycles when lengthing

Transition Type	0.3	<C/5+1+9>

TBC Transition

Lag Hold Phases	_____	<C/5+1+A>

Coordinated Lag Hold Phases

Sync Output Time	0.0	<C/5+1+C>

7-Wire Master

Daylight Savings Date
If set to all zeros, standard dates will be used.

Begin Month	3	<C/5+2+A>
Begin Week	2	<C/5+2+B>
End Month	11	<C/5+2+C>
End Week	1	<C/5+2+D>

Daylight Savings Time

Time B4 Yellow	0.0	<F/1+C+E>
Phase Number	0	<F/1+C+F>

Advance Warning Beacon - Sign 1

Time B4 Yellow	0.0	<F/1+D+E>
Phase Number	0	<F/1+D+F>

Advance Warning Beacon - Sign 2

Long Failure	0.7	<F/1+0+6>
Short Failure	0.7	<F/1+0+7>

Power Cycle Correction (Default = 0.7)

Row		1	2	3	4	5	6	7	8
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	15	0	15	0	15	0	15
2	Min Green	4	7	4	4	4	7	4	4
3	Type 3 Disconnect	0	20	0	20	0	20	0	20
4	Added per Vehicle	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
5	Veh Extension	2.0	4.0	2.0	2.5	2.0	4.0	2.0	2.5
6	Max Gap	3.0	6.0	3.0	3.0	3.0	6.0	3.0	3.0
7	Min Gap	0.5	2.0	0.5	1.5	0.5	2.0	0.5	1.5
8	Max Limit	20	30	20	25	20	30	20	25
9	Max Limit 2	30	50	30	40	30	50	30	40
A	Adv. / Delay Walk	0	0	0	0	0	0	0	0
B	PE Min Ped FDW	7	7	7	7	7	7	7	7
C	Cond Serv Check	10	10	10	10	10	10	10	10
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	3.0	3.0	4.0	3.0	3.0
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 3 <C+0+F=3>

	9	A	B	C	D
	- - -	- - -	- - -	- - -	- - -
Phase 1	0	0	0	0	0.0
Phase 2	20	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	20	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	20	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	20	0	0	0	0.0
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing

Row	Detector Name	Number	Attributes	Phase(s)	Assign	Delay	Carry-over
		39	45_7_	2	123 8	0.0	1.0
		40	45_7_	6	123 8	0.0	1.0
		41	45_7_	4	123 8	0.0	0.6
		42	45_7_	8	123 8	0.0	0.6
		43	45_7_	23	123 8	2.0	1.0
		44	45_7_	6	123 8	0.0	0.0
		45	45_7_	4	123 8	0.0	0.6
		46	45_7_	8	123 8	0.0	0.6
		47	67_	2	123 8	5.0	0.0
		48	67_	6	123 8	0.0	0.0
		49	67_	4	123 8	0.0	0.0
		50	67_	8	123 8	0.0	0.0
		55	45_7_	5	123 8	0.0	0.0
		56	45_7_	1	123 8	0.0	0.0
		57	45_7_	7	123 8	0.0	0.0
		58	45_7_	3	123 8	0.0	0.0

Row	Detector Name	Number	Attributes	Phase(s)	Assign	Delay	Carry-over
		59	45_7_	5	123 8	0.0	0.0
		60	45_7_	1	123 8	0.0	0.0
		61	45_7_	7	123 8	0.0	0.0
		62	45_7_	3	123 8	0.0	0.0
		63	45_7_	2	123 8	0.0	0.0
		64	45_7_	6	123 8	0.0	0.0
		65	45_7_	4	123 8	0.0	0.0
		66	45_7_	8	123 8	0.0	0.0
		67	2	2	123 8	0.0	0.0
		68	2	6	123 8	0.0	0.0
		69	2	4	123 8	0.0	0.0
		70	2	8	123 8	0.0	0.0
		76	45_7_	2	123 8	0.0	0.0
		77	45_7_	6	123 8	0.0	0.0
		78	45_7_	4	123 8	0.0	0.0
		79	45_7_	8	123 8	0.0	0.0

Detector Assignments <C+0+E=126> <C+0+D=0>

Detector Attributes
1 = Full Time Delay
2 = Ped Call
3 = Overlap
4 = Count
5 = Extension
6 = Type 3
7 = Calling
8 = Alternate

Det. Assignments
1 = Det. Set 1
2 = Det. Set 2
3 = Det. Set 3
4 =
5 =
6 = Failure - Min Recall
7 = Failure - Max Recall
8 = Report on Failure

Column Numbers ---->	Ped / Phase / Overlap 1	2	3	4	5	6	7	8	Row
Walk	0	0	0	0	0	0	0	0	0
Don't Walk	0	0	0	0	0	0	0	0	1
Phase Green	0	0	0	0	0	0	0	0	2
Phase Yellow	0	0	0	0	0	0	0	0	3
Phase Red	0	0	0	0	0	0	0	0	4
Overlap Green	0	0	0	0	0	0	0	0	5
Overlap Yellow	0	0	0	0	0	0	0	0	6
Overlap Red	0	0	0	0	0	0	0	0	7

Redirect Phase Outputs <C+0+E=127>

Cabinet Type	0	<E/125+D+0>

Enable Redirection
(Enable Redirection = 30)

Max OFF (minutes)	20	<D/0+0+1>
Max ON (minutes)	7	<D/0+0+2>

Detector Failure Monitor

	D	Row
		0
Output Port 1		1
Output Port 2		2
Output Port 3		3
Output Port 4		4
Output Port 5		5
Output Port 6		6
Output Port 7		7

Dimming <C+0+E=125>

	D
Number of Digits	0
1 st Digit	0
2 ed Digit	0
3 ed Digit	0
4 th Digit	0
5 th Digit	0
6 th Digit	0
7 th Digit	0
8 th Digit	0
9 th Digit	0
10 th Digit	0
11 th Digit	0
12 th Digit	0
13 th Digit	0
14 th Digit	0
15 th Digit	0

<C+0+C=5>

Dial-Back Telephone Number

Disable Alarms
1 = Stop Time
2 = Flash Sense
3 = Keyboard Entry
4 = Manual Plan
5 = Police Control
6 = External Alarm
7 = Detector Failure
8 =

	B	Row
DELAY-A	0	A
DELAY-B	0	B
DELAY-C	0	C
DELAY-D	0	D
DELAY-E	0	E
DELAY-F	0	F

Delay Logic Times
<C+0+D=0> (seconds)

Omit Alarm		<C/5+F+0>

Disable Alarm Reporting

Time	10	<C/5+C+0>

Redial Time (minutes)
(View Redial Timer at E/2+D+6)

Row	Time	Plan	Offset	Day of Week
0	00 : 00	0	0	_____
1	00 : 00	0	0	_____
2	00 : 00	0	0	_____
3	00 : 00	0	0	_____
4	00 : 00	0	0	_____
5	00 : 00	0	0	_____
6	00 : 00	0	0	_____
7	00 : 00	0	0	_____
8	00 : 00	0	0	_____
9	00 : 00	0	0	_____
A	00 : 00	0	0	_____
B	00 : 00	0	0	_____
C	00 : 00	0	0	_____
D	00 : 00	0	0	_____
E	00 : 00	0	0	_____
F	00 : 00	0	0	_____

TOD Coordination <C+0+9=0.1>
(Bank 1)

Time	Funct.	Day of Week	Column 4 Phases/Bits
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____

TOD Function <C+0+7=0.1> <C+0+E=27>

Day	Year	Month	Holiday Type
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____

Holiday Dates <C+0+8=1.1>
(Bank 1)

Time	Plan	Offset	Holiday Type
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____

Holiday Events <C+0+9=1.1>
(Bank 1)

T.O.D. Functions
0 =
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 4 - Disable Detector OFF Monitor
Bit 5 - Disable Low Priority Preempt
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 8

Row	Time	Plan	Offset	Day of Week
0	00 : 00	0	0	_____
1	00 : 00	0	0	_____
2	00 : 00	0	0	_____
3	00 : 00	0	0	_____
4	00 : 00	0	0	_____
5	00 : 00	0	0	_____
6	00 : 00	0	0	_____
7	00 : 00	0	0	_____
8	00 : 00	0	0	_____
9	00 : 00	0	0	_____
A	00 : 00	0	0	_____
B	00 : 00	0	0	_____
C	00 : 00	0	0	_____
D	00 : 00	0	0	_____
E	00 : 00	0	0	_____
F	00 : 00	0	0	_____

TOD Coordination <C+0+9=0.2>
(Bank 2)

Time	Funct.	Holiday Type	Column 4 Phases/Bits
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____

Holiday TOD Function <C+0+7=0.2> <C+0+E=28>

Day	Year	Month	Holiday Type
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____

Holiday Dates <C+0+8=1.2>
(Bank 2)

Time	Plan	Offset	Holiday Type
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____

Holiday Events <C+0+9=1.2>
(Bank 2)

Plan Select
1 thru 9 = Coordination Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Row	6 Clear	7 Time	8 Ped Call	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Notes:

0 <E/27+5+F>

Limited Service Interval

Special Event Schedule -- Table 1 <C+0+E=27>

Row	6 Clear	7 Time	8 Ped Call	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Notes:

0 <E/28+5+F>

Limited Service Interval

Special Event Schedule -- Table 2 <C+0+E=28>

Min Time (seconds)	0	<F/1+0+8>

Min Green Before PE Force Off

Max Time (minutes)	255	<F/1+0+9>

Max Preempt Time Before Failure

Min Time (seconds)	0	<F/1+0+A>

Min Time Between Same Preempts
(Does Not Apply To Railroad Preempt)

Low Pri. Channel	_____	<E/125+C+8>

Disable Low Priority Channel

Low Priority
1 = Channel A
2 = Channel B
3 = Channel C
4 = Channel D

Row		Priority Direction			
		A	B	C	D
9	Travel Time	0	0	0	0
A	Passage	0	0	0	0
B	Extension	0	0	0	0

Priority Parameters
<F/1 +Column+Row>
TRAVEL TIME: Time in seconds from Detection Point to Green Point
PASSAGE: Maximum time in seconds to display Green signal
EXTENSION: Maximum time in seconds to extend the Green signal

Row	Time	Headway	Direction	Day of Week
0	00 : 00	0	0	_____
1	00 : 00	0	0	_____
2	00 : 00	0	0	_____
3	00 : 00	0	0	_____
4	00 : 00	0	0	_____
5	00 : 00	0	0	_____
6	00 : 00	0	0	_____
7	00 : 00	0	0	_____
8	00 : 00	0	0	_____
9	00 : 00	0	0	_____
A	00 : 00	0	0	_____
B	00 : 00	0	0	_____
C	00 : 00	0	0	_____
D	00 : 00	0	0	_____
E	00 : 00	0	0	_____
F	00 : 00	0	0	_____

Headway Schedule <C+0+9=2.1>

Headway Time
(minutes)
1 thru 9 = 1 thru 9
A = 10
B = 11
C = 12
D = 13
E = 14
F = 15

Low Priority Preemption (Bus Priority)

Note: Also see "Time of Day Functions", Function E, Bit 5 (Disable Low Priority)

INTERSECTION: Barnett & Riverside

Group Assignment: **Barnett Rd - Telephone**
Field Master Assignment: **NONE**
System Reference Number: **92**

N/S Street Name: **Riverside Ave.**
E/W Street Name: **Barnett Road**

Last Database Change: **3/23/2016 11:55**

Change Record					
Change	By	Date	Change	By	Date

Notes:
07/30/2008 Increased ped walk from 5 sec to 6 seconds.
03/20/2009 Increased Ph2 from 35 to 50 sec for I-5 Paving.
04/07/2010 Ph 8&3 loops cut.
08/2014 Ph 1 reduced added initial from 1.5 to 0.0 sec; reduced Veh Ext, Max Gap, and Min Gap from 3.0 to 2.0 sec.

Communication Addresses

Drop Number	5	<C+0+0>
Zone Number		<C+0+1>
Area Number	1	<C+0+2>
Area Address	92	<C+0+3>
QuicNet Channel	COM15:	(QuicNet)

Manual Selection

Manual Plan		<C+A+1>
Manual Offset		<C+B+1>

Start / Revert Times

Max Initial	20	<F+0+E>
Red Revert	5.0	<F+0+F>
All Red Start	5.0	<F+C+0>

Phase Timing - Bank 1 <F Page>

Row	Column Numbers ---->	Phase 1	2	3	4	5	6	7	8
	Phase Names ----->								
0	Ped Walk	0	6	0	6	0	6	0	6
1	Ped FDW	0	20	0	20	0	23	0	26
2	Min Green	5	8	5	8	5	8	5	8
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	0.0	0.0	0.0	2.0	1.5	0.0	0.0
5	Veh Extension	2.0	3.0	2.0	1.5	1.0	3.0	2.0	1.5
6	Max Gap	2.0	3.0	1.0	1.5	1.0	3.0	1.5	1.5
7	Min Gap	2.0	3.0	1.0	1.5	1.0	3.0	1.5	1.5
8	Max Limit	30	50	25	40	17	35	25	40
9	Max Limit 2	30	35	25	40	30	35	25	40
A	- - - - - -	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.5	0.0	0.0	0.0	0.5	0.0	0.0
D	Reduce Every	0.0	12.0	0.0	0.0	0.0	12.0	0.0	0.0
E	Yellow Change	5.0	4.0	4.0	4.0	4.0	5.0	4.0	4.0
F	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Preempt Timing

	E
RR-1 Delay	0
RR-1 Clear	1
EV-A Delay	0
EV-A Clear	1
EV-B Delay	0
EV-B Clear	1
EV-C Delay	0
EV-C Clear	1
EV-D Delay	0
EV-D Clear	1
RR-2 Delay	0
RR-2 Clear	10
View EV Delay	- - -
View EV Clear	- - -
View RR Delay	- - -
View RR Clear	- - -

Phase Functions <F Page>

	F	Row
Permit	12345678	0
Red Lock	_____	1
Yellow Lock	12345678	2
Min Recall	_____	3
Ped Recall	_____	4
View Set Peds	- - - - -	5
Rest In Walk	_____	6
Red Rest	_____	7
Dual Entry	___4___8	8
Max Recall	_____	9
Soft Recall	_____	A
Max 2	_____	B
Cond. Service	_____	C
Man Cntrl Calls	_____	D
Yellow Start	_____	E
First Phases	_2__5___	F

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

(* = Coordination Recall)

Row	Column Numbers ---->	Plan 1	2	3	4	5	6	7	8	9
	Plan Name ----->									
0	Cycle Length	100	0	120	120	0	0	0	0	0
1	Phase 1 - ForceOff	53	0	34	39	0	0	0	0	0
2	Phase 2 - ForceOff	29	0	0	0	0	0	0	0	0
3	Phase 3 - ForceOff	73	0	54	59	0	0	0	0	0
4	Phase 4 - ForceOff	0	0	83	88	0	0	0	0	0
5	Phase 5 - ForceOff	19	0	107	112	0	0	0	0	0
6	Phase 6 - ForceOff	53	0	34	39	0	0	0	0	0
7	Phase 7 - ForceOff	73	0	54	59	0	0	0	0	0
8	Phase 8 - ForceOff	0	0	83	88	0	0	0	0	0
9	Ring Offset	0	0	0	0	0	0	0	0	0
A	Offset 1	18	0	95	90	0	0	0	0	0
B	Offset 2	0	0	0	0	0	0	0	0	0
C	Offset 3	0	0	0	0	0	0	0	0	0
D	Permissive	12	12	12	12	12	12	12	12	0
E	Hold Release	255	255	255	255	255	255	255	255	0
F	Zone Offset	0	0	0	0	0	0	0	0	0

Coordination <C Page>

Row		E	Row
0			0
1	Plan 1 - Sync	4 8	1
2	Plan 2 - Sync	2	2
3	Plan 3 - Sync	2	3
4	Plan 4 - Sync	2	4
5	Plan 5 - Sync	2	5
6	Plan 6 - Sync	2	6
7	Plan 7 - Sync	2	7
8	Plan 8 - Sync	2	8
9	Plan 9 - Sync	2	9
A	Coord Ped *		A
B	NEMA Hold		B
C			C
D			D
E			E
F			F

Sync Phases <C Page>

Row	Column Numbers ---->	E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	2 5
B	EV-B Phases	4 7
C	EV-C Phases	1 6
D	EV-D Phases	3 8
E	Extra 1 Config. Bits	1 3
F	IC Select (Interconnect)	2

Configuration <E Page>

	F
RR Overlap A - Phases	
RR Overlap B - Phases	
RR Overlap C - Phases	
RR Overlap D - Phases	
Ped 2P	2
Ped 6P	6
Ped 4P	4
Ped 8P	8
Yellow Flash Phases	
Overlap A - Phases	1 8
Overlap B - Phases	
Overlap C - Phases	
Overlap D - Phases	
Restricted Phases	1 5
Assign 5 Outputs	

Configuration <E Page>

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = EV Advance
5 =
6 = Special Event
7 = Pretimed Operation
8 = Split Ring Operation

Assign 5 Outputs
(Ped Loadswitch Yellows)
1 = Right Turn Overlap
2 = TOD Outputs
3 = EV Beacon - Steady
4 = EV Beacon - Flashing
5 = Special Event Outputs
6 = Phase 3 & 7 Ped
7 = Advanced Warning Sign
8 =

Force-Off Adjust	0

Coord Force-Off Adjust for Ped Service <C+D+F>

Transition Type	0

TBC Transition <C+D+D>

Transition Type
0 = Shortway
Non-zero = Lengthen

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

	F	Row
Free Lag	1 4 6 8	0
Plan 1 - Lag	1 4 6 8	1
Plan 2 - Lag	1 4 6 8	2
Plan 3 - Lag	1 4 6 8	3
Plan 4 - Lag	1 4 6 8	4
Plan 5 - Lag	2 4 6 8	5
Plan 6 - Lag	2 4 6 8	6
Plan 7 - Lag	2 4 6 8	7
Plan 8 - Lag	2 4 6 8	8
Plan 9 - Lag	2 4 6 8	9
Coord Max *		A
Coord Lag *		B
		C
		D
		E
		F

Lag Phases <C Page>

INTERSECTION: Barnett & Riverside

Row	Time	Plan	Offset	Day of Week
0	00:00	0	A	_____
1	08:45	E	A	_23456_
2	11:00	3	A	_23456_
3	16:45	4	A	_23456_
4	17:35	E	A	_23456_
5	00:00	0	0	_____
6	00:00	0	0	_____
7	00:00	0	0	_____
8	00:00	0	0	_____
9	00:00	0	0	_____
A	00:00	0	0	_____
B	00:00	0	0	_____
C	00:00	0	0	_____
D	00:00	0	0	_____
E	00:00	0	0	_____
F	00:00	0	0	_____

TOD Coordination
<9 Key with C+D+9=0>

Time	Funct.	Day of Week	Column F Phases/Bits
17:35	E	_23456_	1_____78
14:00	E	_23456_	_____78
00:01	E	1234567	1_____78
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____

TOD Function
<7 Key>

<D Page>

Time	Plan	Offset	Day of Week
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____

Holiday # 1
TOD Coordination
<9 Key with C+D+9=1>

Time	Plan	Offset	Day of Week
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____

Holiday # 2
TOD Coordination
<9 Key with C+D+9=2>

Time	Plan	Offset	Day of Week
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____

Holiday # 3
TOD Coordination
<9 Key with C+D+9=3>

Time	Plan	Offset	Day of Week	Row
00:00	0	0	_____	0
00:00	0	0	_____	1
00:00	0	0	_____	2
00:00	0	0	_____	3
00:00	0	0	_____	4
00:00	0	0	_____	5
00:00	0	0	_____	6
00:00	0	0	_____	7
00:00	0	0	_____	8
00:00	0	0	_____	9
00:00	0	0	_____	A
00:00	0	0	_____	B
00:00	0	0	_____	C
00:00	0	0	_____	D
00:00	0	0	_____	E
00:00	0	0	_____	F

Plan Select
1 thru 9 = Coordination Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Row		Day	Year	Month	Day of Week
A	Holiday # 1 Date	0	0	0	_____
B	Holiday # 2 Date	0	0	0	_____
C	Holiday # 3 Date	0	0	0	_____

Holiday Dates
<8 Key>

Row	1 Delay	3 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		I-1	14
1	0.0	0.0		I-2U	1
2	0.0	0.0		I-2L	5
3	0.0	0.0		I-3U	21
4	0.0	0.0		I-3L	25
5	0.0	0.0		I-4	9
6	0.0	0.0		I-5	16
7	0.0	0.0		I-6U	3
8	0.0	0.0		I-6L	7
9	0.0	0.0		I-7U	23
A	0.0	0.0		I-7L	27
B	0.0	0.0		I-8	11
C	0.0	0.0		I-9U	18
D	0.0	0.0		I-9L	20
E	- - -	- - -	- - -	- - -	- - -
F	- - -	- - -	- - -	- - -	- - -

Row	2 Delay	4 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		J-1	13
1	0.0	0.0		J-2U	2
2	0.0	0.0		J-2L	6
3	0.0	0.0		J-3U	22
4	0.0	0.0		J-3L	26
5	0.0	0.0		J-4	10
6	0.0	0.0		J-5	15
7	0.0	0.0		J-6U	4
8	0.0	0.0		J-6L	8
9	0.0	0.0		J-7U	24
A	0.0	0.0		J-7L	28
B	0.0	0.0		J-8	12
C	0.0	0.0		J-9U	17
D	0.0	0.0		J-9L	19
E	- - -	- - -	- - -	- - -	- - -
F	- - -	- - -	- - -	- - -	- - -

Detector Delay & Carryover <D Page>

Row		9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
A	Overlap A	0.0	4.0	0.0	0
B	Overlap B	0.0	0.0	0.0	0
C	Overlap C	0.0	0.0	0.0	0
D	Overlap D	0.0	0.0	0.0	0

Overlap Timing <F Page> <D Page>

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234____
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	____5678
E	-- -- -- -- -- -- -- --	1234____
F	-- 25 26 27 28 -- -- --	_2345___

Active Detectors <D Page>

Note: Initialized data is for all detectors to be active (ie, all flag bits set). A Detector which is "not flagged", will not be active as a Phase Detector, and WILL NOT call or extend its associated phase. It will still function as a System Detector.

Row		0 Detector Number
0		
1	System Det. # 1	0
2	System Det. # 2	0
3	System Det. # 3	0
4	System Det. # 4	0
5	System Det. # 5	0
6	System Det. # 6	0
7	System Det. # 7	0
8	System Det. # 8	0

System Detectors <D Page>

Max ON (minutes)	5	<D+A+E>
Max OFF (minutes)	60	<D+A+F>

Detector Failure Monitor

Phase Number	0	<F+C+1>
Time Before Yellow	0.0	<F+C+3>

Advance Warning Beacon - Sign 1

Phase Number	0	<F+D+1>
Time Before Yellow	0.0	<F+D+3>

Advance Warning Beacon - Sign 2

Long Failure	0.0	<F+0+6>
Short Failure	0.0	<F+0+7>

Power Cycle Correction (Default = 0.5)

Disable Parity	0	<D+B+0>

Dial-Up Telephone Communications
(If set to a non-zero value, parity will be disabled)

INTERSECTION: Barnett & Riverside

Row	Phase Names ---->	Phase 1	2	3	4	5	6	7	8
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	10	0	10	0	10	0	10
2	Min Green	3	7	3	7	3	7	3	7
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2
5	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5
6	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0
7	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0
8	Max Limit	17	40	17	40	17	40	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	- - - - - -	0	0	0	0	0	0	0	0
	Call To Phase	0	0	0	0	0	0	0	0
	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0

Phase Timing - Bank 2 <F Page>

Row	Phase Names ---->	Phase							
	Ped Walk	0	7	0	7	0	7	0	7
	Ped FDW	0	10	0	10	0	10	0	10
	Min Green	3	7	3	7	3	7	3	7
	Type 3 Limit	0	0	0	0	0	0	0	0
	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2
	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5
	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0
	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0
	Max Limit	17	40	17	40	17	40	17	40
	Max Limit 2	30	70	30	70	30	70	30	70
	- - - - - -	0	0	0	0	0	0	0	0
	Call To Phase	0	0	0	0	0	0	0	0
	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0

Phase Timing - Bank 3 <F Page>

Row	Delay Only --->	7 Time	8 Dwell	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0		0	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
1		0	0	_____	_____	_____	_____	_____	_____	_____
2		0	0	_____	_____	_____	_____	_____	_____	_____
3		0	0	_____	_____	_____	_____	_____	_____	_____
4		0	0	_____	_____	_____	_____	_____	_____	_____
5		0	0	_____	_____	_____	_____	_____	_____	_____
6		0	0	_____	_____	_____	_____	_____	_____	_____
7		0	0	_____	_____	_____	_____	_____	_____	_____
8		0	0	_____	_____	_____	_____	_____	_____	_____
9	Limited Service Int. --->	0	0	_____	_____	_____	_____	_____	_____	_____
A		- - -	0	_____	_____	_____	_____	_____	_____	_____
B		0	0	_____	_____	_____	_____	_____	_____	_____
C		0	0	_____	_____	_____	_____	_____	_____	_____
D		0	0	_____	_____	_____	_____	_____	_____	_____
E		0	0	_____	_____	_____	_____	_____	_____	_____
F		0	0	_____	_____	_____	_____	_____	_____	_____

<--- Limited Service Interval
(Set Dwell = 255)

Special Event Schedule <C Page with F+9+F=22>

INTERSECTION: Stewart & Riverside

Group Assignment: **Barnett Rd - HW**
Field Master Assignment: **NONE**
System Reference Number: **84**

N/S Street Name: **Riverside Ave.**
E/W Street Name: **Stewart Ave.**

Last Database Change: **3/23/2016 11:55**

Change Record					
Change	By	Date	Change	By	Date

Notes: ***04/26/2007 Transfered to ODOT operation for South Medford Interchange Construction***
07/09/2014 Transfered back to COM jurisdiction.
07/29/2014 Removed volume density timing on ph7 due to detector spacing over RXR tracks.

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Drop Number	2	<C/0+0+0>
Zone Number	1	<C/0+0+1>
Area Number	1	<C/0+0+2>
Area Address	84	<C/0+0+3>
QuicNet Channel	COM14:	(QuicNet)

Communication Addresses

Manual Plan		<C/0+A+1>
Manual Offset		<C/0+B+1>

Manual Selection

Flash Start	0	<F/1+0+E>
Red Revert	5.0	<F/1+0+F>
All Red Start	5.0	<F/1+C+0>
FYA Red Clear	1.0	<F/1+0+5>

Start / Revert Times

Exclusive Walk	0	<F/1+0+0>
Exclusive FDW	0	<F/1+0+1>
All Red Clear	0.0	<F/1+0+2>

Exclusive Ped Phase
(Outputs specified in Assignable Outputs at E/127+A+E & F)

Row	Column Numbers ---->	Phase 1	2	3	4	5	6	7	8
	Phase Names ----->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	29	0	30	0	30	0	25
2	Min Green	5	13	5	6	5	13	5	6
3	Type 3 Disconnect	0	0	0	0	0	0	0	0
4	Added per Vehicle	0.0	0.7	0.0	0.0	0.0	0.7	0.0	0.0
5	Veh Extension	1.5	4.7	1.5	2.5	1.5	4.7	2.5	2.5
6	Max Gap	1.5	4.7	1.5	2.5	1.5	4.7	5.0	2.5
7	Min Gap	1.5	2.3	1.5	1.0	1.5	2.3	2.5	1.0
8	Max Limit	24	50	30	30	24	50	30	30
9	Max Limit 2	15	65	20	15	15	65	20	15
A	Adv. / Delay Walk	0	0	0	0	0	0	0	0
B	PE Min Ped FDW	0	7	0	7	7	0	0	7
C	BusMax/CondSvc	10	10	10	10	10	10	10	10
D	Reduce Every	0.0	10.0	0.0	5.0	0.0	10.0	0.0	10.0
E	Yellow Change	3.5	4.7	3.5	4.0	3.5	4.7	3.5	4.0
F	Red Clear	0.5	0.7	0.5	0.5	0.5	0.7	0.5	0.5

Phase Timing - Bank 1 <C+0+F=1>

	9	A	B	C	D
	- - -	- - -	- - -	- - -	- - -
Phase 1	6	0	0	0	0.0
Phase 2	21	0	0	0	0.0
Phase 3	6	0	0	0	0.0
Phase 4	6	0	0	0	0.0
Phase 5	6	0	0	0	0.0
Phase 6	21	0	0	0	0.0
Phase 7	6	0	0	0	0.0
Phase 8	6	0	0	0	0.0
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing <C+0+F=1>

	E
RR-1 Delay	0
RR-1 Clear	1
EV-A Delay	0
EV-A Clear	1
EV-B Delay	0
EV-B Clear	1
EV-C Delay	0
EV-C Clear	1
EV-D Delay	0
EV-D Clear	1
RR-2 Delay	0
RR-2 Clear	11
View EV Delay	- - -
View EV Clear	- - -
View RR Delay	- - -
View RR Clear	- - -

Preempt Timing

	F	Row
Permit	12345678	0
Red Lock	_____	1
Yellow Lock	12345678	2
Min Recall	_2___6__	3
Ped Recall	_____	4
View Set Peds	- - - - -	5
Rest In Walk	_____	6
Red Rest	_____	7
Dual Entry	___4___8	8
Max Recall	_____	9
Soft Recall	_____	A
Max 2	_____	B
Cond. Service	_____	C
Man Cntrl Calls	_____	D
Yellow Start	_____	E
First Phases	_2___6__	F

Phase Functions <C+0+F=1>

Row	Column Numbers ---->	Overlap 1	2	3	4	5	6	7	8
	Overlap Name ----->								
0	Load Switch Number	9	0	0	0	0	0	0	0
1	Veh Set 1 - Phases	_23_____	_____	_____	_____	_____	_____	_____	_____
2	Veh Set 2 - Phases	_____	_____	_____	_____	_____	_____	_____	_____
3	Veh Set 3 - Phases	_____	_____	_____	_____	_____	_____	_____	_____
4	Neg Veh Phases	_____	_____	_____	_____	_____	_____	_____	_____
5	Neg Ped Phases	_2_____	_____	_____	_____	_____	_____	_____	_____
6	Green Omit Phases	_____	_____	_____	_____	_____	_____	_____	_____
7	Green Clear Omit Phs.	_____	_____	_____	_____	_____	_____	_____	_____
8	Recall	N	N	N	N	N	N	N	N
9									
A									
B	Minimum Green	0	0	0	0	0	0	0	0
C	Maximum Green	0	0	0	0	0	0	0	0
D	Green Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	Yellow Change	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Overlap Assignments <C+0+E=29>

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = Solid FDW on EV
5 = Extended Status
6 = International Ped
7 = Flash - Clear Outputs
8 = Split Ring

Extra 2 Flags
1 = AWB During Initial
2 = LMU Installed
3 = Disable Min Walk
4 = QuicNet/4 System
5 = Ignore P/P on EV
6 =
7 = Reserved
8 =

Row		C
0	EV-A	2
1	EV-B	2
2	EV-C	2
3	EV-D	2
4	RR-1 *	- - -
5	RR-2 *	- - -
6	SE-1	3
7	SE-2	1
8		
9		
A		
B		
C		
D		
E		
F		

Preempt Priority
<C+0+E=125>
(* RR-1 is always Highest, and RR-2 is always Second Highest)

Row	Column Numbers ---->	E
0	Exclusive Phases	_____
1	RR-1 Clear Phases	_____
2	RR-2 Clear Phases	___4__7_
3	RR-2 Limited Service	123__6__
4	Prot / Perm Phases	_____
5	Flash to PE Circuits	_____
6	Flash Entry Phases	_____
7	Disable Yellow Range	_____
8	Disable Ovp Yel Range	_____
9	Overlap Yellow Flash	_____
A	EV-A Phases	_2__5___
B	EV-B Phases	___4__7_
C	EV-C Phases	1____6__
D	EV-D Phases	__3____8
E	Extra 1 Config. Bits	1_3_5___
F	IC Select (Interconnect)	_2_____

Configuration <C+0+E=125>

	F
Prot/Perm Flash Arrow	_____
Ext. Permit 1 Phases	_____
Ext. Permit 2 Phases	_____
Exclusive Ped Assign	_____
Preempt Non-Lock	12345678
Ped for 2P Output	_2_____
Ped for 6P Output	_____6__
Ped for 4P Output	___4____
Ped for 8P Output	_____8
Yellow Flash Phases	_____
Low Priority A Phases	_____
Low Priority B Phases	_____
Low Priority C Phases	_____
Low Priority D Phases	_____
Restricted Phases	_____
Extra 2 Config. Bits	_____

Configuration <C+0+E=125>

	F
Fast Green Flash Phase	_____
Green Flash Phases	_____
Flashing Walk Phases	_____
Guaranteed Passage	_____
Simultaneous Gap Term	___4___8
Sequential Timing	_____
Advance Walk Phases	_____
Delay Walk Phases	_____
External Recall	_____
Start-up Overlap Green	_____
Max Extension	_____
Inhibit Ped Reservice	_____
Semi-Actuated	_____
Start-up Overlap Yellow	_____
Start-up Vehicle Calls	12345678
Start-up Ped Calls	_2_4_6_8

Specials <C+0+F=2>

Flash to PE & PE Non-Lock
1 = EV A 5 = RR 1
2 = EV B 6 = RR 2
3 = EV C 7 = SE 1
4 = EV D 8 = SE 2

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

Row		2
0		
1	Phase 1	10
2	Phase 2	10
3	Phase 3	10
4	Phase 4	10
5	Phase 5	10
6	Phase 6	10
7	Phase 7	10
8	Phase 8	10
9		
A		
B		
C		
D		
E		
F		

Coordination Transition Minimums
<C+0+C=5>

Coord Extra
1 = Programmed WALK Time for Sync Phases
2 = Always Terminate Sync Phase Peds

Row	*Column Numbers ---->*	Plan 1	2	3	4	5	6	7	8	9	Row
	Plan Name ---->										
0	Cycle Length	100	100	100	100	100	100	100	100	100	0
1	Phase 1 - ForceOff	55	55	55	55	55	55	55	55	55	1
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0	2
3	Phase 3 - ForceOff	20	20	20	20	20	20	20	20	20	3
4	Phase 4 - ForceOff	40	40	40	40	40	40	40	40	40	4
5	Phase 5 - ForceOff	55	55	55	55	55	55	55	55	55	5
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0	6
7	Phase 7 - ForceOff	20	20	20	20	20	20	20	20	20	7
8	Phase 8 - ForceOff	40	40	40	40	40	40	40	40	40	8
9	Ring Offset	0	0	0	0	0	0	0	0	0	9
A	Offset 1	0	0	0	0	0	0	0	0	0	A
B	Offset 2	0	0	0	0	0	0	0	0	0	B
C	Offset 3	0	0	0	0	0	0	0	0	0	C
D	Perm 1 - End	15	15	15	15	15	15	15	15	15	D
E	Output On	0	0	0	0	0	0	0	0	0	E
F	Output Off	0	0	0	0	0	0	0	0	0	F

Coordination - Bank 1 <C+0+C=1>

	E	Row
		0
Plan 1 - Sync	_2___6__	1
Plan 2 - Sync	_2___6__	2
Plan 3 - Sync	_2___6__	3
Plan 4 - Sync	_2___6__	4
Plan 5 - Sync	_2___6__	5
Plan 6 - Sync	_2___6__	6
Plan 7 - Sync	_2___6__	7
Plan 8 - Sync	_2___6__	8
Plan 9 - Sync	_2___6__	9
NEMA Sync	_____	A
NEMA Hold	_____	B
		C
		D
Coord Extra	_____	E
		F

Sync Phases <C+0+C=1>

Row											Row
0	Ped Adjustment	0	0	0	0	0	0	0	0	0	0
1	Perm 2 - Start	0	0	0	0	0	0	0	0	0	1
2	Perm 2 - End	0	0	0	0	0	0	0	0	0	2
3	Perm 3 - Start	0	0	0	0	0	0	0	0	0	3
4	Perm 3 - End	0	0	0	0	0	0	0	0	0	4
5	Reservice Time	0	0	0	0	0	0	0	0	0	5
6	Reservice Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____	6
7											7
8	Pretimed Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____	8
9	Max Recall	_____	_____	_____	_____	_____	_____	_____	_____	_____	9
A	Perm 1 Veh Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	A
B	Perm 1 Ped Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	B
C	Perm 2 Veh Phase	_____	_____	_____	_____	_____	_____	_____	_____	_____	C
D	Perm 2 Ped Phase	_____	_____	_____	_____	_____	_____	_____	_____	_____	D
E	Perm 3 Veh Phase	_____	_____	_____	_____	_____	_____	_____	_____	_____	E
F	Perm 3 Ped Phase	_____	_____	_____	_____	_____	_____	_____	_____	_____	F

Coordination - Bank 2 <C+0+C=2>

	F	Row
Free Lag	_2_4_6_8	0
Plan 1 - Lag	_2_4_6_8	1
Plan 2 - Lag	_2_4_6_8	2
Plan 3 - Lag	_2_4_6_8	3
Plan 4 - Lag	_2_4_6_8	4
Plan 5 - Lag	_2_4_6_8	5
Plan 6 - Lag	_2_4_6_8	6
Plan 7 - Lag	_2_4_6_8	7
Plan 8 - Lag	_2_4_6_8	8
Plan 9 - Lag	_2_4_6_8	9
External Lag	_____	A
		B
		C
		D
		E
		F

Lag Phases <C+0+C=1>

Row	Column 8		Column 9		Column A		Column B		Column C		Column D		Column E		Column F		Row
0	Reserved	0	Latch 1 Set	0	NOT-3	0	Max 2	0	Pretimed	0	Set Monday	0	Dial 2 (7-Wire)	0	Sim Term	0	0
1	Reserved	0	Latch 1 Reset	0	NOT-4	0	Bus Checkin A	0	Plan 1	0	Ext. Perm 1	0	Dial 3 (7-Wire)	0	EV-A	71	1
2	Reserved	0	Latch 2 Set	0	OR-4 (a)	0	Bus Checkin B	0	Plan 2	0	Ext. Perm 2	0	Offset 1 (7-Wire)	0	EV-B	72	2
3	Reserved	0	Latch 2 Reset	0	OR-4 (b)	0	Bus Checkin C	0	Plan 3	0	Reserved	0	Offset 2 (7-Wire)	0	EV-C	73	3
4	Reserved	0	NAND-3 (a)	0	OR-5 (a)	0	Bus Checkin D	0	Plan 4	0	Set Clock	0	Offset 3 (7-Wire)	0	EV-D	74	4
5	Reserved	0	NAND-3 (b)	0	OR-5 (b)	0	Bus Checkout A	0	Plan 5	0	Stop Time	82	Free (7-Wire)	0	RR-1	0	5
6	Reserved	0	NAND-4 (a)	0	OR-6 (a)	0	Bus Checkout B	0	Plan 6	0	Flash Sense	81	Flash (7-Wire)	0	RR-2	54	6
7	Reserved	0	NAND-4 (b)	0	OR-6 (b)	0	Bus Checkout C	0	Plan 7	0	Manual Enable	0	Excl. Ped Omit	0	Spec. Event 1	75	7
8	Spec. Funct. 1	0	OR-7 (a)	0	Fig 3 Diamond	0	Bus Checkout D	0	Plan 8	0	Man. Advance	0	NOT-1	0	Spec. Event 2	0	8
9	Spec. Funct. 2	0	OR-7 (b)	0	Fig 4 Diamond	0	Max Inhibit (nema)	0	Plan 9	0	External Alarm	0	NOT-2	0	External Lag	0	9
A	Spec. Funct. 3	0	OR-7 (c)	0	AND-4 (a)	0	Force A (nema)	0	DELAY-A	0	Phase Bank 2	0	OR-1 (a)	0	AND-1 (a)	0	A
B	Spec. Funct. 4	0	OR-7 (d)	0	AND-4 (b)	0	Force B (nema)	0	DELAY-B	0	Phase Bank 3	0	OR-1 (b)	0	AND-1 (b)	0	B
C	Reserved	0	OR-8 (a)	0	NAND-1 (a)	0	C.N.A. (nema)	0	DELAY-C	0	Overlap Set 2	0	OR-2 (a)	0	AND-2 (a)	0	C
D	Reserved	0	OR-8 (b)	0	NAND-1 (b)	0	Hold (nema)	0	DELAY-D	0	Overlap Set 3	0	OR-2 (b)	0	AND-2 (b)	0	D
E	Reserved	0	OR-8 (c)	0	NAND-2 (a)	0	Max Recall	0	DELAY-E	0	Detector Set 2	0	OR-3 (a)	0	AND-3 (a)	0	E
F	Reserved	0	OR-8 (d)	0	NAND-2 (b)	0	Min Recall	0	DELAY-F	0	Detector Set 3	0	OR-3 (b)	0	AND-3 (b)	0	F

Assignable Inputs <C+0+E=126>

Row	Column 9		Column A		Column B		Column C		Column D		Column E		Column F		Row
0	Phase ON - 1	0	Preempt Fail	0	Flasher 0	0	Free	0	NOT-1	0	TOD Out 1	0	Dial 2 (7-Wire)	0	0
1	Phase ON - 2	0	Sp Evnt Out 1	0	Flasher 1	0	Plan 1	0	OR-1	0	TOD Out 2	0	Dial 3 (7-Wire)	0	1
2	Phase ON - 3	0	Sp Evnt Out 2	0	Fast Flasher	0	Plan 2	0	OR-2	0	TOD Out 3	0	Offset 1 (7-Wire)	0	2
3	Phase ON - 4	0	Sp Evnt Out 3	0	Fig 3 Diamond	0	Plan 3	0	OR-3	0	TOD Out 4	0	Offset 2 (7-Wire)	0	3
4	Phase ON - 5	0	Sp Evnt Out 4	0	Fig 4 Diamond	0	Plan 4	0	AND-1	0	TOD Out 5	0	Offset 3 (7-Wire)	0	4
5	Phase ON - 6	0	Sp Evnt Out 5	0			Plan 5	0	AND-2	0	TOD Out 6	0	Free (7-Wire)	0	5
6	Phase ON - 7	0	Sp Evnt Out 6	0	Latch 1		Plan 6	0	AND-3	0	TOD Out 7	0	Flash (7-Wire)	0	6
7	Phase ON - 8	0	Sp Evnt Out 7	0	Latch 2		Plan 7	0	NOT-2	0	TOD Out 8	0	Preempt	0	7
8	Ph. Check - 1	0	Sp Evnt Out 8	0	NOT-3	0	Plan 8	0	EV-A	0	Adv. Warn - 1	0	Low Priority A	0	8
9	Ph. Check - 2	0	Cyclic Output		NOT-4	0	Plan 9	0	EV-B	0	Adv. Warn - 2	0	Low Priority B	0	9
A	Ph. Check - 3	0	Detector Fail	0	OR-4	0	Spec. Funct. 3	0	EV-C	0	DELAY-A	0	Low Priority C	0	A
B	Ph. Check - 4	0	Spec. Funct. 1	0	OR-5	0	Spec. Funct. 4	0	EV-D	0	DELAY-B	0	Low Priority D	0	B
C	Ph. Check - 5	0	Spec. Funct. 2	0	OR-6	0	NAND-3	0	RR-1	0	DELAY-C	0			C
D	Ph. Check - 6	0	Central Control	0	AND-4	0	NAND-4	0	RR-2	37	DELAY-D	0			D
E	Ph. Check - 7	0	Excl. Ped DW	0	NAND-1	0	OR-7	0	Spec. Event 1	0	DELAY-E	0			E
F	Ph. Check - 8	0	Excl. Ped WK	0	NAND-2	0	OR-8	0	Spec. Event 2	0	DELAY-F	0			F

Assignable Outputs <C+0+E=127>

Row	Column Numbers ----> / Phase Names ---->	Phase 1	2	3	4	5	6	7	8
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	15	0	15	0	15	0	15
2	Min Green	4	7	4	4	4	7	4	4
3	Type 3 Disconnect	0	20	0	20	0	20	0	20
4	Added per Vehicle	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
5	Veh Extension	2.0	4.0	2.0	2.5	2.0	4.0	2.0	2.5
6	Max Gap	3.0	6.0	3.0	3.0	3.0	6.0	3.0	3.0
7	Min Gap	0.5	2.0	0.5	1.5	0.5	2.0	0.5	1.5
8	Max Limit	20	30	20	25	20	30	20	25
9	Max Limit 2	30	50	30	40	30	50	30	40
A	Adv. / Delay Walk	0	0	0	0	0	0	0	0
B	PE Min Ped FDW	7	7	7	7	7	7	7	7
C	Cond Serv Check	10	10	10	10	10	10	10	10
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	3.0	3.0	4.0	3.0	3.0
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 2 <C+0+F=2>

	9	A	B	C	D
	- - -	- - -	- - -	- - -	- - -
Phase 1	0	0	0	0	0.0
Phase 2	20	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	20	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	20	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	20	0	0	0	0.0
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing

Transition Type
0.X = Shortway
1.X = Lengthen
X.1 thru X.4 = Number of cycles when lengthing

Transition Type	0.3	<C/5+1+9>

TBC Transition

Lag Hold Phases	_____	<C/5+1+A>

Coordinated Lag Hold Phases

Sync Output Time	0.0	<C/5+1+C>

7-Wire Master

Daylight Savings Date
If set to all zeros, standard dates will be used.

Begin Month	3	<C/5+2+A>
Begin Week	2	<C/5+2+B>
End Month	11	<C/5+2+C>
End Week	1	<C/5+2+D>

Daylight Savings Time

Time B4 Yellow	0.0	<F/1+C+E>
Phase Number	0	<F/1+C+F>

Advance Warning Beacon - Sign 1

Time B4 Yellow	0.0	<F/1+D+E>
Phase Number	0	<F/1+D+F>

Advance Warning Beacon - Sign 2

Long Failure	0.7	<F/1+0+6>
Short Failure	0.7	<F/1+0+7>

Power Cycle Correction (Default = 0.7)

Row		1	2	3	4	5	6	7	8
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	15	0	15	0	15	0	15
2	Min Green	4	7	4	4	4	7	4	4
3	Type 3 Disconnect	0	20	0	20	0	20	0	20
4	Added per Vehicle	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
5	Veh Extension	2.0	4.0	2.0	2.5	2.0	4.0	2.0	2.5
6	Max Gap	3.0	6.0	3.0	3.0	3.0	6.0	3.0	3.0
7	Min Gap	0.5	2.0	0.5	1.5	0.5	2.0	0.5	1.5
8	Max Limit	20	30	20	25	20	30	20	25
9	Max Limit 2	30	50	30	40	30	50	30	40
A	Adv. / Delay Walk	0	0	0	0	0	0	0	0
B	PE Min Ped FDW	7	7	7	7	7	7	7	7
C	Cond Serv Check	10	10	10	10	10	10	10	10
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	3.0	3.0	4.0	3.0	3.0
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 3 <C+0+F=3>

	9	A	B	C	D
	- - -	- - -	- - -	- - -	- - -
Phase 1	0	0	0	0	0.0
Phase 2	20	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	20	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	20	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	20	0	0	0	0.0
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing

Row	Detector Name	Number	Attributes	Phase(s)	Assign	Delay	Carry-over
		39	45_7_	2	123 8	0.0	0.0
		40	45_7_	6	123 8	0.0	0.0
		41	45_7_	4	123 8	0.0	0.0
		42	45_7_	8	123 8	0.0	0.0
		43	45_7_	2	123 8	0.0	0.0
		44	45_7_	6	123 8	0.0	0.0
		45	45_7_	4	123 8	0.0	0.0
		46	45_7_	8	123 8	0.0	0.0
		47	67_	2	123 8	0.0	0.0
		48	67_	6	123 8	0.0	0.0
		49	67_	4	123 8	0.0	0.0
		50	67_	8	123 8	0.0	0.0
		55	45_7_	5	123 8	0.0	0.0
		56	45_7_	1	123 8	0.0	0.0
		57	45_7_	7	123 8	0.0	0.0
		58	45_7_	3	123 8	0.0	0.0

Detector Assignments <C+0+E=126> <C+0+D=0>

Row	Detector Name	Number	Attributes	Phase(s)	Assign	Delay	Carry-over
		59	45_7_	5	123 8	0.0	0.0
		60	45_7_	1	123 8	0.0	0.0
		61	45_7_	7	123 8	0.0	0.0
		62	45_7_	3	123 8	0.0	0.0
		63	45_7_	2	123 8	0.0	0.0
		64	45_7_	6	123 8	0.0	0.0
		65	45_7_	4	123 8	0.0	0.0
		66	45_7_	8	123 8	0.0	0.0
		67	2	2	123 8	0.0	0.0
		68	2	6	123 8	0.0	0.0
		69	2	4	123 8	0.0	0.0
		70	2	8	123 8	0.0	0.0
		76	45_7_	2	123 8	0.0	0.0
		77	45_7_	6	123 8	0.0	0.0
		78	45_7_	4	123 8	0.0	0.0
		79	45_7_	8	123 8	0.0	0.0

Detector Attributes
1 = Full Time Delay
2 = Ped Call
3 = Overlap
4 = Count
5 = Extension
6 = Type 3
7 = Calling
8 = Alternate

Det. Assignments
1 = Det. Set 1
2 = Det. Set 2
3 = Det. Set 3
4 =
5 =
6 = Failure - Min Recall
7 = Failure - Max Recall
8 = Report on Failure

Column Numbers ---->	Ped / Phase / Overlap 1	2	3	4	5	6	7	8	Row
Walk	0	0	0	0	0	0	0	0	0
Don't Walk	0	0	0	0	0	0	0	0	1
Phase Green	0	0	0	0	0	0	0	0	2
Phase Yellow	0	0	0	0	0	0	0	0	3
Phase Red	0	0	0	0	0	0	0	0	4
Overlap Green	0	0	0	0	0	0	0	0	5
Overlap Yellow	0	0	0	0	0	0	0	0	6
Overlap Red	0	0	0	0	0	0	0	0	7

Redirect Phase Outputs <C+0+E=127>

			D	Row
Cabinet Type	0	<E/125+D+0>		0
Enable Redirection (Enable Redirection = 30)			Output Port 1	1
			Output Port 2	2
Max OFF (minutes)	20	<D/0+0+1>	Output Port 3	3
Max ON (minutes)	7	<D/0+0+2>	Output Port 4	4
Detector Failure Monitor			Output Port 5	5
			Output Port 6	6
			Output Port 7	7

Dimming <C+0+E=125>

	D
Number of Digits	0
1 st Digit	0
2 ed Digit	0
3 ed Digit	0
4 th Digit	0
5 th Digit	0
6 th Digit	0
7 th Digit	0
8 th Digit	0
9 th Digit	0
10 th Digit	0
11 th Digit	0
12 th Digit	0
13 th Digit	0
14 th Digit	0
15 th Digit	0

<C+0+C=5>

Dial-Back Telephone Number

Disable Alarms
1 = Stop Time
2 = Flash Sense
3 = Keyboard Entry
4 = Manual Plan
5 = Police Control
6 = External Alarm
7 = Detector Failure
8 =

	B	Row
DELAY-A	0	A
DELAY-B	0	B
DELAY-C	0	C
DELAY-D	0	D
DELAY-E	0	E
DELAY-F	0	F

Delay Logic Times <C+0+D=0> (seconds)

Omit Alarm		<C/5+F+0>

Disable Alarm Reporting

Time	10	<C/5+C+0>

Redial Time (minutes)
(View Redial Timer at E/2+D+6)

Row	Time	Plan	Offset	Day of Week
0	00 : 00	0	0	_____
1	00 : 00	0	0	_____
2	00 : 00	0	0	_____
3	00 : 00	0	0	_____
4	00 : 00	0	0	_____
5	00 : 00	0	0	_____
6	00 : 00	0	0	_____
7	00 : 00	0	0	_____
8	00 : 00	0	0	_____
9	00 : 00	0	0	_____
A	00 : 00	0	0	_____
B	00 : 00	0	0	_____
C	00 : 00	0	0	_____
D	00 : 00	0	0	_____
E	00 : 00	0	0	_____
F	00 : 00	0	0	_____

TOD Coordination <C+0+9=0.1>
(Bank 1)

Time	Funct.	Day of Week	Column 4 Phases/Bits
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____

TOD Function <C+0+7=0.1> <C+0+E=27>

Day	Year	Month	Holiday Type
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____

Holiday Dates <C+0+8=1.1>
(Bank 1)

Time	Plan	Offset	Holiday Type
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____

Holiday Events <C+0+9=1.1>
(Bank 1)

T.O.D. Functions
0 =
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 4 - Disable Detector OFF Monitor
Bit 5 - Disable Low Priority Preempt
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 8

Row	Time	Plan	Offset	Day of Week
0	00 : 00	0	0	_____
1	00 : 00	0	0	_____
2	00 : 00	0	0	_____
3	00 : 00	0	0	_____
4	00 : 00	0	0	_____
5	00 : 00	0	0	_____
6	00 : 00	0	0	_____
7	00 : 00	0	0	_____
8	00 : 00	0	0	_____
9	00 : 00	0	0	_____
A	00 : 00	0	0	_____
B	00 : 00	0	0	_____
C	00 : 00	0	0	_____
D	00 : 00	0	0	_____
E	00 : 00	0	0	_____
F	00 : 00	0	0	_____

TOD Coordination <C+0+9=0.2>
(Bank 2)

Time	Funct.	Holiday Type	Column 4 Phases/Bits
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____

Holiday TOD Function <C+0+7=0.2> <C+0+E=28>

Day	Year	Month	Holiday Type
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____

Holiday Dates <C+0+8=1.2>
(Bank 2)

Time	Plan	Offset	Holiday Type
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____

Holiday Events <C+0+9=1.2>
(Bank 2)

Plan Select
1 thru 9 = Coordination Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

	6	7	8	9	A	B	C	D	E	F
	Clear	Time	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit Phases	Ped Omit	Output
		0								
		37					4 7	4 7	2 4 6 8	
		0								
		0								
		0								
		0								
		0								
		0								
		0								
		0								
		0								
		0								
		0								
		0								
		0								
		0								

Notes:

Special Event Schedule -- Table 1

<C+0+E=27>

0 <E/27+5+F>

Limited Service Interval

Row	6	7	8	9	A	B	C	D	E	F
	Clear	Time	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit Phases	Ped Omit	Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Notes:

Special Event Schedule -- Table 2

<C+0+E=28>

0 <E/28+5+F>

Limited Service Interval

Min Time (seconds)	0	<F/1+0+8>

Min Green Before PE Force Off

Max Time (minutes)	255	<F/1+0+9>

Max Preempt Time Before Failure

Min Time (seconds)	0	<F/1+0+A>

Min Time Between Same Preempts
(Does Not Apply To Railroad Preempt)

Low Pri. Channel	_____	<E/125+C+8>

Disable Low Priority Channel

Low Priority
1 = Channel A
2 = Channel B
3 = Channel C
4 = Channel D

Row		Priority Direction			
		A	B	C	D
9	Travel Time	0	0	0	0
A	Passage	0	0	0	0
B	Extension	0	0	0	0

Priority Parameters
<F/1 +Column+Row>
TRAVEL TIME: Time in seconds from Detection Point to Green Point
PASSAGE: Maximum time in seconds to display Green signal
EXTENSION: Maximum time in seconds to extend the Green signal

Row	Time	Headway	Direction	Day of Week
0	00 : 00	0	0	_____
1	00 : 00	0	0	_____
2	00 : 00	0	0	_____
3	00 : 00	0	0	_____
4	00 : 00	0	0	_____
5	00 : 00	0	0	_____
6	00 : 00	0	0	_____
7	00 : 00	0	0	_____
8	00 : 00	0	0	_____
9	00 : 00	0	0	_____
A	00 : 00	0	0	_____
B	00 : 00	0	0	_____
C	00 : 00	0	0	_____
D	00 : 00	0	0	_____
E	00 : 00	0	0	_____
F	00 : 00	0	0	_____

Headway Schedule <C+0+9=2.1>

Headway Time
(minutes)
1 thru 9 = 1 thru 9
A = 10
B = 11
C = 12
D = 13
E = 14
F = 15

Low Priority Preemption (Bus Priority)

Note: Also see "Time of Day Functions", Function E, Bit 5 (Disable Low Priority)

INTERSECTION: N. Phoenix & Cherry Lane

Group Assignment: **Fiber**
Field Master Assignment: **NONE**
System Reference Number: **113**

N/S Street Name: **North Phoenix Road**
E/W Street Name: **Cherry Lane**

Last Database Change: **3/23/2016 11:55**

Change Record					
Change	By	Date	Change	By	Date

Notes: ***1SL;2NT;4ET;5NL;6ST;8WT***
Traffic Signal Turn-on 9/20/2007
07/30/2008 Increased ped walk from 5 sec to 6 seconds.

Drop Number	**1**	<C+0+0>
Zone Number		<C+0+1>
Area Number	**1**	<C+0+2>
Area Address	**113**	<C+0+3>
QuicNet Channel	**COM16:**	(QuicNet)

Communication Addresses

Manual Plan		<C+A+1>
Manual Offset		<C+B+1>

Manual Selection

Max Initial	**20**	<F+0+E>
Red Revert	**5.0**	<F+0+F>
All Red Start	**5.0**	<F+C+0>

Start / Revert Times

		Phase							
	Column Numbers ----->	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Row	*Phase Names ----->*								
0	Ped Walk	**0**	**6**	**0**	**6**	**0**	**6**	**0**	**6**
1	Ped FDW	**0**	**17**	**0**	**22**	**0**	**15**	**0**	**20**
2	Min Green	**5**	**10**	**0**	**10**	**5**	**10**	**0**	**10**
3	Type 3 Limit	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
4	Added Initial	**0.0**	**1.4**	**0.0**	**1.4**	**0.0**	**1.4**	**0.0**	**1.4**
5	Veh Extension	**2.0**	**5.0**	**0.0**	**4.0**	**2.0**	**4.5**	**0.0**	**2.0**
6	Max Gap	**2.0**	**3.0**	**0.0**	**3.0**	**3.0**	**3.0**	**0.0**	**3.0**
7	Min Gap	**1.5**	**1.0**	**0.0**	**1.5**	**1.5**	**1.0**	**0.0**	**1.5**
8	Max Limit	**9**	**26**	**0**	**20**	**9**	**26**	**0**	**20**
9	Max Limit 2	**20**	**35**	**0**	**20**	**20**	**35**	**0**	**20**
A	- - - - - -	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
B	Call To Phase	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
C	Reduce By	**1.0**	**1.0**	**0.0**	**1.0**	**1.0**	**1.0**	**0.0**	**1.0**
D	Reduce Every	**10.0**	**10.0**	**0.0**	**10.0**	**10.0**	**10.0**	**0.0**	**10.0**
E	Yellow Change	**3.0**	**4.5**	**0.0**	**4.0**	**3.0**	**4.5**	**0.0**	**4.0**
F	Red Clear	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Phase Timing - Bank 1 <F Page>

	E
RR-1 Delay	**0**
RR-1 Clear	**10**
EV-A Delay	**0**
EV-A Clear	**1**
EV-B Delay	**0**
EV-B Clear	**1**
EV-C Delay	**0**
EV-C Clear	**1**
EV-D Delay	**0**
EV-D Clear	**1**
RR-2 Delay	**0**
RR-2 Clear	**10**
View EV Delay	- - -
View EV Clear	- - -
View RR Delay	- - -
View RR Clear	- - -

Preempt Timing

	F	Row
Permit	**12_456_8**	**0**
Red Lock	_____	**1**
Yellow Lock	**12__56__**	**2**
Min Recall	**_2___6__**	**3**
Ped Recall	_____	**4**
View Set Peds	**- - - - -**	**5**
Rest In Walk	_____	**6**
Red Rest	_____	**7**
Dual Entry	**_2_4_6_8**	**8**
Max Recall	_____	**9**
Soft Recall	_____	**A**
Max 2	_____	**B**
Cond. Service	_____	**C**
Man Cntrl Calls	_____	**D**
Yellow Start	_____	**E**
First Phases	**_2___6__**	**F**

Phase Functions <F Page>

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

INTERSECTION: N. Phoenix & Cherry Lane

(* = Coordination Recall)

Row	Column Numbers ---->	Plan 1	2	3	4	5	6	7	8	9
	Plan Name ---->									
0	Cycle Length	100	100	100	100	100	100	100	100	100
1	Phase 1 - ForceOff	55	60	60	63	60	61	65	65	65
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0
3	Phase 3 - ForceOff	20	15	20	25	20	25	25	25	25
4	Phase 4 - ForceOff	40	40	40	40	40	40	40	40	40
5	Phase 5 - ForceOff	55	60	60	61	60	63	65	65	65
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0
7	Phase 7 - ForceOff	20	15	20	25	20	25	25	25	25
8	Phase 8 - ForceOff	40	40	40	40	40	40	40	40	40
9	Ring Offset	0	0	0	0	0	0	0	0	0
A	Offset 1	0	0	0	0	0	0	0	0	0
B	Offset 2	0	0	0	0	0	0	0	0	0
C	Offset 3	0	0	0	0	0	0	0	0	0
D	Permissive	12	12	12	12	12	12	12	12	0
E	Hold Release	255	255	255	255	255	255	255	255	0
F	Zone Offset	0	0	0	0	0	0	0	0	0

Coordination <C Page>

Row		E
0		
1	Plan 1 - Sync	_2___6__
2	Plan 2 - Sync	_2___6__
3	Plan 3 - Sync	_2___6__
4	Plan 4 - Sync	_2___6__
5	Plan 5 - Sync	_2___6__
6	Plan 6 - Sync	_2___6__
7	Plan 7 - Sync	_2___6__
8	Plan 8 - Sync	_2___6__
9	Plan 9 - Sync	_2___6__
A	Coord Ped *	_____
B	NEMA Hold	_____
C		
D		
E		
F		

Sync Phases <C Page>

Row	Column Numbers ---->	E
0	Exclusive Phases	_____
1	RR-1 Clear Phases	_____
2	RR-2 Clear Phases	_____
3	RR-2 Limited Service	_____
4	Prot / Perm Phases	_____
5	Overlap A - Green Omit	_____
6	Overlap B - Green Omit	_____
7	Overlap C - Green Omit	_____
8	Overlap D - Green Omit	_____
9	Overlap Yellow Flash	_____
A	EV-A Phases	_2__5___
B	EV-B Phases	___4____
C	EV-C Phases	1____6__
D	EV-D Phases	_____8
E	Extra 1 Config. Bits	1_3_____
F	IC Select (Interconnect)	_2_____

Configuration <E Page>

	F
RR Overlap A - Phases	_____
RR Overlap B - Phases	_____
RR Overlap C - Phases	_____
RR Overlap D - Phases	_____
Ped 2P	_2_____
Ped 6P	_____6__
Ped 4P	___4____
Ped 8P	_____8
Yellow Flash Phases	_____
Overlap A - Phases	_____
Overlap B - Phases	_____
Overlap C - Phases	_____
Overlap D - Phases	_____
Restricted Phases	_____
Assign 5 Outputs	_____

Configuration <E Page>

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = EV Advance
5 =
6 = Special Event
7 = Pretimed Operation
8 = Split Ring Operation

Assign 5 Outputs
(Ped Loadswitch Yellows)
1 = Right Turn Overlap
2 = TOD Outputs
3 = EV Beacon - Steady
4 = EV Beacon - Flashing
5 = Special Event Outputs
6 = Phase 3 & 7 Ped
7 = Advanced Warning Sign
8 =

Force-Off Adjust	0

Coord Force-Off Adjust for Ped Service <C+D+F>

Transition Type	0

TBC Transition <C+D+D>

Transition Type
0 = Shortway
Non-zero = Lengthen

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

Row		F
0	Free Lag	_2_4_6_8
1	Plan 1 - Lag	_2_4_6_8
2	Plan 2 - Lag	_2_4_6_8
3	Plan 3 - Lag	_2_4_6_8
4	Plan 4 - Lag	_2_4_6_8
5	Plan 5 - Lag	_2_4_6_8
6	Plan 6 - Lag	_2_4_6_8
7	Plan 7 - Lag	_2_4_6_8
8	Plan 8 - Lag	_2_4_6_8
9	Plan 9 - Lag	_2_4_6_8
A	Coord Max *	_____
B	Coord Lag *	_____
C		
D		
E		
F		

Lag Phases <C Page>

INTERSECTION: N. Phoenix & Cherry Lane

Row	Time	Plan	Offset	Day of Week
0	00:00	0	0	_____
1	00:00	0	0	_____
2	00:00	0	0	_____
3	00:00	0	0	_____
4	00:00	0	0	_____
5	00:00	0	0	_____
6	00:00	0	0	_____
7	00:00	0	0	_____
8	00:00	0	0	_____
9	00:00	0	0	_____
A	00:00	0	0	_____
B	00:00	0	0	_____
C	00:00	0	0	_____
D	00:00	0	0	_____
E	00:00	0	0	_____
F	00:00	0	0	_____

TOD Coordination
<9 Key with C+D+9=0>

Time	Funct.	Day of Week	Column F Phases/Bits
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____

TOD Function
<7 Key>

<D Page>

Time	Plan	Offset	Day of Week
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____

Holiday # 1
TOD Coordination
<9 Key with C+D+9=1>

Time	Plan	Offset	Day of Week
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____

Holiday # 2
TOD Coordination
<9 Key with C+D+9=2>

Time	Plan	Offset	Day of Week
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____

Holiday # 3
TOD Coordination
<9 Key with C+D+9=3>

Time	Plan	Offset	Day of Week	Row
00:00	0	0	_____	0
00:00	0	0	_____	1
00:00	0	0	_____	2
00:00	0	0	_____	3
00:00	0	0	_____	4
00:00	0	0	_____	5
00:00	0	0	_____	6
00:00	0	0	_____	7
00:00	0	0	_____	8
00:00	0	0	_____	9
00:00	0	0	_____	A
00:00	0	0	_____	B
00:00	0	0	_____	C
00:00	0	0	_____	D
00:00	0	0	_____	E
00:00	0	0	_____	F

Plan Select
1 thru 9 = Coordination Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Row		Day	Year	Month	Day of Week
A	Holiday # 1 Date	0	0	0	_____
B	Holiday # 2 Date	0	0	0	_____
C	Holiday # 3 Date	0	0	0	_____

Holiday Dates
<8 Key>

Row	1 Delay	3 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		I-1	14
1	0.0	0.0		I-2U	1
2	0.0	0.0		I-2L	5
3	0.0	0.0		I-3U	21
4	0.0	0.0		I-3L	25
5	0.0	0.0		I-4	9
6	0.0	0.0		I-5	16
7	0.0	0.0		I-6U	3
8	0.0	0.0		I-6L	7
9	0.0	0.0		I-7U	23
A	0.0	0.0		I-7L	27
B	0.0	0.0		I-8	11
C	0.0	0.0		I-9U	18
D	0.0	0.0		I-9L	20
E	- - -	- - -	- - -	- - -	- - -
F	- - -	- - -	- - -	- - -	- - -

Row	2 Delay	4 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		J-1	13
1	0.0	0.0		J-2U	2
2	0.0	0.0		J-2L	6
3	0.0	0.0		J-3U	22
4	0.0	0.0		J-3L	26
5	0.0	0.0		J-4	10
6	0.0	0.0		J-5	15
7	0.0	0.0		J-6U	4
8	0.0	0.0		J-6L	8
9	0.0	0.0		J-7U	24
A	0.0	0.0		J-7L	28
B	0.0	0.0		J-8	12
C	0.0	0.0		J-9U	17
D	0.0	0.0		J-9L	19
E	- - -	- - -	- - -	- - -	- - -
F	- - -	- - -	- - -	- - -	- - -

Detector Delay & Carryover <D Page>

Row		9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
A	Overlap A	0.0	0.0	0.0	0
B	Overlap B	0.0	0.0	0.0	0
C	Overlap C	0.0	0.0	0.0	0
D	Overlap D	0.0	0.0	0.0	0

Overlap Timing <F Page> <D Page>

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234____
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	____5678
E	-- -- -- -- -- -- -- --	1234____
F	-- 25 26 27 28 -- -- --	_2345___

Active Detectors <D Page>

Note: Initialized data is for all detectors to be active (ie, all flag bits set). A Detector which is "not flagged", will not be active as a Phase Detector, and WILL NOT call or extend its associated phase. It will still function as a System Detector.

Row		0 Detector Number
0		
1	System Det. # 1	0
2	System Det. # 2	0
3	System Det. # 3	0
4	System Det. # 4	0
5	System Det. # 5	0
6	System Det. # 6	0
7	System Det. # 7	0
8	System Det. # 8	0

System Detectors <D Page>

Max ON (minutes)	5	<D+A+E>
Max OFF (minutes)	60	<D+A+F>

Detector Failure Monitor

Phase Number	0	<F+C+1>
Time Before Yellow	0.0	<F+C+3>

Advance Warning Beacon - Sign 1

Phase Number	0	<F+D+1>
Time Before Yellow	0.0	<F+D+3>

Advance Warning Beacon - Sign 2

Long Failure	0.0	<F+0+6>
Short Failure	0.0	<F+0+7>

Power Cycle Correction (Default = 0.5)

Disable Parity	0	<D+B+0>

Dial-Up Telephone Communications
(If set to a non-zero value, parity will be disabled)

Row	Column Numbers ---->	Phase 1	2	3	4	5	6	7	8
	Phase Names ----->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	10	0	10	0	10	0	10
2	Min Green	3	7	3	7	3	7	3	7
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2
5	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5
6	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0
7	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0
8	Max Limit	17	40	17	40	17	40	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	- - - - - -	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
F	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0

Phase Timing - Bank 2 <F Page>

Column Numbers ---->	Phase 1	2	3	4	5	6	7	8	Row
Phase Names ----->									
Ped Walk	0	7	0	7	0	7	0	7	0
Ped FDW	0	10	0	10	0	10	0	10	1
Min Green	3	7	3	7	3	7	3	7	2
Type 3 Limit	0	0	0	0	0	0	0	0	3
Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2	4
Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5	5
Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0	6
Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0	7
Max Limit	17	40	17	40	17	40	17	40	8
Max Limit 2	30	70	30	70	30	70	30	70	9
- - - - - -	0	0	0	0	0	0	0	0	A
Call To Phase	0	0	0	0	0	0	0	0	B
Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	C
Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	D
Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	E
Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0	F

Phase Timing - Bank 3 <F Page>

Row		7 Time	8 Dwell	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output	Row	
0	Delay Only --->	0	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0	
1		0	0	_____	_____	_____	_____	_____	_____	_____	1	
2		0	0	_____	_____	_____	_____	_____	_____	_____	2	
3		0	0	_____	_____	_____	_____	_____	_____	_____	3	
4		0	0	_____	_____	_____	_____	_____	_____	_____	4	
5		0	0	_____	_____	_____	_____	_____	_____	_____	5	
6		0	0	_____	_____	_____	_____	_____	_____	_____	6	
7		0	0	_____	_____	_____	_____	_____	_____	_____	7	
8	Limited Service Int. --->	0	0	_____	_____	_____	_____	_____	_____	_____	8	
9		0	0	_____	_____	_____	_____	_____	_____	_____	9	
A		- - -	0	_____	_____	_____	_____	_____	_____	_____	A	**<--- Limited Service Interval**
B		0	0	_____	_____	_____	_____	_____	_____	_____	B	
C		0	0	_____	_____	_____	_____	_____	_____	_____	C	
D		0	0	_____	_____	_____	_____	_____	_____	_____	D	(Set Dwell = 255)
E		0	0	_____	_____	_____	_____	_____	_____	_____	E	
F		0	0	_____	_____	_____	_____	_____	_____	_____	F	

Special Event Schedule <C Page with F+9+F=22>

INTERSECTION: Barnett & N. Phoenix

Group Assignment: **Barnett Rd - Telephone**
Field Master Assignment: **NONE**
System Reference Number: **100**

N/S Street Name: **N. Phoenix Road**
E/W Street Name: **Barnett Road**

Last Database Change: **3/23/2016 11:55**

Change Record					
Change	By	Date	Change	By	Date

Notes: *08/12/1998 Signal turned-on and placed in service.*
1 SL; 2 NT; 3 WL DH; 4 ET; 5 NL; 6 ST; 7 EL DH; 8 WT D+E_0= 3, 7
4/08/2013 added 1.5 secs delay to 1I1 ph1 SBLT.

Communication Addresses

Drop Number	13	<C+0+0>
Zone Number		<C+0+1>
Area Number	1	<C+0+2>
Area Address	100	<C+0+3>
QuicNet Channel	COM15:	(QuicNet)

Manual Selection

Manual Plan		<C+A+1>
Manual Offset		<C+B+1>

Start / Revert Times

Max Initial	20	<F+0+E>
Red Revert	5.0	<F+0+F>
All Red Start	5.0	<F+C+0>

Phase Timing - Bank 1 <F Page>

Row	Column Numbers ---->	Phase 1	2	3	4	5	6	7	8
	Phase Names ----->								
0	Ped Walk	0	8	0	8	0	8	0	8
1	Ped FDW	0	12	0	23	0	18	0	23
2	Min Green	3	8	3	8	3	8	3	6
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	1.4	0.0	1.4	0.0	2.0	0.0	0.0
5	Veh Extension	1.5	3.5	1.5	3.5	1.5	4.0	1.5	3.5
6	Max Gap	1.5	3.5	1.5	3.5	1.5	3.5	1.5	3.5
7	Min Gap	1.5	3.5	1.5	3.5	1.5	3.5	1.5	3.5
8	Max Limit	17	40	17	40	28	40	28	40
9	Max Limit 2	17	40	17	40	28	40	28	40
A	- - - - - -	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
D	Reduce Every	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	Yellow Change	3.0	5.0	3.0	4.0	3.0	5.0	3.0	4.0
F	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Preempt Timing

	E
RR-1 Delay	0
RR-1 Clear	1
EV-A Delay	0
EV-A Clear	1
EV-B Delay	0
EV-B Clear	1
EV-C Delay	0
EV-C Clear	1
EV-D Delay	0
EV-D Clear	1
RR-2 Delay	0
RR-2 Clear	10
View EV Delay	- - -
View EV Clear	- - -
View RR Delay	- - -
View RR Clear	- - -

Phase Functions <F Page>

	F	Row
Permit	12345678	0
Red Lock	_____	1
Yellow Lock	12_456_8	2
Min Recall	_____	3
Ped Recall	_____	4
View Set Peds	- - - - -	5
Rest In Walk	_____	6
Red Rest	_____	7
Dual Entry	_2___6__	8
Max Recall	_____	9
Soft Recall	_____	A
Max 2	_____	B
Cond. Service	_____	C
Man Cntrl Calls	_____	D
Yellow Start	_____	E
First Phases	_2___6__	F

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

(* = Coordination Recall)

Row	Column Numbers ---->	Plan 1	2	3	4	5	6	7	8	9	Row
	Plan Name ----->										
0	Cycle Length	0	0	0	0	0	0	0	0	0	0
1	Phase 1 - ForceOff	0	0	0	0	0	0	0	0	0	1
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0	2
3	Phase 3 - ForceOff	0	0	0	0	0	0	0	0	0	3
4	Phase 4 - ForceOff	0	0	0	0	0	0	0	0	0	4
5	Phase 5 - ForceOff	0	0	0	0	0	0	0	0	0	5
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0	6
7	Phase 7 - ForceOff	0	0	0	0	0	0	0	0	0	7
8	Phase 8 - ForceOff	0	0	0	0	0	0	0	0	0	8
9	Ring Offset	0	0	0	0	0	0	0	0	0	9
A	Offset 1	0	0	0	0	0	0	0	0	0	A
B	Offset 2	0	0	0	0	0	0	0	0	0	B
C	Offset 3	0	0	0	0	0	0	0	0	0	C
D	Permissive	12	12	12	12	12	12	12	12	0	D
E	Hold Release	255	255	255	255	255	255	255	255	0	E
F	Zone Offset	0	0	0	0	0	0	0	0	0	F

Coordination <C Page>

	E	Row
		0
Plan 1 - Sync	_2___6__	1
Plan 2 - Sync	_2___6__	2
Plan 3 - Sync	_2___6__	3
Plan 4 - Sync	_2___6__	4
Plan 5 - Sync	_2___6__	5
Plan 6 - Sync	_2___6__	6
Plan 7 - Sync	_2___6__	7
Plan 8 - Sync	_2___6__	8
Plan 9 - Sync	_2___6__	9
Coord Ped *	_____	A
NEMA Hold	_____	B
		C
		D
		E
		F

Sync Phases <C Page>

Row	Column Numbers ---->	E
0	Exclusive Phases	_____
1	RR-1 Clear Phases	_____
2	RR-2 Clear Phases	_____
3	RR-2 Limited Service	_____
4	Prot / Perm Phases	__3___7_
5	Overlap A - Green Omit	_____
6	Overlap B - Green Omit	_____
7	Overlap C - Green Omit	_____
8	Overlap D - Green Omit	_____
9	Overlap Yellow Flash	_____
A	EV-A Phases	_2__5___
B	EV-B Phases	___4__7_
C	EV-C Phases	1____6__
D	EV-D Phases	__3____8
E	Extra 1 Config. Bits	1_3_____
F	IC Select (Interconnect)	_2_____

Configuration <E Page>

	F
RR Overlap A - Phases	_____
RR Overlap B - Phases	_____
RR Overlap C - Phases	_____
RR Overlap D - Phases	_____
Ped 2P	_2_____
Ped 6P	_____6__
Ped 4P	___4____
Ped 8P	_____8
Yellow Flash Phases	_____
Overlap A - Phases	_____
Overlap B - Phases	_____
Overlap C - Phases	_____
Overlap D - Phases	_____
Restricted Phases	_____
Assign 5 Outputs	_____

Configuration <E Page>

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = EV Advance
5 =
6 = Special Event
7 = Pretimed Operation
8 = Split Ring Operation

Assign 5 Outputs
(Ped Loadswitch Yellows)
1 = Right Turn Overlap
2 = TOD Outputs
3 = EV Beacon - Steady
4 = EV Beacon - Flashing
5 = Special Event Outputs
6 = Phase 3 & 7 Ped
7 = Advanced Warning Sign
8 =

Force-Off Adjust	0

Coord Force-Off Adjust for Ped Service <C+D+F>

Transition Type	0

TBC Transition <C+D+D>

Transition Type
0 = Shortway
Non-zero = Lengthen

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

	F	Row
Free Lag	_2_4_6_8	0
Plan 1 - Lag	_2_4_6_8	1
Plan 2 - Lag	_2_4_6_8	2
Plan 3 - Lag	_2_4_6_8	3
Plan 4 - Lag	_2_4_6_8	4
Plan 5 - Lag	_2_4_6_8	5
Plan 6 - Lag	_2_4_6_8	6
Plan 7 - Lag	_2_4_6_8	7
Plan 8 - Lag	_2_4_6_8	8
Plan 9 - Lag	_2_4_6_8	9
Coord Max *	_____	A
Coord Lag *	_____	B
		C
		D
		E
		F

Lag Phases <C Page>

Row	Time	Plan	Offset	Day of Week
0	00	0	0	_____
1	00	0	0	_____
2	00	0	0	_____
3	00	0	0	_____
4	00	0	0	_____
5	00	0	0	_____
6	00	0	0	_____
7	00	0	0	_____
8	00	0	0	_____
9	00	0	0	_____
A	00	0	0	_____
B	00	0	0	_____
C	00	0	0	_____
D	00	0	0	_____
E	00	0	0	_____
F	00	0	0	_____

TOD Coordination
<9 Key with C+D+9=0>

Time	Funct.	Day of Week	Column F Phases/Bits
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____

TOD Function
<7 Key>

<D Page>

Time	Plan	Offset	Day of Week
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____

Holiday # 1
TOD Coordination
<9 Key with C+D+9=1>

Time	Plan	Offset	Day of Week
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____

Holiday # 2
TOD Coordination
<9 Key with C+D+9=2>

Time	Plan	Offset	Day of Week
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____

Holiday # 3
TOD Coordination
<9 Key with C+D+9=3>

Time	Plan	Offset	Day of Week	Row
00:00	0	0	_____	0
00:00	0	0	_____	1
00:00	0	0	_____	2
00:00	0	0	_____	3
00:00	0	0	_____	4
00:00	0	0	_____	5
00:00	0	0	_____	6
00:00	0	0	_____	7
00:00	0	0	_____	8
00:00	0	0	_____	9
00:00	0	0	_____	A
00:00	0	0	_____	B
00:00	0	0	_____	C
00:00	0	0	_____	D
00:00	0	0	_____	E
00:00	0	0	_____	F

Plan Select
1 thru 9 = Coordination Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Row		Day	Year	Month	Day of Week
A	Holiday # 1 Date	0	0	0	_____
B	Holiday # 2 Date	0	0	0	_____
C	Holiday # 3 Date	0	0	0	_____

Holiday Dates
<8 Key>

Row	1 Delay	3 Carry-over	Detector Name	332 Input File	Detector Number
0	1.5	0.0		I-1	14
1	0.0	0.0		I-2U	1
2	0.0	0.0		I-2L	5
3	0.0	0.0		I-3U	21
4	0.0	0.0		I-3L	25
5	0.0	0.0		I-4	9
6	0.0	0.0		I-5	16
7	0.0	0.0		I-6U	3
8	0.0	0.0		I-6L	7
9	0.0	0.0		I-7U	23
A	0.0	0.0		I-7L	27
B	0.0	0.0		I-8	11
C	0.0	0.0		I-9U	18
D	0.0	0.0		I-9L	20
E	- - -	- - -	- - -	- - -	- - -
F	- - -	- - -	- - -	- - -	- - -

Row	2 Delay	4 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		J-1	13
1	0.0	0.0		J-2U	2
2	0.0	0.0		J-2L	6
3	0.0	0.0		J-3U	22
4	0.0	0.0		J-3L	26
5	0.0	0.0		J-4	10
6	0.0	0.0		J-5	15
7	0.0	0.0		J-6U	4
8	0.0	0.0		J-6L	8
9	0.0	0.0		J-7U	24
A	0.0	0.0		J-7L	28
B	0.0	0.0		J-8	12
C	0.0	0.0		J-9U	17
D	0.0	0.0		J-9L	19
E	- - -	- - -	- - -	- - -	- - -
F	- - -	- - -	- - -	- - -	- - -

Detector Delay & Carryover <D Page>

Row		9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
A	Overlap A	0.0	0.0	0.0	0
B	Overlap B	0.0	0.0	0.0	0
C	Overlap C	0.0	0.0	0.0	0
D	Overlap D	0.0	0.0	0.0	0

Overlap Timing <F Page> <D Page>

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234____
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	____5678
E	-- -- -- -- -- -- -- --	1234____
F	-- 25 26 27 28 -- -- --	_2345___

Active Detectors <D Page>

Note: Initialized data is for all detectors to be active (ie, all flag bits set). A Detector which is "not flagged", will not be active as a Phase Detector, and WILL NOT call or extend its associated phase. It will still function as a System Detector.

Row		0 Detector Number
0		
1	System Det. # 1	0
2	System Det. # 2	0
3	System Det. # 3	0
4	System Det. # 4	0
5	System Det. # 5	0
6	System Det. # 6	0
7	System Det. # 7	0
8	System Det. # 8	0

System Detectors <D Page>

Max ON (minutes)	5	<D+A+E>
Max OFF (minutes)	60	<D+A+F>

Detector Failure Monitor

Phase Number	0	<F+C+1>
Time Before Yellow	0.0	<F+C+3>

Advance Warning Beacon - Sign 1

Phase Number	0	<F+D+1>
Time Before Yellow	0.0	<F+D+3>

Advance Warning Beacon - Sign 2

Long Failure	0.0	<F+0+6>
Short Failure	0.0	<F+0+7>

Power Cycle Correction (Default = 0.5)

Disable Parity	0	<D+B+0>

Dial-Up Telephone Communications
(If set to a non-zero value, parity will be disabled)

Row	Column Numbers ---->	Phase 1	2	3	4	5	6	7	8
	Phase Names ----->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	10	0	10	0	10	0	10
2	Min Green	3	7	3	7	3	7	3	7
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2
5	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5
6	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0
7	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0
8	Max Limit	17	40	17	40	17	40	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	- - - - - -	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
F	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0

Phase Timing - Bank 2 <F Page>

Column Numbers ---->	Phase 1	2	3	4	5	6	7	8	Row
Phase Names ----->									
Ped Walk	0	7	0	7	0	7	0	7	0
Ped FDW	0	10	0	10	0	10	0	10	1
Min Green	3	7	3	7	3	7	3	7	2
Type 3 Limit	0	0	0	0	0	0	0	0	3
Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2	4
Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5	5
Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0	6
Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0	7
Max Limit	17	40	17	40	17	40	17	40	8
Max Limit 2	30	70	30	70	30	70	30	70	9
- - - - - -	0	0	0	0	0	0	0	0	A
Call To Phase	0	0	0	0	0	0	0	0	B
Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	C
Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	D
Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	E
Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0	F

Phase Timing - Bank 3 <F Page>

Row		7 Time	8 Dwell	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output	Row	
0	Delay Only --->	0	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0	
1		0	0	_____	_____	_____	_____	_____	_____	_____	1	
2		0	0	_____	_____	_____	_____	_____	_____	_____	2	
3		0	0	_____	_____	_____	_____	_____	_____	_____	3	
4		0	0	_____	_____	_____	_____	_____	_____	_____	4	
5		0	0	_____	_____	_____	_____	_____	_____	_____	5	
6		0	0	_____	_____	_____	_____	_____	_____	_____	6	
7		0	0	_____	_____	_____	_____	_____	_____	_____	7	
8	Limited Service Int. --->	0	0	_____	_____	_____	_____	_____	_____	_____	8	
9		0	0	_____	_____	_____	_____	_____	_____	_____	9	
A		- - -	0	_____	_____	_____	_____	_____	_____	_____	A	**<--- Limited Service Interval** (Set Dwell = 255)
B		0	0	_____	_____	_____	_____	_____	_____	_____	B	
C		0	0	_____	_____	_____	_____	_____	_____	_____	C	
D		0	0	_____	_____	_____	_____	_____	_____	_____	D	
E		0	0	_____	_____	_____	_____	_____	_____	_____	E	
F		0	0	_____	_____	_____	_____	_____	_____	_____	F	

Special Event Schedule <C Page with F+9+F=22>

INTERSECTION: N. Phoenix & Larson Creek Center

Group Assignment: **Barnett Rd - Telephone**
Field Master Assignment: **NONE**
System Reference Number: **102**

N/S Street Name: **N Phoenix Road**
E/W Street Name: **Larson Creek Center**

Last Database Change: **3/23/2016 11:55**

Change Record					
Change	By	Date	Change	By	Date

Notes:

Drop Number	**14**	<C+0+0>
Zone Number		<C+0+1>
Area Number	**1**	<C+0+2>
Area Address	**102**	<C+0+3>
QuicNet Channel	**COM15:**	(QuicNet)

Communication Addresses

Manual Plan		<C+A+1>
Manual Offset		<C+B+1>

Manual Selection

Max Initial	**20**	<F+0+E>
Red Revert	**5.0**	<F+0+F>
All Red Start	**5.0**	<F+C+0>

Start / Revert Times

Row	Column Numbers ---->	Phase 1	2	3	4	5	6	7	8
	Phase Names ----->								
0	Ped Walk	0	0	0	6	0	6	0	0
1	Ped FDW	0	0	0	19	0	13	0	0
2	Min Green	0	8	0	3	3	8	0	0
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	1.5	0.0	0.0	0.0	1.5	0.0	0.0
5	Veh Extension	0.0	4.0	0.0	2.0	2.0	4.0	0.0	0.0
6	Max Gap	0.0	4.0	0.0	2.0	2.0	4.0	0.0	0.0
7	Min Gap	0.0	3.0	0.0	2.0	2.0	3.0	0.0	0.0
8	Max Limit	0	40	0	24	24	40	0	0
9	Max Limit 2	0	40	0	24	24	40	0	0
A	- - - - - -	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.5	0.0	0.0	0.0	0.5	0.0	0.0
D	Reduce Every	0.0	15.0	0.0	0.0	0.0	15.0	0.0	0.0
E	Yellow Change	3.0	5.0	3.0	4.0	3.0	5.0	3.0	3.0
F	Red Clear	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0

Phase Timing - Bank 1 <F Page>

	E
RR-1 Delay	0
RR-1 Clear	1
EV-A Delay	0
EV-A Clear	1
EV-B Delay	0
EV-B Clear	1
EV-C Delay	0
EV-C Clear	1
EV-D Delay	0
EV-D Clear	1
RR-2 Delay	0
RR-2 Clear	10
View EV Delay	- - -
View EV Clear	- - -
View RR Delay	- - -
View RR Clear	- - -

Preempt Timing

	F	Row
Permit	_2_456__	0
Red Lock	_____	1
Yellow Lock	_2___6__	2
Min Recall	_2___6__	3
Ped Recall	_____	4
View Set Peds	- - - - -	5
Rest In Walk	_____	6
Red Rest	_____	7
Dual Entry	_____	8
Max Recall	_____	9
Soft Recall	_____	A
Max 2	_____	B
Cond. Service	_____	C
Man Cntrl Calls	_____	D
Yellow Start	_____	E
First Phases	_2___6__	F

Phase Functions <F Page>

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

(* = Coordination Recall)

Row	Column Numbers ---->	Plan 1	2	3	4	5	6	7	8	9	Row
	Plan Name ----->										
0	Cycle Length	0	0	0	0	0	0	0	0	0	0
1	Phase 1 - ForceOff	0	0	0	0	0	0	0	0	0	1
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0	2
3	Phase 3 - ForceOff	0	0	0	0	0	0	0	0	0	3
4	Phase 4 - ForceOff	0	0	0	0	0	0	0	0	0	4
5	Phase 5 - ForceOff	0	0	0	0	0	0	0	0	0	5
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0	6
7	Phase 7 - ForceOff	0	0	0	0	0	0	0	0	0	7
8	Phase 8 - ForceOff	0	0	0	0	0	0	0	0	0	8
9	Ring Offset	0	0	0	0	0	0	0	0	0	9
A	Offset 1	0	0	0	0	0	0	0	0	0	A
B	Offset 2	0	0	0	0	0	0	0	0	0	B
C	Offset 3	0	0	0	0	0	0	0	0	0	C
D	Permissive	12	12	12	12	12	12	12	12	0	D
E	Hold Release	255	255	255	255	255	255	255	255	0	E
F	Zone Offset	0	0	0	0	0	0	0	0	0	F

Coordination <C Page>

	E	Row
		0
Plan 1 - Sync	_2__6__	1
Plan 2 - Sync	_2__6__	2
Plan 3 - Sync	_2__6__	3
Plan 4 - Sync	_2__6__	4
Plan 5 - Sync	_2__6__	5
Plan 6 - Sync	_2__6__	6
Plan 7 - Sync	_2__6__	7
Plan 8 - Sync	_2__6__	8
Plan 9 - Sync	_2__6__	9
Coord Ped *	_____	A
NEMA Hold	_____	B
		C
		D
		E
		F

Sync Phases <C Page>

Row	Column Numbers ---->	E
0	Exclusive Phases	_____
1	RR-1 Clear Phases	_____
2	RR-2 Clear Phases	_____
3	RR-2 Limited Service	_____
4	Prot / Perm Phases	_____
5	Overlap A - Green Omit	_____
6	Overlap B - Green Omit	_____
7	Overlap C - Green Omit	_____
8	Overlap D - Green Omit	_____
9	Overlap Yellow Flash	_____
A	EV-A Phases	_2__5__
B	EV-B Phases	___4___
C	EV-C Phases	_2___6__
D	EV-D Phases	_____
E	Extra 1 Config. Bits	1_3_____
F	IC Select (Interconnect)	_2_____

Configuration <E Page>

	F
RR Overlap A - Phases	_____
RR Overlap B - Phases	_____
RR Overlap C - Phases	_____
RR Overlap D - Phases	_____
Ped 2P	_____
Ped 6P	_____6__
Ped 4P	___4____
Ped 8P	_____
Yellow Flash Phases	_____
Overlap A - Phases	_____
Overlap B - Phases	_____
Overlap C - Phases	_____
Overlap D - Phases	_____
Restricted Phases	_____
Assign 5 Outputs	_____

Configuration <E Page>

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = EV Advance
5 =
6 = Special Event
7 = Pretimed Operation
8 = Split Ring Operation

Assign 5 Outputs
(Ped Loadswitch Yellows)
1 = Right Turn Overlap
2 = TOD Outputs
3 = EV Beacon - Steady
4 = EV Beacon - Flashing
5 = Special Event Outputs
6 = Phase 3 & 7 Ped
7 = Advanced Warning Sign
8 =

Force-Off Adjust	0

Coord Force-Off Adjust for Ped Service <C+D+F>

Transition Type	0

TBC Transition <C+D+D>

Transition Type
0 = Shortway
Non-zero = Lengthen

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

	F	Row
Free Lag	_2_4_6_8	0
Plan 1 - Lag	_2_4_6_8	1
Plan 2 - Lag	_2_4_6_8	2
Plan 3 - Lag	_2_4_6_8	3
Plan 4 - Lag	_2_4_6_8	4
Plan 5 - Lag	_2_4_6_8	5
Plan 6 - Lag	_2_4_6_8	6
Plan 7 - Lag	_2_4_6_8	7
Plan 8 - Lag	_2_4_6_8	8
Plan 9 - Lag	_2_4_6_8	9
Coord Max *	_____	A
Coord Lag *	_____	B
		C
		D
		E
		F

Lag Phases <C Page>

INTERSECTION: N. Phoenix & Larson Creek Center

Row	Time	Plan	Offset	Day of Week
0	00:00	0	0	_____
1	00:00	0	0	_____
2	00:00	0	0	_____
3	00:00	0	0	_____
4	00:00	0	0	_____
5	00:00	0	0	_____
6	00:00	0	0	_____
7	00:00	0	0	_____
8	00:00	0	0	_____
9	00:00	0	0	_____
A	00:00	0	0	_____
B	00:00	0	0	_____
C	00:00	0	0	_____
D	00:00	0	0	_____
E	00:00	0	0	_____
F	00:00	0	0	_____

TOD Coordination
<9 Key with C+D+9=0>

Time	Funct.	Day of Week	Column F Phases/Bits
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____
00:00	0	_____	_____

TOD Function
<7 Key>

<D Page>

Time	Plan	Offset	Day of Week
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____

Holiday # 1
TOD Coordination
<9 Key with C+D+9=1>

Time	Plan	Offset	Day of Week
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____

Holiday # 2
TOD Coordination
<9 Key with C+D+9=2>

Time	Plan	Offset	Day of Week
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____

Holiday # 3
TOD Coordination
<9 Key with C+D+9=3>

Time	Plan	Offset	Day of Week	Row
00:00	0	0	_____	0
00:00	0	0	_____	1
00:00	0	0	_____	2
00:00	0	0	_____	3
00:00	0	0	_____	4
00:00	0	0	_____	5
00:00	0	0	_____	6
00:00	0	0	_____	7
00:00	0	0	_____	8
00:00	0	0	_____	9
00:00	0	0	_____	A
00:00	0	0	_____	B
00:00	0	0	_____	C
00:00	0	0	_____	D
00:00	0	0	_____	E
00:00	0	0	_____	F

Plan Select
1 thru 9 = Coordination Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Row		Day	Year	Month	Day of Week
A	Holiday # 1 Date	0	0	0	_____
B	Holiday # 2 Date	0	0	0	_____
C	Holiday # 3 Date	0	0	0	_____

Holiday Dates
<8 Key>

Row	1 Delay	3 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		I-1	14
1	0.0	0.0		I-2U	1
2	0.0	0.0		I-2L	5
3	0.0	0.0		I-3U	21
4	0.0	0.0		I-3L	25
5	0.0	0.0		I-4	9
6	0.0	0.0		I-5	16
7	5.0	0.0		I-6U	3
8	5.0	0.0		I-6L	7
9	5.0	0.0		I-7U	23
A	5.0	0.0		I-7L	27
B	0.0	0.0		I-8	11
C	0.0	0.0		I-9U	18
D	0.0	0.0		I-9L	20
E	- - -	- - -	- - -	- - -	- - -
F	- - -	- - -	- - -	- - -	- - -

Row	2 Delay	4 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		J-1	13
1	0.0	0.0		J-2U	2
2	0.0	0.0		J-2L	6
3	0.0	0.0		J-3U	22
4	0.0	0.0		J-3L	26
5	0.0	0.0		J-4	10
6	0.0	0.0		J-5	15
7	0.0	0.0		J-6U	4
8	0.0	0.0		J-6L	8
9	0.0	0.0		J-7U	24
A	0.0	0.0		J-7L	28
B	0.0	0.0		J-8	12
C	0.0	0.0		J-9U	17
D	0.0	0.0		J-9L	19
E	- - -	- - -	- - -	- - -	- - -
F	- - -	- - -	- - -	- - -	- - -

Detector Delay & Carryover <D Page>

Row		9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
A	Overlap A	0.0	0.0	0.0	0
B	Overlap B	0.0	0.0	0.0	0
C	Overlap C	0.0	0.0	0.0	0
D	Overlap D	0.0	0.0	0.0	0

Overlap Timing <F Page> <D Page>

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234____
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	____5678
E	-- -- -- -- -- -- -- --	1234____
F	-- 25 26 27 28 -- -- --	_2345___

Active Detectors <D Page>

Note: Initialized data is for all detectors to be active (ie, all flag bits set). A Detector which is "not flagged", will not be active as a Phase Detector, and WILL NOT call or extend its associated phase. It will still function as a System Detector.

Row		0 Detector Number
0		
1	System Det. # 1	0
2	System Det. # 2	0
3	System Det. # 3	0
4	System Det. # 4	0
5	System Det. # 5	0
6	System Det. # 6	0
7	System Det. # 7	0
8	System Det. # 8	0

System Detectors <D Page>

Max ON (minutes)	5	<D+A+E>
Max OFF (minutes)	60	<D+A+F>

Detector Failure Monitor

Phase Number	0	<F+C+1>
Time Before Yellow	0.0	<F+C+3>

Advance Warning Beacon - Sign 1

Phase Number	0	<F+D+1>
Time Before Yellow	0.0	<F+D+3>

Advance Warning Beacon - Sign 2

Long Failure	0.0	<F+0+6>
Short Failure	0.0	<F+0+7>

Power Cycle Correction (Default = 0.5)

Disable Parity	0	<D+B+0>

Dial-Up Telephone Communications
(If set to a non-zero value, parity will be disabled)

Row	Column Numbers ---->	Phase 1	2	3	4	5	6	7	8
	Phase Names ----->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	10	0	10	0	10	0	10
2	Min Green	3	7	3	7	3	7	3	7
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2
5	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5
6	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0
7	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0
8	Max Limit	17	40	17	40	17	40	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	- - - - - -	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
F	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0

Phase Timing - Bank 2 <F Page>

Column Numbers ---->	Phase 1	2	3	4	5	6	7	8	Row
Phase Names ----->									
Ped Walk	0	7	0	7	0	7	0	7	0
Ped FDW	0	10	0	10	0	10	0	10	1
Min Green	3	7	3	7	3	7	3	7	2
Type 3 Limit	0	0	0	0	0	0	0	0	3
Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2	4
Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5	5
Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0	6
Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0	7
Max Limit	17	40	17	40	17	40	17	40	8
Max Limit 2	30	70	30	70	30	70	30	70	9
- - - - - -	0	0	0	0	0	0	0	0	A
Call To Phase	0	0	0	0	0	0	0	0	B
Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	C
Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	D
Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	E
Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0	F

Phase Timing - Bank 3 <F Page>

Row		7 Time	8 Dwell	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output	Row	
0	Delay Only --->	0	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0	
1		0	0	_____	_____	_____	_____	_____	_____	_____	1	
2		0	0	_____	_____	_____	_____	_____	_____	_____	2	
3		0	0	_____	_____	_____	_____	_____	_____	_____	3	
4		0	0	_____	_____	_____	_____	_____	_____	_____	4	
5		0	0	_____	_____	_____	_____	_____	_____	_____	5	
6		0	0	_____	_____	_____	_____	_____	_____	_____	6	
7		0	0	_____	_____	_____	_____	_____	_____	_____	7	
8	Limited Service Int. --->	0	0	_____	_____	_____	_____	_____	_____	_____	8	
9		0	0	_____	_____	_____	_____	_____	_____	_____	9	
A		- - -	0	_____	_____	_____	_____	_____	_____	_____	A	**<--- Limited Service Interval**
B		0	0	_____	_____	_____	_____	_____	_____	_____	B	
C		0	0	_____	_____	_____	_____	_____	_____	_____	C	
D		0	0	_____	_____	_____	_____	_____	_____	_____	D	(Set Dwell = 255)
E		0	0	_____	_____	_____	_____	_____	_____	_____	E	
F		0	0	_____	_____	_____	_____	_____	_____	_____	F	

Special Event Schedule <C Page with F+9+F=22>

14120

SIGNAL PLAN LEGEND
GARFIELD/HIGHLAND AT I-5 RAMPS
(MEDFORD)

METRIC

L E G E N D

CONTROLLERS

- (C/332) Install model 170E/HC11 controller and control equipment in a model 332 cabinet with riser frame. orient louvered door as shown
- (FO/400) Install 170 internal model FO400 Fiber Optic Modem, made by Traffic Fiber Systems, or approved equal. Install all other incidental items to complete the system.
- (BBS) Install Battery Backup System. See special provisions.

POLES

- (SBP) See Bridge Plans for pole placement
- (PP) Install pedestrian signal pedestal with frangible base
- (VP) Install vehicle signal pedestal with transformer base

CABINETS

- (TC) Install terminal cabinet
- (BMC) Install base mounted service cabinet, 120/240 volt metered, for signal system

SIGNALS

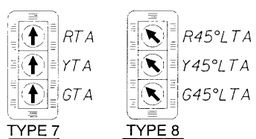
- (V/Ph) Install phase (Ph=phase) vehicle signal. See spec 00160.30
- (P/B/Ph) Install phase (Ph=phase) pedestrian signal with clamshell mount and pushbutton with 'H' mount

SIGNAL MOUNTING OPTIONS

M = Signal mounting bracket, see Bridge Plans for details
T = Top pole mounting bracket

SIGNAL HEAD TYPES

3L = 305 mm RLTA, 305 mm YLTA, 305 mm GLTA
7 = 305 mm RTA, 305 mm YTA, 305 mm GTA
8 = 305 mm R45°LTA, 305 mm Y45°LTA, 305 mm G45°LTA



TYPE 7 TYPE 8

RTA = Red through arrow
YTA = Yellow through arrow
GTA = Green through arrow
R45°LTA = Red 45° left turn arrow
Y45°LTA = Yellow 45° left turn arrow
G45°LTA = Green 45° left turn arrow

NOTE: All lenses are 305mm

JUNCTION BOXES

- (JB/DP) Junction box (See Detector Plan)
- (JB/2) Install 560 mm x 305 mm x 305 mm (min. dimension) precast concrete junction box
- (JB/3) Install 760 mm x 430 mm x 305 mm (min. dimension) precast concrete junction box
- (JB/8) Install 405 mm x 305 mm x 205 mm (min. dimension) galv. cast iron junction box with gasketed galv. steel cover

CONDUITS

- (S) Install (S=size) mm electrical conduit
- (CS) Install 53 mm conduit stub (For future use-cap ends)
- (DC) Detector conduit (See Detector Plan)
- (W) Install conduit as required by power company. Power company to install wire.
- (SBC) See Bridge Plans for conduit, expansion fittings and junction box placement in bridge structure
- (ITS) Fiber interconnect conduit (See Fiber Optic Plan)

WIRES

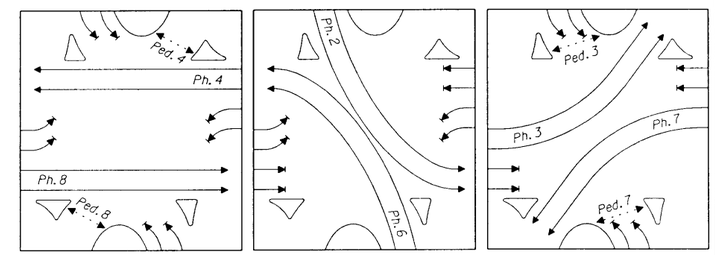
- [N-C] Install (N=number) No. 8 type THWN (Signal system common)
- [N-12C] Install (N=number) No. 12 type THWN (Pedestrian pedestal signal system common)
- [N/G] Install (N=number) No. (G=AWG wire size) type THWN wires
- (Ph) Includes 3 spare wires for phase (Ph=phase) as per table
- [PL] Install poly pull line (1 kN min-strength)
- [N-2G] Install (N=number) No. 2 type THWN (Signal system and Pedestrian pedestal signal system ground wire)

FIRE PREEMPTION

- (FN/Ch) Install . (N=number) direction, channel (Ch=channel) fire preemption detector unit
- (FF/Ch) Install channel (Ch=channel) fire preemption detector feeder cable

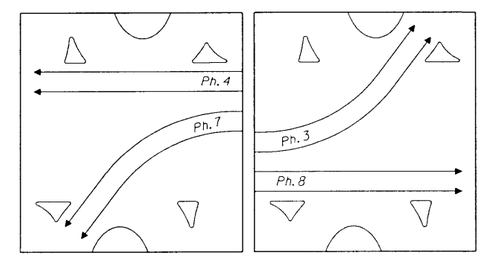
MISCELLANEOUS NOTES

- (CW) Install crosswalk closure barricades w/signs, signs (both sides)
- (G) Install two ground rods within junction box and connect No. 2 wire



PHASE 4 & 8 PHASE 2 & 6 PHASE 3 & 7

NORMAL PHASE ROTATION



CHANNEL B CHANNEL D

FIRE PREEMPTION OPERATION

NOTE:
See TEOS Dwg. 14121 for Signal plan

CITY OF MEDFORD
TRAFFIC ENGINEERING DIVISION
REVIEWED BY TRANSPORTATION MANAGER DATE 12-15-05
Traffic Engineering Operations Section Approval

REGISTERED PROFESSIONAL ENGINEER 51,322 OREGON JULY 9, 2001 TRENTON B. GLICK Expires June 30, 2007

OREGON DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING OPERATIONS SECTION

I-5: SOUTH MEDFORD INTERCHANGE
PACIFIC HIGHWAY
JACKSON COUNTY

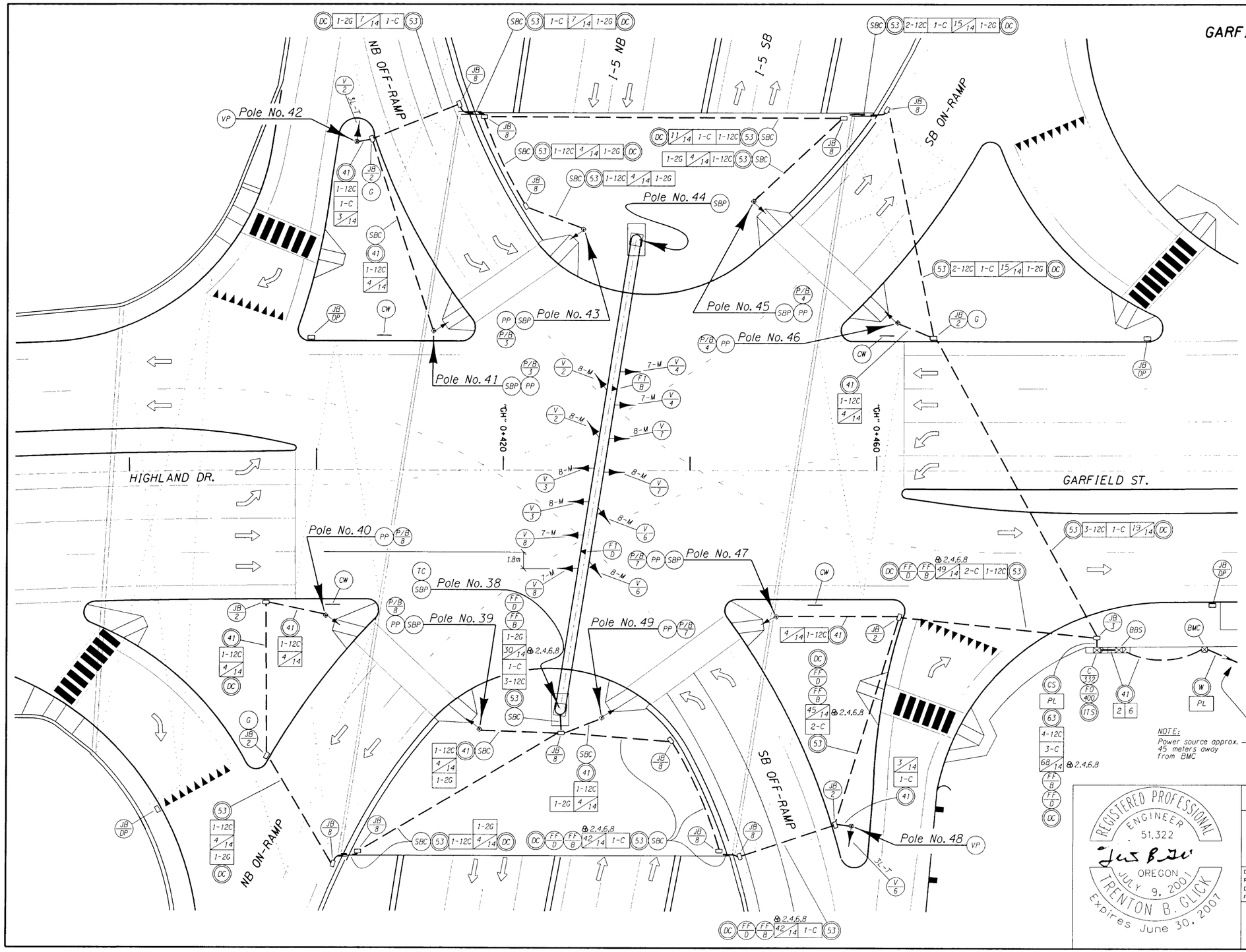
DESIGNED BY: Trenton Glick
REVIEWED BY: Tom Jenkins
DRAWN BY: Trenton Glick
FC: 1 MP: 27

SIGNAL PLAN LEGEND

Str. ID. No. ____ T.E.O.S. DWG. NO. 14120

14121

SIGNAL PLAN
GARFIELD/HIGHLAND AT I-5 RAMPS
(MEDFORD)



Note:
For Legend See TEOS Dwg. 14120

CITY OF MEDFORD
TRAFFIC ENGINEERING DIVISION

REVIEWED BY TRANSPORTATION MANAGER — DATE 2-15-05

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DESIGNED BY: Trenton Glick
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FC: 1 MP 27

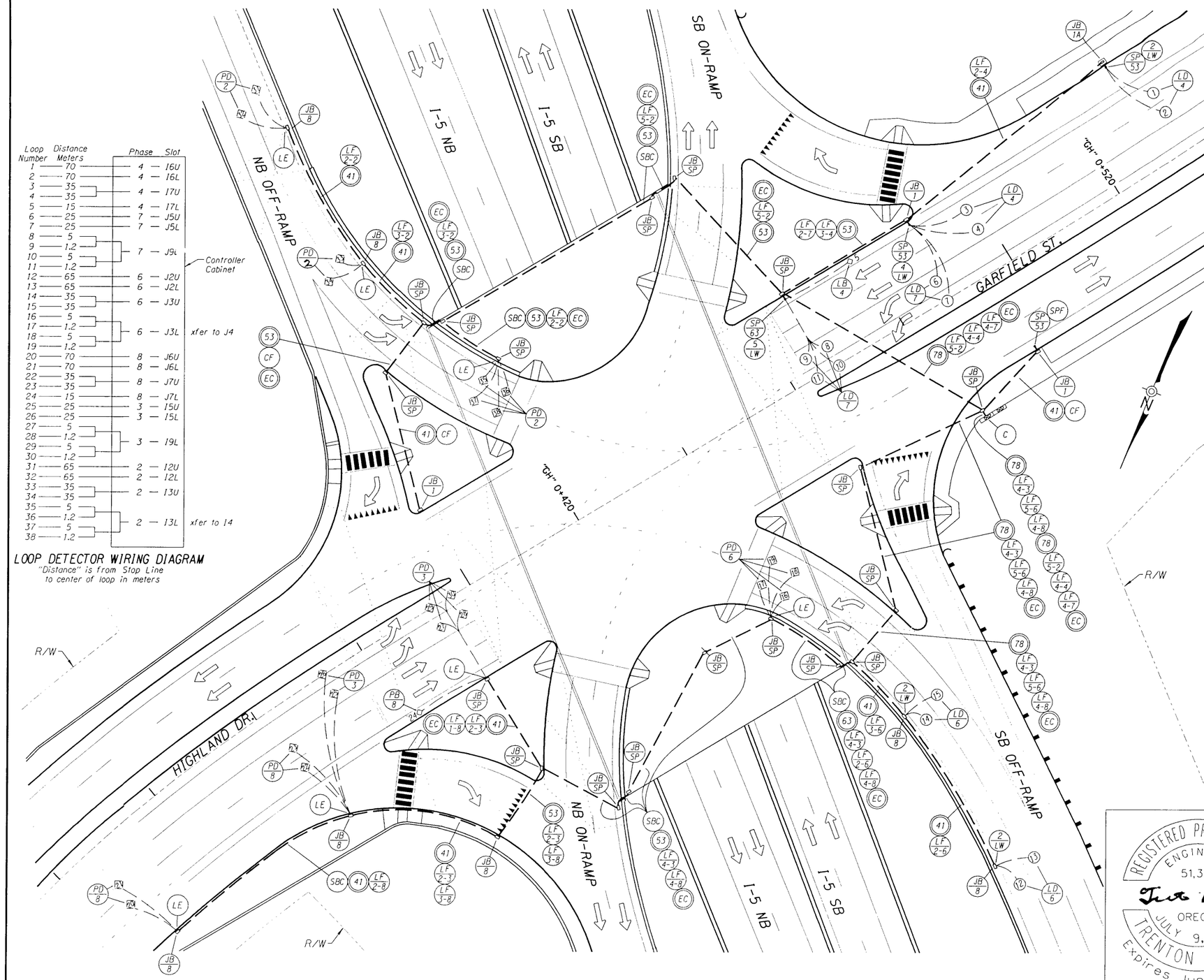
SIGNAL PLAN

Str. ID. No. — T.E.O.S. DWG. NO. 14121

14122.

DETECTOR PLAN
GARFIELD/HIGHLAND AT I-5 RAMPS (MEDFORD)

SCALE 0 10 20 40 METERS



Loop Number	Distance Meters	Phase	Slot	
1	70	4	16U	
2	70	4	16L	
3	35	4	17U	
4	35			
5	15	4	17L	
6	25	7	J5U	
7	25	7	J5L	
8	5			
9	1.2	7	J9L	
10	5			
11	1.2			
12	65	6	J2U	Controller Cabinet
13	65	6	J2L	
14	35	6	J3U	
15	35			
16	5			
17	1.2	6	J3L	xfer to J4
18	5			
19	1.2			
20	70	8	J6U	
21	70	8	J6L	
22	35	8	J7U	
23	35			
24	15	8	J7L	
25	25	3	15U	
26	25	3	15L	
27	5			
28	1.2	3	19L	
29	5			
30	1.2			
31	65	2	12U	
32	65	2	12L	
33	35	2	13U	
34	35			
35	5			
36	1.2	2	13L	xfer to 14
37	5			
38	1.2			

LOOP DETECTOR WIRING DIAGRAM
"Distance" is from Stop Line to center of loop in meters

LEGEND

CONTROLLERS

- (C) Controller (See Signal Plan)

JUNCTION BOXES

- (JB / SP) Junction box (See Signal Plan)
- (JB / 1) Install 440 mm x 265 mm x 305 mm (min. dimension) precast concrete junction box
- (JB / 1A) Install 440 mm x 265 mm x 305 mm (min. dimension) precast concrete junction box with concrete apron
- (JB / 8) Install 405 mm x 305 mm x 205 mm (min. dimension) galv. cast iron junction box with gasketed galv. steel cover
- (SP / S) Install 150 mm max. sand pocket block-out with (S=size) mm conduit to junction box
- (SPF) Sand pocket for future use

WIRES

- (LF / X-Ph) Install (X=number of cables) phase (Ph=phase) loop feeder cables
- (N / LW) Install (N=number) pair of loop wires

CONDUITS

- (S) Install (S=size) mm electrical conduit
- (EC) Electrical conduit (See Signal Plan)
- (CF) Conduit for future use - cap ends
- (SBC) See Bridge Plans for conduit, expansion fittings and junction box placement in bridge structure

LOOPS

- (LD / Ph) Install phase (Ph=phase) 1.8 m round vehicle detector loop
- (LB / Ph) Install phase (Ph=phase) 0.7 m diamond bicycle detector loop
- (LE) Install cord grip with flexible preformed loops or threaded male terminal adapter, lock nut, and bushing with rigid preformed loops. Drill and tap metallic junction box per manufacturers recommendations.
- (PD / Ph) Install phase (Ph=phase) 1.2 m diamond preformed vehicle detector loop
- (PB / Ph) Install phase (Ph=phase) 0.7 m diamond preformed bicycle detector loop

CITY OF MEDFORD
TRAFFIC ENGINEERING DIVISION

REVIEWED BY: TRANSPORTATION MANAGER — DATE 12-15-05

Traffic Engineering Operations Section Approval

REGISTERED PROFESSIONAL ENGINEER 51,322 OREGON JULY 9, 2001 TRENTON B. GLICK Expires June 30, 2007

OREGON DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING OPERATIONS SECTION

I-5: SOUTH MEDFORD INTERCHANGE
PACIFIC HIGHWAY
JACKSON COUNTY

DESIGNED BY: Trenton Glick
REVIEWED BY: Tom Jenkins
DRAWN BY: Trenton Glick
FC 1 MP 27

DETECTOR PLAN

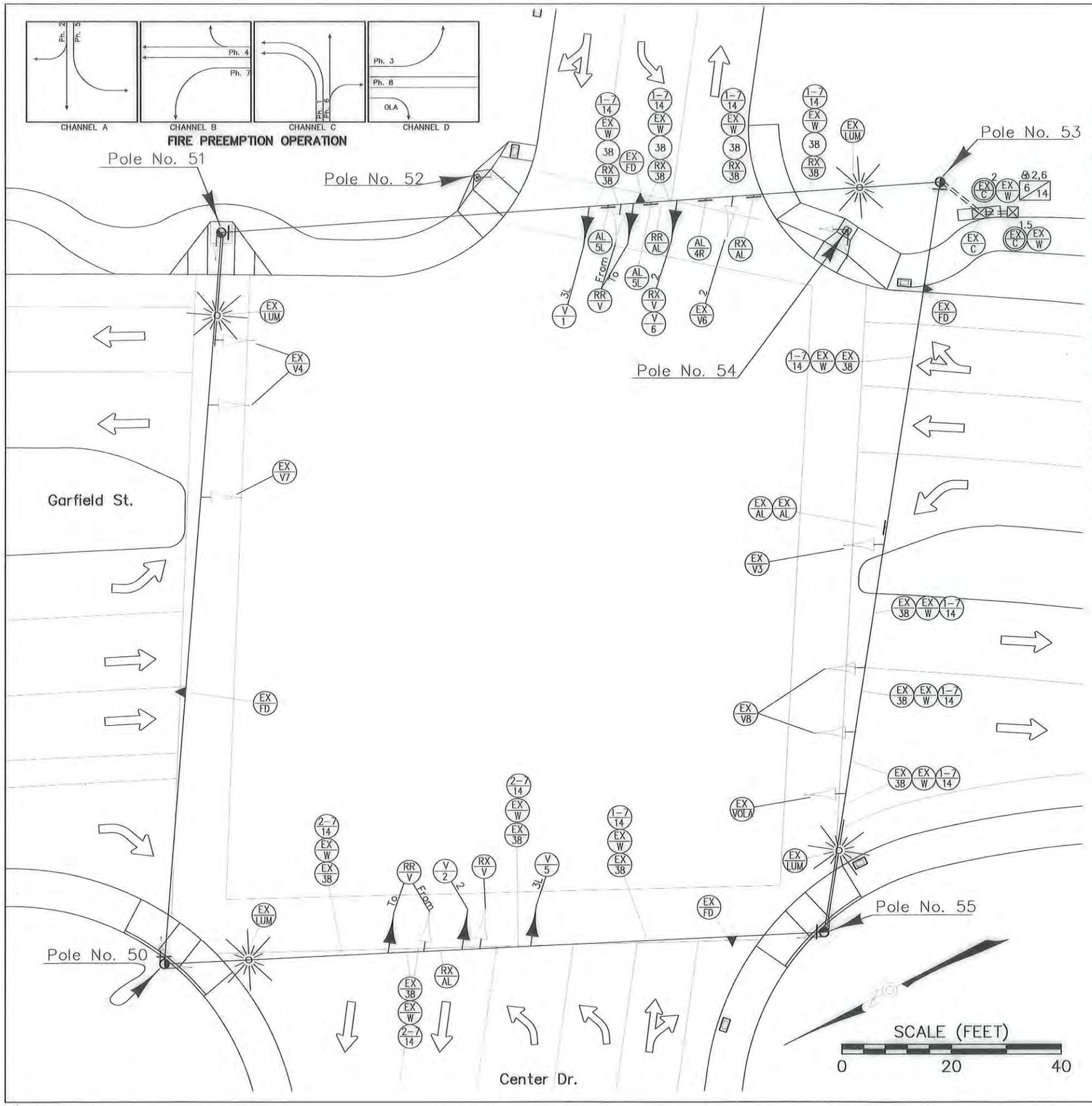
Str. ID No. T.E.O.S. DWG NO. 14122

19674

SHEET T-1

SIGNAL PLAN
GARFIELD ST. AT CENTER DR.
MEDFORD, OREGON

FIRE PREEMPTION OPERATION



LEGEND

CONTROLLERS

- EX/C — Retain and protect existing controller and cabinet

POLES

- EX/SPL — Retain and protect existing strain pole

SIGNALS

- EX/VPh — Retain and protect existing phase (Ph=phase) vehicle signal
- RR/V — Remove and relocate existing vehicle signal
- RX/V — Remove existing vehicle signal
- V/Ph — Install phase (Ph=phase) polycarbonate vehicle signal
- EX/P/B — Retain and protect existing pedestrian signal and pedestrian pushbutton

SIGNS

- EX/AL — Retain and protect existing aluminum sign and mount
- RR/AL — Remove and relocate existing aluminum sign and mount
- RX/AL — Remove existing aluminum sign and mount
- AL/4R — Install aluminum (30" x 36", type "W7") through and right arrow sign (R3-6R)
- AL/5L — Install aluminum (30" x 36", type "W7") left arrow "ONLY" sign (R3-5L)

CONDUITS

- EX/C (S) — Retain and protect existing conduit (S=size) mm conduit

WIRES

- EX/W — Retain and protect existing wiring
- N/G — Install (N=number) No. (G=AWG wire size) type THWN wires
- (S)Ph — Includes 3 spare wires for phase (Ph=phase) as per table
- X-N/G — Install (X=number of cables) control cables with (N=number) No. (G=AWG wire size) conductors
- EX/38 — Retain and protect existing messenger and tether cables
- RX/38 — Remove existing messenger and tether cables
- 38 — Install galv. steel 7/16" messenger 1/4" and tether cables

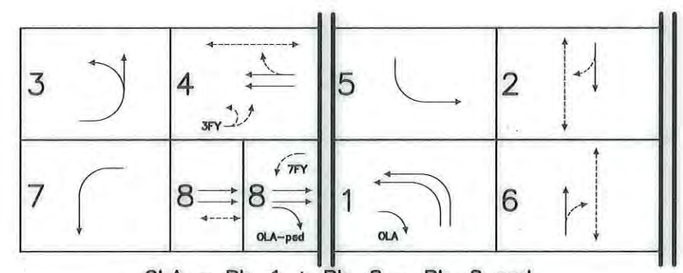
LUMINAIRES

- EX/LUM — Retain and protect existing existing luminaire
- EX/PE — Retain and protect existing photocontrol electronic relay

FIRE PREEMPTION

- EX/FD — Retain and protect existing fire preemption detector unit

SIGNAL HEAD TYPES
2 = 12"R, 12"Y, 12"G
3L = 12"RLTA' 12"YLTA, 12"GLTA



OLA = Ph. 1 + Ph. 8 – Ph. 8 ped
NORMAL PHASE ROTATION

Traffic Section Approval

REGISTERED PROFESSIONAL ENGINEER
53,200PE
OREGON
SEPT 10, 2002
KIMBERLY PARDUCCI
RENEWS: 12/31/18

OREGON DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING AND OPERATIONS SECTION

SOUTHERN OREGON TRANSPORTATION ENGINEERING, LLC

SOUTH SIDE CENTER
CENTER DRIVE AT GARFIELD STREET
JACKSON COUNTY

DESIGNED BY: KS 8.1.17
REVIEWED BY: KP
DRAWN BY: SM
FC: MP:

SIGNAL PLAN

TSSU. No. T.R.S. DWG. NO. 19674

SHEET T-2

DETECTOR PLAN
GARFIELD ST. AT CENTER DR.
MEDFORD, OREGON

LEGEND

WIRES

- EX W — Retain and protect existing wiring
- N LW — Install (N=number) pair of loop wires

DETECTION

- EX DPh — Retain and protect existing phase (Ph=phase) vehicle detector loop
- LD Ph — Install phase (Ph=phase) 6' round vehicle detector loop
- EX DBPh — Retain and protect existing phase (Ph=phase) bicycle detector loop
- EX DBPh — Retain and protect existing phase (Ph=phase) bicycle detector loop
- LF X-Ph — Install (X=No of cables) phase (Ph=phase) loop feeder cables

CONTROLLERS

- EX C — Retain and protect existing controller and cabinet

JUNCTION BOXES

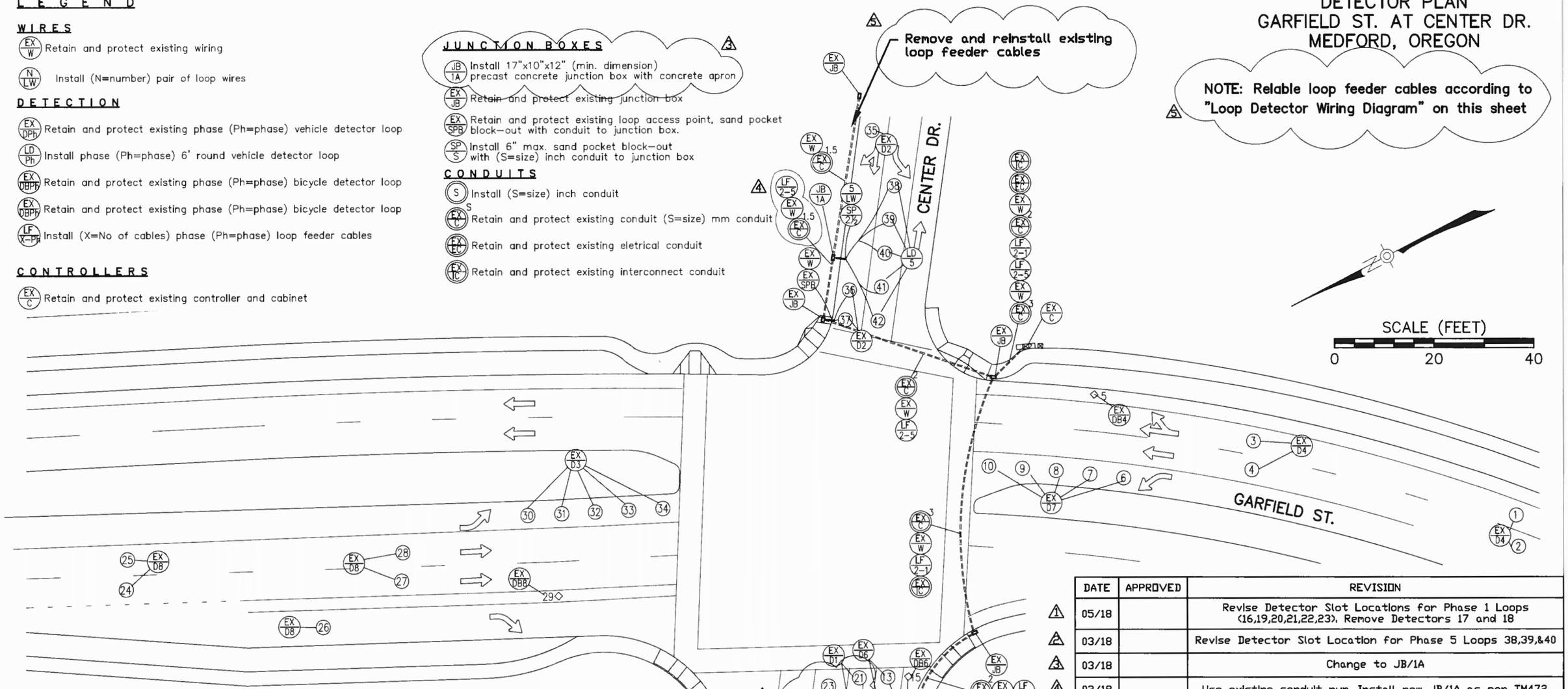
- JB 1A — Install 17"x10"x12" (min. dimension) precast concrete junction box with concrete apron
- EX JB — Retain and protect existing junction box
- EX SPB — Retain and protect existing loop access point, sand pocket block-out with conduit to junction box.
- SP S — Install 6" max. sand pocket block-out with (S=size) inch conduit to junction box

CONDUITS

- S — Install (S=size) inch conduit
- EX C S — Retain and protect existing conduit (S=size) mm conduit
- EX EC — Retain and protect existing eletrical conduit
- EX IC — Retain and protect existing interconnect conduit

Remove and reinstall existing loop feeder cables

NOTE: Relable loop feeder cables according to "Loop Detector Wiring Diagram" on this sheet



New Loop Number	Distance Feet	Phase	Slot	
1	230	4	I6U	
2	230	4	I6L	
3	115	4	I7U	
4	115	4	I7L	
5	49 - BIKE			
6	63			
7	49	7	J5U	Controller Cabinet
8	35			
9	21	7	J9L	
10	7			
11	82	6	J2U	
12	16	6	J4U	xfer to J3U
13	4			
14	49 - BIKE			
15	4 - BIKE	6	J3L	xfer to J4
16	82	1	I9U	
17	63	1	I3U	
20	16			
21	4			
22	21	1	I1U	
23	7			

NO WORK

Continued

Loop Number	Distance Feet	Phase	Slot	
24	230	8	J6U	
25	230	8	J6L	
26	148	8	J8U	xfer to J7U
27	115	8	J7U	
28	115			
29	49 - BIKE	8	J7L	
30	63			
31	49	3	I5U	Controller Cabinet
32	35			
33	21			
34	7	3	I9L	
35	82	2	I2U	
36	16			
37	4	2	I2L	
38	63			
39	49			
40	35			
41	21	5	J1U	
42	7			
		5	J9U	

NO WORK

LOOP DETECTOR WIRING DIAGRAM

"Distance" is from Stop Line to center of loop in feet
(Existing loops converted from meters to feet)

	DATE	APPROVED	REVISION
1	05/18		Revise Detector Slot Locations for Phase 1 Loops (16,19,20,21,22,23). Remove Detectors 17 and 18
2	03/18		Revise Detector Slot Location for Phase 5 Loops 38,39,&40
3	03/18		Change to JB/1A
4	03/18		Use existing condult run. Install new JB/1A as per TM472.
5	03/18		Add Note

Traffic Section Approval

REGISTERED PROFESSIONAL ENGINEER 53,200RE OREGON SEPT 10, 2002 KIMBERLY PARDUCCI

RENEWS: 12/31/18

OREGON DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING AND OPERATIONS SECTION

SOUTHERN OREGON TRANSPORTATION ENGINEERING, LLC

SOUTH SIDE CENTER
CENTER DRIVE AT GARFIELD STREET
JACKSON COUNTY

DESIGNED BY: KS 5.9.18
REVIEWED BY:KP
DRAWN BY:SM
FC: MP:

DETECTOR PLAN

TSSU. No. _____ T.R.S. DWG. NO. 19675

14116

FINAL INSTALLATION SIGNAL PLAN LEGEND
ROGUE VALLEY HWY AT GARFIELD ST.
(MEDFORD)
HWY99, M.P. 8.56

METRIC

LEGEND

CONTROLLERS

- (C/332) Install model 170E/HC11 controller and control equipment in a model 332 cabinet with riser frame, orient louvered door as shown

POLES

- (PP) Install pedestrian signal pedestal with frangible base
- (PP/(S)) Pedestrian signal pedestal (See Stage Construction Signal Plan)
- (SPLX/(S)) Strain pole with luminaire pole extension (See Stage Construction Signal Plan)

SIGNALS

- (V/Ph) Install phase (Ph=phase) vehicle signal
- (P/B/Ph) Install phase (Ph=phase) pedestrian signal with clamshell mount and pushbutton with "H" mount
- (V/(S)) Vehicle signal (See Stage Construction Signal Plan)

SIGNS

- (AL/3) Install aluminum (762mmx914mm, type "W7") "NO TURN ON RED" sign (OR10-11A)
- (AL/5R) Install aluminum (762mmx914mm, type "W7") right arrow "ONLY" sign (OR3-5R)
- (AL/12R) Install aluminum (762mmx914mm, type "W7 mod.") "RIGHT TURN YIELD TO PEDS ON GREEN ●" sign (OR10-12)
- (AL/(S)) Aluminum sign (See Stage Construction Signal Plan)

JUNCTION BOXES

- (JB/DP) Junction box (See Detector Plan)
- (JB/(S)) Junction box (See Stage Construction Signal Plan)

CONDUITS

- (S) Install (S=size) mm electrical conduit
- (DC) Detector conduit (See Detector Plan)
- (IC) Interconnect conduit (See Interconnect Plan)
- (EC/(S)) Electrical conduit (See Stage Construction Signal Plan)

SIGNAL HEAD TYPES

2 = 305 mm R, 305 mm Y, 305 mm G
3L = 305 mm RLTA, 305 mm YLTA, 305 mm GLTA
3R = 305 mm RRTA, 305 mm YRTA, 305 mm GRTA
5 = 305 mm R, 305 mm Y, 305 mm G, 305 mm YRTA, 305 mm GRTA

SIGNAL MOUNTING OPTIONS

P = Side pole mounting bracket

SIGN MOUNTING OPTIONS

PB = Pole mounting bracket

WIRES

- (38) Install galv. steel 9 mm messenger and 6 mm tether cables
- (X-N/G) Install (X=number of cables) control cables with (N=number) No. (G=AWG wire size) conductors
- [N-12C] Install (N=number) No. 12 type THWN (Pedestrian pedestal signal system common)
- [N/G] Install (N=number) No. (G=AWG wire size) type THWN wires
- (W/(S)) Wire (See Stage Construction Signal Plan)

LUMINAIRES

- (HPS/(S)) High pressure sodium luminaire (See Stage Construction Signal Plan)

PROTECT EXISTING ITEMS

- (EX/PP) Retain and protect existing pedestrian signal pedestal
- (EX/JB) Retain and protect existing junction box

RELOCATE EXISTING ITEMS

- (RR/VPh) Remove and relocate existing phase (Ph=phase) vehicle signal
- (RR/FD) Remove and relocate existing fire preemption detector unit
- (RR/FF) Remove and relocate existing fire preemption feeder cable
- (RR/AL) Remove and relocate existing aluminum sign

REINSTALL EXISTING ITEMS

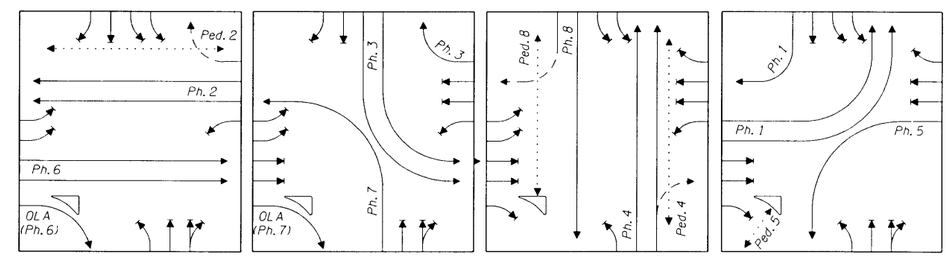
- (RI/VPh) Reinstall existing phase (Ph=phase) vehicle signal
- (RI/FD-Ch) Reinstall existing channel (Ch=channel) fire preemption detector unit
- (RI/FF) Reinstall existing fire preemption feeder cable
- (RI/AL) Reinstall existing aluminum sign

REMOVE EXISTING ITEMS

- (RX/38) Remove existing messenger and tether cables
- (RX/CC) Remove existing control cables
- (RX/WS) Remove existing wood pedestrian pushbutton post
- (RX/VPh) Remove existing phase (Ph=phase) vehicle signal

MISCELLANEOUS NOTES

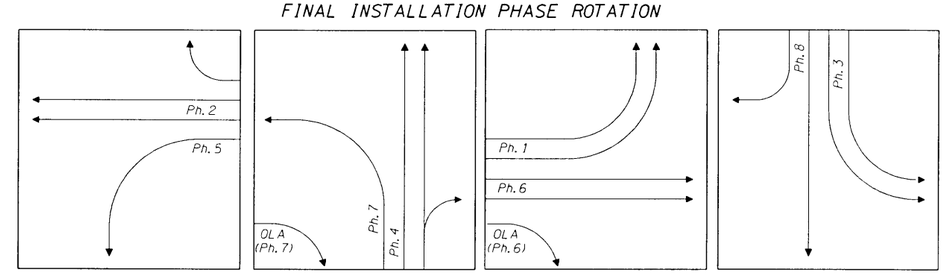
- (CW/(S)) crosswalk closure barricades w/signs (See Stage Construction Signal Plan)



PHASE 2 & 6 | PHASE 3 & 7 | PHASE 4 & 8 | PHASE 1 & 5

OLA = PH 6 & PH 7

FINAL INSTALLATION PHASE ROTATION



CHANNEL A | CHANNEL B | CHANNEL C | CHANNEL D

FINAL INSTALLATION FIRE PREEMPTION OPERATION

NOTE:
See TEOS Dwg. 14117 for Final Installation Signal Plan

CITY OF MEDFORD
TRAFFIC ENGINEERING DIVISION
REVIEWED BY TRANSPORTATION MANAGER — DATE 12-15-03
Traffic Engineering Operations Section Approval

REGISTERED PROFESSIONAL ENGINEER 51,322 OREGON JULY 9, 2001 TRENTON B. GLICK Expires June 30, 2007

OREGON DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING OPERATIONS SECTION

I-5: SOUTH MEDFORD INTERCHANGE
PACIFIC HIGHWAY
JACKSON COUNTY

DESIGNED BY: Trenton Glick
REVIEWED BY: Tom Jenkins
DRAWN BY: Trenton Glick
FC: 63 MP: 8.56

FINAL INSTALLATION SIGNAL PLAN LEGEND

Str ID No. ____ T.E.O.S. DWG. NO. 14116

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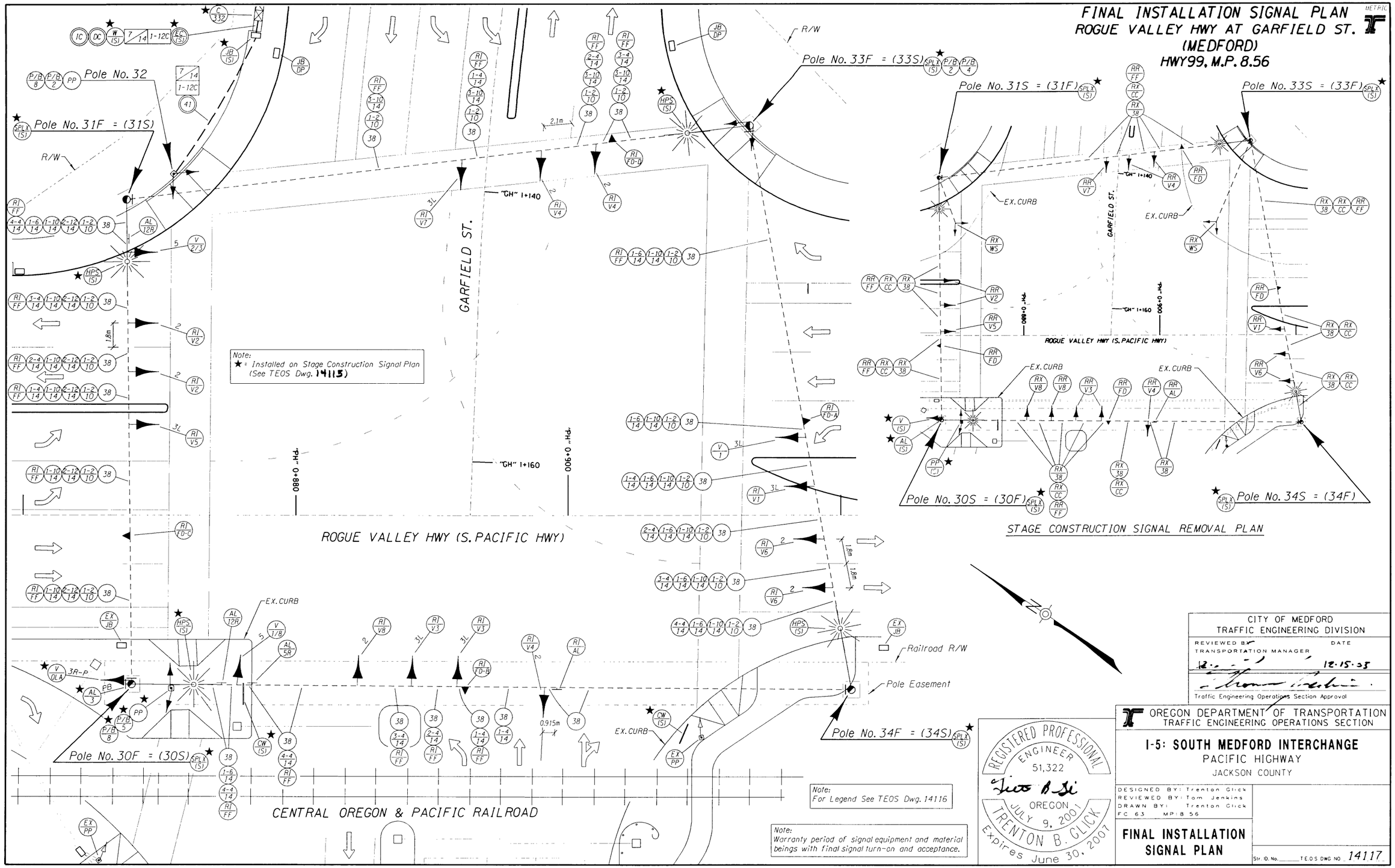
14117

FINAL INSTALLATION SIGNAL PLAN
ROGUE VALLEY HWY AT GARFIELD ST. (MEDFORD)
HWY99, M.P. 8.56

METRIC



CITY OF MEDFORD
TRAFFIC ENGINEERING DIVISION

REVIEWED BY TRANSPORTATION MANAGER — DATE 12-15-05

Traffic Engineering Operations Section Approval

OREGON DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING OPERATIONS SECTION

I-5: SOUTH MEDFORD INTERCHANGE
PACIFIC HIGHWAY
JACKSON COUNTY

DESIGNED BY: Trenton Glick
REVIEWED BY: Tom Jenkins
DRAWN BY: Trenton Glick
FC 83 MP: 8.56

FINAL INSTALLATION SIGNAL PLAN

Str. ID. No. _____ TEOS DWG NO. 14117

1:250 - 14

14118

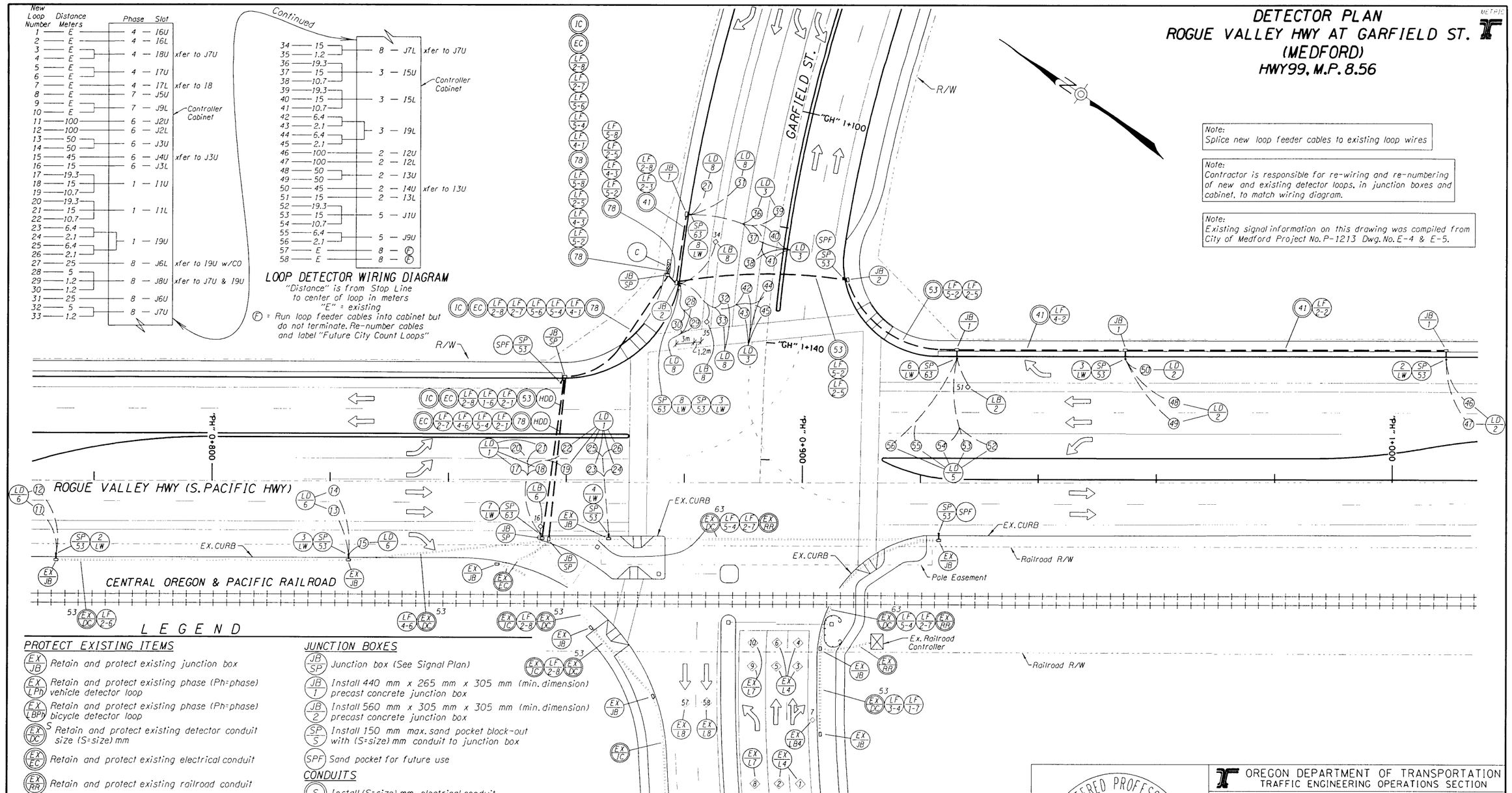
DETECTOR PLAN
ROGUE VALLEY HWY AT GARFIELD ST. (MEDFORD)
HWY99, M.P. 8.56

METRIC

Note:
Splice new loop feeder cables to existing loop wires

Note:
Contractor is responsible for re-wiring and re-numbering of new and existing detector loops, in junction boxes and cabinet, to match wiring diagram.

Note:
Existing signal information on this drawing was compiled from City of Medford Project No. P-1213 Dwg. No. E-4 & E-5.



LEGEND

PROTECT EXISTING ITEMS

- EX/JB — Retain and protect existing junction box
- EX/LPh — Retain and protect existing phase (Ph=phase) vehicle detector loop
- EX/LBPh — Retain and protect existing phase (Ph=phase) bicycle detector loop
- EX/DC S — Retain and protect existing detector conduit size (S=size) mm
- EX/EC — Retain and protect existing electrical conduit
- EX/RR — Retain and protect existing railroad conduit
- EX/IC — Retain and protect existing interconnect conduit

CONTROLLERS

- C — Controller (See Signal Plan)

WIRES

- LF/X-Ph — Install (X=number of cables) phase (Ph=phase) loop feeder cables
- N/LW — Install (N=number) pair of loop wires

JUNCTION BOXES

- JB/SP — Junction box (See Signal Plan)
- JB/1 — Install 440 mm x 265 mm x 305 mm (min. dimension) precast concrete junction box
- JB/2 — Install 560 mm x 305 mm x 305 mm (min. dimension) precast concrete junction box
- SP/S — Install 150 mm max. sand pocket block-out with (S=size) mm conduit to junction box
- SPF — Sand pocket for future use

CONDUITS

- S — Install (S=size) mm electrical conduit
- EC — Electrical conduit (See Signal Plan)
- HDD — Install conduit by horizontal directional drilling, open trench not allowed
- IC — Interconnect conduit (See Interconnect Plan)

LOOPS

- LD/Ph — Install phase (Ph=phase) 1.8 m round vehicle detector loop
- LB/Ph — Install phase (Ph=phase) 0.7 m diamond bicycle detector loop

CITY OF MEDFORD
TRAFFIC ENGINEERING DIVISION
REVIEWED BY — DATE
TRANSPORTATION MANAGER — 12-15-05
Traffic Engineering Operations Section Approval

REGISTERED PROFESSIONAL ENGINEER 51,322 OREGON JULY 9, 2001 TRENTON B. GLICK Expires June 30, 2007

OREGON DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING OPERATIONS SECTION

I-5: SOUTH MEDFORD INTERCHANGE
PACIFIC HIGHWAY
JACKSON COUNTY

DESIGNED BY: Trenton Glick
REVIEWED BY: Tom Jenkins
DRAWN BY: Trenton Glick
FC: 63 MP: 8.56

DETECTOR PLAN

Str. ID. No. — T.E.O.S. DWG. NO. 14118

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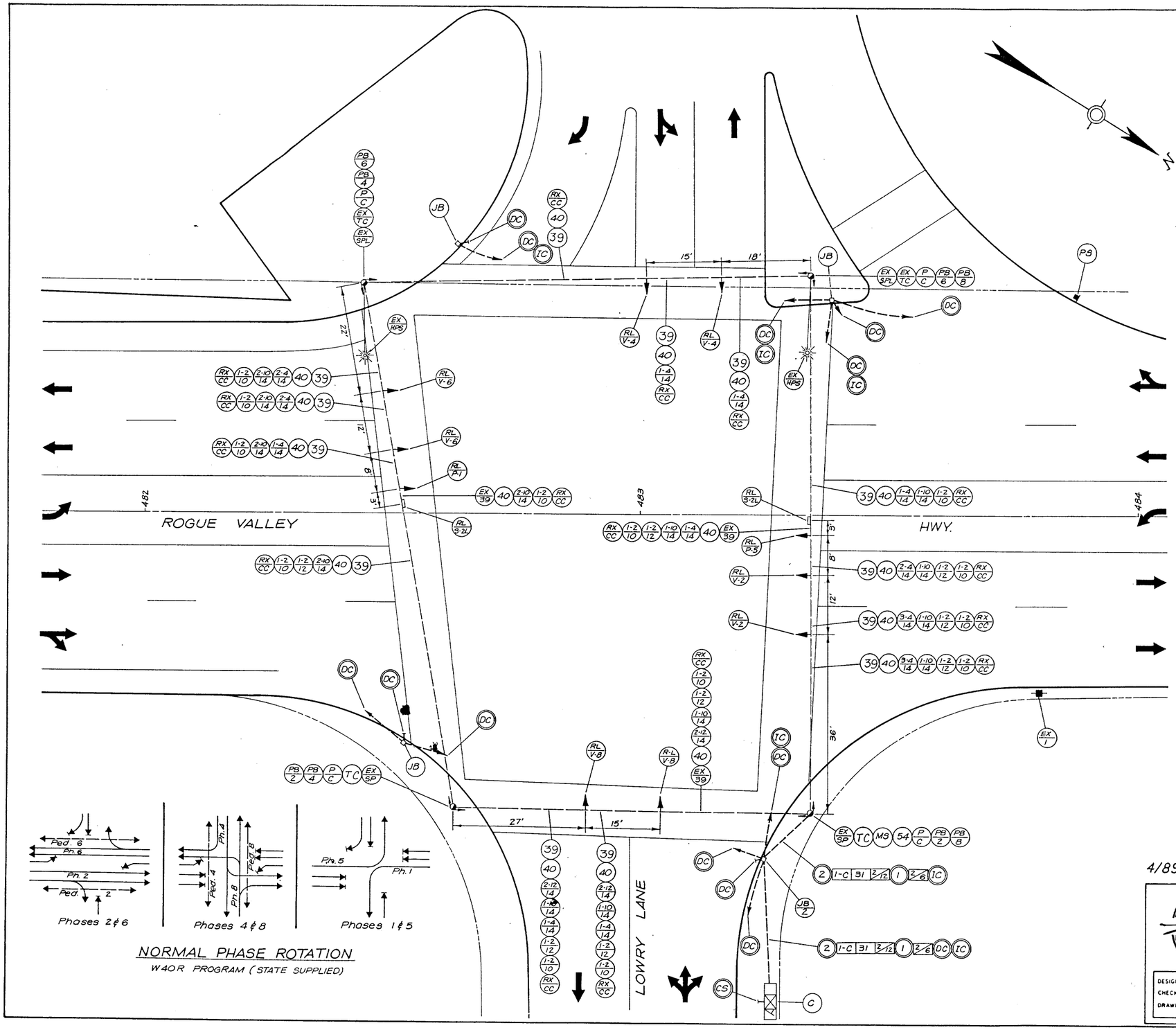
9274

SIGNAL PLAN
LOWRY LANE AT ROGUE VALLEY HWY.

SCALE 0 10 20 40 FEET



LEGEND

- EX/HPS — Maintain and protect existing HPS luminaire
- EX/I — Maintain and protect existing power pole (power source)
- EX/SP — Maintain and protect existing strain pole
- EX/SPL — Maintain and protect existing strain pole with luminaire
- EX/TC — Maintain and protect existing terminal cabinet
- 39 — *Contractor-installed new messenger cable.*
- RL/V-Ph — Relocate existing vehicle signal phase (Ph)
- RL/P-Ph — Relocate existing programmed vehicle signal phase (Ph)
- RL/S-2L — Relocate existing interior illuminated "LEFT TURN SIGNAL" sign
- C — Install model 170 controller in model 332 cabinet with riser frame, orient front (louvered) door as shown.
- P/T — Install type (T) modified pedestrian signal
- PB/Ph — Install phase (Ph) pedestrian pushbutton with instruction sign
- PS — Post mounted sign (see detector plan)
- 54 — Install service cabinet with 60 amp breaker for signals and a 20 amp breaker for illumination
- MS — Install 120 volt meter base
- JB — Junction box (see detector plan)
- JB/Z — Install 22¼" x 12¼" x 13" precast concrete junction box with galvanized cast iron cover, or cast aluminum cover of equal strength (see T.E.S. Drwg. No. TS-107)
- RX/CC — Remove existing control cables
- N-C — Install (N) No. 8 type THWN wire (signal system common)
- N — Install (N) No. 14 type THWN wires
- N/G — Install (N) No. (G) type THW or THWN wires
- X-N/G — Install (X)-(N) wire No. (G) control cables
- 40 — Install ¼ inch galvanized steel tether wire
- S" — Install (S) inch electrical conduit
- DC — Detector conduit (see detector plan)

Ph — Phase shown; T — Type shown; N — Number shown; G — AWG size shown; X — Number of cables shown; S — Size shown

- IC — *Interconnect Conduit - See Interconnect Plan*
- TC — *Install 6"x8"x18" terminal cabinet with sectional terminal blocks as connectors.*

4/89 As Constructed (Original Copy in File) (C10552)

REGISTERED PROFESSIONAL ENGINEER 3893 OREGON NOV. 4, 1958 L. E. GEORGE 10/13/86

DESIGNED BY OG
CHECKED BY W.E.
DRAWN BY T.E. Holsey

OREGON STATE HIGHWAY DIVISION
TRAFFIC ENGINEERING SECTION

TRAFFIC SIGNAL INSTALLATION
S.C.L. MEDFORD - PHOENIX SEC.
ROGUE VALLEY HIGHWAY
JACKSON HIGHWAY

DATE

T.E. DWG NO 9274

DETECTOR PLAN
ROGUE VALLEY HWY. AT LOWRY LANE
OR 99 (HWY. 63) M.P. 9.14

METRIC

L E G E N D

CONTROLLERS

- EX/C — Retain and protect existing Model 170 controller and Model 332 cabinet
- DA/N — Install (N=number) loop detector amplifier in existing controller cabinet

JUNCTION BOXES

- EX/J1 — Retain and protect existing 440 mm x 265 mm x 305 mm precast concrete junction box
- EX/JB — Retain and protect existing junction box
- JB/1 — Install 440 mm x 265 mm x 305 mm (min. dimension) precast concrete junction box
- RX/JB — Remove existing junction box
- SP/S — Install 150 mm max. sand pocket block-out with (S=size) mm conduit to junction box

LOOPS

- EX/LPh — Retain and protect existing phase (Ph=phase) vehicle detector loop
- LD/Ph — Install phase (Ph=phase) 1.2 m diamond or 1.8 m round vehicle detector loop

WIRES

- EX/X-Ph — Retain and protect existing (X=number of cables) phase (Ph=phase) loop feeder cables
- LF/X-Ph — Install (X=number of cables) phase (Ph=phase) loop feeder cables
- N/LW — Install (N=number) pair of loop wires
- RX/X-Ph — Remove (X=) number (Ph=) loop feeder cables

CONDUITS

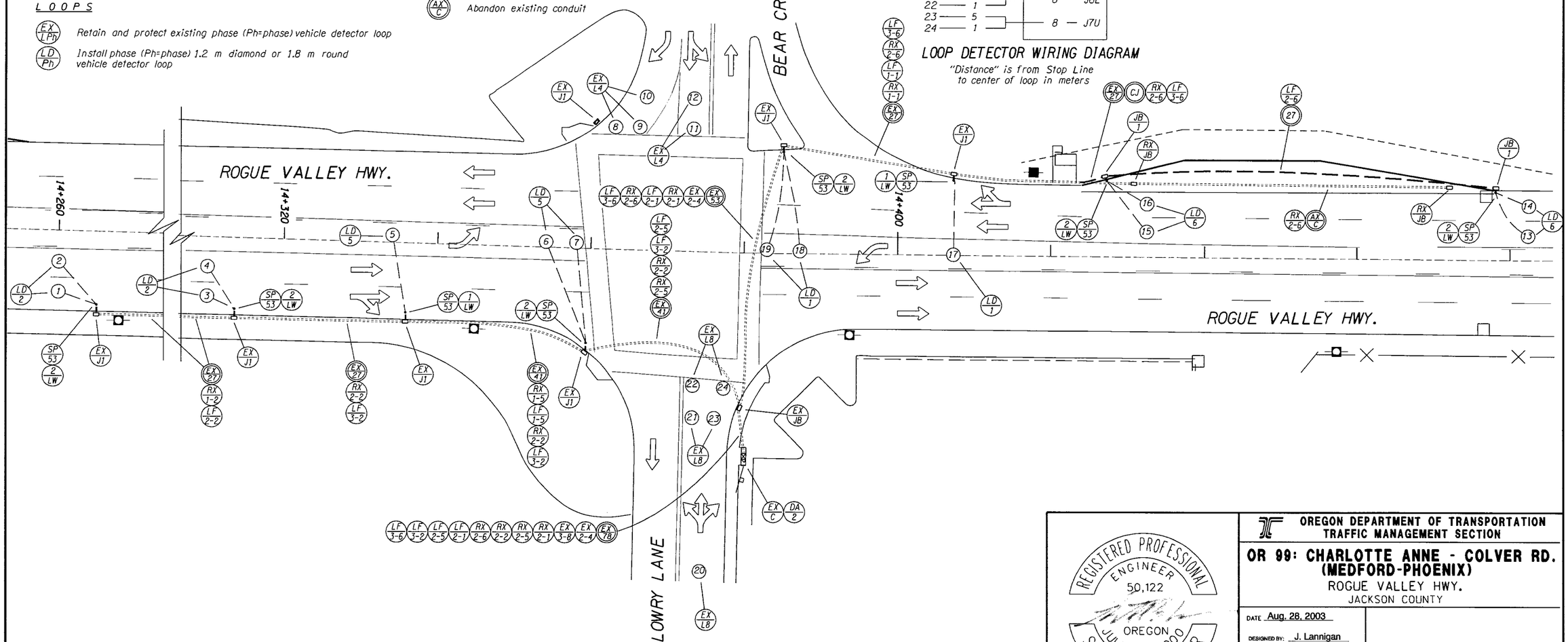
- EX/S — Retain and protect existing electrical conduit size (S=size) mm
- S — Install (S=size) mm electrical conduit
- CJ — Splice new electrical conduit to existing electrical conduit
- AX/C — Abandon existing conduit

Loop Number	Distance Meters	Phase	Slot
1	100	2	12U
2	100	2	12L
3	50	2	13U
4	50		
5	25	5	J1U
6	5	5	J9U
7	1		
8	1	4	I6U
9	1		
10	5		
11	1	4	I6L
12	5		
13	100	6	J2U
14	100	6	J2L
15	50	6	J3U
16	50		
17	25	1	I1U
18	5	1	I9U
19	1		
20	25	8	J6U
21	5	8	J6L
22	1		
23	5	8	J7U
24	1		

Controller Cabinet

LOOP DETECTOR WIRING DIAGRAM

"Distance" is from Stop Line to center of loop in meters



REGISTERED PROFESSIONAL ENGINEER 50,122 OREGON JULY 11, 2000 SCOTT B. CRAMER Expires Dec. 31, 2003

OREGON DEPARTMENT OF TRANSPORTATION
TRAFFIC MANAGEMENT SECTION

OR 99: CHARLOTTE ANNE - COLVER RD. (MEDFORD-PHOENIX)
ROGUE VALLEY HWY.
JACKSON COUNTY

DATE Aug. 28, 2003
DESIGNED BY: J. Lannigan
REVIEWED BY: T. Jenkins
DRAWN BY: J. Lannigan
FC: 63:9.14
Str. ID No.
T.M.S. DWG. NO. 13273

17006

SIGNAL PLAN LEGEND
N. PHOENIX RD. AT I-5 (S.B.) RAMPS
I-5, M.P. 24.64
(PHOENIX)

L E G E N D

CONTROLLERS
- (332) Install a model 332 cabinet & control equipment with riser frame, orient louvered door as shown
- (C/2070) Install model 2070 controller in model 332 cabinet
- (DIN) Install rack mount DIN bracket and DIN rail components, see details

POLES
- (MA/L) Install (L=length) foot traffic signal mast arm
- (LA/L) Install (L=length) foot luminaire arm
- (SM/T) Install (T=type) standard traffic signal mast arm pole (See, "Pole Entrance Chart")
- (PP) Install pedestrian signal pedestal with frangible base
- (LPX) See illumination plans for special (X=non-standard) luminaire pole installation.
- (VP) Install vehicle signal pedestal with transformer base

CABINETS
- (TC) Install terminal cabinet
- (C/300) See illumination plans for base mounted service cabinet installation.
- (CC) Camera Cabinet (See Traffic Camera Plan)

SIGNALS
- (V/Ph) Install phase (Ph=phase) polycarbonate vehicle signal
- (C/B/Ph) Install phase (Ph=phase) polycarbonate countdown pedestrian signal with clamshell mount and pushbutton with 'H' mount

SIGNS
- (AL/3) Install aluminum (30"x36", type "W7") "NO TURN ON RED" sign (OR10-11A)
- (AL/5T) Install aluminum (30"x36", type "W7") through arrow "ONLY" sign (OR3-5T)

JUNCTION BOXES
- (JB/2) Install 22"x12"x12" (min. dimension) precast concrete junction box
- (JB/3/T) Install tandem 30"x17"x12" (min. dimension) precast concrete junction boxes (See TM472 for details)
- (JB/DP) Junction box (See Detector Plan)

FIRE PREEMPTION
- (FN/Ch) Install, (N=number) direction, channel (Ch=channel) fire preemption detector unit
- (FF/Ch) Install channel (Ch=channel) fire preemption detector feeder cable

CONDUITS
- (CS) Install 2" conduit stub (For future use-cap ends)
- (DC) Detector conduit (See Detector Plan)
- (S) Install (S=size) inch electrical conduit

WIRES
- [N-C] Install (N=number) No. 8 type THWN (Signal system common)
- [N-12C] Install (N=number) No. 12 type THWN (Pedestrian pedestal signal system common)
- [N/G] Install (N=number) No. (G=AWG wire size) type THWN wires
- [N|G] Install (N=number) No. (G=AWG wire size) type XHHW wires
- (Ph) Includes 3 spare wires for phase (Ph=phase) as per table
- [PL] Install poly pull line

LUMINAIRES
- (LED) Install 160 watt light emitting diode luminaire, type III, (See special provisions). Bond luminaire to pole grounding terminal with No. 10 AWG THWN wire
- (PE/1) Install photocontrol electronic relay on pole, as per std. dwg. TM465

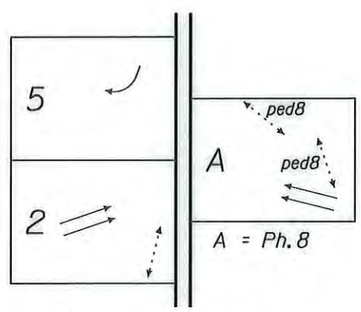
MISCELLANEOUS NOTES
✳ conduit for future use - cap ends

SIGNAL MOUNTING OPTIONS
B = Adjustable signal bracket assembly w/rain cap(s) (Install 1 inch metallic chase nipple)

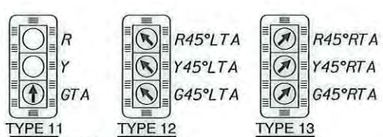
SIGN MOUNTING OPTIONS
AB = Adjustable sign bracket assembly w/rain cap(s)

SIGNAL HEAD TYPES
3R = 12" RRTA, 12" YRTA, 12" GRTA

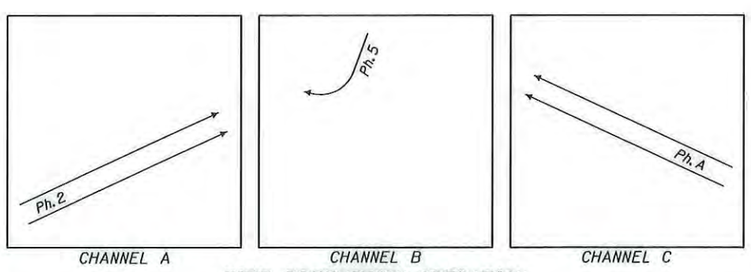
NOTE:
See TRS Dwg. 17007 for Signal plan



NORMAL PHASE ROTATION



R = Red circular
Y = Yellow circular
GTA = Green through arrow
R45°LTA = Red 45° left turn arrow
Y45°LTA = Yellow 45° left turn arrow
G45°LTA = Green 45° left turn arrow
R45°RTA = Red 45° right turn arrow
Y45°RTA = Yellow 45° right turn arrow
G45°RTA = Green 45° right turn arrow



FIRE PREEMPTION OPERATION

Traffic Section Approval

REGISTERED PROFESSIONAL ENGINEER 51,322 OREGON JULY 9, 2001 TRENTON B. GLICK

EXPIRES: JUNE 30, 2015

OREGON DEPARTMENT OF TRANSPORTATION
TRAFFIC - ROADWAY SECTION

REGION 3 - TECH CENTER

FFO-I-5: FERN VALLEY INTERCHANGE, UNIT 2
PACIFIC HIGHWAY
JACKSON COUNTY

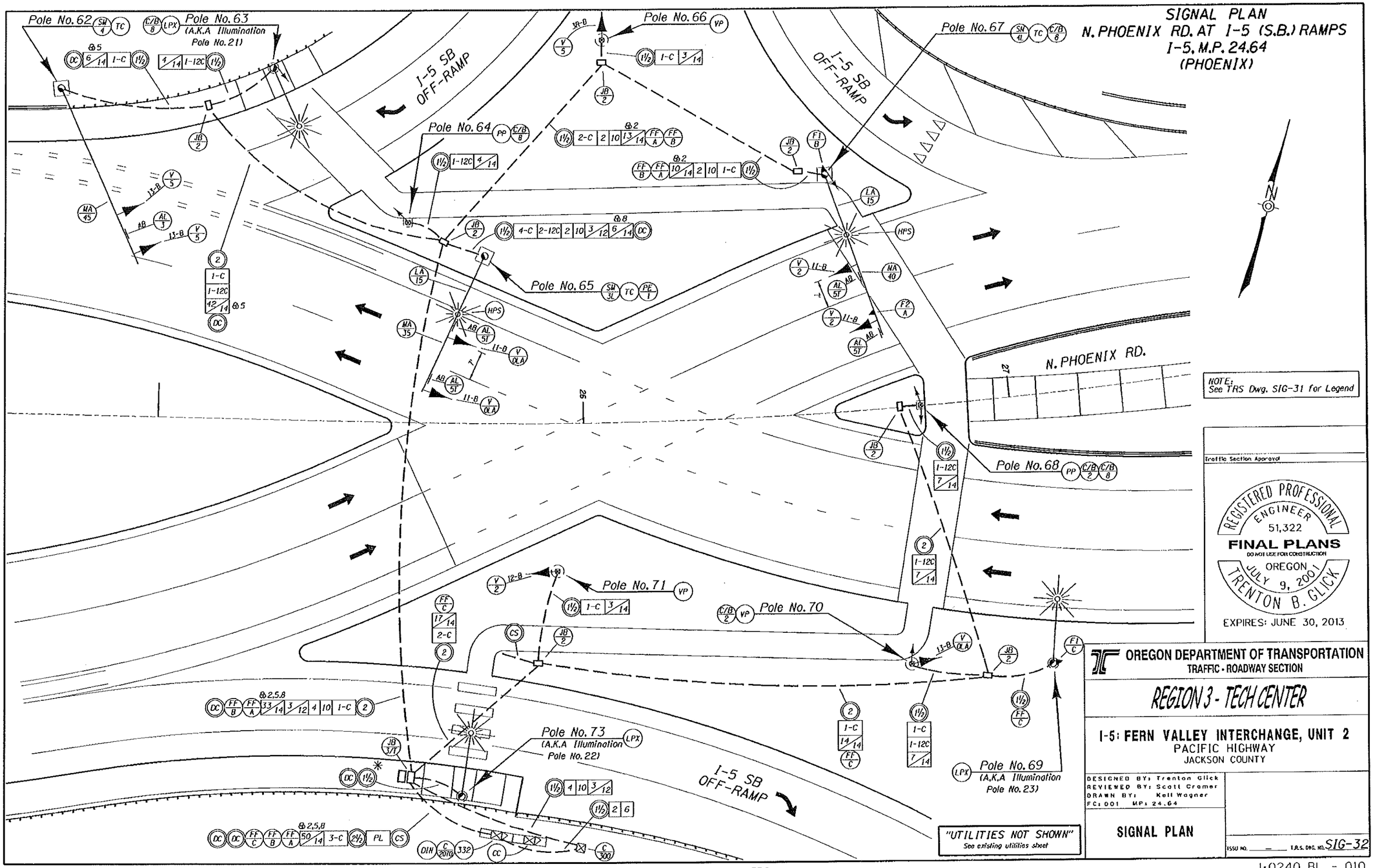
DESIGNED BY: Trenton Glick
REVIEWED BY: Scott Cramer
DRAWN BY: Kell Wagner
FC: 001 MP: 24.64

SIGNAL PLAN LEGEND

TSSU NO. — T.R.S. DWG. NO. 17006

17007

SIGNAL PLAN
N. PHOENIX RD. AT I-5 (S.B.) RAMPS
I-5, M.P. 24.64
(PHOENIX)



OREGON DEPARTMENT OF TRANSPORTATION
TRAFFIC - ROADWAY SECTION

REGION 3 - TECH CENTER

I-5: FERN VALLEY INTERCHANGE, UNIT 2
PACIFIC HIGHWAY
JACKSON COUNTY

DESIGNED BY: Trenton Glick
REVIEWED BY: Scott Cramer
DRAWN BY: Kell Wagner
FC: 001 MP: 24.64

SIGNAL PLAN

ISSU NO. — T.R.S. DWG. NO. SIG-32

F:\ODOT_DATA\Projects\KN_12723_Fern_Valley_Interchange\12723_Signal-Plan_tr.sgl :: Signal-Plans 10/16/2012 9:57:06 AM hwyr33f

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17008

DETECTOR PLAN
N. PHOENIX RD. AT I-5 (S.B.) RAMPS
I-5, M.P. 24.64
(PHOENIX)

VIDEO DETECTION LAYOUT DIAGRAM

1	2	3	4	5	6	7	8	9	
	VIP :A & B				VIP :C				"I" File Slot
									Device (VIP:T),(2 I/O:T) or (4 I/O:T)
	180'	50'*			135'	10'			(D')
	Ø2-A VD 9 VD 10 Ø2-A	Ø2-B VD 11 VD 12 Ø2-B			Ø5-C VD 14 VD 15 Ø5-C	Ø5-C VD 16 VD 17 Ø5-C			Phase - T Voyage Detector Voyage Detector Phase - T
	180'	50'			75'	50'*			(D')
1	2	3	4	5	6	7	8	9	"J" File Slot
					VIP :D		4 I/O :D		Device (VIP:T),(2 I/O:T) or (4 I/O:T)
					140'*	75'	10'	10'	(D')
					Ø8-D VD 24 VD 25 Ø8-D	Ø8-D VD 26 VD 27 Ø8-D	Ø8-D VD 28	Ø8-D VD 6 VD 8 Ø8-D	Phase - T Voyage Detector Voyage Detector Phase - T
					140'*	75'		50'	(D')

* = Non-Standard zone placement

VIP = Video Image Processor
2 I/O = 2 channel Input/Output Module
4 I/O = 4 channel Input/Output Module
T = Camera
D = "Distance" is from stop line to center of zone in feet

L E G E N D

CONTROLLERS
- (C) Controller (See Signal Plan)

POLES
- (SM) Standard traffic signal mast arm pole (See signal plan)
- (LPX) See illumination plans for special (X=non-standard) luminaire pole installation.

VIDEO DETECTION
- (Ph/X) Install phase (Ph=Phase) video detection zone on camera (T=Camera) with Voyage detector number (X= number)

VIDEO DETECTION CAMERAS
- (CAM/T) Install video detector camera (T=Camera)

JUNCTION BOXES
- (JB/SP) Junction box (See Signal Plan)
- (JB/1) Install 17"x10"x12" (min. dimension) precast concrete junction box
- (JB/2) Install 22"x12"x12" (min. dimension) precast concrete junction box

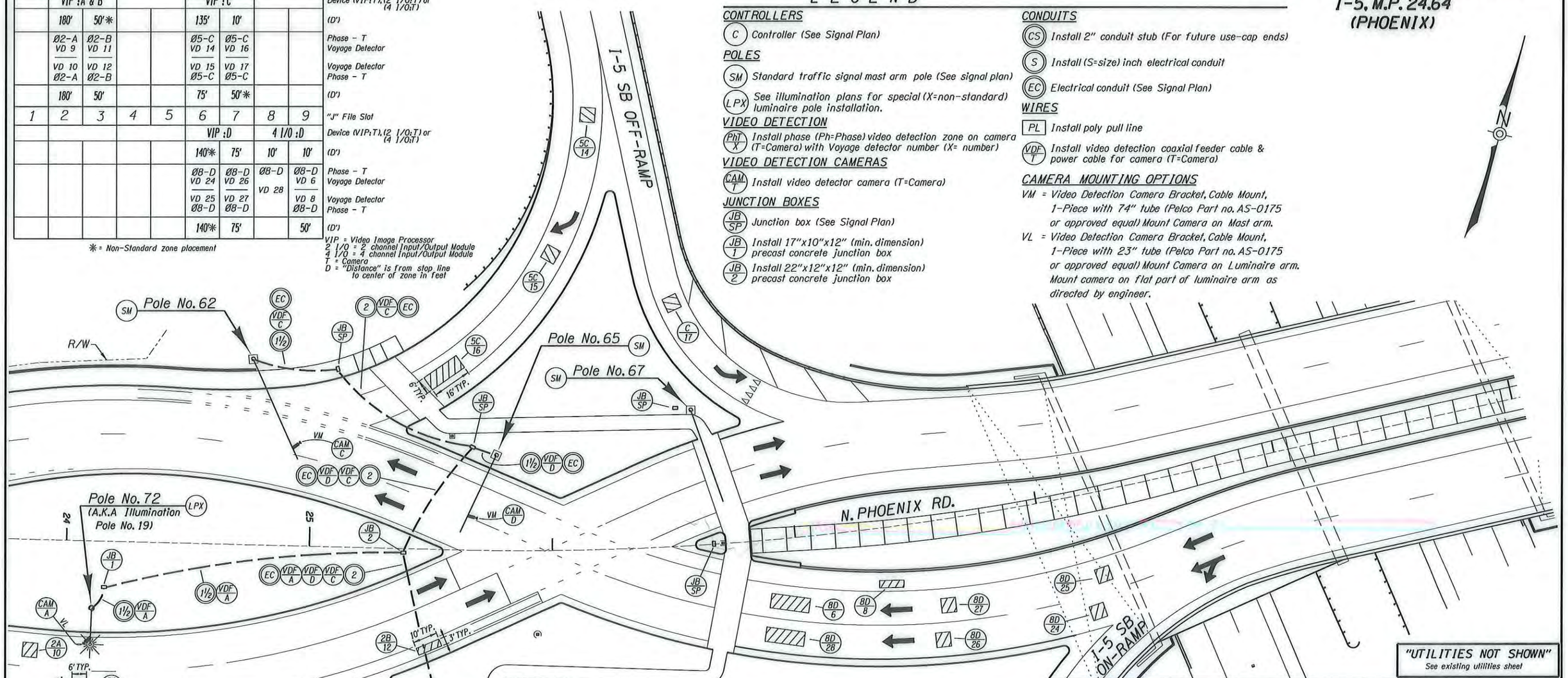
CONDUITS
- (CS) Install 2" conduit stub (For future use-cap ends)
- (S) Install (S=size) inch electrical conduit
- (EC) Electrical conduit (See Signal Plan)

WIRES
- [PL] Install poly pull line
- (VDF/T) Install video detection coaxial feeder cable & power cable for camera (T=Camera)

CAMERA MOUNTING OPTIONS

VM = Video Detection Camera Bracket, Cable Mount, 1-Piece with 74" tube (Pelco Part no. AS-0175 or approved equal) Mount Camera on Mast arm.

VL = Video Detection Camera Bracket, Cable Mount, 1-Piece with 23" tube (Pelco Part no. AS-0175 or approved equal) Mount Camera on Luminaire arm. Mount camera on flat part of luminaire arm as directed by engineer.



"UTILITIES NOT SHOWN"
See existing utilities sheet

Traffic Section Approval

REGISTERED PROFESSIONAL ENGINEER 51,322 OREGON JULY 9, 2001 TRENTON B. GLICK

EXPIRES: JUNE 30, 2015

OREGON DEPARTMENT OF TRANSPORTATION
TRAFFIC - ROADWAY SECTION

REGION 3 - TECH CENTER

FFO-I-5: FERN VALLEY INTERCHANGE, UNIT 2
PACIFIC HIGHWAY
JACKSON COUNTY

DESIGNED BY: Trenton Glick
REVIEWED BY: Scott Cromer
DRAWN BY: Kell Wagner
FC: 001 MP: 24.64

DETECTOR PLAN

TSSU NO. ____ T.R.S. DWG. NO. 17008

17013

SIGNAL PLAN LEGEND
N. PHOENIX RD. AT I-5 (N.B.) RAMPS
I-5, M.P. 24.64
(PHOENIX)

L E G E N D

CONTROLLERS

- (332) Install a model 332 cabinet & control equipment with riser frame, orient louvered door as shown
- (C/2070) Install model 2070 controller in model 332 cabinet
- (DIN) Install rack mount DIN bracket and DIN rail components, see details

POLES

- (MA/L) Install (L=length) foot traffic signal mast arm
- (LA/L) Install (L=length) foot luminaire arm
- (SM/T) Install (T=type) standard traffic signal mast arm pole (See, "Pole Entrance Chart")
- (PP) Install pedestrian signal pedestal with frangible base
- (LP) See illumination plans for luminaire pole installation.
- (LPX) See illumination plans for special (X=non-standard) luminaire pole installation.
- (VP) Install vehicle signal pedestal with transformer base

CABINETS

- (TC) Install terminal cabinet
- (C/400) See illumination plans for base mounted service cabinet installation.

SIGNALS

- (V/Ph) Install phase (Ph=phase) polycarbonate vehicle signal
- (C/B/Ph) Install phase (Ph=phase) polycarbonate countdown pedestrian signal with clamshell mount and pushbutton with 'H' mount

SIGNS

- (AL/3) Install aluminum (30"x36", type "W7") "NO TURN ON RED" sign (OR10-11A)
- (AL/5T) Install aluminum (30"x36", type "W7") through arrow "ONLY" sign (OR3-5T)

JUNCTION BOXES

- (JB/2) Install 22"x12"x12" (min. dimension) precast concrete junction box
- (JB/3/T) Install tandem 30"x17"x12" (min. dimension) precast concrete junction boxes (See TM472 for details)

FIRE PREEMPTION

- (FH/Ch) Install, (N=number) direction, channel (Ch=channel) fire preemption detector unit
- (FF/Ch) Install channel (Ch=channel) fire preemption detector feeder cable

CONDUITS

- (CS) Install 2" conduit stub (For future use-cap ends)
- (DC) Detector conduit (See Detector Plan)
- (S) Install (S=size) inch electrical conduit

WIRES

- [N-C] Install (N=number) No. 8 type THWN (Signal system common)
- [N-12C] Install (N=number) No. 12 type THWN (Pedestrian pedestal signal system common)
- [N/G] Install (N=number) No. (G=AWG wire size) type THWN wires
- [N|G] Install (N=number) No. (G=AWG wire size) type XHHW wires
- (Ph) Includes 3 spare wires for phase (Ph=phase) as per table
- [PL] Install poly pull line

LUMINAIRES

- (HPS) Install 250 watt high pressure sodium luminaire, type M-C-III, 120/240 dual voltage mag-regulator ballast. Bond luminaire to pole grounding terminal with No. 10 AWG THWN wire
- (PE/1) Install photocontrol electronic relay on pole, as per std. dwg. TM465

MISCELLANEOUS NOTES

* conduit for future use - cap ends

SIGNAL MOUNTING OPTIONS

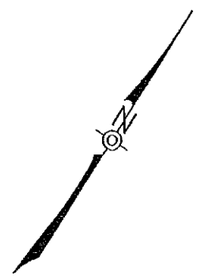
B = Adjustable signal bracket assembly w/rain cap(s) (Install 1 inch metallic chase nipple)

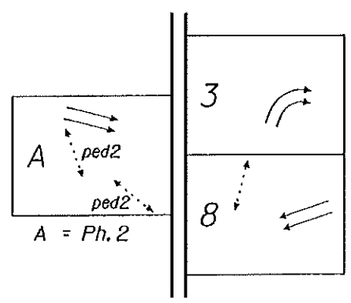
SIGN MOUNTING OPTIONS

AB = Adjustable sign bracket assembly w/rain cap(s)

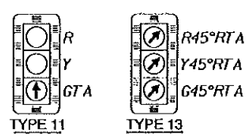
SIGNAL HEAD TYPES

3R = 12" RRTA, 12" YRTA, 12" GRTA



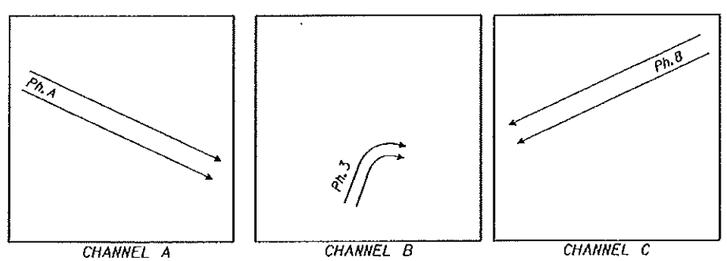


NORMAL PHASE ROTATION



TYPE 11 TYPE 13

R = Red circular
Y = Yellow circular
GTA = Green through arrow
R45°RTA = Red 45° right turn arrow
Y45°RTA = Yellow 45° right turn arrow
G45°RTA = Green 45° right turn arrow



CHANNEL A CHANNEL B CHANNEL C

FIRE PREEMPTION OPERATION

NOTE:
See TRS Dwg. SIG-39 for Signal plan

Traffic Section Approval

REGISTERED PROFESSIONAL ENGINEER 51,322 OREGON JULY 9, 2001 TRENTON B. GLICK

FINAL PLANS
DO NOT USE FOR CONSTRUCTION

EXPIRES: JUNE 30, 2013

OREGON DEPARTMENT OF TRANSPORTATION
TRAFFIC - ROADWAY SECTION

REGION 3 - TECH CENTER

I-5: FERN VALLEY INTERCHANGE, UNIT 2
PACIFIC HIGHWAY
JACKSON COUNTY

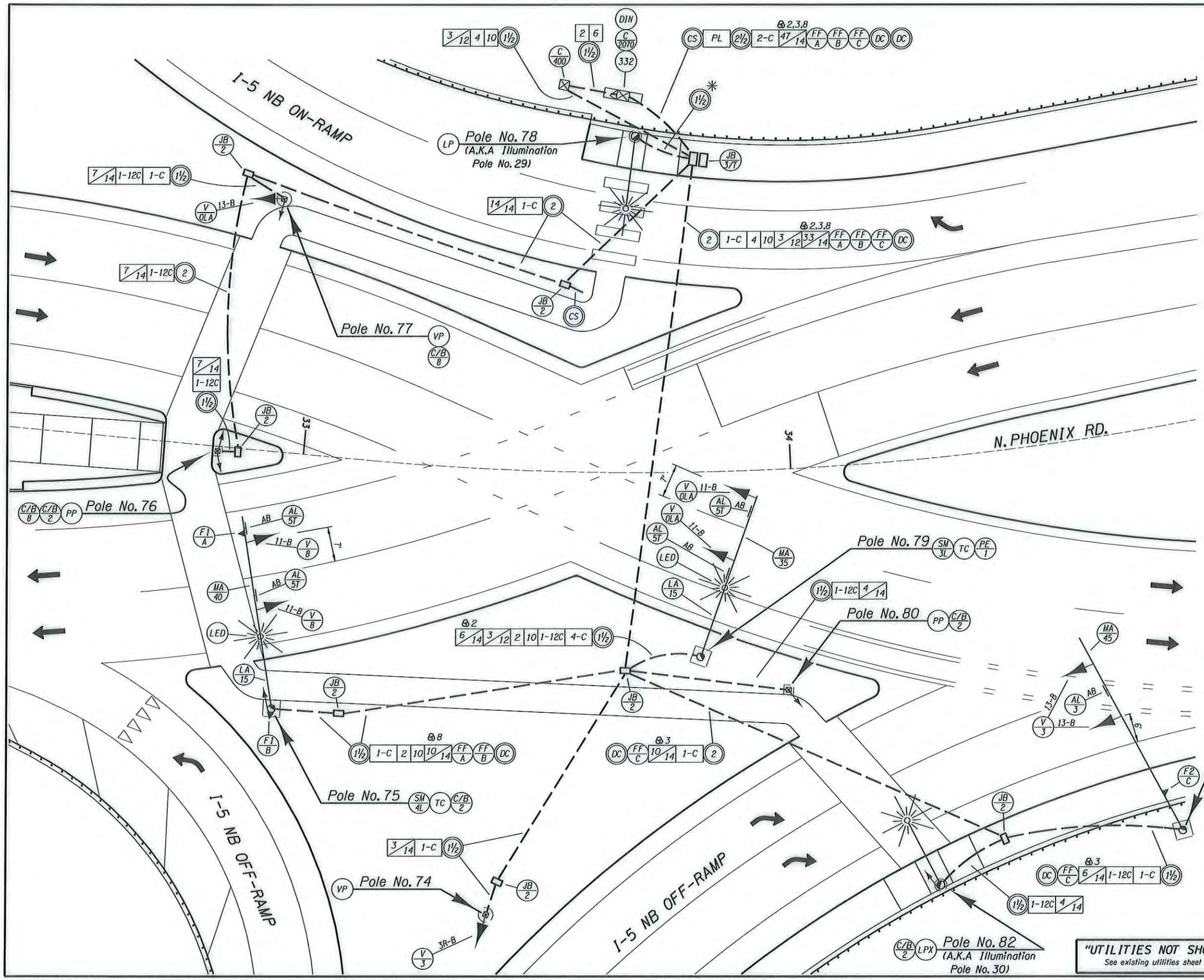
DESIGNED BY: Trenton Glick
REVIEWED BY: Scott Cramer
DRAWN BY: Kell Wagner
FC: 001 MP: 24.64

SIGNAL PLAN LEGEND

ISSU NO. ___ T.R.S. DWG. NO. SIG-38

17014

SIGNAL PLAN
N. PHOENIX RD. AT I-5 (N.B.) RAMPS
I-5, M.P. 24.64
(PHOENIX)



NOTE:
See TRS Dwg. 17013 for Legend

NOTE:
Signal Pole no. 81 won't be operational until Traffic Control Stage 7.

"UTILITIES NOT SHOWN"
See existing utilities sheet

Traffic Section Approval

REGISTERED PROFESSIONAL ENGINEER
51,322
OREGON
JULY 9, 2001
TRENTON B. GLICK
EXPIRES: JUNE 30, 2015

OREGON DEPARTMENT OF TRANSPORTATION
TRAFFIC - ROADWAY SECTION

REGION 3 - TECH CENTER

FFO-I-5: FERN VALLEY INTERCHANGE, UNIT 2
PACIFIC HIGHWAY
JACKSON COUNTY

DESIGNED BY: Trenton Glick
REVIEWED BY: Scott Cramer
DRAWN BY: Kell Wagner
FC: 001 MP: 24.64

SIGNAL PLAN

TSSU NO. — T.R.S. DWG. NO. 17014

17015

DETECTOR PLAN
N. PHOENIX RD. AT I-5 (N.B.) RAMPS
I-5, M.P. 24.64
(PHOENIX)

LEGEND

CONTROLLERS

- (C) Controller (See Signal Plan)

POLES

- (SM) Standard traffic signal mast arm pole (See signal plan)

VIDEO DETECTION

- (PhT/X) Install phase (Ph=Phase) video detection zone on camera (T=Camera) with Voyage detector number (X= number)

VIDEO DETECTION CAMERAS

- (CAM/T) Install video detector camera (T=Camera)

JUNCTION BOXES

- (JB/SP) Junction box (See Signal Plan)

CAMERA MOUNTING OPTIONS

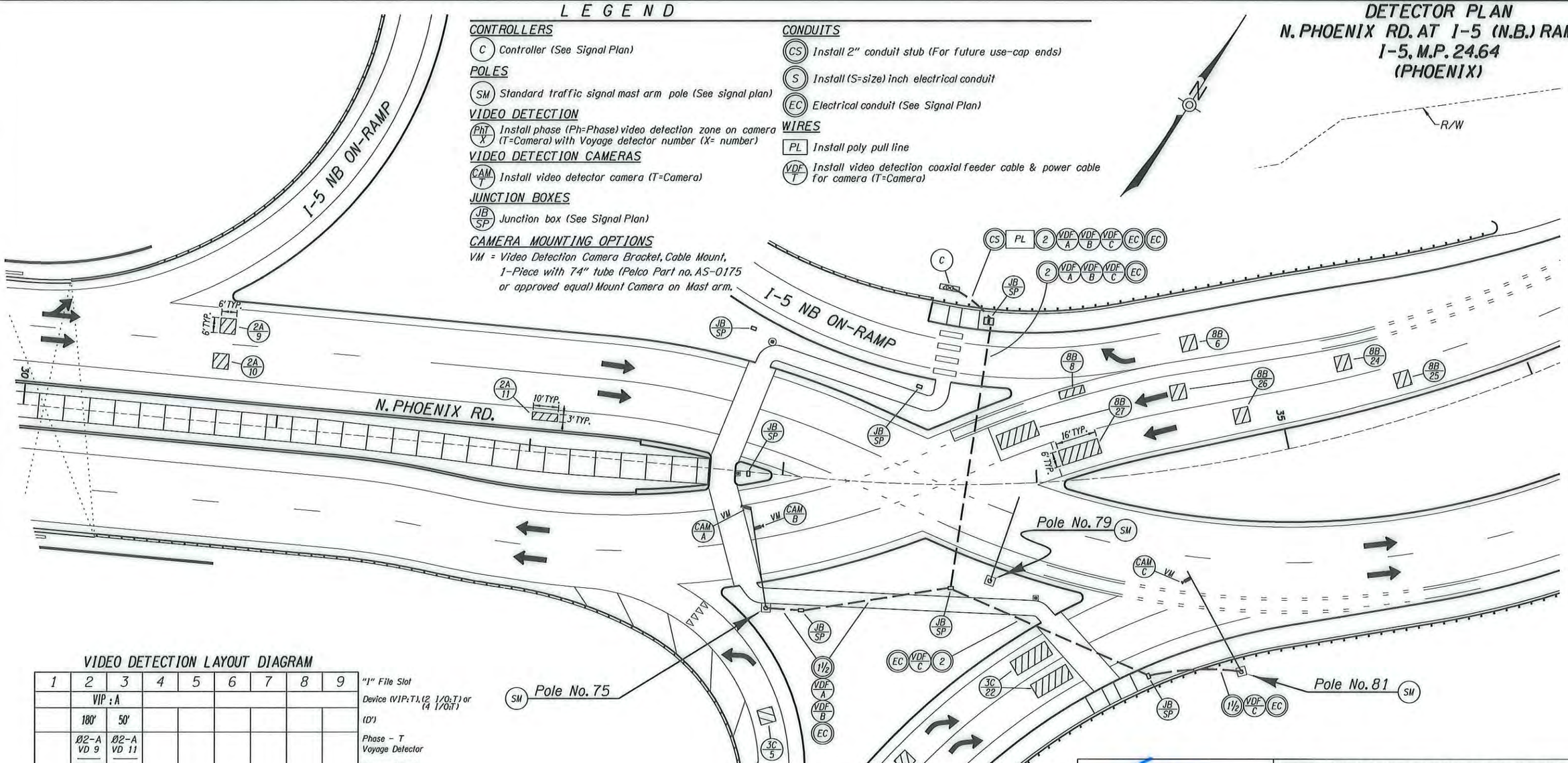
VM = Video Detection Camera Bracket, Cable Mount, 1-Piece with 74" tube (Pelco Part no. AS-0175 or approved equal) Mount Camera on Mast arm.

CONDUITS

- (CS) Install 2" conduit stub (For future use-cap ends)
- (S) Install (S=size) inch electrical conduit
- (EC) Electrical conduit (See Signal Plan)

WIRES

- [PL] Install poly pull line
- (VDF/T) Install video detection coaxial feeder cable & power cable for camera (T=Camera)



VIDEO DETECTION LAYOUT DIAGRAM

1	2	3	4	5	6	7	8	9	"I" File Slot
	VIP : A								Device (VIP:T),(2 I/O:T) or (4 I/O:T)
	180'	50'							(D')
	Ø2-A VD 9 — VD 10 Ø2-A	Ø2-A VD 11							Phase - T Voyage Detector Voyage Detector Phase - T
	180'								(D')
1	2	3	4	5	6	7	8	9	"J" File Slot
2 I/O :C	VIP : C				VIP : B		4 I/O : B		Device (VIP:T),(2 I/O:T) or (4 I/O:T)
50'*	135'	75'			140'*	75'		90'*	(D')
Ø3-C VD 5	Ø3-C VD 19 — VD 20 Ø3-C	Ø3-C VD 21 — VD 22 Ø3-C			Ø8-B VD 24 — VD 25 Ø8-B	Ø8-B VD 26 — VD 27 Ø8-B		Ø8-B VD 6 — VD 8 Ø8-B	Phase - T Voyage Detector Voyage Detector Phase - T
	135'	10'			140'*	10'		50'	(D')

* = Non-Standard zone placement

VIP = Video Image Processor
2 I/O = 2 channel Input/Output Module
4 I/O = 4 channel Input/Output Module
T = Camera
D = "Distance" is from stop line to center of zone in feet

"UTILITIES NOT SHOWN"
See existing utilities sheet

Traffic Section Approval

REGISTERED PROFESSIONAL ENGINEER 51,322 OREGON JULY 9, 2001 TRENTON B. GLICK

EXPIRES: JUNE 30, 2015

OREGON DEPARTMENT OF TRANSPORTATION
TRAFFIC - ROADWAY SECTION

REGION 3 - TECH CENTER

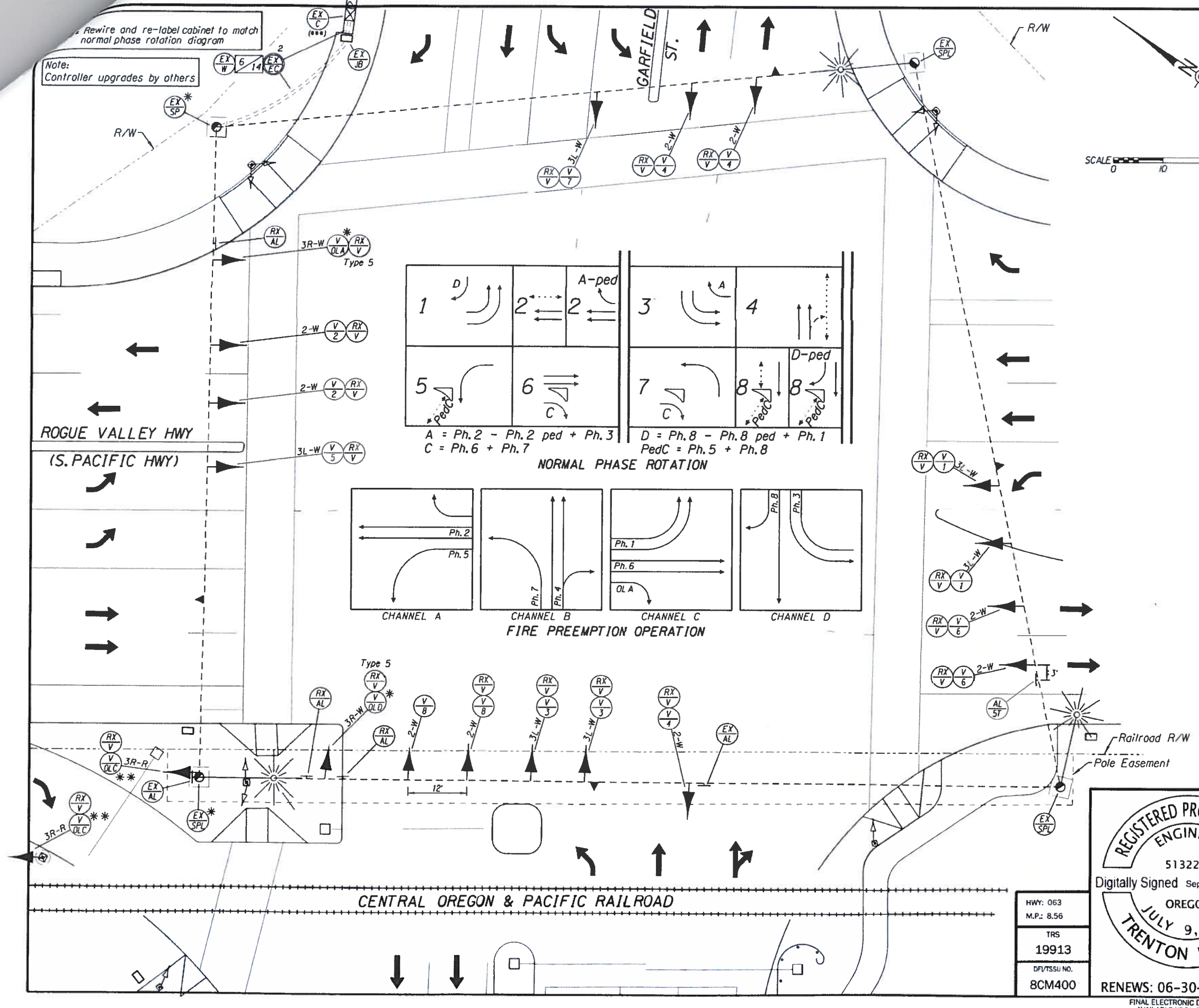
FFO-I-5: FERN VALLEY INTERCHANGE, UNIT 2
PACIFIC HIGHWAY
JACKSON COUNTY

DESIGNED BY: Trenton Glick
REVIEWED BY: Scott Cromer
DRAWN BY: Kell Wagner
FC: 001 MP: 24.64

DETECTOR PLAN

TSSU NO. — T.R.S. DWG. NO. 17015

SIGNAL PLAN
ROGUE VALLEY HWY. AT GARFIELD ST.
OR99, M.P. 8.56
(MEDFORD)



SCALE 0 10 20 40 FEET

LEGEND

CONTROLLERS

- EX/C — Retain and protect existing Model 2070 controller and Model 332 cabinet

POLES

- EX/SP — Retain and protect existing strain pole
- EX/SPL — Retain and protect existing strain pole (with illumination extension and luminaire)

SIGNALS

- V/Ph — Install phase (Ph=phase) heavy duty polycarbonate vehicle signal with 2" fluorescent yellow reflective sheeting on backboard per std. dwg. TM460
- RX/V — Remove existing vehicle signal

SIGNS

- EX/AL — Retain and protect existing aluminum sign
- AL/5T — Install aluminum (30"x36", type "W7") through arrow "ONLY" sign (R3-5A)
- RX/AL — Remove existing aluminum sign

JUNCTION BOXES

- EX/JB — Retain and protect existing junction box

CONDUITS

- EX/EC (S) — Retain and protect existing electrical conduit size (S=size) inch

WIRES

- EX/W — Retain and protect existing wiring
- N/G — Install (N=number) No. (G=AWG wire size) type THWN wires

MISCELLANEOUS NOTES

* = Re-land ex. type 5 signal head wiring to new type 3R in terminal cabinet to match normal phase rotation diagram.

** = Signal head phasing changed from OLA to OLC

SIGNAL HEAD TYPES

2 = 12" R, 12" Y, 12" G
3L = 12" RLTA, 12" YLTA, 12" GLTA
3R = 12" RRTA, 12" YRTA, 12" GRTA
5 = 12" R, 12" Y, 12" G, 12" YLTA, 12" GLTA

SIGNAL MOUNTING OPTIONS

W = New Spanwire hanger
R = Reuse existing mounting bracket

Scott B Cramer Sep 26 2018 2:47 PM
Traffic Section Approval

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

REGISTERED PROFESSIONAL ENGINEER
51322PE
Digitally Signed Sep 26 2018 1:02 PM
OREGON
JULY 9, 2001
TRENTON B. GLICK
RENEWS: 06-30-2019

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

SOUTHERN OREGON SIGNAL UPGRADES PROJECT
VARIOUS HIGHWAYS
VARIOUS COUNTYS

Designer: Trenton Glick
Reviewer: Scott Cramer
Drafter: Trenton Glick
Checker:

SIGNAL PLAN

SHEET NO. M08

HWY: 063
M.P.: 8.56
TRS 19913
DFI/TSSU NO. 8CM400

Rotation: 0° Scale: 1"=20'

APPENDIX G –

Detailed Analysis Worksheets

VOLUME TO CAPACITY RATIO TARGETS OUTSIDE METRO[17A, B, C, D]							
	STA[E]	**MPO**	**Non-MPO Outside of STAs where non-freeway posted speed <= 35 mph, or a Designated UBA**	**Non-MPO outside of STAs where non-freeway speed > 35 mph but < 45 mph**	**Non-MPO where non-freeway speed limit >= 45 mph**	**Unincorporated Communities[F]**	**Rural Lands**
Interstate Highways	N/A	0.85	N/A	N/A	0.80	0.70	0.70
Statewide Expressways	N/A	0.85	0.85	0.80	0.80	0.70	0.70
Freight Route on a Statewide Highway	0.90	0.85	0.85	0.80	0.80	0.70	0.70
Statewide (not a Freight Route)	0.95	0.90	0.90	0.85	0.80	0.75	0.70
Freight Route on a regional or District Highway	0.95	0.90	0.90	0.85	0.85	0.75	0.70
Expressway on a Regional or District Highway	N/A	0.90	N/A	0.85	0.85	0.75	0.70
Regional Highways	1.0	0.95	0.90	0.85	0.85	0.75	0.70
District/Local Interest Roads	1.0	0.95	0.95	0.90	0.90	0.80	0.75

Table 6: Volume to Capacity Ratio Targets for Peak Hour Operating Conditions

Notes for Table 6:

[A] Unless the Oregon Transportation Commission has adopted an alternative mobility target for the impacted facility, the mobility targets in Tables 6 are considered standards for purposes of determining compliance with OAR 660-012, the Transportation Planning Rule.

[B] For the purposes of this policy, the peak hour shall be the 30th highest annual hour. This approximates weekday peak hour traffic in larger urban areas. Alternatives to the 30th highest annual hour may be considered and established through alternative mobility target processes.

[C] Highway design requirements are addressed in the Highway Design Manual (HDM).

[D] See Action 1F.1 for additional technical details.

[E] Interstates and Expressways shall not be identified as Special Transportation Areas.

[F] For unincorporated communities inside MPO boundaries, MPO mobility targets shall apply.

[17] Table 6 was replaced in August 2005, part of OHP Amendment 05-16.

Alternative A
Synchro

2019

2022 No Build

2022 Build

2042 No Build

2042 Build

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	199	406	231	765	644	68	209	420	537	43	500	200
Future Volume (vph)	199	406	231	765	644	68	209	420	537	43	500	200
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3162	3325	1423	3162	3234		1646	3292	1458	1662	3129	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3162	3325	1423	3162	3234		1646	3292	1458	1662	3129	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	207	423	241	797	671	71	218	438	559	45	521	208
RTOR Reduction (vph)	0	0	199	0	4	0	0	0	424	0	22	0
Lane Group Flow (vph)	207	423	42	797	738	0	218	438	135	45	707	0
Confl. Peds. (#/hr)	2		2	2		2						
Heavy Vehicles (%)	2%	0%	3%	2%	1%	3%	1%	1%	2%	0%	2%	1%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8						6			
Actuated Green, G (s)	26.6	24.2	24.2	40.4	38.0		23.4	34.0	34.0	26.6	37.2	
Effective Green, g (s)	27.1	24.7	24.7	40.9	38.5		23.9	34.5	34.5	27.1	37.7	
Actuated g/C Ratio	0.19	0.17	0.17	0.29	0.27		0.17	0.24	0.24	0.19	0.26	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	1.5	4.2	4.2	1.5	4.2		1.5	2.5	2.5	1.5	2.5	
Lane Grp Cap (vph)	598	573	245	903	869		274	793	351	314	823	
v/s Ratio Prot	0.07	0.13		c0.25	c0.23		c0.13	0.13		0.03	c0.23	
v/s Ratio Perm			0.03						0.09			
v/c Ratio	0.35	0.74	0.17	0.88	0.85		0.80	0.55	0.38	0.14	0.86	
Uniform Delay, d1	50.4	56.2	50.5	48.9	49.6		57.3	47.6	45.5	48.4	50.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	5.4	0.5	9.9	8.2		13.8	0.7	0.5	0.1	8.8	
Delay (s)	50.5	61.6	51.0	58.8	57.8		71.1	48.3	46.0	48.5	59.0	
Level of Service	D	E	D	E	E		E	D	D	D	E	
Approach Delay (s)		56.0			58.3			51.3			58.4	
Approach LOS		E			E			D			E	

Intersection Summary			
HCM 2000 Control Delay	55.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	143.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	84.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	406	231	765	644	68	209	420	537	43	500	200
Future Volume (veh/h)	199	406	231	765	644	68	209	420	537	43	500	200
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1750	1709	1723	1736	1736	1736	1736	1723	1750	1723	1723
Adj Flow Rate, veh/h	207	423	241	797	671	71	218	438	559	45	521	208
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	0	3	2	1	1	1	1	2	0	2	2
Cap, veh/h	642	696	302	879	855	90	246	851	377	236	574	228
Arrive On Green	0.20	0.21	0.21	0.28	0.28	0.28	0.15	0.26	0.26	0.14	0.25	0.25
Sat Flow, veh/h	3183	3325	1444	3183	3010	318	1654	3299	1460	1667	2287	909
Grp Volume(v), veh/h	207	423	241	797	367	375	218	438	559	45	372	357
Grp Sat Flow(s),veh/h/ln	1591	1663	1444	1591	1650	1678	1654	1650	1460	1667	1637	1559
Q Serve(g_s), s	7.7	16.1	16.1	33.7	28.6	28.7	18.0	15.8	36.0	3.3	30.8	31.0
Cycle Q Clear(g_c), s	7.7	16.1	16.1	33.7	28.6	28.7	18.0	15.8	36.0	3.3	30.8	31.0
Prop In Lane	1.00		1.00	1.00		0.19	1.00		1.00	1.00		0.58
Lane Grp Cap(c), veh/h	642	696	302	879	469	477	246	851	377	236	411	391
V/C Ratio(X)	0.32	0.61	0.80	0.91	0.78	0.79	0.89	0.51	1.48	0.19	0.91	0.91
Avail Cap(c_a), veh/h	1278	1096	476	1278	544	553	308	851	377	311	422	402
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.6	49.9	27.9	48.7	46.0	46.1	58.2	44.3	51.7	52.8	50.7	50.9
Incr Delay (d2), s/veh	0.1	1.3	7.3	5.4	7.3	7.3	19.2	0.4	231.4	0.1	22.3	24.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	6.8	6.2	13.9	12.6	12.9	8.8	6.5	37.2	1.4	15.0	14.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.7	51.3	35.2	54.1	53.3	53.3	77.4	44.7	283.2	53.0	72.9	74.9
LnGrp LOS	D	D	D	D	D	D	E	D	F	D	E	E
Approach Vol, veh/h		871			1539			1215			774	
Approach Delay, s/veh		46.0			53.8			160.3			72.7	
Approach LOS		D			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.7	39.0	32.1	43.6	23.7	40.0	42.5	33.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	25.5	35.5	55.5	45.5	25.5	35.5	55.5	45.5
Max Q Clear Time (g_c+I1), s	20.0	33.0	9.7	30.7	5.3	38.0	35.7	18.1
Green Ext Time (p_c), s	0.2	1.5	0.6	8.4	0.1	0.0	2.3	10.5

Intersection Summary	
HCM 6th Ctrl Delay	85.0
HCM 6th LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	590	438	449	323	538	635	403	0	344	384	0	618
Future Volume (vph)	590	438	449	323	538	635	403	0	344	384	0	618
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	8.3	4.0	4.0	8.3	8.3		4.0	8.3		4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97		1.00	0.97		1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00		0.85	1.00		0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (prot)	3131	3260	1444	3162	3292	1458	3131		1458	3162		1430
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (perm)	3131	3260	1444	3162	3292	1458	3131		1458	3162		1430
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	621	461	473	340	566	668	424	0	362	404	0	651
RTOR Reduction (vph)	0	0	90	0	0	23	0	0	57	0	0	41
Lane Group Flow (vph)	621	461	383	340	566	645	424	0	305	404	0	610
Heavy Vehicles (%)	3%	2%	3%	2%	1%	2%	3%	0%	2%	2%	0%	4%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot		pm+ov	Prot		pm+ov
Protected Phases	3	8	6	7	4	2	6		7	2		3
Permitted Phases			8			4			6			2
Actuated Green, G (s)	23.7	19.4	51.5	26.9	22.6	54.7	32.1		59.0	32.1		55.8
Effective Green, g (s)	28.4	22.7	51.5	31.6	25.9	54.7	32.1		68.4	32.1		65.2
Actuated g/C Ratio	0.28	0.22	0.50	0.31	0.25	0.53	0.31		0.67	0.31		0.63
Clearance Time (s)	8.7	7.3	8.3	8.7	7.3	8.3	8.3		8.7	8.3		8.7
Vehicle Extension (s)	2.5	4.2	2.5	2.5	4.2	2.5	2.5		2.5	2.5		2.5
Lane Grp Cap (vph)	865	720	840	972	830	894	978		1027	988		963
v/s Ratio Prot	c0.20	0.14	0.14	c0.11	0.17	c0.23	0.14		0.09	0.13		0.18
v/s Ratio Perm			0.12			0.22			0.12			0.25
v/c Ratio	0.72	0.64	0.46	0.35	0.68	0.72	0.43		0.30	0.41		0.63
Uniform Delay, d1	33.5	36.3	16.5	27.6	34.7	18.2	28.1		7.1	27.8		11.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2	2.7	2.3	0.3	0.2	2.6	2.7	0.2		0.1	0.2		1.2
Delay (s)	36.2	38.6	16.8	27.7	37.3	20.9	28.3		7.3	28.0		12.7
Level of Service	D	D	B	C	D	C	C		A	C		B
Approach Delay (s)		31.0			28.3			18.6			18.5	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	25.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	102.7	Sum of lost time (s)	16.3
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	590	438	449	323	538	635	403	0	344	384	0	618
Future Volume (veh/h)	590	438	449	323	538	635	403	0	344	384	0	618
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1709	1723	1709	1723	1736	1723	1709	0	1723	1723	0	1695
Adj Flow Rate, veh/h	621	461	0	340	566	0	424	0	0	404	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	2	3	2	1	2	3	0	2	2	0	4
Cap, veh/h	906	920		1046	1066		587	0		565	0	
Arrive On Green	0.29	0.28	0.00	0.33	0.32	0.00	0.19	0.00	0.00	0.18	0.00	0.00
Sat Flow, veh/h	3158	3273	1448	3183	3299	1460	3158	424		3183	404	
Grp Volume(v), veh/h	621	461	0	340	566	0	424	31.8		404	32.2	
Grp Sat Flow(s),veh/h/ln	1579	1637	1448	1591	1650	1460	1579	C		1591	C	
Q Serve(g_s), s	13.9	9.4	0.0	6.4	11.2	0.0	10.1			9.5		
Cycle Q Clear(g_c), s	13.9	9.4	0.0	6.4	11.2	0.0	10.1			9.5		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	906	920		1046	1066		587			565		
V/C Ratio(X)	0.69	0.50		0.32	0.53		0.72			0.72		
Avail Cap(c_a), veh/h	1227	1682		1236	1695		1452			1464		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00			1.00		
Uniform Delay (d), s/veh	25.3	24.0	0.0	20.1	22.1	0.0	30.5			30.9		
Incr Delay (d2), s/veh	0.7	0.6	0.0	0.1	0.6	0.0	1.3			1.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	5.0	3.5	0.0	2.3	4.2	0.0	3.6			3.5		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.0	24.7	0.0	20.3	22.7	0.0	31.8			32.2		
LnGrp LOS	C	C		C	C		C			C		
Approach Vol, veh/h		1082	A		906	A						
Approach Delay, s/veh		25.4			21.8							
Approach LOS		C			C							

Timer - Assigned Phs	1		3	4	5		7	8
Phs Duration (G+Y+Rc), s	23.1		26.9	29.8	22.5		30.2	26.4
Change Period (Y+Rc), s	8.3		* 8.7	7.3	8.3		* 8.7	7.3
Max Green Setting (Gmax), s	36.7		* 26	37.7	36.7		* 26	37.7
Max Q Clear Time (g_c+I1), s	12.1		15.9	13.2	11.5		8.4	11.4
Green Ext Time (p_c), s	2.8		2.3	9.3	2.6		1.4	7.7

Intersection Summary	
HCM 6th Ctrl Delay	26.2
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	171	897	28	70	938	551	25	15	53	527	26	330
Future Volume (vph)	171	897	28	70	938	551	25	15	53	527	26	330
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	4.5	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.88		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1630	3214		1662	3197	1409	1599	1500		3162	1454	
Flt Permitted	0.14	1.00		0.22	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	235	3214		385	3197	1409	1599	1500		3162	1454	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	178	934	29	73	977	574	26	16	55	549	27	344
RTOR Reduction (vph)	0	2	0	0	0	332	0	48	0	0	254	0
Lane Group Flow (vph)	178	961	0	73	977	242	26	23	0	549	117	0
Confl. Peds. (#/hr)	12		2	2		12	5					5
Heavy Vehicles (%)	2%	3%	0%	0%	4%	2%	4%	7%	2%	2%	4%	2%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)	52.2	42.2		42.1	36.6	36.6	2.6	11.1		15.0	23.5	
Effective Green, g (s)	52.7	42.7		43.1	37.1	36.6	3.1	11.6		15.5	24.0	
Actuated g/C Ratio	0.57	0.47		0.47	0.40	0.40	0.03	0.13		0.17	0.26	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	1.5	4.2		2.5	4.2	4.2	2.5	2.5		2.5	1.5	
Lane Grp Cap (vph)	311	1494		264	1292	561	53	189		533	380	
v/s Ratio Prot	c0.07	0.30		0.02	c0.31		0.02	0.02		c0.17	c0.08	
v/s Ratio Perm	0.26			0.11		0.17						
v/c Ratio	0.57	0.64		0.28	0.76	0.43	0.49	0.12		1.03	0.31	
Uniform Delay, d1	13.4	18.7		14.1	23.5	20.0	43.6	35.6		38.1	27.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.6	1.1		0.4	2.8	0.8	5.1	0.2		46.9	0.2	
Delay (s)	15.0	19.9		14.5	26.3	20.9	48.7	35.8		85.0	27.4	
Level of Service	B	B		B	C	C	D	D		F	C	
Approach Delay (s)		19.1			23.8			39.2			61.8	
Approach LOS		B			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	32.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	91.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	171	897	28	70	938	551	25	15	53	527	26	330
Future Volume (veh/h)	171	897	28	70	938	551	25	15	53	527	26	330
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1709	1709	1750	1695	1723	1695	1654	1654	1723	1695	1695
Adj Flow Rate, veh/h	178	934	29	73	977	574	26	16	55	549	27	344
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	3	3	0	4	2	4	7	7	2	4	4
Cap, veh/h	307	1752	54	373	1670	740	51	27	94	474	21	271
Arrive On Green	0.08	0.55	0.54	0.05	0.52	0.51	0.03	0.08	0.08	0.15	0.20	0.20
Sat Flow, veh/h	1641	3214	100	1667	3221	1443	1615	322	1108	3183	105	1338
Grp Volume(v), veh/h	178	472	491	73	977	574	26	0	71	549	0	371
Grp Sat Flow(s),veh/h/ln	1641	1624	1690	1667	1611	1443	1615	0	1430	1591	0	1443
Q Serve(g_s), s	4.6	17.5	17.5	1.9	19.7	30.2	1.5	0.0	4.5	14.0	0.0	19.0
Cycle Q Clear(g_c), s	4.6	17.5	17.5	1.9	19.7	30.2	1.5	0.0	4.5	14.0	0.0	19.0
Prop In Lane	1.00		0.06	1.00		1.00	1.00		0.77	1.00		0.93
Lane Grp Cap(c), veh/h	307	885	921	373	1670	740	51	0	121	474	0	292
V/C Ratio(X)	0.58	0.53	0.53	0.20	0.59	0.78	0.51	0.00	0.59	1.16	0.00	1.27
Avail Cap(c_a), veh/h	546	885	921	662	1749	776	241	0	213	474	0	292
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.0	13.7	13.7	10.5	15.6	18.5	44.8	0.0	41.6	40.0	0.0	37.7
Incr Delay (d2), s/veh	0.6	0.9	0.8	0.2	0.6	5.2	5.8	0.0	3.3	92.1	0.0	146.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	6.0	6.3	0.6	6.8	10.2	0.7	0.0	1.7	11.5	0.0	18.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.7	14.6	14.5	10.7	16.3	23.7	50.5	0.0	44.9	132.1	0.0	184.0
LnGrp LOS	B	B	B	B	B	C	D	A	D	F	A	F
Approach Vol, veh/h		1141			1624			97			920	
Approach Delay, s/veh		14.4			18.6			46.4			153.0	
Approach LOS		B			B			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	12.0	8.8	55.2	7.0	23.0	11.3	52.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	13.5	20.5	50.5	13.5	13.5	20.5	50.5
Max Q Clear Time (g_c+I1), s	16.0	6.5	3.9	19.5	3.5	21.0	6.6	32.2
Green Ext Time (p_c), s	0.0	0.1	0.2	17.9	0.0	0.0	0.3	16.0

Intersection Summary	
HCM 6th Ctrl Delay	50.8
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	182	104	134	227	326	61	622	65	262	839	57
Future Volume (vph)	102	182	104	134	227	326	61	622	65	262	839	57
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95		0.97	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1646	3090		1630	1733	1462	1662	3215		3162	3252	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1646	3090		1630	1733	1462	1662	3215		3162	3252	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	105	188	107	138	234	336	63	641	67	270	865	59
RTOR Reduction (vph)	0	72	0	0	0	282	0	5	0	0	3	0
Lane Group Flow (vph)	105	223	0	138	234	54	63	703	0	270	921	0
Confl. Peds. (#/hr)	4		1	1		4	4		2	2		4
Heavy Vehicles (%)	1%	2%	0%	2%	1%	0%	0%	2%	0%	2%	1%	2%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases						4						
Actuated Green, G (s)	12.0	16.5		14.2	18.7	18.7	15.6	56.6		13.7	54.7	
Effective Green, g (s)	12.5	17.0		14.7	19.2	19.2	17.1	58.1		14.2	55.2	
Actuated g/C Ratio	0.10	0.14		0.12	0.16	0.16	0.14	0.48		0.12	0.46	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	5.5	5.5		4.5	4.5	
Vehicle Extension (s)	2.0	1.5		2.0	1.5	1.5	2.0	3.0		1.0	3.0	
Lane Grp Cap (vph)	171	437		199	277	233	236	1556		374	1495	
v/s Ratio Prot	0.06	0.07		c0.08	c0.14		0.04	c0.22		c0.09	c0.28	
v/s Ratio Perm						0.04						
v/c Ratio	0.61	0.51		0.69	0.84	0.23	0.27	0.45		0.72	0.62	
Uniform Delay, d1	51.4	47.6		50.5	49.0	44.0	45.9	20.4		51.0	24.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.5	0.4		8.2	19.7	0.2	0.2	0.2		5.7	1.9	
Delay (s)	56.0	48.1		58.6	68.6	44.1	46.1	20.6		56.7	26.3	
Level of Service	E	D		E	E	D	D	C		E	C	
Approach Delay (s)		50.1			55.1			22.7			33.2	
Approach LOS		D			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	37.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	64.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	182	104	134	227	326	61	622	65	262	839	57
Future Volume (veh/h)	102	182	104	134	227	326	61	622	65	262	839	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1736	1723	1723	1723	1736	1750	1750	1723	1723	1723	1736	1736
Adj Flow Rate, veh/h	105	188	107	138	234	336	63	641	67	270	865	59
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	2	2	2	1	0	0	2	2	2	1	1
Cap, veh/h	135	382	207	169	362	307	573	1407	147	338	731	50
Arrive On Green	0.08	0.19	0.18	0.10	0.21	0.21	0.34	0.47	0.46	0.11	0.23	0.23
Sat Flow, veh/h	1654	2043	1108	1641	1736	1475	1667	2990	312	3183	3132	214
Grp Volume(v), veh/h	105	149	146	138	234	336	63	350	358	270	456	468
Grp Sat Flow(s),veh/h/ln	1654	1637	1515	1641	1736	1475	1667	1637	1666	1591	1650	1696
Q Serve(g_s), s	7.5	9.8	10.4	9.9	14.8	25.0	3.1	17.3	17.4	9.9	28.0	28.0
Cycle Q Clear(g_c), s	7.5	9.8	10.4	9.9	14.8	25.0	3.1	17.3	17.4	9.9	28.0	28.0
Prop In Lane	1.00		0.73	1.00		1.00	1.00		0.19	1.00		0.13
Lane Grp Cap(c), veh/h	135	306	283	169	362	307	573	770	784	338	385	396
V/C Ratio(X)	0.78	0.49	0.52	0.82	0.65	1.09	0.11	0.46	0.46	0.80	1.18	1.18
Avail Cap(c_a), veh/h	207	341	316	205	362	307	573	770	784	530	385	396
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.44	0.44	0.44	0.79	0.79	0.79	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.1	43.6	44.1	52.7	43.5	47.5	26.9	21.4	21.5	52.4	46.0	46.0
Incr Delay (d2), s/veh	4.3	0.4	0.5	7.7	1.4	62.5	0.0	0.3	0.3	2.0	106.2	105.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	4.0	3.9	4.4	6.4	14.4	1.2	6.6	6.7	4.0	22.6	23.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.3	44.1	44.6	60.4	44.9	110.0	26.9	21.7	21.9	54.3	152.2	151.7
LnGrp LOS	E	D	D	E	D	F	C	C	C	D	F	F
Approach Vol, veh/h		400			708			771			1194	
Approach Delay, s/veh		48.0			78.8			22.2			129.9	
Approach LOS		D			E			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	45.2	32.0	13.8	29.0	16.8	60.5	16.3	26.4
Change Period (Y+Rc), s	5.5	4.5	4.5	4.5	4.5	5.5	4.5	4.5
Max Green Setting (Gmax), s	34.5	27.5	14.5	24.5	19.5	42.5	14.5	24.5
Max Q Clear Time (g_c+I1), s	5.1	30.0	9.5	27.0	11.9	19.4	11.9	12.4
Green Ext Time (p_c), s	0.1	0.0	0.1	0.0	0.3	8.6	0.1	1.6

Intersection Summary	
HCM 6th Ctrl Delay	80.4
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	137	312	214	60	342	44	313	578	68	94	740	161
Future Volume (vph)	137	312	214	60	342	44	313	578	68	94	740	161
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.94		1.00	0.98		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1646	3055		1630	3238		3131	3292	1411	1599	3204	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1646	3055		1630	3238		3131	3292	1411	1599	3204	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	141	322	221	62	353	45	323	596	70	97	763	166
RTOR Reduction (vph)	0	84	0	0	7	0	0	0	48	0	13	0
Lane Group Flow (vph)	141	459	0	62	391	0	323	596	22	97	916	0
Confl. Peds. (#/hr)	1		7	7		1			2	2		
Heavy Vehicles (%)	1%	1%	2%	2%	0%	7%	3%	1%	4%	4%	1%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases									6			
Actuated Green, G (s)	13.5	25.8		6.9	19.2		16.1	31.1	31.1	20.3	35.3	
Effective Green, g (s)	13.5	26.3		6.9	19.7		16.1	32.5	32.5	20.3	36.7	
Actuated g/C Ratio	0.13	0.26		0.07	0.19		0.16	0.32	0.32	0.20	0.36	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	5.4	5.4	4.0	5.4	
Vehicle Extension (s)	1.5	2.5		1.5	2.5		1.5	4.7	4.7	1.5	4.7	
Lane Grp Cap (vph)	217	787		110	625		494	1048	449	318	1152	
v/s Ratio Prot	c0.09	c0.15		0.04	0.12		c0.10	0.18		0.06	c0.29	
v/s Ratio Perm									0.02			
v/c Ratio	0.65	0.58		0.56	0.63		0.65	0.57	0.05	0.31	0.79	
Uniform Delay, d1	42.0	33.1		46.1	37.8		40.3	28.9	24.1	34.8	29.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	5.0	0.9		3.9	1.7		2.4	1.1	0.1	0.2	4.4	
Delay (s)	47.0	34.0		50.0	39.5		42.7	30.0	24.1	35.0	33.6	
Level of Service	D	C		D	D		D	C	C	D	C	
Approach Delay (s)		36.7			40.9			33.7			33.8	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	35.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	102.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	312	214	60	342	44	313	578	68	94	740	161
Future Volume (veh/h)	137	312	214	60	342	44	313	578	68	94	740	161
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1736	1736	1736	1723	1750	1750	1709	1736	1695	1695	1736	1736
Adj Flow Rate, veh/h	141	322	221	62	353	45	323	596	70	97	763	166
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	2	0	0	3	1	4	4	1	1
Cap, veh/h	173	458	307	78	553	70	398	1030	448	369	1117	243
Arrive On Green	0.10	0.24	0.24	0.05	0.19	0.18	0.13	0.31	0.31	0.23	0.41	0.40
Sat Flow, veh/h	1654	1883	1262	1641	2965	375	3158	3299	1434	1615	2693	586
Grp Volume(v), veh/h	141	281	262	62	197	201	323	596	70	97	467	462
Grp Sat Flow(s),veh/h/ln	1654	1650	1496	1641	1663	1677	1579	1650	1434	1615	1650	1630
Q Serve(g_s), s	7.9	14.8	15.3	3.6	10.4	10.6	9.5	14.4	2.6	4.7	22.0	22.1
Cycle Q Clear(g_c), s	7.9	14.8	15.3	3.6	10.4	10.6	9.5	14.4	2.6	4.7	22.0	22.1
Prop In Lane	1.00		0.84	1.00		0.22	1.00		1.00	1.00		0.36
Lane Grp Cap(c), veh/h	173	401	364	78	310	313	398	1030	448	369	684	676
V/C Ratio(X)	0.82	0.70	0.72	0.79	0.63	0.64	0.81	0.58	0.16	0.26	0.68	0.68
Avail Cap(c_a), veh/h	452	451	409	448	454	459	664	1595	694	369	798	788
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.7	32.8	33.2	44.8	35.7	35.8	40.5	27.5	13.9	30.1	22.7	23.0
Incr Delay (d2), s/veh	3.6	3.8	4.9	6.5	1.6	1.6	1.5	1.0	0.3	0.1	2.8	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	6.1	5.9	1.6	4.2	4.4	3.6	5.5	1.1	1.8	8.6	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.3	36.6	38.1	51.3	37.3	37.5	42.0	28.4	14.2	30.2	25.5	25.8
LnGrp LOS	D	D	D	D	D	D	D	C	B	C	C	C
Approach Vol, veh/h		684			460			989			1026	
Approach Delay, s/veh		39.0			39.2			31.8			26.1	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	43.4	13.9	21.8	25.7	33.7	8.5	27.1
Change Period (Y+Rc), s	* 4	5.4	4.0	4.5	* 4	5.4	4.0	4.5
Max Green Setting (Gmax), s	* 20	44.6	26.0	25.5	* 20	44.6	26.0	25.5
Max Q Clear Time (g_c+I1), s	11.5	24.1	9.9	12.6	6.7	16.4	5.6	17.3
Green Ext Time (p_c), s	0.5	13.9	0.2	3.0	0.1	11.6	0.1	3.1

Intersection Summary	
HCM 6th Ctrl Delay	32.6
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	298	49	560	498	235	65	511	473	325	567	33
Future Volume (vph)	56	298	49	560	498	235	65	511	473	325	567	33
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	3.5	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1630	3120		3162	1683	1417	1662	3228	1434	3162	3292	1403
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1630	3120		3162	1683	1417	1662	3228	1434	3162	3292	1403
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	60	320	53	602	535	253	70	549	509	349	610	35
RTOR Reduction (vph)	0	11	0	0	0	101	0	0	139	0	0	22
Lane Group Flow (vph)	60	362	0	602	535	152	70	549	370	349	610	13
Confl. Peds. (#/hr)									2	2		
Heavy Vehicles (%)	2%	4%	6%	2%	4%	5%	0%	3%	3%	2%	1%	6%
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases						8			2			6
Actuated Green, G (s)	7.1	22.0		27.0	41.9	57.3	7.9	26.7	53.7	15.4	34.2	41.3
Effective Green, g (s)	7.1	22.5		27.0	42.4	58.3	7.9	28.1	53.7	15.4	35.6	41.3
Actuated g/C Ratio	0.07	0.21		0.25	0.39	0.53	0.07	0.26	0.49	0.14	0.33	0.38
Clearance Time (s)	4.0	4.5		4.0	4.5	4.0	4.0	5.4	4.0	4.0	5.4	4.0
Vehicle Extension (s)	2.5	2.5		2.1	2.5	2.1	2.1	4.7	2.1	2.1	4.7	2.5
Lane Grp Cap (vph)	106	644		783	654	757	120	832	706	446	1075	531
v/s Ratio Prot	0.04	0.12		c0.19	c0.32	0.03	0.04	c0.17	0.13	c0.11	0.19	0.00
v/s Ratio Perm						0.08			0.13			0.01
v/c Ratio	0.57	0.56		0.77	0.82	0.20	0.58	0.66	0.52	0.78	0.57	0.02
Uniform Delay, d1	49.5	38.8		38.1	29.8	13.2	49.0	36.2	18.9	45.2	30.3	21.2
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.5	0.9		4.2	7.7	0.1	4.8	2.4	0.4	8.1	1.0	0.0
Delay (s)	55.0	39.7		42.3	37.5	13.3	53.8	38.6	19.3	53.3	31.4	21.2
Level of Service	D	D		D	D	B	D	D	B	D	C	C
Approach Delay (s)		41.8			35.2			30.8			38.7	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	35.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	109.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	72.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	298	49	560	498	235	65	511	473	325	567	33
Future Volume (veh/h)	56	298	49	560	498	235	65	511	473	325	567	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1695	1695	1723	1695	1682	1750	1709	1709	1723	1736	1668
Adj Flow Rate, veh/h	60	320	53	602	535	253	70	549	509	349	610	35
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	4	4	2	4	5	0	3	3	2	1	6
Cap, veh/h	76	627	103	702	679	769	89	843	674	426	1121	525
Arrive On Green	0.05	0.23	0.22	0.22	0.40	0.40	0.05	0.26	0.25	0.13	0.34	0.33
Sat Flow, veh/h	1641	2770	454	3183	1695	1425	1667	3247	1445	3183	3299	1411
Grp Volume(v), veh/h	60	185	188	602	535	253	70	549	509	349	610	35
Grp Sat Flow(s),veh/h/ln	1641	1611	1614	1591	1695	1425	1667	1624	1445	1591	1650	1411
Q Serve(g_s), s	3.6	10.0	10.3	18.2	27.7	10.0	4.2	15.1	24.6	10.7	15.0	1.6
Cycle Q Clear(g_c), s	3.6	10.0	10.3	18.2	27.7	10.0	4.2	15.1	24.6	10.7	15.0	1.6
Prop In Lane	1.00		0.28	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	76	364	365	702	679	769	89	843	674	426	1121	525
V/C Ratio(X)	0.79	0.51	0.52	0.86	0.79	0.33	0.78	0.65	0.75	0.82	0.54	0.07
Avail Cap(c_a), veh/h	262	418	419	985	1202	1208	349	843	674	636	1121	525
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.3	33.9	34.0	37.5	26.3	12.9	46.8	33.0	22.0	42.2	26.8	20.2
Incr Delay (d2), s/veh	12.6	0.8	0.8	4.3	1.6	0.2	6.7	2.3	5.5	3.4	0.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	3.9	4.0	7.3	10.9	3.0	1.8	5.9	10.3	4.2	5.7	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.9	34.7	34.9	41.9	27.9	13.1	53.6	35.3	27.6	45.6	27.6	20.3
LnGrp LOS	E	C	C	D	C	B	D	D	C	D	C	C
Approach Vol, veh/h		433			1390			1128			994	
Approach Delay, s/veh		38.2			31.2			33.0			33.7	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.4	30.0	26.1	26.7	9.4	38.0	8.6	44.1
Change Period (Y+Rc), s	4.0	* 5.4	4.0	4.5	4.0	* 5.4	4.0	4.5
Max Green Setting (Gmax), s	20.0	* 25	31.0	25.5	21.0	* 25	16.0	70.5
Max Q Clear Time (g_c+I1), s	12.7	26.6	20.2	12.3	6.2	17.0	5.6	29.7
Green Ext Time (p_c), s	0.7	0.0	1.9	2.8	0.1	4.5	0.1	9.9

Intersection Summary	
HCM 6th Ctrl Delay	33.1
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	0	17	5	0	9	6	1026	4	7	1124	20
Future Vol, veh/h	13	0	17	5	0	9	6	1026	4	7	1124	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	25	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	20	2	0	2	3	0	0	2	2
Mvmt Flow	14	0	18	5	0	10	6	1091	4	7	1196	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1779	2329	609	1718	2337	549	1217	0	0	1096	0	0
Stage 1	1221	1221	-	1106	1106	-	-	-	-	-	-	-
Stage 2	558	1108	-	612	1231	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.9	6.54	6.9	4.14	-	-	4.1	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.9	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.9	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.7	4.02	3.3	2.22	-	-	2.2	-	-
Pot Cap-1 Maneuver	52	37	438	48	36	485	569	-	-	644	-	-
Stage 1	191	251	-	196	284	-	-	-	-	-	-	-
Stage 2	482	284	-	406	248	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	50	36	438	45	35	485	569	-	-	643	-	-
Mov Cap-2 Maneuver	50	36	-	45	35	-	-	-	-	-	-	-
Stage 1	189	248	-	194	281	-	-	-	-	-	-	-
Stage 2	468	281	-	385	245	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	57	43.6	0.1	0.1
HCM LOS	F	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	569	-	-	100	108	643	-	-
HCM Lane V/C Ratio	0.011	-	-	0.319	0.138	0.012	-	-
HCM Control Delay (s)	11.4	-	-	57	43.6	10.7	-	-
HCM Lane LOS	B	-	-	F	E	B	-	-
HCM 95th %tile Q(veh)	0	-	-	1.2	0.5	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	8	1028	1	1	1145
Future Vol, veh/h	4	8	1028	1	1	1145
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	3	0	0	2
Mvmt Flow	4	9	1117	1	1	1245

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1743	559	0	0	1118	0
Stage 1	1118	-	-	-	-	-
Stage 2	625	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	79	478	-	-	632	-
Stage 1	279	-	-	-	-	-
Stage 2	501	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	79	478	-	-	632	-
Mov Cap-2 Maneuver	196	-	-	-	-	-
Stage 1	278	-	-	-	-	-
Stage 2	501	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.6	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	323	632	-
HCM Lane V/C Ratio	-	-	0.04	0.002	-
HCM Control Delay (s)	-	-	16.6	10.7	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	22	1007	12	41	1108
Future Vol, veh/h	10	22	1007	12	41	1108
Conflicting Peds, #/hr	1	0	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	24	1095	13	45	1204

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1796	555	0	0	1109	0
Stage 1	1103	-	-	-	-	-
Stage 2	693	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	73	480	-	-	637	-
Stage 1	284	-	-	-	-	-
Stage 2	463	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	68	480	-	-	636	-
Mov Cap-2 Maneuver	177	-	-	-	-	-
Stage 1	264	-	-	-	-	-
Stage 2	463	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.9	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	313	636	-
HCM Lane V/C Ratio	-	-	0.111	0.07	-
HCM Control Delay (s)	-	-	17.9	11.1	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.4	0.2	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	208	589	233	900	802	110	211	444	641	83	519	207
Future Volume (vph)	208	589	233	900	802	110	211	444	641	83	519	207
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3162	3325	1422	3162	3219		1646	3292	1458	1662	3129	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3162	3325	1422	3162	3219		1646	3292	1458	1662	3129	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	217	614	243	938	835	115	220	462	668	86	541	216
RTOR Reduction (vph)	0	0	192	0	6	0	0	0	101	0	23	0
Lane Group Flow (vph)	217	614	51	938	944	0	220	463	567	86	734	0
Confl. Peds. (#/hr)	2		2	2		2						
Heavy Vehicles (%)	2%	0%	3%	2%	1%	3%	1%	1%	2%	0%	2%	1%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	3	8		7	4		1	6	6 7	5	2	
Permitted Phases			8									
Actuated Green, G (s)	42.0	34.6	34.6	53.2	45.8		24.4	27.2	84.9	32.9	35.7	
Effective Green, g (s)	42.5	35.1	35.1	53.7	46.3		24.9	27.7	85.4	33.4	36.2	
Actuated g/C Ratio	0.26	0.21	0.21	0.32	0.28		0.15	0.17	0.51	0.20	0.22	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.5	1.5	1.5	2.5	1.5		1.5	1.5		4.2	1.5	
Lane Grp Cap (vph)	810	703	300	1023	898		247	549	750	334	682	
v/s Ratio Prot	0.07	0.18		c0.30	c0.29		0.13	c0.14	0.39	0.05	c0.23	
v/s Ratio Perm			0.04									
v/c Ratio	0.27	0.87	0.17	0.92	1.05		0.89	0.84	0.76	0.26	1.08	
Uniform Delay, d1	49.3	63.3	53.5	54.0	59.8		69.2	67.0	32.0	55.8	64.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	11.3	0.1	12.5	44.5		29.7	10.9	3.9	0.6	56.6	
Delay (s)	49.4	74.5	53.6	66.4	104.3		98.9	77.9	35.8	56.4	121.4	
Level of Service	D	E	D	E	F		F	E	D	E	F	
Approach Delay (s)		64.7			85.5			60.5			114.8	
Approach LOS		E			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	79.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	165.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	94.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	589	233	900	802	110	211	444	641	83	519	207
Future Volume (veh/h)	208	589	233	900	802	110	211	444	641	83	519	207
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1750	1709	1723	1736	1736	1736	1736	1723	1750	1723	1723
Adj Flow Rate, veh/h	217	614	243	938	835	115	220	462	668	86	541	216
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	0	3	2	1	1	1	1	2	0	2	2
Cap, veh/h	834	743	323	1006	808	111	242	604	729	301	496	198
Arrive On Green	0.26	0.22	0.22	0.32	0.28	0.27	0.15	0.18	0.18	0.18	0.22	0.21
Sat Flow, veh/h	3183	3325	1444	3183	2912	401	1654	3299	1460	1667	2286	910
Grp Volume(v), veh/h	217	614	243	938	473	477	220	462	668	86	387	370
Grp Sat Flow(s),veh/h/ln	1591	1663	1444	1591	1650	1663	1654	1650	1460	1667	1637	1559
Q Serve(g_s), s	8.9	29.1	19.3	47.4	46.0	46.0	21.7	22.0	17.6	7.4	36.0	36.0
Cycle Q Clear(g_c), s	8.9	29.1	19.3	47.4	46.0	46.0	21.7	22.0	17.6	7.4	36.0	36.0
Prop In Lane	1.00		1.00	1.00		0.24	1.00		1.00	1.00		0.58
Lane Grp Cap(c), veh/h	834	743	323	1006	458	462	242	604	729	301	355	339
V/C Ratio(X)	0.26	0.83	0.75	0.93	1.03	1.03	0.91	0.76	0.92	0.29	1.09	1.09
Avail Cap(c_a), veh/h	1075	923	401	1075	458	462	259	717	779	301	355	339
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.4	61.3	33.0	54.9	59.9	59.9	69.6	64.3	38.3	58.7	64.9	65.0
Incr Delay (d2), s/veh	0.1	4.2	4.5	13.4	50.9	50.7	30.4	3.2	14.4	0.8	73.4	76.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	12.7	7.2	20.7	25.6	25.8	11.2	9.5	6.2	3.2	22.2	21.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.5	65.5	37.5	68.3	110.8	110.7	100.0	67.5	52.7	59.5	138.3	141.3
LnGrp LOS	D	E	D	E	F	F	F	E	D	E	F	F
Approach Vol, veh/h		1074			1888			1350			843	
Approach Delay, s/veh		55.7			89.7			65.5			131.6	
Approach LOS		E			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	28.3	40.0	47.5	50.0	33.9	34.4	56.4	41.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	25.5	35.5	55.5	45.5	25.5	35.5	55.5	45.5
Max Q Clear Time (g_c+I1), s	23.7	38.0	10.9	48.0	9.4	24.0	49.4	31.1
Green Ext Time (p_c), s	0.1	0.0	1.0	0.0	0.4	5.8	2.5	5.4

Intersection Summary	
HCM 6th Ctrl Delay	83.1
HCM 6th LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	614	509	473	349	623	673	434	0	373	414	0	653
Future Volume (vph)	614	509	473	349	623	673	434	0	373	414	0	653
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	8.3	4.0	4.0	8.3	8.3		4.0	8.3		4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97		1.00	0.97		1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00		0.85	1.00		0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (prot)	3131	3260	1444	3162	3292	1458	3131		1458	3162		1430
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (perm)	3131	3260	1444	3162	3292	1458	3131		1458	3162		1430
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	646	536	498	367	656	708	457	0	393	436	0	687
RTOR Reduction (vph)	0	0	76	0	0	22	0	0	43	0	0	29
Lane Group Flow (vph)	646	536	422	367	656	686	457	0	350	436	0	658
Heavy Vehicles (%)	3%	2%	3%	2%	1%	2%	3%	0%	2%	2%	0%	4%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot		pm+ov	Prot		pm+ov
Protected Phases	3	8	6	7	4	2	6		7	2		3
Permitted Phases			8			4			6			2
Actuated Green, G (s)	25.0	22.8	56.9	29.1	26.9	61.0	34.1		63.2	34.1		59.1
Effective Green, g (s)	29.7	26.1	56.9	33.8	30.2	61.0	34.1		72.6	34.1		68.5
Actuated g/C Ratio	0.27	0.24	0.52	0.31	0.27	0.55	0.31		0.66	0.31		0.62
Clearance Time (s)	8.7	7.3	8.3	8.7	7.3	8.3	8.3		8.7	8.3		8.7
Vehicle Extension (s)	2.5	4.2	2.5	2.5	4.2	2.5	2.5		2.5	2.5		2.5
Lane Grp Cap (vph)	843	771	853	968	901	916	967		1012	977		939
v/s Ratio Prot	c0.21	0.16	0.15	0.12	c0.20	c0.23	0.15		0.11	0.14		0.19
v/s Ratio Perm			0.14			0.24			0.13			0.27
v/c Ratio	0.77	0.70	0.50	0.38	0.73	0.75	0.47		0.35	0.45		0.70
Uniform Delay, d1	37.1	38.5	17.4	30.0	36.3	18.8	30.8		8.3	30.5		14.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2	4.0	3.0	0.3	0.2	3.3	3.2	0.3		0.2	0.2		2.2
Delay (s)	41.1	41.5	17.7	30.2	39.6	22.0	31.1		8.5	30.8		16.2
Level of Service	D	D	B	C	D	C	C		A	C		B
Approach Delay (s)		34.3			30.4			20.6			21.9	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	28.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	110.3	Sum of lost time (s)	16.3
Intersection Capacity Utilization	86.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	614	509	473	349	623	673	434	0	373	414	0	653
Future Volume (veh/h)	614	509	473	349	623	673	434	0	373	414	0	653
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1709	1723	1709	1723	1736	1723	1709	0	1723	1723	0	1695
Adj Flow Rate, veh/h	646	536	0	367	656	0	457	0	0	436	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	2	3	2	1	2	3	0	2	2	0	4
Cap, veh/h	896	969		1036	1115		609	0		586	0	
Arrive On Green	0.28	0.30	0.00	0.33	0.34	0.00	0.19	0.00	0.00	0.18	0.00	0.00
Sat Flow, veh/h	3158	3273	1448	3183	3299	1460	3158	457		3183	436	
Grp Volume(v), veh/h	646	536	0	367	656	0	457	34.9		436	35.3	
Grp Sat Flow(s),veh/h/ln	1579	1637	1448	1591	1650	1460	1579	C		1591	D	
Q Serve(g_s), s	16.2	12.1	0.0	7.7	14.4	0.0	12.0			11.4		
Cycle Q Clear(g_c), s	16.2	12.1	0.0	7.7	14.4	0.0	12.0			11.4		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	896	969		1036	1115		609			586		
V/C Ratio(X)	0.72	0.55		0.35	0.59		0.75			0.74		
Avail Cap(c_a), veh/h	1114	1527		1123	1539		1319			1329		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00			1.00		
Uniform Delay (d), s/veh	28.3	26.0	0.0	22.6	24.0	0.0	33.5			33.9		
Incr Delay (d2), s/veh	1.5	0.8	0.0	0.2	0.8	0.0	1.4			1.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	6.0	4.6	0.0	2.8	5.5	0.0	4.4			4.2		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.8	26.8	0.0	22.7	24.8	0.0	34.9			35.3		
LnGrp LOS	C	C		C	C		C			D		
Approach Vol, veh/h		1182	A		1023	A						
Approach Delay, s/veh		28.5			24.1							
Approach LOS		C			C							

Timer - Assigned Phs	1		3	4	5		7	8
Phs Duration (G+Y+Rc), s	25.2		28.9	33.7	24.5		32.6	30.0
Change Period (Y+Rc), s	8.3		* 8.7	7.3	8.3		* 8.7	7.3
Max Green Setting (Gmax), s	36.7		* 26	37.7	36.7		* 26	37.7
Max Q Clear Time (g_c+I1), s	14.0		18.2	16.4	13.4		9.7	14.1
Green Ext Time (p_c), s	2.9		2.1	10.0	2.8		1.5	8.6

Intersection Summary	
HCM 6th Ctrl Delay	28.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	174	972	83	158	1018	564	92	47	120	534	72	331
Future Volume (vph)	174	972	83	158	1018	564	92	47	120	534	72	331
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	4.5	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.89		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1630	3192		1662	3197	1458	1599	1510		3162	1480	
Flt Permitted	0.12	1.00		0.12	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	211	3192		202	3197	1458	1599	1510		3162	1480	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	181	1012	86	165	1060	588	96	49	125	556	75	345
RTOR Reduction (vph)	0	6	0	0	0	202	0	76	0	0	127	0
Lane Group Flow (vph)	181	1093	0	165	1060	386	96	98	0	556	293	0
Confl. Peds. (#/hr)	12		2	2		12	5					5
Heavy Vehicles (%)	2%	3%	0%	0%	4%	2%	4%	7%	2%	2%	4%	2%
Turn Type	pm+pt	NA		pm+pt	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	8 1	5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	52.1	41.1		51.1	40.6	59.5	8.6	15.3		14.4	21.1	
Effective Green, g (s)	53.1	41.6		52.1	41.1	59.5	9.1	15.8		14.9	21.6	
Actuated g/C Ratio	0.53	0.42		0.52	0.41	0.60	0.09	0.16		0.15	0.22	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	1.5	4.2		2.5	4.2		2.5	2.5		2.5	1.5	
Lane Grp Cap (vph)	277	1337		267	1323	873	146	240		474	321	
v/s Ratio Prot	c0.08	c0.34		0.07	0.33	0.26	0.06	0.07		c0.18	c0.20	
v/s Ratio Perm	0.27			0.25								
v/c Ratio	0.65	0.82		0.62	0.80	0.44	0.66	0.41		1.17	0.91	
Uniform Delay, d1	16.3	25.5		16.6	25.5	10.9	43.6	37.6		42.2	37.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.2	4.3		3.6	3.9	0.5	9.2	0.8		98.2	28.6	
Delay (s)	20.5	29.8		20.2	29.4	11.4	52.8	38.4		140.4	66.5	
Level of Service	C	C		C	C	B	D	D		F	E	
Approach Delay (s)		28.5			22.7			43.5			108.6	
Approach LOS		C			C			D			F	

Intersection Summary			
HCM 2000 Control Delay	45.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	99.3	Sum of lost time (s)	17.0
Intersection Capacity Utilization	88.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	174	972	83	158	1018	564	92	47	120	534	72	331
Future Volume (veh/h)	174	972	83	158	1018	564	92	47	120	534	72	331
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1709	1709	1750	1695	1723	1695	1654	1654	1723	1695	1695
Adj Flow Rate, veh/h	181	1012	86	165	1060	588	96	49	125	556	75	345
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	3	3	0	4	2	4	7	7	2	4	4
Cap, veh/h	274	1470	125	319	1552	883	127	57	145	442	52	240
Arrive On Green	0.08	0.49	0.48	0.08	0.48	0.48	0.08	0.14	0.13	0.14	0.20	0.19
Sat Flow, veh/h	1641	3026	257	1667	3221	1442	1615	409	1044	3183	262	1205
Grp Volume(v), veh/h	181	543	555	165	1060	588	96	0	174	556	0	420
Grp Sat Flow(s),veh/h/ln	1641	1624	1659	1667	1611	1442	1615	0	1453	1591	0	1467
Q Serve(g_s), s	5.5	26.0	26.0	4.9	25.6	27.0	5.9	0.0	11.8	14.0	0.0	20.1
Cycle Q Clear(g_c), s	5.5	26.0	26.0	4.9	25.6	27.0	5.9	0.0	11.8	14.0	0.0	20.1
Prop In Lane	1.00		0.15	1.00		1.00	1.00		0.72	1.00		0.82
Lane Grp Cap(c), veh/h	274	789	806	319	1552	883	127	0	202	442	0	292
V/C Ratio(X)	0.66	0.69	0.69	0.52	0.68	0.67	0.75	0.00	0.86	1.26	0.00	1.44
Avail Cap(c_a), veh/h	483	822	840	538	1631	919	224	0	202	442	0	292
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.1	20.0	20.0	15.6	20.2	12.9	45.4	0.0	42.6	43.4	0.0	40.5
Incr Delay (d2), s/veh	1.0	2.7	2.6	1.0	1.3	2.1	6.6	0.0	29.0	132.8	0.0	215.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	9.8	10.0	1.8	9.3	8.2	2.6	0.0	5.8	13.6	0.0	24.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.1	22.7	22.7	16.6	21.5	15.0	52.0	0.0	71.6	176.1	0.0	255.6
LnGrp LOS	B	C	C	B	C	B	D	A	E	F	A	F
Approach Vol, veh/h		1279			1813			270			976	
Approach Delay, s/veh		22.2			18.9			64.6			210.3	
Approach LOS		C			B			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	18.0	11.8	52.9	11.9	24.1	12.2	52.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	13.5	20.5	50.5	13.5	13.5	20.5	50.5
Max Q Clear Time (g_c+I1), s	16.0	13.8	6.9	28.0	7.9	22.1	7.5	29.0
Green Ext Time (p_c), s	0.0	0.0	0.5	16.1	0.1	0.0	0.3	19.0

Intersection Summary	
HCM 6th Ctrl Delay	65.8
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.
User approved changes to right turn type.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	196	119	151	249	337	76	847	85	112	991	60
Future Volume (vph)	104	196	119	151	249	337	76	847	85	112	991	60
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95		0.97	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1646	3082		1630	1733	1462	1662	3217		3162	3257	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1646	3082		1630	1733	1462	1662	3217		3162	3257	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	107	202	123	156	257	347	78	873	88	115	1022	62
RTOR Reduction (vph)	0	83	0	0	0	288	0	5	0	0	3	0
Lane Group Flow (vph)	107	242	0	156	257	59	78	956	0	115	1081	0
Confl. Peds. (#/hr)	4		1	1		4	4		2	2		4
Heavy Vehicles (%)	1%	2%	0%	2%	1%	0%	0%	2%	0%	2%	1%	2%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases						4						
Actuated Green, G (s)	11.6	17.2		14.2	19.8	19.8	22.2	61.8		7.8	47.4	
Effective Green, g (s)	12.1	17.7		14.7	20.3	20.3	23.7	63.3		8.3	47.9	
Actuated g/C Ratio	0.10	0.15		0.12	0.17	0.17	0.20	0.53		0.07	0.40	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	5.5	5.5		4.5	4.5	
Vehicle Extension (s)	2.0	1.5		2.0	1.5	1.5	2.0	3.0		1.0	3.0	
Lane Grp Cap (vph)	165	454		199	293	247	328	1696		218	1300	
v/s Ratio Prot	0.07	0.08		c0.10	c0.15		0.05	c0.30		0.04	c0.33	
v/s Ratio Perm						0.04						
v/c Ratio	0.65	0.53		0.78	0.88	0.24	0.24	0.56		0.53	0.83	
Uniform Delay, d1	51.9	47.3		51.1	48.6	43.2	40.5	19.1		54.0	32.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.4	0.6		16.8	23.6	0.2	0.1	0.4		1.1	6.3	
Delay (s)	58.3	47.9		67.9	72.2	43.3	40.7	19.5		55.0	38.7	
Level of Service	E	D		E	E	D	D	B		E	D	
Approach Delay (s)		50.5			58.1			21.1			40.3	
Approach LOS		D			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	39.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	196	119	151	249	337	76	847	85	112	991	60
Future Volume (veh/h)	104	196	119	151	249	337	76	847	85	112	991	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1736	1723	1723	1723	1736	1750	1750	1723	1723	1723	1736	1736
Adj Flow Rate, veh/h	107	202	123	156	257	347	78	873	88	115	1022	62
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	2	2	2	1	0	0	2	2	2	1	1
Cap, veh/h	137	352	205	187	362	307	570	1559	157	179	737	45
Arrive On Green	0.08	0.18	0.17	0.11	0.21	0.21	0.34	0.52	0.51	0.06	0.23	0.23
Sat Flow, veh/h	1654	1987	1154	1641	1736	1475	1667	3001	303	3183	3158	192
Grp Volume(v), veh/h	107	165	160	156	257	347	78	476	485	115	534	550
Grp Sat Flow(s),veh/h/ln	1654	1637	1505	1641	1736	1475	1667	1637	1667	1591	1650	1700
Q Serve(g_s), s	7.6	11.0	11.8	11.2	16.5	25.0	3.9	23.7	23.7	4.2	28.0	28.0
Cycle Q Clear(g_c), s	7.6	11.0	11.8	11.2	16.5	25.0	3.9	23.7	23.7	4.2	28.0	28.0
Prop In Lane	1.00		0.77	1.00		1.00	1.00		0.18	1.00		0.11
Lane Grp Cap(c), veh/h	137	290	267	187	362	307	570	850	866	179	385	397
V/C Ratio(X)	0.78	0.57	0.60	0.84	0.71	1.13	0.14	0.56	0.56	0.64	1.39	1.39
Avail Cap(c_a), veh/h	207	341	314	205	362	307	570	850	866	530	385	397
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	0.43	0.43	0.43	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	45.1	45.6	52.1	44.1	47.5	27.2	19.5	19.7	55.4	46.0	46.0
Incr Delay (d2), s/veh	5.0	0.6	1.0	2.4	0.5	62.6	0.0	0.4	0.4	1.4	189.5	189.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	4.5	4.5	4.7	7.1	14.4	1.5	8.7	9.0	1.7	31.5	32.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.0	45.8	46.7	54.5	44.6	110.1	27.3	19.9	20.0	56.9	235.5	235.2
LnGrp LOS	E	D	D	D	D	F	C	B	C	E	F	F
Approach Vol, veh/h		432			760			1039			1199	
Approach Delay, s/veh		49.4			76.5			20.5			218.2	
Approach LOS		D			E			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	45.1	32.0	13.9	29.0	10.7	66.3	17.7	25.3
Change Period (Y+Rc), s	5.5	4.5	4.5	4.5	4.5	5.5	4.5	4.5
Max Green Setting (Gmax), s	34.5	27.5	14.5	24.5	19.5	42.5	14.5	24.5
Max Q Clear Time (g_c+I1), s	5.9	30.0	9.6	27.0	6.2	25.7	13.2	13.8
Green Ext Time (p_c), s	0.2	0.0	0.1	0.0	0.1	9.8	0.1	1.7

Intersection Summary	
HCM 6th Ctrl Delay	105.7
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	282	379	255	64	411	50	373	686	72	103	839	236
Future Volume (vph)	282	379	255	64	411	50	373	686	72	103	839	236
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.94		1.00	0.98		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1646	3056		1630	3241		3131	3292	1410	1599	3184	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1646	3056		1630	3241		3131	3292	1410	1599	3184	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	291	391	263	66	424	52	385	707	74	106	865	243
RTOR Reduction (vph)	0	74	0	0	7	0	0	0	54	0	19	0
Lane Group Flow (vph)	291	580	0	66	469	0	385	707	20	106	1089	0
Confl. Peds. (#/hr)	1		7	7		1			2	2		
Heavy Vehicles (%)	1%	1%	2%	2%	0%	7%	3%	1%	4%	4%	1%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases									6			
Actuated Green, G (s)	24.4	40.0		8.1	23.7		18.2	33.0	33.0	30.2	45.0	
Effective Green, g (s)	24.4	40.5		8.1	24.2		18.2	34.4	34.4	30.2	46.4	
Actuated g/C Ratio	0.19	0.31		0.06	0.19		0.14	0.27	0.27	0.23	0.36	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	5.4	5.4	4.0	5.4	
Vehicle Extension (s)	1.5	2.5		1.5	2.5		1.5	4.7	4.7	1.5	4.7	
Lane Grp Cap (vph)	310	957		102	607		441	876	375	373	1143	
v/s Ratio Prot	c0.18	0.19		0.04	c0.14		c0.12	0.21		0.07	c0.34	
v/s Ratio Perm									0.01			
v/c Ratio	0.94	0.61		0.65	0.77		0.87	0.81	0.05	0.28	0.95	
Uniform Delay, d1	51.7	37.6		59.2	49.9		54.4	44.3	35.3	40.6	40.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	34.5	0.9		10.1	5.8		16.6	6.2	0.1	0.2	16.8	
Delay (s)	86.2	38.5		69.3	55.7		71.0	50.5	35.4	40.8	57.2	
Level of Service	F	D		E	E		E	D	D	D	E	
Approach Delay (s)		53.2			57.4			56.3			55.7	
Approach LOS		D			E			E			E	

Intersection Summary			
HCM 2000 Control Delay	55.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	129.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	282	379	255	64	411	50	373	686	72	103	839	236
Future Volume (veh/h)	282	379	255	64	411	50	373	686	72	103	839	236
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1736	1736	1736	1723	1750	1750	1709	1736	1695	1695	1736	1736
Adj Flow Rate, veh/h	291	391	263	66	424	52	385	707	74	106	865	243
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	2	0	0	3	1	4	4	1	1
Cap, veh/h	314	606	403	83	539	66	436	994	432	324	925	260
Arrive On Green	0.19	0.32	0.32	0.05	0.18	0.18	0.14	0.30	0.30	0.20	0.36	0.35
Sat Flow, veh/h	1654	1893	1257	1641	2979	363	3158	3299	1434	1615	2542	714
Grp Volume(v), veh/h	291	340	314	66	236	240	385	707	74	106	561	547
Grp Sat Flow(s),veh/h/ln	1654	1650	1500	1641	1663	1679	1579	1650	1434	1615	1650	1606
Q Serve(g_s), s	21.8	22.3	22.7	5.0	17.0	17.3	15.1	24.0	3.9	7.1	41.3	41.5
Cycle Q Clear(g_c), s	21.8	22.3	22.7	5.0	17.0	17.3	15.1	24.0	3.9	7.1	41.3	41.5
Prop In Lane	1.00		0.84	1.00		0.22	1.00		1.00	1.00		0.44
Lane Grp Cap(c), veh/h	314	528	481	83	301	304	436	994	432	324	600	585
V/C Ratio(X)	0.93	0.64	0.65	0.79	0.78	0.79	0.88	0.71	0.17	0.33	0.93	0.94
Avail Cap(c_a), veh/h	341	528	481	338	343	346	501	1203	523	324	602	586
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.2	36.7	37.0	59.2	49.3	49.4	53.4	39.2	21.0	43.1	38.7	39.0
Incr Delay (d2), s/veh	28.3	2.4	2.9	6.2	9.3	9.9	14.1	2.2	0.3	0.2	22.3	23.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.4	9.2	8.6	2.2	7.8	8.0	6.7	9.7	1.7	2.8	20.0	19.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.5	39.1	39.9	65.4	58.6	59.3	67.5	41.4	21.4	43.3	61.0	62.0
LnGrp LOS	E	D	D	E	E	E	E	D	C	D	E	E
Approach Vol, veh/h		945			542			1166			1214	
Approach Delay, s/veh		51.5			59.7			48.8			59.9	
Approach LOS		D			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.4	49.9	28.0	26.8	29.3	42.0	10.4	44.4
Change Period (Y+Rc), s	* 4	5.4	4.0	4.5	* 4	5.4	4.0	4.5
Max Green Setting (Gmax), s	* 20	44.6	26.0	25.5	* 20	44.6	26.0	25.5
Max Q Clear Time (g_c+I1), s	17.1	43.5	23.8	19.3	9.1	26.0	7.0	24.7
Green Ext Time (p_c), s	0.3	1.0	0.2	2.2	0.1	10.5	0.1	0.4

Intersection Summary	
HCM 6th Ctrl Delay	54.5
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	351	59	597	555	249	75	571	505	339	617	38
Future Volume (vph)	69	351	59	597	555	249	75	571	505	339	617	38
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	3.5	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1630	3119		3162	1683	1417	1662	3228	1434	3162	3292	1403
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1630	3119		3162	1683	1417	1662	3228	1434	3162	3292	1403
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	73	369	62	628	584	262	79	601	532	357	649	40
RTOR Reduction (vph)	0	11	0	0	0	84	0	0	118	0	0	25
Lane Group Flow (vph)	73	420	0	628	584	178	79	601	414	357	649	15
Confl. Peds. (#/hr)									2	2		
Heavy Vehicles (%)	2%	4%	6%	2%	4%	5%	0%	3%	3%	2%	1%	6%
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases						8			2			6
Actuated Green, G (s)	8.2	26.4		29.2	47.4	63.6	8.8	28.6	57.8	16.2	36.0	44.2
Effective Green, g (s)	8.2	26.9		29.2	47.9	64.6	8.8	30.0	57.8	16.2	37.4	44.2
Actuated g/C Ratio	0.07	0.23		0.25	0.40	0.55	0.07	0.25	0.49	0.14	0.32	0.37
Clearance Time (s)	4.0	4.5		4.0	4.5	4.0	4.0	5.4	4.0	4.0	5.4	4.0
Vehicle Extension (s)	2.5	2.5		2.1	2.5	2.1	2.1	4.7	2.1	2.1	4.7	2.5
Lane Grp Cap (vph)	112	709		780	681	773	123	818	700	433	1040	524
v/s Ratio Prot	0.04	0.13		c0.20	c0.35	0.03	0.05	c0.19	0.15	c0.11	0.20	0.00
v/s Ratio Perm						0.09			0.14			0.01
v/c Ratio	0.65	0.59		0.81	0.86	0.23	0.64	0.73	0.59	0.82	0.62	0.03
Uniform Delay, d1	53.7	40.8		41.9	32.1	13.9	53.2	40.5	21.8	49.7	34.5	23.5
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	11.5	1.1		5.8	10.3	0.1	8.6	4.0	0.9	11.6	1.6	0.0
Delay (s)	65.1	41.9		47.6	42.4	14.0	61.8	44.5	22.7	61.2	36.0	23.5
Level of Service	E	D		D	D	B	E	D	C	E	D	C
Approach Delay (s)		45.3			39.6			36.1			44.2	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	40.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	118.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	351	59	597	555	249	75	571	505	339	617	38
Future Volume (veh/h)	69	351	59	597	555	249	75	571	505	339	617	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1695	1695	1723	1695	1682	1750	1709	1709	1723	1736	1668
Adj Flow Rate, veh/h	73	369	62	628	584	262	79	601	532	357	649	40
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	4	4	2	4	5	0	3	3	2	1	6
Cap, veh/h	92	705	117	715	718	801	100	776	652	426	1032	503
Arrive On Green	0.06	0.26	0.25	0.22	0.42	0.42	0.06	0.24	0.23	0.13	0.31	0.30
Sat Flow, veh/h	1641	2763	460	3183	1695	1425	1667	3247	1445	3183	3299	1411
Grp Volume(v), veh/h	73	214	217	628	584	262	79	601	532	357	649	40
Grp Sat Flow(s),veh/h/ln	1641	1611	1613	1591	1695	1425	1667	1624	1445	1591	1650	1411
Q Serve(g_s), s	4.8	12.4	12.6	20.7	32.9	10.7	5.1	18.8	24.6	11.9	18.3	2.0
Cycle Q Clear(g_c), s	4.8	12.4	12.6	20.7	32.9	10.7	5.1	18.8	24.6	11.9	18.3	2.0
Prop In Lane	1.00		0.29	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	92	411	412	715	718	801	100	776	652	426	1032	503
V/C Ratio(X)	0.79	0.52	0.53	0.88	0.81	0.33	0.79	0.77	0.82	0.84	0.63	0.08
Avail Cap(c_a), veh/h	241	411	412	907	1107	1128	322	776	652	585	1032	503
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.7	34.8	34.9	40.7	27.6	12.8	50.4	38.7	26.0	46.0	32.0	23.2
Incr Delay (d2), s/veh	10.5	0.9	1.0	7.1	2.2	0.2	6.2	5.5	8.6	6.0	1.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	4.9	5.0	8.7	13.2	3.3	2.2	7.8	12.9	4.9	7.2	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.2	35.7	35.9	47.9	29.8	13.0	56.6	44.2	34.6	51.9	33.6	23.3
LnGrp LOS	E	D	D	D	C	B	E	D	C	D	C	C
Approach Vol, veh/h		504			1474			1212			1046	
Approach Delay, s/veh		39.5			34.5			40.8			39.5	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.6	30.0	28.4	31.8	10.5	38.0	10.1	50.1
Change Period (Y+Rc), s	4.0	* 5.4	4.0	4.5	4.0	* 5.4	4.0	4.5
Max Green Setting (Gmax), s	20.0	* 25	31.0	25.5	21.0	* 25	16.0	70.5
Max Q Clear Time (g_c+I1), s	13.9	26.6	22.7	14.6	7.1	20.3	6.8	34.9
Green Ext Time (p_c), s	0.7	0.0	1.7	2.9	0.1	2.9	0.1	10.6

Intersection Summary	
HCM 6th Ctrl Delay	38.1
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	0	17	7	0	13	6	1100	5	8	1193	20
Future Vol, veh/h	13	0	17	7	0	13	6	1100	5	8	1193	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	25	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	20	2	0	2	3	0	0	2	2
Mvmt Flow	14	0	18	7	0	14	6	1170	5	9	1269	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1895	2486	645	1839	2494	589	1290	0	0	1176	0	0
Stage 1	1298	1298	-	1186	1186	-	-	-	-	-	-	-
Stage 2	597	1188	-	653	1308	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.9	6.54	6.9	4.14	-	-	4.1	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.9	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.9	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.7	4.02	3.3	2.22	-	-	2.2	-	-
Pot Cap-1 Maneuver	42	29	415	38	29	457	533	-	-	601	-	-
Stage 1	171	230	-	173	260	-	-	-	-	-	-	-
Stage 2	456	260	-	382	228	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	40	28	415	36	28	457	533	-	-	600	-	-
Mov Cap-2 Maneuver	40	28	-	36	28	-	-	-	-	-	-	-
Stage 1	169	227	-	171	257	-	-	-	-	-	-	-
Stage 2	437	257	-	360	225	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	74.5	57	0.1	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	533	-	-	82	90	600	-	-
HCM Lane V/C Ratio	0.012	-	-	0.389	0.236	0.014	-	-
HCM Control Delay (s)	11.8	-	-	74.5	57	11.1	-	-
HCM Lane LOS	B	-	-	F	F	B	-	-
HCM 95th %tile Q(veh)	0	-	-	1.5	0.8	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	8	1103	1	1	1216
Future Vol, veh/h	4	8	1103	1	1	1216
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	3	0	0	2
Mvmt Flow	4	9	1199	1	1	1322

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1863	600	0	0	1200	0
Stage 1	1200	-	-	-	-	-
Stage 2	663	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	66	449	-	-	589	-
Stage 1	252	-	-	-	-	-
Stage 2	480	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	66	449	-	-	589	-
Mov Cap-2 Maneuver	177	-	-	-	-	-
Stage 1	251	-	-	-	-	-
Stage 2	480	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	297	589	-
HCM Lane V/C Ratio	-	-	0.044	0.002	-
HCM Control Delay (s)	-	-	17.7	11.1	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	22	1082	13	40	1180
Future Vol, veh/h	10	22	1082	13	40	1180
Conflicting Peds, #/hr	1	0	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	24	1176	14	43	1283

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1913	596	0	0	1191	0
Stage 1	1184	-	-	-	-	-
Stage 2	729	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	61	452	-	-	593	-
Stage 1	257	-	-	-	-	-
Stage 2	444	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	56	452	-	-	592	-
Mov Cap-2 Maneuver	160	-	-	-	-	-
Stage 1	238	-	-	-	-	-
Stage 2	444	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.2	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	288	592	-
HCM Lane V/C Ratio	-	-	0.121	0.073	-
HCM Control Delay (s)	-	-	19.2	11.6	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.4	0.2	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	208	589	244	912	802	110	211	444	646	83	522	207
Future Volume (vph)	208	589	244	912	802	110	211	444	646	83	522	207
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3162	3325	1422	3162	3219		1646	3292	1458	1662	3130	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3162	3325	1422	3162	3219		1646	3292	1458	1662	3130	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	217	614	254	950	835	115	220	462	673	86	544	216
RTOR Reduction (vph)	0	0	200	0	6	0	0	0	101	0	23	0
Lane Group Flow (vph)	217	614	54	950	944	0	220	463	572	86	737	0
Confl. Peds. (#/hr)	2		2	2		2						
Heavy Vehicles (%)	2%	0%	3%	2%	1%	3%	1%	1%	2%	0%	2%	1%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	3	8		7	4		1	6	6 7	5	2	
Permitted Phases			8									
Actuated Green, G (s)	41.7	34.7	34.7	53.8	46.8		24.4	27.2	85.5	32.9	35.7	
Effective Green, g (s)	42.2	35.2	35.2	54.3	47.3		24.9	27.7	86.0	33.4	36.2	
Actuated g/C Ratio	0.25	0.21	0.21	0.33	0.28		0.15	0.17	0.52	0.20	0.22	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.5	1.5	1.5	2.5	1.5		1.5	1.5		4.2	1.5	
Lane Grp Cap (vph)	800	702	300	1030	913		246	547	752	333	680	
v/s Ratio Prot	0.07	0.18		c0.30	c0.29		0.13	c0.14	0.39	0.05	c0.24	
v/s Ratio Perm			0.04									
v/c Ratio	0.27	0.87	0.18	0.92	1.03		0.89	0.85	0.76	0.26	1.08	
Uniform Delay, d1	49.9	63.6	53.9	54.1	59.6		69.6	67.4	32.1	56.2	65.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	11.4	0.1	13.1	39.0		30.3	11.1	4.1	0.6	59.6	
Delay (s)	50.0	75.0	54.0	67.3	98.6		99.9	78.5	36.2	56.8	124.8	
Level of Service	D	E	D	E	F		F	E	D	E	F	
Approach Delay (s)		65.1			82.9			61.0			117.9	
Approach LOS		E			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	79.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	166.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	95.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	589	244	912	802	110	211	444	646	83	522	207
Future Volume (veh/h)	208	589	244	912	802	110	211	444	646	83	522	207
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1750	1709	1723	1736	1736	1736	1736	1723	1750	1723	1723
Adj Flow Rate, veh/h	217	614	254	950	835	115	220	462	673	86	544	216
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	0	3	2	1	1	1	1	2	0	2	2
Cap, veh/h	828	743	323	1014	820	113	242	603	732	299	494	196
Arrive On Green	0.26	0.22	0.22	0.32	0.28	0.28	0.15	0.18	0.18	0.18	0.22	0.21
Sat Flow, veh/h	3183	3325	1444	3183	2912	401	1654	3299	1460	1667	2290	906
Grp Volume(v), veh/h	217	614	254	950	473	477	220	462	673	86	388	372
Grp Sat Flow(s),veh/h/ln	1591	1663	1444	1591	1650	1663	1654	1650	1460	1667	1637	1560
Q Serve(g_s), s	9.0	29.3	20.5	48.4	47.0	47.0	21.8	22.2	18.0	7.4	36.0	36.0
Cycle Q Clear(g_c), s	9.0	29.3	20.5	48.4	47.0	47.0	21.8	22.2	18.0	7.4	36.0	36.0
Prop In Lane	1.00		1.00	1.00		0.24	1.00		1.00	1.00		0.58
Lane Grp Cap(c), veh/h	828	743	323	1014	465	469	242	603	732	299	353	337
V/C Ratio(X)	0.26	0.83	0.79	0.94	1.02	1.02	0.91	0.77	0.92	0.29	1.10	1.10
Avail Cap(c_a), veh/h	1049	917	398	1069	465	469	258	712	780	299	353	337
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.0	61.7	33.6	55.2	59.9	60.0	70.1	64.8	38.5	59.2	65.4	65.6
Incr Delay (d2), s/veh	0.1	4.3	6.5	14.3	46.3	46.1	30.8	3.4	14.9	0.8	77.3	80.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	12.8	7.8	21.3	25.5	25.7	11.3	9.6	6.4	3.2	22.6	21.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.1	66.0	40.1	69.5	106.2	106.1	100.9	68.1	53.4	60.0	142.7	145.7
LnGrp LOS	D	E	D	E	F	F	F	E	D	E	F	F
Approach Vol, veh/h		1085			1900			1355			846	
Approach Delay, s/veh		56.6			87.8			66.1			135.6	
Approach LOS		E			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	28.4	40.0	47.4	51.0	33.9	34.5	57.1	41.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	25.5	35.5	54.5	46.5	25.5	35.5	55.5	45.5
Max Q Clear Time (g_c+I1), s	23.8	38.0	11.0	49.0	9.4	24.2	50.4	31.3
Green Ext Time (p_c), s	0.1	0.0	1.0	0.0	0.4	5.8	2.3	5.4

Intersection Summary	
HCM 6th Ctrl Delay	83.4
HCM 6th LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	614	514	479	349	649	673	438	0	373	414	0	653
Future Volume (vph)	614	514	479	349	649	673	438	0	373	414	0	653
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	8.3	4.0	4.0	8.3	8.3		4.0	8.3		4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97		1.00	0.97		1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00		0.85	1.00		0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (prot)	3131	3260	1444	3162	3292	1458	3131		1458	3162		1430
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (perm)	3131	3260	1444	3162	3292	1458	3131		1458	3162		1430
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	646	541	504	367	683	708	461	0	393	436	0	687
RTOR Reduction (vph)	0	0	76	0	0	22	0	0	42	0	0	26
Lane Group Flow (vph)	646	541	428	367	683	686	461	0	351	436	0	661
Heavy Vehicles (%)	3%	2%	3%	2%	1%	2%	3%	0%	2%	2%	0%	4%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot		pm+ov	Prot		pm+ov
Protected Phases	3	8	6	7	4	2	6		7	2		3
Permitted Phases			8			4			6			2
Actuated Green, G (s)	25.1	23.2	57.4	30.0	28.1	62.3	34.2		64.2	34.2		59.3
Effective Green, g (s)	29.8	26.5	57.4	34.7	31.4	62.3	34.2		73.6	34.2		68.7
Actuated g/C Ratio	0.27	0.24	0.51	0.31	0.28	0.56	0.31		0.66	0.31		0.62
Clearance Time (s)	8.7	7.3	8.3	8.7	7.3	8.3	8.3		8.7	8.3		8.7
Vehicle Extension (s)	2.5	4.2	2.5	2.5	4.2	2.5	2.5		2.5	2.5		2.5
Lane Grp Cap (vph)	835	773	849	982	925	921	958		1012	968		930
v/s Ratio Prot	c0.21	0.17	0.15	0.12	c0.21	c0.23	0.15		0.11	0.14		0.19
v/s Ratio Perm			0.14			0.24			0.13			0.27
v/c Ratio	0.77	0.70	0.50	0.37	0.74	0.74	0.48		0.35	0.45		0.71
Uniform Delay, d1	37.8	39.0	17.8	30.0	36.4	18.7	31.5		8.4	31.2		14.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2	4.3	3.1	0.3	0.2	3.4	3.1	0.3		0.2	0.2		2.4
Delay (s)	42.2	42.1	18.2	30.2	39.8	21.8	31.8		8.6	31.4		17.1
Level of Service	D	D	B	C	D	C	C		A	C		B
Approach Delay (s)		35.0			30.6			21.1			22.7	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	28.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	111.7	Sum of lost time (s)	16.3
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	614	514	479	349	649	673	438	0	373	414	0	653
Future Volume (veh/h)	614	514	479	349	649	673	438	0	373	414	0	653
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1709	1723	1709	1723	1736	1723	1709	0	1723	1723	0	1695
Adj Flow Rate, veh/h	646	541	0	367	683	0	461	0	0	436	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	2	3	2	1	2	3	0	2	2	0	4
Cap, veh/h	890	965		1050	1132		610	0		583	0	
Arrive On Green	0.28	0.29	0.00	0.33	0.34	0.00	0.19	0.00	0.00	0.18	0.00	0.00
Sat Flow, veh/h	3158	3273	1448	3183	3299	1460	3158	461		3183	436	
Grp Volume(v), veh/h	646	541	0	367	683	0	461	35.6		436	36.1	
Grp Sat Flow(s),veh/h/ln	1579	1637	1448	1591	1650	1460	1579	D		1591	D	
Q Serve(g_s), s	16.5	12.5	0.0	7.8	15.4	0.0	12.4			11.6		
Cycle Q Clear(g_c), s	16.5	12.5	0.0	7.8	15.4	0.0	12.4			11.6		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	890	965		1050	1132		610			583		
V/C Ratio(X)	0.73	0.56		0.35	0.60		0.76			0.75		
Avail Cap(c_a), veh/h	1093	1498		1101	1510		1294			1304		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00			1.00		
Uniform Delay (d), s/veh	29.1	26.7	0.0	22.7	24.4	0.0	34.1			34.6		
Incr Delay (d2), s/veh	1.7	0.8	0.0	0.1	0.8	0.0	1.4			1.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	6.2	4.8	0.0	2.8	5.8	0.0	4.6			4.3		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.7	27.5	0.0	22.9	25.2	0.0	35.6			36.1		
LnGrp LOS	C	C		C	C		D			D		
Approach Vol, veh/h		1187	A		1050	A						
Approach Delay, s/veh		29.2			24.4							
Approach LOS		C			C							

Timer - Assigned Phs	1		3	4	5		7	8
Phs Duration (G+Y+Rc), s	25.6		29.2	34.7	24.7		33.6	30.4
Change Period (Y+Rc), s	8.3		* 8.7	7.3	8.3		* 8.7	7.3
Max Green Setting (Gmax), s	36.7		* 26	37.7	36.7		* 26	37.7
Max Q Clear Time (g_c+I1), s	14.4		18.5	17.4	13.6		9.8	14.5
Green Ext Time (p_c), s	3.0		2.0	10.1	2.8		1.5	8.6

Intersection Summary	
HCM 6th Ctrl Delay	29.5
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	174	983	83	158	1048	564	92	47	120	534	72	334
Future Volume (vph)	174	983	83	158	1048	564	92	47	120	534	72	334
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	4.5	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.89		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1630	3192		1662	3197	1420	1599	1510		3162	1480	
Flt Permitted	0.12	1.00		0.12	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	198	3192		202	3197	1420	1599	1510		3162	1480	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	181	1024	86	165	1092	588	96	49	125	556	75	348
RTOR Reduction (vph)	0	6	0	0	0	221	0	76	0	0	129	0
Lane Group Flow (vph)	181	1104	0	165	1092	367	96	98	0	556	294	0
Confl. Peds. (#/hr)	12		2	2		12	5					5
Heavy Vehicles (%)	2%	3%	0%	0%	4%	2%	4%	7%	2%	2%	4%	2%
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)	53.3	42.2		52.3	41.7	56.0	8.6	15.4		14.3	21.1	
Effective Green, g (s)	54.3	42.7		53.3	42.2	56.0	9.1	15.9		14.8	21.6	
Actuated g/C Ratio	0.54	0.42		0.53	0.42	0.56	0.09	0.16		0.15	0.21	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	1.5	4.2		2.5	4.2	2.5	2.5	2.5		2.5	1.5	
Lane Grp Cap (vph)	272	1356		268	1342	854	144	238		465	318	
v/s Ratio Prot	c0.08	c0.35		0.07	0.34	0.06	0.06	0.07		c0.18	c0.20	
v/s Ratio Perm	0.28			0.26		0.20						
v/c Ratio	0.67	0.81		0.62	0.81	0.43	0.67	0.41		1.20	0.93	
Uniform Delay, d1	16.7	25.4		16.6	25.7	12.9	44.2	38.1		42.9	38.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.7	4.2		3.6	4.2	0.3	10.0	0.8		107.4	31.2	
Delay (s)	21.4	29.6		20.1	29.9	13.2	54.3	38.9		150.3	69.8	
Level of Service	C	C		C	C	B	D	D		F	E	
Approach Delay (s)		28.4			23.7			44.4			115.5	
Approach LOS		C			C			D			F	

Intersection Summary			
HCM 2000 Control Delay	46.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	100.5	Sum of lost time (s)	16.5
Intersection Capacity Utilization	89.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	174	983	83	158	1048	564	92	47	120	534	72	334
Future Volume (veh/h)	174	983	83	158	1048	564	92	47	120	534	72	334
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1709	1709	1750	1695	1723	1695	1654	1654	1723	1695	1695
Adj Flow Rate, veh/h	181	1024	86	165	1092	588	96	49	125	556	75	348
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	3	3	0	4	2	4	7	7	2	4	4
Cap, veh/h	269	1475	124	315	1554	884	127	57	145	442	52	240
Arrive On Green	0.08	0.49	0.48	0.08	0.48	0.48	0.08	0.14	0.13	0.14	0.20	0.19
Sat Flow, veh/h	1641	3029	254	1667	3221	1442	1615	409	1044	3183	260	1207
Grp Volume(v), veh/h	181	549	561	165	1092	588	96	0	174	556	0	423
Grp Sat Flow(s),veh/h/ln	1641	1624	1659	1667	1611	1442	1615	0	1453	1591	0	1467
Q Serve(g_s), s	5.5	26.4	26.5	4.9	26.8	27.0	5.9	0.0	11.8	14.0	0.0	20.1
Cycle Q Clear(g_c), s	5.5	26.4	26.5	4.9	26.8	27.0	5.9	0.0	11.8	14.0	0.0	20.1
Prop In Lane	1.00		0.15	1.00		1.00	1.00		0.72	1.00		0.82
Lane Grp Cap(c), veh/h	269	790	808	315	1554	884	127	0	202	442	0	292
V/C Ratio(X)	0.67	0.69	0.69	0.52	0.70	0.67	0.75	0.00	0.86	1.26	0.00	1.45
Avail Cap(c_a), veh/h	477	821	839	534	1629	917	224	0	202	442	0	292
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.7	20.1	20.1	15.8	20.4	12.9	45.5	0.0	42.7	43.4	0.0	40.6
Incr Delay (d2), s/veh	1.1	2.8	2.8	1.0	1.5	2.1	6.6	0.0	29.3	133.6	0.0	221.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	10.0	10.2	1.8	9.7	8.2	2.6	0.0	5.9	13.6	0.0	25.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.8	22.9	22.9	16.8	21.9	14.9	52.1	0.0	72.0	177.1	0.0	261.6
LnGrp LOS	B	C	C	B	C	B	D	A	E	F	A	F
Approach Vol, veh/h		1291			1845			270			979	
Approach Delay, s/veh		22.4			19.2			64.9			213.6	
Approach LOS		C			B			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	18.0	11.8	53.1	11.9	24.1	12.2	52.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	13.5	20.5	50.5	13.5	13.5	20.5	50.5
Max Q Clear Time (g_c+I1), s	16.0	13.8	6.9	28.5	7.9	22.1	7.5	29.0
Green Ext Time (p_c), s	0.0	0.0	0.5	16.0	0.1	0.0	0.3	19.2

Intersection Summary	
HCM 6th Ctrl Delay	66.4
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.
User approved changes to right turn type.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	196	121	153	249	337	76	858	85	112	1011	60
Future Volume (vph)	104	196	121	153	249	337	76	858	85	112	1011	60
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95		0.97	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1646	3081		1630	1733	1462	1662	3217		3162	3257	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1646	3081		1630	1733	1462	1662	3217		3162	3257	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	107	202	125	158	257	347	78	885	88	115	1042	62
RTOR Reduction (vph)	0	86	0	0	0	288	0	5	0	0	3	0
Lane Group Flow (vph)	107	241	0	158	257	59	78	968	0	115	1101	0
Confl. Peds. (#/hr)	4		1	1		4	4		2	2		4
Heavy Vehicles (%)	1%	2%	0%	2%	1%	0%	0%	2%	0%	2%	1%	2%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases						4						
Actuated Green, G (s)	11.6	17.2		14.2	19.8	19.8	22.5	61.8		7.8	47.1	
Effective Green, g (s)	12.1	17.7		14.7	20.3	20.3	24.0	63.3		8.3	47.6	
Actuated g/C Ratio	0.10	0.15		0.12	0.17	0.17	0.20	0.53		0.07	0.40	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	5.5	5.5		4.5	4.5	
Vehicle Extension (s)	2.0	1.5		2.0	1.5	1.5	2.0	3.0		1.0	3.0	
Lane Grp Cap (vph)	165	454		199	293	247	332	1696		218	1291	
v/s Ratio Prot	0.07	0.08		c0.10	c0.15		0.05	c0.30		0.04	c0.34	
v/s Ratio Perm						0.04						
v/c Ratio	0.65	0.53		0.79	0.88	0.24	0.23	0.57		0.53	0.85	
Uniform Delay, d1	51.9	47.3		51.2	48.6	43.2	40.3	19.2		54.0	33.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.4	0.6		18.1	23.6	0.2	0.1	0.5		1.1	7.3	
Delay (s)	58.3	47.9		69.3	72.2	43.3	40.4	19.6		55.0	40.3	
Level of Service	E	D		E	E	D	D	B		E	D	
Approach Delay (s)		50.5			58.4			21.2			41.7	
Approach LOS		D			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	40.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	196	121	153	249	337	76	858	85	112	1011	60
Future Volume (veh/h)	104	196	121	153	249	337	76	858	85	112	1011	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1736	1723	1723	1723	1736	1750	1750	1723	1723	1723	1736	1736
Adj Flow Rate, veh/h	107	202	125	158	257	347	78	885	88	115	1042	62
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	2	2	2	1	0	0	2	2	2	1	1
Cap, veh/h	137	348	205	189	362	307	570	1561	155	179	738	44
Arrive On Green	0.08	0.18	0.17	0.11	0.21	0.21	0.34	0.52	0.51	0.06	0.23	0.23
Sat Flow, veh/h	1654	1975	1165	1641	1736	1475	1667	3006	299	3183	3162	188
Grp Volume(v), veh/h	107	166	161	158	257	347	78	482	491	115	543	561
Grp Sat Flow(s),veh/h/ln	1654	1637	1503	1641	1736	1475	1667	1637	1668	1591	1650	1701
Q Serve(g_s), s	7.6	11.1	11.9	11.3	16.5	25.0	3.9	24.1	24.1	4.2	28.0	28.0
Cycle Q Clear(g_c), s	7.6	11.1	11.9	11.3	16.5	25.0	3.9	24.1	24.1	4.2	28.0	28.0
Prop In Lane	1.00		0.78	1.00		1.00	1.00		0.18	1.00		0.11
Lane Grp Cap(c), veh/h	137	288	265	189	362	307	570	850	866	179	385	397
V/C Ratio(X)	0.78	0.57	0.61	0.84	0.71	1.13	0.14	0.57	0.57	0.64	1.41	1.41
Avail Cap(c_a), veh/h	207	341	313	205	362	307	570	850	866	530	385	397
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	0.43	0.43	0.43	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	45.3	45.8	52.0	44.1	47.5	27.2	19.6	19.8	55.4	46.0	46.0
Incr Delay (d2), s/veh	5.0	0.7	1.1	2.5	0.5	62.6	0.0	0.4	0.4	1.4	200.3	200.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	4.5	4.5	4.7	7.1	14.4	1.5	8.9	9.1	1.7	32.7	33.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.0	46.0	46.9	54.5	44.6	110.1	27.3	20.0	20.1	56.9	246.3	246.1
LnGrp LOS	E	D	D	D	D	F	C	C	C	E	F	F
Approach Vol, veh/h		434			762			1051			1219	
Approach Delay, s/veh		49.6			76.5			20.6			228.3	
Approach LOS		D			E			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	45.1	32.0	13.9	29.0	10.7	66.3	17.8	25.1
Change Period (Y+Rc), s	5.5	4.5	4.5	4.5	4.5	5.5	4.5	4.5
Max Green Setting (Gmax), s	34.5	27.5	14.5	24.5	19.5	42.5	14.5	24.5
Max Q Clear Time (g_c+I1), s	5.9	30.0	9.6	27.0	6.2	26.1	13.3	13.9
Green Ext Time (p_c), s	0.2	0.0	0.1	0.0	0.1	9.7	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	109.6
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	282	379	261	69	411	50	376	696	79	103	862	236
Future Volume (vph)	282	379	261	69	411	50	376	696	79	103	862	236
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.94		1.00	0.98		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1646	3053		1630	3241		3131	3292	1410	1599	3186	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1646	3053		1630	3241		3131	3292	1410	1599	3186	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	291	391	269	71	424	52	388	718	81	106	889	243
RTOR Reduction (vph)	0	79	0	0	7	0	0	0	59	0	18	0
Lane Group Flow (vph)	291	581	0	71	469	0	388	718	22	106	1114	0
Confl. Peds. (#/hr)	1		7	7		1			2	2		
Heavy Vehicles (%)	1%	1%	2%	2%	0%	7%	3%	1%	4%	4%	1%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases									6			
Actuated Green, G (s)	24.5	39.7		8.4	23.6		18.2	33.4	33.4	29.8	45.0	
Effective Green, g (s)	24.5	40.2		8.4	24.1		18.2	34.8	34.8	29.8	46.4	
Actuated g/C Ratio	0.19	0.31		0.07	0.19		0.14	0.27	0.27	0.23	0.36	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	5.4	5.4	4.0	5.4	
Vehicle Extension (s)	1.5	2.5		1.5	2.5		1.5	4.7	4.7	1.5	4.7	
Lane Grp Cap (vph)	312	949		105	604		441	886	379	368	1144	
v/s Ratio Prot	c0.18	0.19		0.04	c0.14		c0.12	0.22		0.07	c0.35	
v/s Ratio Perm									0.02			
v/c Ratio	0.93	0.61		0.68	0.78		0.88	0.81	0.06	0.29	0.97	
Uniform Delay, d1	51.5	37.9		59.1	50.0		54.4	44.1	35.0	41.0	40.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	33.3	1.0		12.7	6.0		17.3	6.3	0.1	0.2	20.6	
Delay (s)	84.8	38.9		71.8	55.9		71.8	50.4	35.1	41.1	61.4	
Level of Service	F	D		E	E		E	D	D	D	E	
Approach Delay (s)		52.9			58.0			56.4			59.7	
Approach LOS		D			E			E			E	

Intersection Summary			
HCM 2000 Control Delay	56.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	129.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	282	379	261	69	411	50	376	696	79	103	862	236
Future Volume (veh/h)	282	379	261	69	411	50	376	696	79	103	862	236
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1736	1736	1736	1723	1750	1750	1709	1736	1695	1695	1736	1736
Adj Flow Rate, veh/h	291	391	269	71	424	52	388	718	81	106	889	243
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	2	0	0	3	1	4	4	1	1
Cap, veh/h	314	593	403	89	539	66	439	1003	436	321	931	254
Arrive On Green	0.19	0.32	0.31	0.05	0.18	0.18	0.14	0.30	0.30	0.20	0.36	0.35
Sat Flow, veh/h	1654	1874	1273	1641	2979	363	3158	3299	1434	1615	2560	699
Grp Volume(v), veh/h	291	344	316	71	236	240	388	718	81	106	572	560
Grp Sat Flow(s),veh/h/ln	1654	1650	1497	1641	1663	1679	1579	1650	1434	1615	1650	1609
Q Serve(g_s), s	21.9	22.7	23.2	5.4	17.1	17.3	15.3	24.5	4.2	7.1	42.8	42.9
Cycle Q Clear(g_c), s	21.9	22.7	23.2	5.4	17.1	17.3	15.3	24.5	4.2	7.1	42.8	42.9
Prop In Lane	1.00		0.85	1.00		0.22	1.00		1.00	1.00		0.43
Lane Grp Cap(c), veh/h	314	522	474	89	301	304	439	1003	436	321	600	585
V/C Ratio(X)	0.93	0.66	0.67	0.79	0.78	0.79	0.88	0.72	0.19	0.33	0.95	0.96
Avail Cap(c_a), veh/h	340	522	474	337	342	345	499	1200	522	321	600	585
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.3	37.3	37.7	59.1	49.4	49.6	53.5	39.2	20.7	43.5	39.2	39.5
Incr Delay (d2), s/veh	28.4	2.8	3.3	5.9	9.4	10.0	14.5	2.3	0.4	0.2	26.0	26.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.4	9.5	8.9	2.4	7.8	8.0	6.8	9.9	1.9	2.9	21.2	20.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.8	40.1	41.0	64.9	58.9	59.6	68.0	41.5	21.1	43.7	65.2	66.4
LnGrp LOS	E	D	D	E	E	E	E	D	C	D	E	E
Approach Vol, veh/h		951			547			1187			1238	
Approach Delay, s/veh		52.2			60.0			48.7			63.9	
Approach LOS		D			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.6	50.0	28.0	26.9	29.1	42.4	10.9	44.0
Change Period (Y+Rc), s	* 4	5.4	4.0	4.5	* 4	5.4	4.0	4.5
Max Green Setting (Gmax), s	* 20	44.6	26.0	25.5	* 20	44.6	26.0	25.5
Max Q Clear Time (g_c+I1), s	17.3	44.9	23.9	19.3	9.1	26.5	7.4	25.2
Green Ext Time (p_c), s	0.3	0.0	0.2	2.2	0.1	10.6	0.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	55.9
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	351	62	631	555	249	75	593	516	339	651	38
Future Volume (vph)	69	351	62	631	555	249	75	593	516	339	651	38
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	3.5	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1630	3116		3162	1683	1417	1662	3228	1435	3162	3292	1403
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1630	3116		3162	1683	1417	1662	3228	1435	3162	3292	1403
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	73	369	65	664	584	262	79	624	543	357	685	40
RTOR Reduction (vph)	0	12	0	0	0	81	0	0	115	0	0	25
Lane Group Flow (vph)	73	422	0	664	584	181	79	624	428	357	685	15
Confl. Peds. (#/hr)									2	2		
Heavy Vehicles (%)	2%	4%	6%	2%	4%	5%	0%	3%	3%	2%	1%	6%
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases						8			2			6
Actuated Green, G (s)	8.3	26.5		31.9	50.1	66.3	9.0	28.3	60.2	16.2	35.5	43.8
Effective Green, g (s)	8.3	27.0		31.9	50.6	67.3	9.0	29.7	60.2	16.2	36.9	43.8
Actuated g/C Ratio	0.07	0.22		0.26	0.42	0.56	0.07	0.25	0.50	0.13	0.31	0.36
Clearance Time (s)	4.0	4.5		4.0	4.5	4.0	4.0	5.4	4.0	4.0	5.4	4.0
Vehicle Extension (s)	2.5	2.5		2.1	2.5	2.1	2.1	4.7	2.1	2.1	4.7	2.5
Lane Grp Cap (vph)	111	696		834	704	789	123	793	715	424	1005	508
v/s Ratio Prot	0.04	0.14		c0.21	c0.35	0.03	0.05	c0.19	0.16	c0.11	0.21	0.00
v/s Ratio Perm						0.10			0.14			0.01
v/c Ratio	0.66	0.61		0.80	0.83	0.23	0.64	0.79	0.60	0.84	0.68	0.03
Uniform Delay, d1	54.9	42.1		41.4	31.3	13.6	54.3	42.6	21.7	51.1	36.8	24.8
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	11.9	1.3		5.0	7.9	0.1	8.6	5.9	0.9	13.6	2.3	0.0
Delay (s)	66.7	43.4		46.4	39.1	13.6	62.9	48.5	22.6	64.6	39.1	24.8
Level of Service	E	D		D	D	B	E	D	C	E	D	C
Approach Delay (s)		46.8			37.9			38.1			47.0	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	41.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	120.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	78.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	351	62	631	555	249	75	593	516	339	651	38
Future Volume (veh/h)	69	351	62	631	555	249	75	593	516	339	651	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1695	1695	1723	1695	1682	1750	1709	1709	1723	1736	1668
Adj Flow Rate, veh/h	73	369	65	664	584	262	79	624	543	357	685	40
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	4	4	2	4	5	0	3	3	2	1	6
Cap, veh/h	92	671	117	749	718	801	100	776	667	426	1032	503
Arrive On Green	0.06	0.24	0.24	0.24	0.42	0.42	0.06	0.24	0.23	0.13	0.31	0.30
Sat Flow, veh/h	1641	2741	478	3183	1695	1425	1667	3247	1445	3183	3299	1411
Grp Volume(v), veh/h	73	215	219	664	584	262	79	624	543	357	685	40
Grp Sat Flow(s),veh/h/ln	1641	1611	1609	1591	1695	1425	1667	1624	1445	1591	1650	1411
Q Serve(g_s), s	4.8	12.7	12.9	21.9	32.9	10.7	5.1	19.7	24.6	11.9	19.6	2.0
Cycle Q Clear(g_c), s	4.8	12.7	12.9	21.9	32.9	10.7	5.1	19.7	24.6	11.9	19.6	2.0
Prop In Lane	1.00		0.30	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	92	394	394	749	718	801	100	776	667	426	1032	503
V/C Ratio(X)	0.79	0.55	0.56	0.89	0.81	0.33	0.79	0.80	0.81	0.84	0.66	0.08
Avail Cap(c_a), veh/h	241	394	394	907	1107	1128	322	776	667	585	1032	503
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.7	35.8	36.0	40.2	27.6	12.8	50.4	39.0	25.3	46.0	32.4	23.2
Incr Delay (d2), s/veh	10.5	1.3	1.4	8.3	2.2	0.2	6.2	6.8	8.3	6.0	2.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	5.0	5.2	9.3	13.2	3.3	2.2	8.2	13.0	4.9	7.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.2	37.1	37.4	48.5	29.8	13.0	56.6	45.8	33.6	51.9	34.5	23.3
LnGrp LOS	E	D	D	D	C	B	E	D	C	D	C	C
Approach Vol, veh/h		507			1510			1246			1082	
Approach Delay, s/veh		40.7			35.1			41.1			39.8	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.6	30.0	29.6	30.6	10.5	38.0	10.1	50.1
Change Period (Y+Rc), s	4.0	* 5.4	4.0	4.5	4.0	* 5.4	4.0	4.5
Max Green Setting (Gmax), s	20.0	* 25	31.0	25.5	21.0	* 25	16.0	70.5
Max Q Clear Time (g_c+I1), s	13.9	26.6	23.9	14.9	7.1	21.6	6.8	34.9
Green Ext Time (p_c), s	0.7	0.0	1.7	2.9	0.1	2.1	0.1	10.6

Intersection Summary	
HCM 6th Ctrl Delay	38.7
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	0	17	13	0	21	6	1125	6	9	1264	20
Future Vol, veh/h	13	0	17	13	0	21	6	1125	6	9	1264	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	25	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	20	2	0	2	3	0	0	2	2
Mvmt Flow	14	0	18	14	0	22	6	1197	6	10	1345	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1987	2592	683	1906	2599	603	1366	0	0	1204	0	0
Stage 1	1376	1376	-	1213	1213	-	-	-	-	-	-	-
Stage 2	611	1216	-	693	1386	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.9	6.54	6.9	4.14	-	-	4.1	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.9	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.9	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.7	4.02	3.3	2.22	-	-	2.2	-	-
Pot Cap-1 Maneuver	36	25	392	34	24	447	499	-	-	587	-	-
Stage 1	153	211	-	166	253	-	-	-	-	-	-	-
Stage 2	448	252	-	360	209	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	33	24	392	32	23	447	499	-	-	586	-	-
Mov Cap-2 Maneuver	33	24	-	32	23	-	-	-	-	-	-	-
Stage 1	151	207	-	164	250	-	-	-	-	-	-	-
Stage 2	420	249	-	338	205	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	95.9	91.4	0.1	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	499	-	-	69	75	586	-	-
HCM Lane V/C Ratio	0.013	-	-	0.463	0.482	0.016	-	-
HCM Control Delay (s)	12.3	-	-	95.9	91.4	11.2	-	-
HCM Lane LOS	B	-	-	F	F	B	-	-
HCM 95th %tile Q(veh)	0	-	-	1.8	2	0.1	-	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	1137	0	0	1294
Future Vol, veh/h	0	0	1137	0	0	1294
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	3	0	0	2
Mvmt Flow	0	0	1236	0	0	1407

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1940	618	0	0	1236	0
Stage 1	1236	-	-	-	-	-
Stage 2	704	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	59	437	-	-	571	-
Stage 1	241	-	-	-	-	-
Stage 2	457	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	59	437	-	-	571	-
Mov Cap-2 Maneuver	168	-	-	-	-	-
Stage 1	241	-	-	-	-	-
Stage 2	457	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	571	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	55	1082	31	114	1180
Future Vol, veh/h	21	55	1082	31	114	1180
Conflicting Peds, #/hr	1	0	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	23	60	1176	34	124	1283

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2085	606	0	0	1211	0
Stage 1	1194	-	-	-	-	-
Stage 2	891	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	47	445	-	-	583	-
Stage 1	254	-	-	-	-	-
Stage 2	366	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	37	445	-	-	582	-
Mov Cap-2 Maneuver	117	-	-	-	-	-
Stage 1	200	-	-	-	-	-
Stage 2	366	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.2	0	1.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	251	582	-
HCM Lane V/C Ratio	-	-	0.329	0.213	-
HCM Control Delay (s)	-	-	26.2	12.9	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	1.4	0.8	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	270	700	227	961	897	145	207	561	772	108	591	250
Future Volume (vph)	270	700	227	961	897	145	207	561	772	108	591	250
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3162	3325	1424	3162	3208		1646	3292	1458	1662	3124	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3162	3325	1424	3162	3208		1646	3292	1458	1662	3124	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	281	729	236	1001	934	151	216	584	804	112	616	260
RTOR Reduction (vph)	0	0	177	0	11	0	0	0	25	0	39	0
Lane Group Flow (vph)	281	729	59	1001	1074	0	216	584	779	113	837	0
Confl. Peds. (#/hr)	2		2	2		2						
Heavy Vehicles (%)	2%	0%	3%	2%	1%	3%	1%	1%	2%	0%	2%	1%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	3	8		7	4		1	6	6 7	5	2	
Permitted Phases			8									
Actuated Green, G (s)	14.4	29.2	29.2	28.6	43.4		12.5	31.8	64.9	10.7	30.0	
Effective Green, g (s)	14.9	29.7	29.7	29.1	43.9		13.0	32.3	65.4	11.2	30.5	
Actuated g/C Ratio	0.13	0.25	0.25	0.25	0.37		0.11	0.27	0.55	0.09	0.26	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	1.5	4.2	4.2	1.5	4.2		1.5	2.5		1.5	2.5	
Lane Grp Cap (vph)	398	834	357	777	1190		180	898	806	157	805	
v/s Ratio Prot	0.09	0.22		c0.32	c0.33		0.13	0.18	c0.53	0.07	c0.27	
v/s Ratio Perm			0.04									
v/c Ratio	0.71	0.87	0.17	1.29	0.90		1.20	0.65	0.97	0.72	1.04	
Uniform Delay, d1	49.6	42.5	34.6	44.6	35.2		52.6	38.0	25.4	52.0	43.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.6	10.5	0.3	139.4	9.9		131.2	1.5	23.6	12.3	42.7	
Delay (s)	54.2	53.0	35.0	184.0	45.1		183.8	39.5	49.0	64.4	86.6	
Level of Service	D	D	C	F	D		F	D	D	E	F	
Approach Delay (s)		49.8			111.7			63.7			84.0	
Approach LOS		D			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	81.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	118.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	103.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	270	700	227	961	897	145	207	561	772	108	591	250
Future Volume (veh/h)	270	700	227	961	897	145	207	561	772	108	591	250
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1750	1709	1723	1736	1736	1736	1736	1723	1750	1723	1723
Adj Flow Rate, veh/h	281	729	236	1001	934	151	216	584	804	112	616	260
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	0	3	2	1	1	1	1	2	0	2	2
Cap, veh/h	388	856	372	774	1077	174	180	961	780	123	574	242
Arrive On Green	0.12	0.26	0.26	0.24	0.38	0.37	0.11	0.29	0.29	0.07	0.26	0.25
Sat Flow, veh/h	3183	3325	1445	3183	2843	459	1654	3299	1460	1667	2243	946
Grp Volume(v), veh/h	281	729	236	1001	542	543	216	584	804	112	449	427
Grp Sat Flow(s),veh/h/ln	1591	1663	1445	1591	1650	1653	1654	1650	1460	1667	1637	1552
Q Serve(g_s), s	10.1	24.9	13.0	29.0	36.2	36.2	13.0	18.2	34.7	8.0	30.5	30.5
Cycle Q Clear(g_c), s	10.1	24.9	13.0	29.0	36.2	36.2	13.0	18.2	34.7	8.0	30.5	30.5
Prop In Lane	1.00		1.00	1.00		0.28	1.00		1.00	1.00		0.61
Lane Grp Cap(c), veh/h	388	856	372	774	625	626	180	961	780	123	419	397
V/C Ratio(X)	0.72	0.85	0.63	1.29	0.87	0.87	1.20	0.61	1.03	0.91	1.07	1.07
Avail Cap(c_a), veh/h	388	879	382	774	644	645	180	961	780	123	419	397
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.4	42.1	22.2	45.1	34.2	34.3	53.1	36.4	27.7	54.8	44.3	44.5
Incr Delay (d2), s/veh	5.8	8.3	4.0	141.2	12.3	12.3	130.2	1.0	40.2	53.3	64.8	66.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	11.0	4.7	26.4	16.2	16.3	11.9	7.4	17.6	5.1	19.7	18.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.2	50.4	26.2	186.3	46.5	46.6	183.3	37.4	68.0	108.1	109.1	110.8
LnGrp LOS	E	D	C	F	D	D	F	D	F	F	F	F
Approach Vol, veh/h		1246			2086			1604			988	
Approach Delay, s/veh		47.1			113.6			72.4			109.7	
Approach LOS		D			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	34.5	18.5	49.2	12.8	38.7	33.0	34.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	12.5	30.0	13.5	46.0	8.3	34.2	28.5	31.0
Max Q Clear Time (g_c+I1), s	15.0	32.5	12.1	38.2	10.0	36.7	31.0	26.9
Green Ext Time (p_c), s	0.0	0.0	0.1	6.4	0.0	0.0	0.0	3.3

Intersection Summary	
HCM 6th Ctrl Delay	87.8
HCM 6th LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	691	668	565	357	765	650	549	0	436	436	0	741
Future Volume (vph)	691	668	565	357	765	650	549	0	436	436	0	741
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97		1.00	0.97		1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00		0.85	1.00		0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (prot)	3131	3260	1444	3162	3292	1458	3131		1458	3162		1430
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (perm)	3131	3260	1444	3162	3292	1458	3131		1458	3162		1430
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	727	703	595	376	805	684	578	0	459	459	0	780
RTOR Reduction (vph)	0	0	40	0	0	48	0	0	42	0	0	14
Lane Group Flow (vph)	727	703	555	376	805	636	578	0	417	459	0	766
Heavy Vehicles (%)	3%	2%	3%	2%	1%	2%	3%	0%	2%	2%	0%	4%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot		pm+ov	Prot		pm+ov
Protected Phases	3	8	6	7	4	2	6		7	2		3
Permitted Phases			8			4			6			2
Actuated Green, G (s)	35.5	32.3	63.1	33.7	30.5	61.3	30.8		64.5	30.8		66.3
Effective Green, g (s)	40.2	35.6	71.7	38.4	33.8	69.9	35.1		73.9	35.1		75.7
Actuated g/C Ratio	0.33	0.29	0.59	0.32	0.28	0.58	0.29		0.61	0.29		0.63
Clearance Time (s)	8.7	7.3	8.3	8.7	7.3	8.3	8.3		8.7	8.3		8.7
Vehicle Extension (s)	2.5	4.2	2.5	2.5	4.2	2.5	2.5		2.5	2.5		2.5
Lane Grp Cap (vph)	1039	958	902	1002	918	889	907		937	916		941
v/s Ratio Prot	0.23	0.22	0.18	0.12	c0.24	0.21	0.18		0.14	0.15		c0.27
v/s Ratio Perm			0.21			0.23			0.14			0.27
v/c Ratio	0.70	0.73	0.62	0.38	0.88	0.72	0.64		0.44	0.50		0.81
Uniform Delay, d1	35.2	38.5	15.9	32.1	41.7	18.4	37.5		12.6	35.7		17.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2	1.9	3.2	1.1	0.2	9.8	2.6	1.3		0.2	0.3		5.3
Delay (s)	37.1	41.7	16.9	32.2	51.5	21.0	38.7		12.9	36.0		22.6
Level of Service	D	D	B	C	D	C	D		B	D		C
Approach Delay (s)		32.8			36.4			27.3			27.6	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	31.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	121.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	99.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	691	668	565	357	765	650	549	0	436	436	0	741
Future Volume (veh/h)	691	668	565	357	765	650	549	0	436	436	0	741
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1709	1723	1709	1723	1736	1723	1709	0	1723	1723	0	1695
Adj Flow Rate, veh/h	727	703	0	376	805	0	578	0	0	459	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	2	3	2	1	2	3	0	2	2	0	4
Cap, veh/h	957	1143		877	1060		816	0		698	0	
Arrive On Green	0.30	0.35	0.00	0.28	0.32	0.00	0.26	0.00	0.00	0.22	0.00	0.00
Sat Flow, veh/h	3158	3273	1448	3183	3299	1460	3158	578		3183	459	
Grp Volume(v), veh/h	727	703	0	376	805	0	578	35.4		459	37.3	
Grp Sat Flow(s),veh/h/ln	1579	1637	1448	1591	1650	1460	1579	D		1591	D	
Q Serve(g_s), s	21.4	18.2	0.0	9.9	22.4	0.0	17.0			13.5		
Cycle Q Clear(g_c), s	21.4	18.2	0.0	9.9	22.4	0.0	17.0			13.5		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	957	1143		877	1060		816			698		
V/C Ratio(X)	0.76	0.62		0.43	0.76		0.71			0.66		
Avail Cap(c_a), veh/h	1263	1606		877	1130		1137			1146		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00			1.00		
Uniform Delay (d), s/veh	32.3	27.6	0.0	30.5	31.2	0.0	34.5			36.5		
Incr Delay (d2), s/veh	1.7	0.8	0.0	0.2	3.2	0.0	0.9			0.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	8.1	7.0	0.0	3.8	9.1	0.0	6.3			5.1		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.0	28.5	0.0	30.8	34.4	0.0	35.4			37.3		
LnGrp LOS	C	C		C	C		D			D		
Approach Vol, veh/h		1430	A		1181	A						
Approach Delay, s/veh		31.3			33.3							
Approach LOS		C			C							

Timer - Assigned Phs	1		3	4	5		7	8
Phs Duration (G+Y+Rc), s	30.5		35.1	36.9	26.5		32.2	39.8
Change Period (Y+Rc), s	8.3		* 8.7	7.3	8.3		* 8.7	7.3
Max Green Setting (Gmax), s	32.6		* 36	31.8	32.6		* 21	47.0
Max Q Clear Time (g_c+I1), s	19.0		23.4	24.4	15.5		11.9	20.2
Green Ext Time (p_c), s	3.2		3.0	5.2	2.7		1.2	12.2

Intersection Summary	
HCM 6th Ctrl Delay	33.3
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	187	1289	100	197	1308	580	103	50	143	522	77	341
Future Volume (vph)	187	1289	100	197	1308	580	103	50	143	522	77	341
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.89		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1630	3195		1662	3197	1417	1599	1506		3162	1481	
Flt Permitted	0.10	1.00		0.10	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	166	3195		169	3197	1417	1599	1506		3162	1481	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	195	1343	104	205	1362	604	107	52	149	544	80	355
RTOR Reduction (vph)	0	5	0	0	0	201	0	85	0	0	101	0
Lane Group Flow (vph)	195	1442	0	205	1363	403	107	116	0	544	334	0
Confl. Peds. (#/hr)	12		2	2		12	5					5
Heavy Vehicles (%)	2%	3%	0%	0%	4%	2%	4%	7%	2%	2%	4%	2%
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)	46.5	40.9		46.5	40.9	49.5	8.0	25.0		8.6	25.6	
Effective Green, g (s)	47.5	41.4		47.5	41.4	50.5	8.5	25.5		9.1	26.1	
Actuated g/C Ratio	0.48	0.42		0.48	0.42	0.51	0.09	0.26		0.09	0.27	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	1.5	4.2		2.5	4.2	2.5	2.5	2.5		2.5	1.5	
Lane Grp Cap (vph)	171	1348		174	1349	787	138	391		293	394	
v/s Ratio Prot	0.07	0.45		c0.07	0.43	0.05	0.07	0.08		c0.17	c0.23	
v/s Ratio Perm	0.48			c0.50		0.24						
v/c Ratio	1.14	1.07		1.18	1.01	0.51	0.78	0.30		1.86	0.85	
Uniform Delay, d1	22.4	28.3		23.2	28.3	15.7	43.9	29.1		44.5	34.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	111.6	45.6		124.3	27.1	0.4	22.5	0.3		398.4	15.0	
Delay (s)	134.0	74.0		147.5	55.4	16.1	66.4	29.4		442.9	49.1	
Level of Service	F	E		F	E	B	E	C		F	D	
Approach Delay (s)		81.1			53.2			42.3			267.9	
Approach LOS		F			D			D			F	

Intersection Summary			
HCM 2000 Control Delay	102.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	98.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	102.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	187	1289	100	197	1308	580	103	50	143	522	77	341
Future Volume (veh/h)	187	1289	100	197	1308	580	103	50	143	522	77	341
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1709	1709	1750	1695	1723	1695	1654	1654	1723	1695	1695
Adj Flow Rate, veh/h	195	1343	104	205	1362	604	107	52	149	544	80	355
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	3	3	0	4	2	4	7	7	2	4	4
Cap, veh/h	161	1180	91	162	1246	680	128	121	346	270	88	392
Arrive On Green	0.06	0.39	0.38	0.06	0.39	0.39	0.08	0.32	0.32	0.08	0.33	0.32
Sat Flow, veh/h	1641	3050	235	1667	3221	1437	1615	376	1078	3183	271	1202
Grp Volume(v), veh/h	195	713	734	205	1362	604	107	0	201	544	0	435
Grp Sat Flow(s),veh/h/ln	1641	1624	1662	1667	1611	1437	1615	0	1454	1591	0	1472
Q Serve(g_s), s	6.0	41.0	41.0	6.0	41.0	40.6	6.9	0.0	11.6	9.0	0.0	30.0
Cycle Q Clear(g_c), s	6.0	41.0	41.0	6.0	41.0	40.6	6.9	0.0	11.6	9.0	0.0	30.0
Prop In Lane	1.00		0.14	1.00		1.00	1.00		0.74	1.00		0.82
Lane Grp Cap(c), veh/h	161	628	643	162	1246	680	128	0	467	270	0	481
V/C Ratio(X)	1.21	1.13	1.14	1.26	1.09	0.89	0.84	0.00	0.43	2.01	0.00	0.90
Avail Cap(c_a), veh/h	161	628	643	162	1246	680	128	0	604	270	0	619
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.6	32.5	32.5	27.4	32.5	25.5	48.1	0.0	28.5	48.5	0.0	34.3
Incr Delay (d2), s/veh	139.6	79.2	81.7	158.4	54.9	14.0	35.3	0.0	0.5	468.9	0.0	12.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.6	29.1	30.3	9.5	24.7	15.6	4.0	0.0	4.1	21.1	0.0	12.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	167.2	111.7	114.2	185.9	87.4	39.6	83.4	0.0	29.0	517.4	0.0	46.8
LnGrp LOS	F	F	F	F	F	D	F	A	C	F	A	D
Approach Vol, veh/h		1642			2171			308			979	
Approach Delay, s/veh		119.4			83.4			47.9			308.3	
Approach LOS		F			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	38.0	10.0	45.0	12.4	38.6	10.0	45.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	43.5	5.5	40.5	7.9	44.1	5.5	40.5
Max Q Clear Time (g_c+I1), s	11.0	13.6	8.0	43.0	8.9	32.0	8.0	43.0
Green Ext Time (p_c), s	0.0	0.9	0.0	0.0	0.0	1.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	136.0
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.
User approved changes to right turn type.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	119	226	183	198	310	328	160	1324	136	159	1342	124
Future Volume (vph)	119	226	183	198	310	328	160	1324	136	159	1342	124
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95		0.97	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1646	3050		1630	1733	1462	1662	3216		3162	3240	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1646	3050		1630	1733	1462	1662	3216		3162	3240	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	123	233	189	204	320	338	165	1365	140	164	1384	128
RTOR Reduction (vph)	0	134	0	0	0	119	0	6	0	0	5	0
Lane Group Flow (vph)	123	288	0	204	320	219	165	1499	0	164	1507	0
Confl. Peds. (#/hr)	4		1	1		4	4		2	2		4
Heavy Vehicles (%)	1%	2%	0%	2%	1%	0%	0%	2%	0%	2%	1%	2%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases						4						
Actuated Green, G (s)	11.3	23.7		12.5	24.9	24.9	8.5	55.4		9.4	56.3	
Effective Green, g (s)	11.8	24.2		13.0	25.4	25.4	10.0	56.9		9.9	56.8	
Actuated g/C Ratio	0.10	0.20		0.11	0.21	0.21	0.08	0.47		0.08	0.47	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	5.5	5.5		4.5	4.5	
Vehicle Extension (s)	2.0	1.5		2.0	1.5	1.5	2.0	3.0		1.0	3.0	
Lane Grp Cap (vph)	161	615		176	366	309	138	1524		260	1533	
v/s Ratio Prot	0.07	0.09		c0.13	c0.18		0.10	c0.47		0.05	c0.47	
v/s Ratio Perm						0.15						
v/c Ratio	0.76	0.47		1.16	0.87	0.71	1.20	0.98		0.63	0.98	
Uniform Delay, d1	52.7	42.2		53.5	45.8	43.9	55.0	31.1		53.3	31.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	17.4	0.2		117.1	19.5	6.0	138.7	19.1		3.6	19.3	
Delay (s)	70.2	42.4		170.6	65.2	49.8	193.7	50.2		56.9	50.4	
Level of Service	E	D		F	E	D	F	D		E	D	
Approach Delay (s)		48.7			84.1			64.4			51.0	
Approach LOS		D			F			E			D	

Intersection Summary			
HCM 2000 Control Delay	61.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	93.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	226	183	198	310	328	160	1324	136	159	1342	124
Future Volume (veh/h)	119	226	183	198	310	328	160	1324	136	159	1342	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1736	1723	1723	1723	1736	1750	1750	1723	1723	1723	1736	1736
Adj Flow Rate, veh/h	123	233	189	204	320	338	165	1365	140	164	1384	128
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	2	2	2	1	0	0	2	2	2	1	1
Cap, veh/h	153	417	323	178	441	375	193	1409	144	159	1234	114
Arrive On Green	0.09	0.24	0.23	0.11	0.25	0.25	0.12	0.47	0.46	0.05	0.40	0.40
Sat Flow, veh/h	1654	1750	1357	1641	1736	1476	1667	2997	306	3183	3053	281
Grp Volume(v), veh/h	123	217	205	204	320	338	165	742	763	164	745	767
Grp Sat Flow(s),veh/h/ln	1654	1637	1470	1641	1736	1476	1667	1637	1667	1591	1650	1684
Q Serve(g_s), s	8.7	14.0	14.8	13.0	20.2	26.6	11.7	52.7	53.7	6.0	48.5	48.5
Cycle Q Clear(g_c), s	8.7	14.0	14.8	13.0	20.2	26.6	11.7	52.7	53.7	6.0	48.5	48.5
Prop In Lane	1.00		0.92	1.00		1.00	1.00		0.18	1.00		0.17
Lane Grp Cap(c), veh/h	153	390	350	178	441	375	193	769	784	159	667	681
V/C Ratio(X)	0.80	0.56	0.58	1.15	0.73	0.90	0.85	0.96	0.97	1.03	1.12	1.13
Avail Cap(c_a), veh/h	178	443	398	178	472	401	193	769	784	159	667	681
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.20	0.20	0.20	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.4	40.1	40.7	53.5	40.9	43.3	52.0	30.8	31.2	57.0	35.8	35.8
Incr Delay (d2), s/veh	17.4	0.5	0.8	79.6	0.9	5.6	3.4	4.3	5.1	79.6	71.6	75.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	5.6	5.4	9.2	8.6	10.1	5.0	20.7	21.6	4.2	32.0	33.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.7	40.6	41.4	133.1	41.8	48.9	55.5	35.1	36.3	136.6	107.3	111.0
LnGrp LOS	E	D	D	F	D	D	E	D	D	F	F	F
Approach Vol, veh/h		545			862			1670			1676	
Approach Delay, s/veh		47.7			66.2			37.7			111.9	
Approach LOS		D			E			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.9	52.5	15.1	34.5	10.0	60.4	17.0	32.6
Change Period (Y+Rc), s	5.5	4.5	4.5	4.5	4.5	5.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	48.0	12.4	32.1	5.5	51.0	12.5	32.0
Max Q Clear Time (g_c+I1), s	13.7	50.5	10.7	28.6	8.0	55.7	15.0	16.8
Green Ext Time (p_c), s	0.0	0.0	0.0	1.4	0.0	0.0	0.0	2.8

Intersection Summary	
HCM 6th Ctrl Delay	70.2
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	366	456	296	90	522	92	444	1152	98	150	1162	289
Future Volume (vph)	366	456	296	90	522	92	444	1152	98	150	1162	289
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.94		1.00	0.98		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1646	3061		1630	3210		3131	3292	1410	1599	3194	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1646	3061		1630	3210		3131	3292	1410	1599	3194	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	377	470	305	93	538	95	458	1188	101	155	1198	298
RTOR Reduction (vph)	0	84	0	0	12	0	0	0	62	0	16	0
Lane Group Flow (vph)	377	691	0	93	621	0	458	1188	39	155	1480	0
Confl. Peds. (#/hr)	1		7	7		1			2	2		
Heavy Vehicles (%)	1%	1%	2%	2%	0%	7%	3%	1%	4%	4%	1%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases									6			
Actuated Green, G (s)	18.0	35.2		10.0	27.2		11.0	47.2	47.2	14.0	50.2	
Effective Green, g (s)	18.0	35.7		10.0	27.7		11.0	48.6	48.6	14.0	51.6	
Actuated g/C Ratio	0.14	0.29		0.08	0.22		0.09	0.39	0.39	0.11	0.42	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	5.4	5.4	4.0	5.4	
Vehicle Extension (s)	1.5	2.5		1.5	2.5		1.5	4.7	4.7	1.5	4.7	
Lane Grp Cap (vph)	238	879		131	715		277	1287	551	180	1325	
v/s Ratio Prot	c0.23	0.23		0.06	c0.19		c0.15	0.36		c0.10	c0.46	
v/s Ratio Perm									0.03			
v/c Ratio	1.58	0.79		0.71	0.87		1.65	0.92	0.07	0.86	1.12	
Uniform Delay, d1	53.1	40.8		55.7	46.6		56.6	36.1	23.7	54.2	36.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	281.9	4.5		13.4	10.8		309.7	11.5	0.1	31.0	63.5	
Delay (s)	335.1	45.3		69.2	57.4		366.3	47.5	23.8	85.2	99.8	
Level of Service	F	D		E	E		F	D	C	F	F	
Approach Delay (s)		140.1			58.9			129.7			98.4	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	112.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	124.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	113.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	366	456	296	90	522	92	444	1152	98	150	1162	289
Future Volume (veh/h)	366	456	296	90	522	92	444	1152	98	150	1162	289
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1736	1736	1736	1723	1750	1750	1709	1736	1695	1695	1736	1736
Adj Flow Rate, veh/h	377	470	305	93	538	95	458	1188	101	155	1198	298
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	2	0	0	3	1	4	4	1	1
Cap, veh/h	232	611	394	114	699	123	271	1292	562	154	1054	259
Arrive On Green	0.14	0.32	0.31	0.07	0.25	0.24	0.09	0.39	0.39	0.10	0.40	0.39
Sat Flow, veh/h	1654	1916	1237	1641	2822	496	3158	3299	1435	1615	2624	645
Grp Volume(v), veh/h	377	404	371	93	316	317	458	1188	101	155	748	748
Grp Sat Flow(s),veh/h/ln	1654	1650	1504	1641	1663	1656	1579	1650	1435	1615	1650	1619
Q Serve(g_s), s	18.0	28.4	28.6	7.2	22.7	22.9	11.0	43.9	4.4	12.3	51.5	51.5
Cycle Q Clear(g_c), s	18.0	28.4	28.6	7.2	22.7	22.9	11.0	43.9	4.4	12.3	51.5	51.5
Prop In Lane	1.00		0.82	1.00		0.30	1.00		1.00	1.00		0.40
Lane Grp Cap(c), veh/h	232	526	479	114	412	410	271	1292	562	154	662	650
V/C Ratio(X)	1.62	0.77	0.77	0.82	0.77	0.77	1.69	0.92	0.18	1.00	1.13	1.15
Avail Cap(c_a), veh/h	232	559	510	153	486	484	271	1299	565	154	662	650
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.1	39.4	39.7	58.9	44.8	45.0	58.6	37.1	14.3	58.0	38.4	38.7
Incr Delay (d2), s/veh	299.9	5.8	6.5	16.4	5.7	5.9	326.6	10.9	0.3	73.7	76.1	84.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	26.8	12.2	11.3	3.5	9.9	10.0	16.6	18.8	2.0	8.1	34.2	35.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	355.1	45.2	46.2	75.3	50.5	50.9	385.2	48.0	14.6	131.7	114.5	123.6
LnGrp LOS	F	D	D	E	D	D	F	D	B	F	F	F
Approach Vol, veh/h		1152			726			1747			1651	
Approach Delay, s/veh		146.9			53.9			134.5			120.2	
Approach LOS		F			D			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	55.5	22.0	35.8	16.3	54.2	12.9	44.9
Change Period (Y+Rc), s	* 4	5.4	4.0	4.5	* 4	5.4	4.0	4.5
Max Green Setting (Gmax), s	* 11	50.1	18.0	37.0	* 12	49.1	12.0	43.0
Max Q Clear Time (g_c+I1), s	13.0	53.5	20.0	24.9	14.3	45.9	9.2	30.6
Green Ext Time (p_c), s	0.0	0.0	0.0	4.8	0.0	2.9	0.0	6.0

Intersection Summary	
HCM 6th Ctrl Delay	121.6
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	581	136	659	762	291	149	958	587	374	932	71
Future Volume (vph)	166	581	136	659	762	291	149	958	587	374	932	71
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	3.5	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1630	3095		3162	1683	1417	1662	3228	1433	3162	3292	1403
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1630	3095		3162	1683	1417	1662	3228	1433	3162	3292	1403
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	175	612	143	694	802	306	157	1008	618	394	981	75
RTOR Reduction (vph)	0	13	0	0	0	23	0	0	19	0	0	46
Lane Group Flow (vph)	175	742	0	694	802	283	157	1008	599	394	981	29
Confl. Peds. (#/hr)									2	2		
Heavy Vehicles (%)	2%	4%	6%	2%	4%	5%	0%	3%	3%	2%	1%	6%
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases						8			2			6
Actuated Green, G (s)	13.0	39.9		34.6	61.5	76.5	13.0	42.6	77.2	15.0	44.6	57.6
Effective Green, g (s)	13.0	40.4		34.6	62.0	77.5	13.0	44.0	77.2	15.0	46.0	57.6
Actuated g/C Ratio	0.09	0.27		0.23	0.41	0.52	0.09	0.29	0.51	0.10	0.31	0.38
Clearance Time (s)	4.0	4.5		4.0	4.5	4.0	4.0	5.4	4.0	4.0	5.4	4.0
Vehicle Extension (s)	2.5	2.5		2.1	2.5	2.1	2.1	4.7	2.1	2.1	4.7	2.5
Lane Grp Cap (vph)	141	833		729	695	732	144	946	737	316	1009	538
v/s Ratio Prot	c0.11	0.24		0.22	c0.48	0.04	0.09	c0.31	0.19	c0.12	0.30	0.00
v/s Ratio Perm						0.16			0.23			0.02
v/c Ratio	1.24	0.89		0.95	1.15	0.39	1.09	1.07	0.81	1.25	0.97	0.05
Uniform Delay, d1	68.5	52.7		56.9	44.0	21.9	68.5	53.0	30.4	67.5	51.4	29.1
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	154.6	11.7		22.1	85.1	0.1	101.2	48.4	6.5	134.8	21.9	0.0
Delay (s)	223.1	64.4		79.0	129.1	22.0	169.7	101.4	36.8	202.3	73.3	29.1
Level of Service	F	E		E	F	C	F	F	D	F	E	C
Approach Delay (s)		94.2			91.6			85.0			106.1	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	93.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	107.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	581	136	659	762	291	149	958	587	374	932	71
Future Volume (veh/h)	166	581	136	659	762	291	149	958	587	374	932	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1695	1695	1723	1695	1682	1750	1709	1709	1723	1736	1668
Adj Flow Rate, veh/h	175	612	143	694	802	306	157	1008	618	394	981	75
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	4	4	2	4	5	0	3	3	2	1	6
Cap, veh/h	142	700	163	732	701	736	144	953	743	318	1012	542
Arrive On Green	0.09	0.27	0.27	0.23	0.41	0.41	0.09	0.29	0.28	0.10	0.31	0.30
Sat Flow, veh/h	1641	2593	605	3183	1695	1425	1667	3247	1445	3183	3299	1411
Grp Volume(v), veh/h	175	380	375	694	802	306	157	1008	618	394	981	75
Grp Sat Flow(s),veh/h/ln	1641	1611	1587	1591	1695	1425	1667	1624	1445	1591	1650	1411
Q Serve(g_s), s	13.0	33.8	33.9	32.2	62.0	19.8	13.0	44.0	42.6	15.0	44.0	5.2
Cycle Q Clear(g_c), s	13.0	33.8	33.9	32.2	62.0	19.8	13.0	44.0	42.6	15.0	44.0	5.2
Prop In Lane	1.00		0.38	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	142	435	428	732	701	736	144	953	743	318	1012	542
V/C Ratio(X)	1.23	0.87	0.88	0.95	1.14	0.42	1.09	1.06	0.83	1.24	0.97	0.14
Avail Cap(c_a), veh/h	142	435	428	743	701	736	144	953	743	318	1012	542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	68.5	52.3	52.4	56.9	44.0	22.3	68.5	53.0	31.0	67.5	51.3	30.1
Incr Delay (d2), s/veh	150.4	17.2	17.8	20.9	81.3	0.3	100.0	45.8	8.6	131.1	21.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.4	15.6	15.5	15.0	41.3	6.7	9.5	23.5	20.3	11.8	20.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	218.9	69.5	70.2	77.8	125.3	22.6	168.5	98.8	39.5	198.6	72.7	30.3
LnGrp LOS	F	E	E	E	F	C	F	F	D	F	E	C
Approach Vol, veh/h		930			1802			1783			1450	
Approach Delay, s/veh		97.9			89.6			84.4			104.7	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	48.0	38.5	44.5	17.0	50.0	17.0	66.0
Change Period (Y+Rc), s	4.0	* 5.4	4.0	4.5	4.0	* 5.4	4.0	4.5
Max Green Setting (Gmax), s	15.0	* 43	35.0	39.5	13.0	* 45	13.0	61.5
Max Q Clear Time (g_c+I1), s	17.0	46.0	34.2	35.9	15.0	46.0	15.0	64.0
Green Ext Time (p_c), s	0.0	0.0	0.3	2.1	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	93.0
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
User approved changes to right turn type.

Intersection	
Int Delay, s/veh	33.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	0	17	23	0	44	6	1596	9	16	1650	20
Future Vol, veh/h	13	0	17	23	0	44	6	1596	9	16	1650	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	25	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	20	2	0	2	3	0	0	2	2
Mvmt Flow	14	0	18	24	0	47	6	1698	10	17	1755	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2661	3521	888	2628	3526	855	1776	0	0	1709	0	0
Stage 1	1800	1800	-	1716	1716	-	-	-	-	-	-	-
Stage 2	861	1721	-	912	1810	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.9	6.54	6.9	4.14	-	-	4.1	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.9	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.9	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.7	4.02	3.3	2.22	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 11	6	287	~ 9	6	306	346	-	-	377	-	-
Stage 1	83	130	-	77	143	-	-	-	-	-	-	-
Stage 2	317	143	-	261	129	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 9	6	287	~ 8	6	306	346	-	-	377	-	-
Mov Cap-2 Maneuver	~ 9	6	-	~ 8	6	-	-	-	-	-	-	-
Stage 1	82	124	-	76	140	-	-	-	-	-	-	-
Stage 2	264	140	-	234	123	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 702.7	$ 1374.4	0.1	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	346	-	-	20	22	377	-	-
HCM Lane V/C Ratio	0.018	-	-	1.596	3.24	0.045	-	-
HCM Control Delay (s)	15.6	-	-	$ 702.7	$ 1374.4	15	-	-
HCM Lane LOS	C	-	-	F	F	C	-	-
HCM 95th %tile Q(veh)	0.1	-	-	4.3	9.1	0.1	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	8	1603	1	1	1689
Future Vol, veh/h	4	8	1603	1	1	1689
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	3	0	0	2
Mvmt Flow	4	9	1742	1	1	1836

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2663	872	0	0	1743	0
Stage 1	1743	-	-	-	-	-
Stage 2	920	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	19	298	-	-	365	-
Stage 1	129	-	-	-	-	-
Stage 2	353	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	19	298	-	-	365	-
Mov Cap-2 Maneuver	93	-	-	-	-	-
Stage 1	129	-	-	-	-	-
Stage 2	353	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.6	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	172	365	-
HCM Lane V/C Ratio	-	-	0.076	0.003	-
HCM Control Delay (s)	-	-	27.6	14.9	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	22	1582	13	40	1653
Future Vol, veh/h	10	22	1582	13	40	1653
Conflicting Peds, #/hr	1	0	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	24	1720	14	43	1797

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2714	868	0	0	1735	0
Stage 1	1728	-	-	-	-	-
Stage 2	986	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	17	300	-	-	368	-
Stage 1	131	-	-	-	-	-
Stage 2	327	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	15	300	-	-	368	-
Mov Cap-2 Maneuver	81	-	-	-	-	-
Stage 1	116	-	-	-	-	-
Stage 2	327	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	33	0	0.4
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	163	368	-
HCM Lane V/C Ratio	-	-	0.213	0.118	-
HCM Control Delay (s)	-	-	33	16.1	-
HCM Lane LOS	-	-	D	C	-
HCM 95th %tile Q(veh)	-	-	0.8	0.4	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	270	700	238	973	897	145	207	561	777	108	594	250
Future Volume (vph)	270	700	238	973	897	145	207	561	777	108	594	250
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3162	3325	1424	3162	3208		1646	3292	1458	1662	3124	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3162	3325	1424	3162	3208		1646	3292	1458	1662	3124	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	281	729	248	1014	934	151	216	584	809	112	619	260
RTOR Reduction (vph)	0	0	178	0	11	0	0	0	25	0	39	0
Lane Group Flow (vph)	281	729	70	1014	1074	0	216	584	784	113	840	0
Confl. Peds. (#/hr)	2		2	2		2						
Heavy Vehicles (%)	2%	0%	3%	2%	1%	3%	1%	1%	2%	0%	2%	1%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	3	8		7	4		1	6	6 7	5	2	
Permitted Phases			8									
Actuated Green, G (s)	14.4	29.2	29.2	28.6	43.4		12.5	31.9	65.0	10.6	30.0	
Effective Green, g (s)	14.9	29.7	29.7	29.1	43.9		13.0	32.4	65.5	11.1	30.5	
Actuated g/C Ratio	0.13	0.25	0.25	0.25	0.37		0.11	0.27	0.55	0.09	0.26	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	1.5	4.2	4.2	1.5	4.2		1.5	2.5		1.5	2.5	
Lane Grp Cap (vph)	398	834	357	777	1190		180	901	807	155	805	
v/s Ratio Prot	0.09	0.22		c0.32	c0.33		0.13	0.18	c0.54	0.07	c0.27	
v/s Ratio Perm			0.05									
v/c Ratio	0.71	0.87	0.20	1.31	0.90		1.20	0.65	0.97	0.73	1.04	
Uniform Delay, d1	49.6	42.5	34.9	44.6	35.2		52.6	37.9	25.5	52.1	43.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.6	10.5	0.4	146.5	9.9		131.2	1.4	24.8	13.5	43.8	
Delay (s)	54.2	53.0	35.3	191.1	45.1		183.8	39.3	50.3	65.6	87.7	
Level of Service	D	D	D	F	D		F	D	D	E	F	
Approach Delay (s)		49.8			115.6			64.3			85.2	
Approach LOS		D			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	82.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	118.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	103.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	270	700	238	973	897	145	207	561	777	108	594	250
Future Volume (veh/h)	270	700	238	973	897	145	207	561	777	108	594	250
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1750	1709	1723	1736	1736	1736	1736	1723	1750	1723	1723
Adj Flow Rate, veh/h	281	729	248	1014	934	151	216	584	809	112	619	260
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	0	3	2	1	1	1	1	2	0	2	2
Cap, veh/h	388	856	372	774	1077	174	180	960	780	123	575	241
Arrive On Green	0.12	0.26	0.26	0.24	0.38	0.37	0.11	0.29	0.29	0.07	0.26	0.25
Sat Flow, veh/h	3183	3325	1445	3183	2843	459	1654	3299	1460	1667	2247	943
Grp Volume(v), veh/h	281	729	248	1014	542	543	216	584	809	112	451	428
Grp Sat Flow(s),veh/h/ln	1591	1663	1445	1591	1650	1653	1654	1650	1460	1667	1637	1553
Q Serve(g_s), s	10.1	24.9	13.8	29.0	36.2	36.3	13.0	18.2	34.7	8.0	30.5	30.5
Cycle Q Clear(g_c), s	10.1	24.9	13.8	29.0	36.2	36.3	13.0	18.2	34.7	8.0	30.5	30.5
Prop In Lane	1.00		1.00	1.00		0.28	1.00		1.00	1.00		0.61
Lane Grp Cap(c), veh/h	388	856	372	774	625	626	180	960	780	123	419	397
V/C Ratio(X)	0.72	0.85	0.67	1.31	0.87	0.87	1.20	0.61	1.04	0.91	1.08	1.08
Avail Cap(c_a), veh/h	388	879	382	774	644	645	180	960	780	123	419	397
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.4	42.1	22.4	45.1	34.2	34.3	53.1	36.4	27.7	54.8	44.3	44.5
Incr Delay (d2), s/veh	5.7	8.3	5.0	148.5	12.3	12.3	130.2	1.0	42.2	53.4	66.0	67.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	11.0	5.1	27.2	16.2	16.3	11.9	7.4	18.0	5.1	19.8	19.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.1	50.4	27.4	193.6	46.5	46.6	183.3	37.4	69.9	108.2	110.3	112.0
LnGrp LOS	E	D	C	F	D	D	F	D	F	F	F	F
Approach Vol, veh/h		1258			2099			1609			991	
Approach Delay, s/veh		47.1			117.6			73.3			110.8	
Approach LOS		D			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	34.5	18.5	49.2	12.8	38.7	33.0	34.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	12.5	30.0	13.5	46.0	8.3	34.2	28.5	31.0
Max Q Clear Time (g_c+I1), s	15.0	32.5	12.1	38.3	10.0	36.7	31.0	26.9
Green Ext Time (p_c), s	0.0	0.0	0.1	6.4	0.0	0.0	0.0	3.3

Intersection Summary	
HCM 6th Ctrl Delay	89.6
HCM 6th LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	691	673	571	357	791	650	553	0	436	436	0	741
Future Volume (vph)	691	673	571	357	791	650	553	0	436	436	0	741
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97		1.00	0.97		1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00		0.85	1.00		0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (prot)	3131	3260	1444	3162	3292	1458	3131		1458	3162		1430
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (perm)	3131	3260	1444	3162	3292	1458	3131		1458	3162		1430
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	727	708	601	376	833	684	582	0	459	459	0	780
RTOR Reduction (vph)	0	0	42	0	0	48	0	0	43	0	0	15
Lane Group Flow (vph)	727	708	559	376	833	636	582	0	416	459	0	765
Heavy Vehicles (%)	3%	2%	3%	2%	1%	2%	3%	0%	2%	2%	0%	4%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot		pm+ov	Prot		pm+ov
Protected Phases	3	8	6	7	4	2	6		7	2		3
Permitted Phases			8			4			6			2
Actuated Green, G (s)	35.7	32.7	62.8	34.7	31.7	61.8	30.1		64.8	30.1		65.8
Effective Green, g (s)	40.4	36.0	71.4	39.4	35.0	70.4	34.4		74.2	34.4		75.2
Actuated g/C Ratio	0.33	0.30	0.59	0.32	0.29	0.58	0.28		0.61	0.28		0.62
Clearance Time (s)	8.7	7.3	8.3	8.7	7.3	8.3	8.3		8.7	8.3		8.7
Vehicle Extension (s)	2.5	4.2	2.5	2.5	4.2	2.5	2.5		2.5	2.5		2.5
Lane Grp Cap (vph)	1038	963	893	1022	945	890	884		936	893		929
v/s Ratio Prot	0.23	0.22	0.18	0.12	c0.25	0.20	0.19		0.14	0.15		c0.27
v/s Ratio Perm			0.21			0.23			0.14			0.26
v/c Ratio	0.70	0.74	0.63	0.37	0.88	0.71	0.66		0.44	0.51		0.82
Uniform Delay, d1	35.4	38.6	16.5	31.6	41.4	18.5	38.5		12.8	36.7		18.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2	2.0	3.2	1.2	0.2	10.0	2.6	1.6		0.2	0.4		5.9
Delay (s)	37.4	41.8	17.7	31.8	51.5	21.1	40.1		13.0	37.1		24.0
Level of Service	D	D	B	C	D	C	D		B	D		C
Approach Delay (s)		33.1			36.6			28.2			28.9	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	32.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	121.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	100.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	691	673	571	357	791	650	553	0	436	436	0	741
Future Volume (veh/h)	691	673	571	357	791	650	553	0	436	436	0	741
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1709	1723	1709	1723	1736	1723	1709	0	1723	1723	0	1695
Adj Flow Rate, veh/h	727	708	0	376	833	0	582	0	0	459	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	2	3	2	1	2	3	0	2	2	0	4
Cap, veh/h	951	1141		891	1080		810	0		691	0	
Arrive On Green	0.30	0.35	0.00	0.28	0.33	0.00	0.26	0.00	0.00	0.22	0.00	0.00
Sat Flow, veh/h	3158	3273	1448	3183	3299	1460	3158	582		3183	459	
Grp Volume(v), veh/h	727	708	0	376	833	0	582	36.7		459	38.3	
Grp Sat Flow(s),veh/h/ln	1579	1637	1448	1591	1650	1460	1579	D		1591	D	
Q Serve(g_s), s	21.9	18.8	0.0	10.1	23.8	0.0	17.6			13.8		
Cycle Q Clear(g_c), s	21.9	18.8	0.0	10.1	23.8	0.0	17.6			13.8		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	951	1141		891	1080		810			691		
V/C Ratio(X)	0.76	0.62		0.42	0.77		0.72			0.66		
Avail Cap(c_a), veh/h	1238	1596		891	1142		1081			1090		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00			1.00		
Uniform Delay (d), s/veh	33.2	28.3	0.0	30.7	31.7	0.0	35.4			37.5		
Incr Delay (d2), s/veh	1.8	0.8	0.0	0.2	3.5	0.0	1.3			0.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	8.4	7.3	0.0	3.8	9.7	0.0	6.6			5.2		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.0	29.2	0.0	31.0	35.1	0.0	36.7			38.3		
LnGrp LOS	D	C		C	D		D			D		
Approach Vol, veh/h		1435	A		1209	A						
Approach Delay, s/veh		32.1			33.8							
Approach LOS		C			C							

Timer - Assigned Phs	1		3	4	5		7	8
Phs Duration (G+Y+Rc), s	30.8		35.5	38.2	26.7		33.3	40.5
Change Period (Y+Rc), s	8.3		* 8.7	7.3	8.3		* 8.7	7.3
Max Green Setting (Gmax), s	31.5		* 36	32.9	31.5		* 22	47.7
Max Q Clear Time (g_c+I1), s	19.6		23.9	25.8	15.8		12.1	20.8
Green Ext Time (p_c), s	3.0		3.0	5.2	2.6		1.2	12.4

Intersection Summary	
HCM 6th Ctrl Delay	34.2
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	187	1300	100	197	1338	580	103	50	143	522	77	344
Future Volume (vph)	187	1300	100	197	1338	580	103	50	143	522	77	344
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.89		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1630	3195		1662	3197	1417	1599	1506		3162	1481	
Flt Permitted	0.10	1.00		0.10	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	166	3195		169	3197	1417	1599	1506		3162	1481	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	195	1354	104	205	1394	604	107	52	149	544	80	358
RTOR Reduction (vph)	0	5	0	0	0	197	0	84	0	0	104	0
Lane Group Flow (vph)	195	1453	0	205	1394	407	107	117	0	544	334	0
Confl. Peds. (#/hr)	12		2	2		12	5					5
Heavy Vehicles (%)	2%	3%	0%	0%	4%	2%	4%	7%	2%	2%	4%	2%
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)	46.5	40.9		46.5	40.9	49.5	8.6	25.6		8.6	25.6	
Effective Green, g (s)	47.5	41.4		47.5	41.4	50.5	9.1	26.1		9.1	26.1	
Actuated g/C Ratio	0.48	0.42		0.48	0.42	0.51	0.09	0.26		0.09	0.26	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	1.5	4.2		2.5	4.2	2.5	2.5	2.5		2.5	1.5	
Lane Grp Cap (vph)	170	1340		173	1340	782	147	398		291	391	
v/s Ratio Prot	0.07	0.45		c0.07	0.44	0.05	0.07	0.08		c0.17	c0.23	
v/s Ratio Perm	0.48			c0.50		0.24						
v/c Ratio	1.15	1.08		1.18	1.04	0.52	0.73	0.29		1.87	0.85	
Uniform Delay, d1	22.9	28.7		23.2	28.7	16.0	43.6	29.0		44.8	34.5	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	114.1	50.9		126.9	35.7	0.5	15.5	0.3		404.1	15.9	
Delay (s)	137.0	79.6		150.2	64.4	16.5	59.1	29.3		448.9	50.4	
Level of Service	F	E		F	E	B	E	C		F	D	
Approach Delay (s)		86.4			59.2			39.6			271.2	
Approach LOS		F			E			D			F	

Intersection Summary			
HCM 2000 Control Delay	107.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	98.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	102.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	187	1300	100	197	1338	580	103	50	143	522	77	344
Future Volume (veh/h)	187	1300	100	197	1338	580	103	50	143	522	77	344
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1709	1709	1750	1695	1723	1695	1654	1654	1723	1695	1695
Adj Flow Rate, veh/h	195	1354	104	205	1394	604	107	52	149	544	80	358
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	3	3	0	4	2	4	7	7	2	4	4
Cap, veh/h	159	1169	89	161	1233	673	136	123	353	268	88	394
Arrive On Green	0.06	0.38	0.38	0.06	0.38	0.38	0.08	0.33	0.32	0.08	0.33	0.32
Sat Flow, veh/h	1641	3053	234	1667	3221	1437	1615	376	1078	3183	269	1203
Grp Volume(v), veh/h	195	718	740	205	1394	604	107	0	201	544	0	438
Grp Sat Flow(s),veh/h/ln	1641	1624	1663	1667	1611	1437	1615	0	1454	1591	0	1472
Q Serve(g_s), s	6.0	41.0	41.0	6.0	41.0	41.0	7.0	0.0	11.6	9.0	0.0	30.5
Cycle Q Clear(g_c), s	6.0	41.0	41.0	6.0	41.0	41.0	7.0	0.0	11.6	9.0	0.0	30.5
Prop In Lane	1.00		0.14	1.00		1.00	1.00		0.74	1.00		0.82
Lane Grp Cap(c), veh/h	159	622	637	161	1233	673	136	0	476	268	0	482
V/C Ratio(X)	1.23	1.15	1.16	1.28	1.13	0.90	0.79	0.00	0.42	2.03	0.00	0.91
Avail Cap(c_a), veh/h	159	622	637	161	1233	673	136	0	598	268	0	605
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.1	33.0	33.1	28.0	33.0	26.2	48.1	0.0	28.2	49.0	0.0	34.7
Incr Delay (d2), s/veh	144.4	86.9	89.7	163.6	69.3	15.2	25.2	0.0	0.4	477.9	0.0	13.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	30.4	31.6	9.7	27.1	16.1	3.7	0.0	4.1	21.3	0.0	12.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	172.6	120.0	122.7	191.6	102.3	41.4	73.3	0.0	28.7	527.0	0.0	48.3
LnGrp LOS	F	F	F	F	F	D	E	A	C	F	A	D
Approach Vol, veh/h		1653			2203			308			982	
Approach Delay, s/veh		127.4			93.9			44.2			313.5	
Approach LOS		F			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	39.1	10.0	45.0	13.0	39.1	10.0	45.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	43.5	5.5	40.5	8.5	43.5	5.5	40.5
Max Q Clear Time (g_c+I1), s	11.0	13.6	8.0	43.0	9.0	32.5	8.0	43.0
Green Ext Time (p_c), s	0.0	0.9	0.0	0.0	0.0	1.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	143.6
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.
User approved changes to right turn type.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	119	226	185	200	310	328	160	1335	136	159	1362	124
Future Volume (vph)	119	226	185	200	310	328	160	1335	136	159	1362	124
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95		0.97	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1646	3049		1630	1733	1462	1662	3216		3162	3240	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1646	3049		1630	1733	1462	1662	3216		3162	3240	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	123	233	191	206	320	338	165	1376	140	164	1404	128
RTOR Reduction (vph)	0	129	0	0	0	117	0	6	0	0	5	0
Lane Group Flow (vph)	123	295	0	206	320	221	165	1510	0	164	1527	0
Confl. Peds. (#/hr)	4		1	1		4	4		2	2		4
Heavy Vehicles (%)	1%	2%	0%	2%	1%	0%	0%	2%	0%	2%	1%	2%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases						4						
Actuated Green, G (s)	11.3	24.5		11.5	24.7	24.7	8.5	55.9		9.1	56.5	
Effective Green, g (s)	11.8	25.0		12.0	25.2	25.2	10.0	57.4		9.6	57.0	
Actuated g/C Ratio	0.10	0.21		0.10	0.21	0.21	0.08	0.48		0.08	0.48	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	5.5	5.5		4.5	4.5	
Vehicle Extension (s)	2.0	1.5		2.0	1.5	1.5	2.0	3.0		1.0	3.0	
Lane Grp Cap (vph)	161	635		163	363	307	138	1538		252	1539	
v/s Ratio Prot	0.07	0.10		c0.13	c0.18		0.10	c0.47		0.05	c0.47	
v/s Ratio Perm						0.15						
v/c Ratio	0.76	0.46		1.26	0.88	0.72	1.20	0.98		0.65	0.99	
Uniform Delay, d1	52.7	41.6		54.0	46.0	44.1	55.0	30.8		53.6	31.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	17.4	0.2		158.4	20.8	6.9	138.7	18.6		4.5	21.1	
Delay (s)	70.2	41.8		212.4	66.8	51.0	193.7	49.4		58.1	52.4	
Level of Service	E	D		F	E	D	F	D		E	D	
Approach Delay (s)		48.2			95.3			63.6			53.0	
Approach LOS		D			F			E			D	

Intersection Summary			
HCM 2000 Control Delay	63.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	93.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	226	185	200	310	328	160	1335	136	159	1362	124
Future Volume (veh/h)	119	226	185	200	310	328	160	1335	136	159	1362	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1736	1723	1723	1723	1736	1750	1750	1723	1723	1723	1736	1736
Adj Flow Rate, veh/h	123	233	191	206	320	338	165	1376	140	164	1404	128
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	2	2	2	1	0	0	2	2	2	1	1
Cap, veh/h	153	425	333	164	437	371	183	1418	143	159	1261	114
Arrive On Green	0.09	0.24	0.24	0.10	0.25	0.25	0.11	0.47	0.46	0.05	0.41	0.41
Sat Flow, veh/h	1654	1741	1364	1641	1736	1476	1667	3000	304	3183	3057	277
Grp Volume(v), veh/h	123	218	206	206	320	338	165	747	769	164	754	778
Grp Sat Flow(s),veh/h/ln	1654	1637	1469	1641	1736	1476	1667	1637	1667	1591	1650	1685
Q Serve(g_s), s	8.7	14.0	14.8	12.0	20.3	26.7	11.7	53.2	54.2	6.0	49.5	49.5
Cycle Q Clear(g_c), s	8.7	14.0	14.8	12.0	20.3	26.7	11.7	53.2	54.2	6.0	49.5	49.5
Prop In Lane	1.00		0.93	1.00		1.00	1.00		0.18	1.00		0.16
Lane Grp Cap(c), veh/h	153	400	359	164	437	371	183	773	788	159	680	695
V/C Ratio(X)	0.80	0.55	0.57	1.26	0.73	0.91	0.90	0.97	0.98	1.03	1.11	1.12
Avail Cap(c_a), veh/h	178	443	398	164	457	389	183	773	788	159	680	695
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.20	0.20	0.20	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.4	39.6	40.1	54.0	41.2	43.6	52.7	30.7	31.1	57.0	35.3	35.3
Incr Delay (d2), s/veh	17.4	0.4	0.7	124.9	1.0	6.5	5.7	4.4	5.4	79.6	68.1	71.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	5.6	5.4	10.6	8.7	10.2	5.2	20.8	21.8	4.2	31.9	33.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.7	40.0	40.8	178.9	42.2	50.1	58.5	35.1	36.5	136.6	103.4	107.1
LnGrp LOS	E	D	D	F	D	D	E	D	D	F	F	F
Approach Vol, veh/h		547			864			1681			1696	
Approach Delay, s/veh		47.2			77.9			38.0			108.3	
Approach LOS		D			E			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.2	53.5	15.1	34.2	10.0	60.7	16.0	33.3
Change Period (Y+Rc), s	5.5	4.5	4.5	4.5	4.5	5.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	49.0	12.4	31.1	5.5	52.0	11.5	32.0
Max Q Clear Time (g_c+I1), s	13.7	51.5	10.7	28.7	8.0	56.2	14.0	16.8
Green Ext Time (p_c), s	0.0	0.0	0.0	1.0	0.0	0.0	0.0	2.8

Intersection Summary	
HCM 6th Ctrl Delay	71.2
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	366	456	302	95	522	92	447	1162	105	150	1185	289
Future Volume (vph)	366	456	302	95	522	92	447	1162	105	150	1185	289
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.97	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.94		1.00	0.98		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1646	3059		1630	3210		3131	3292	1410	1599	3195	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1646	3059		1630	3210		3131	3292	1410	1599	3195	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	377	470	311	98	538	95	461	1198	108	155	1222	298
RTOR Reduction (vph)	0	89	0	0	12	0	0	0	66	0	15	0
Lane Group Flow (vph)	377	692	0	98	621	0	461	1198	42	155	1505	0
Confl. Peds. (#/hr)	1		7	7		1			2	2		
Heavy Vehicles (%)	1%	1%	2%	2%	0%	7%	3%	1%	4%	4%	1%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases									6			
Actuated Green, G (s)	18.0	35.3		9.9	27.2		11.1	47.5	47.5	13.8	50.2	
Effective Green, g (s)	18.0	35.8		9.9	27.7		11.1	48.9	48.9	13.8	51.6	
Actuated g/C Ratio	0.14	0.29		0.08	0.22		0.09	0.39	0.39	0.11	0.41	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	5.4	5.4	4.0	5.4	
Vehicle Extension (s)	1.5	2.5		1.5	2.5		1.5	4.7	4.7	1.5	4.7	
Lane Grp Cap (vph)	238	880		129	714		279	1294	554	177	1325	
v/s Ratio Prot	c0.23	0.23		0.06	c0.19		c0.15	0.36		c0.10	c0.47	
v/s Ratio Perm									0.03			
v/c Ratio	1.58	0.79		0.76	0.87		1.65	0.93	0.08	0.88	1.14	
Uniform Delay, d1	53.2	40.8		56.1	46.6		56.7	36.0	23.6	54.5	36.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	281.9	4.5		20.1	11.2		309.1	11.7	0.1	34.1	70.9	
Delay (s)	335.1	45.3		76.2	57.8		365.7	47.7	23.7	88.6	107.3	
Level of Service	F	D		E	E		F	D	C	F	F	
Approach Delay (s)		139.7			60.2			129.2			105.5	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	114.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	124.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	114.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	366	456	302	95	522	92	447	1162	105	150	1185	289
Future Volume (veh/h)	366	456	302	95	522	92	447	1162	105	150	1185	289
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1736	1736	1736	1723	1750	1750	1709	1736	1695	1695	1736	1736
Adj Flow Rate, veh/h	377	470	311	98	538	95	461	1198	108	155	1222	298
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	2	0	0	3	1	4	4	1	1
Cap, veh/h	232	599	395	119	699	123	271	1294	563	154	1058	255
Arrive On Green	0.14	0.32	0.31	0.07	0.25	0.24	0.09	0.39	0.39	0.10	0.40	0.39
Sat Flow, veh/h	1654	1900	1251	1641	2822	496	3158	3299	1435	1615	2636	634
Grp Volume(v), veh/h	377	408	373	98	316	317	461	1198	108	155	759	761
Grp Sat Flow(s),veh/h/ln	1654	1650	1501	1641	1663	1656	1579	1650	1435	1615	1650	1621
Q Serve(g_s), s	18.0	28.8	29.1	7.6	22.7	22.9	11.0	44.5	4.7	12.2	51.5	51.5
Cycle Q Clear(g_c), s	18.0	28.8	29.1	7.6	22.7	22.9	11.0	44.5	4.7	12.2	51.5	51.5
Prop In Lane	1.00		0.83	1.00		0.30	1.00		1.00	1.00		0.39
Lane Grp Cap(c), veh/h	232	521	474	119	412	410	271	1294	563	154	662	651
V/C Ratio(X)	1.62	0.78	0.79	0.82	0.77	0.77	1.70	0.93	0.19	1.01	1.15	1.17
Avail Cap(c_a), veh/h	232	572	521	141	486	484	271	1299	565	154	662	651
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.1	39.9	40.2	58.7	44.8	45.0	58.6	37.2	14.1	58.0	38.4	38.7
Incr Delay (d2), s/veh	299.9	6.1	6.9	24.1	5.7	5.9	331.4	11.7	0.3	75.2	82.4	92.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	26.8	12.4	11.5	3.9	9.9	10.0	16.8	19.1	2.2	8.1	35.3	36.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	355.1	46.0	47.1	82.8	50.5	50.9	390.1	48.9	14.4	133.2	120.8	130.9
LnGrp LOS	F	D	D	F	D	D	F	D	B	F	F	F
Approach Vol, veh/h		1158			731			1767			1675	
Approach Delay, s/veh		147.0			55.0			135.8			126.5	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	55.5	22.0	35.8	16.2	54.3	13.3	44.5
Change Period (Y+Rc), s	* 4	5.4	4.0	4.5	* 4	5.4	4.0	4.5
Max Green Setting (Gmax), s	* 11	50.1	18.0	37.0	* 12	49.1	11.0	44.0
Max Q Clear Time (g_c+I1), s	13.0	53.5	20.0	24.9	14.2	46.5	9.6	31.1
Green Ext Time (p_c), s	0.0	0.0	0.0	4.8	0.0	2.5	0.0	6.2

Intersection Summary	
HCM 6th Ctrl Delay	124.2
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	581	139	693	762	291	149	980	598	374	966	71
Future Volume (vph)	166	581	139	693	762	291	149	980	598	374	966	71
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	3.5	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1630	3093		3162	1683	1417	1662	3228	1433	3162	3292	1403
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1630	3093		3162	1683	1417	1662	3228	1433	3162	3292	1403
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	175	612	146	729	802	306	157	1032	629	394	1017	75
RTOR Reduction (vph)	0	14	0	0	0	23	0	0	19	0	0	46
Lane Group Flow (vph)	175	744	0	729	802	283	157	1032	610	394	1017	29
Confl. Peds. (#/hr)									2	2		
Heavy Vehicles (%)	2%	4%	6%	2%	4%	5%	0%	3%	3%	2%	1%	6%
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases						8			2			6
Actuated Green, G (s)	13.0	39.5		35.0	61.5	76.5	13.0	42.6	77.6	15.0	44.6	57.6
Effective Green, g (s)	13.0	40.0		35.0	62.0	77.5	13.0	44.0	77.6	15.0	46.0	57.6
Actuated g/C Ratio	0.09	0.27		0.23	0.41	0.52	0.09	0.29	0.52	0.10	0.31	0.38
Clearance Time (s)	4.0	4.5		4.0	4.5	4.0	4.0	5.4	4.0	4.0	5.4	4.0
Vehicle Extension (s)	2.5	2.5		2.1	2.5	2.1	2.1	4.7	2.1	2.1	4.7	2.5
Lane Grp Cap (vph)	141	824		737	695	732	144	946	741	316	1009	538
v/s Ratio Prot	c0.11	0.24		0.23	c0.48	0.04	0.09	c0.32	0.19	c0.12	0.31	0.00
v/s Ratio Perm						0.16			0.23			0.02
v/c Ratio	1.24	0.90		0.99	1.15	0.39	1.09	1.09	0.82	1.25	1.01	0.05
Uniform Delay, d1	68.5	53.1		57.3	44.0	21.9	68.5	53.0	30.4	67.5	52.0	29.1
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	154.6	13.1		30.0	85.1	0.1	101.2	57.2	7.0	134.8	30.3	0.0
Delay (s)	223.1	66.3		87.3	129.1	22.0	169.7	110.2	37.5	202.3	82.3	29.1
Level of Service	F	E		F	F	C	F	F	D	F	F	C
Approach Delay (s)		95.7			94.7			90.2			111.4	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	97.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	107.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	581	139	693	762	291	149	980	598	374	966	71
Future Volume (veh/h)	166	581	139	693	762	291	149	980	598	374	966	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1695	1695	1723	1695	1682	1750	1709	1709	1723	1736	1668
Adj Flow Rate, veh/h	175	612	146	729	802	306	157	1032	629	394	1017	75
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	4	4	2	4	5	0	3	3	2	1	6
Cap, veh/h	142	688	164	743	701	736	144	953	748	318	1012	542
Arrive On Green	0.09	0.27	0.26	0.23	0.41	0.41	0.09	0.29	0.28	0.10	0.31	0.30
Sat Flow, veh/h	1641	2581	614	3183	1695	1425	1667	3247	1445	3183	3299	1411
Grp Volume(v), veh/h	175	381	377	729	802	306	157	1032	629	394	1017	75
Grp Sat Flow(s),veh/h/ln	1641	1611	1585	1591	1695	1425	1667	1624	1445	1591	1650	1411
Q Serve(g_s), s	13.0	34.1	34.3	34.2	62.0	19.8	13.0	44.0	42.6	15.0	46.0	5.2
Cycle Q Clear(g_c), s	13.0	34.1	34.3	34.2	62.0	19.8	13.0	44.0	42.6	15.0	46.0	5.2
Prop In Lane	1.00		0.39	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	142	430	423	743	701	736	144	953	748	318	1012	542
V/C Ratio(X)	1.23	0.89	0.89	0.98	1.14	0.42	1.09	1.08	0.84	1.24	1.01	0.14
Avail Cap(c_a), veh/h	142	430	423	743	701	736	144	953	748	318	1012	542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	68.5	52.9	53.0	57.2	44.0	22.3	68.5	53.0	30.9	67.5	52.0	30.1
Incr Delay (d2), s/veh	150.4	19.5	20.2	28.3	81.3	0.3	100.0	54.5	9.1	131.1	29.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.4	16.0	15.9	16.5	41.3	6.7	9.5	24.6	20.8	11.8	22.6	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	218.9	72.3	73.2	85.5	125.3	22.6	168.5	107.5	40.0	198.6	81.6	30.3
LnGrp LOS	F	E	E	F	F	C	F	F	D	F	F	C
Approach Vol, veh/h		933			1837			1818			1486	
Approach Delay, s/veh		100.2			92.4			89.4			110.0	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	48.0	39.0	44.0	17.0	50.0	17.0	66.0
Change Period (Y+Rc), s	4.0	* 5.4	4.0	4.5	4.0	* 5.4	4.0	4.5
Max Green Setting (Gmax), s	15.0	* 43	35.0	39.5	13.0	* 45	13.0	61.5
Max Q Clear Time (g_c+I1), s	17.0	46.0	36.2	36.3	15.0	48.0	15.0	64.0
Green Ext Time (p_c), s	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	97.0
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

Intersection	
Int Delay, s/veh	54.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	0	17	29	0	52	6	1621	10	17	1721	20
Future Vol, veh/h	13	0	17	29	0	52	6	1621	10	17	1721	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	25	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	20	2	0	2	3	0	0	2	2
Mvmt Flow	14	0	18	31	0	55	6	1724	11	18	1831	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2752	3626	926	2695	3631	869	1852	0	0	1736	0	0
Stage 1	1878	1878	-	1743	1743	-	-	-	-	-	-	-
Stage 2	874	1748	-	952	1888	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.9	6.54	6.9	4.14	-	-	4.1	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.9	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.9	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.7	4.02	3.3	2.22	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 9	5	271	~ 8	5	299	323	-	-	368	-	-
Stage 1	74	119	-	74	139	-	-	-	-	-	-	-
Stage 2	311	138	-	246	118	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 7	5	271	~ 7	5	299	323	-	-	368	-	-
Mov Cap-2 Maneuver	~ 7	5	-	~ 7	5	-	-	-	-	-	-	-
Stage 1	73	113	-	73	136	-	-	-	-	-	-	-
Stage 2	249	135	-	218	112	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 955.8	$ 1999.6	0.1	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBR	
Capacity (veh/h)	323	-	-	16	19	368	-	-
HCM Lane V/C Ratio	0.02	-	-	1.995	4.535	0.049	-	-
HCM Control Delay (s)	16.4	-	-	$ 955.8	$ 1999.6	15.3	-	-
HCM Lane LOS	C	-	-	F	F	C	-	-
HCM 95th %tile Q(veh)	0.1	-	-	4.6	11.3	0.2	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	1	1637	1	1	1766
Future Vol, veh/h	1	1	1637	1	1	1766
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	3	0	0	2
Mvmt Flow	1	1	1779	1	1	1920

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2742	890	0	0	1780	0
Stage 1	1780	-	-	-	-	-
Stage 2	962	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	17	290	-	-	354	-
Stage 1	123	-	-	-	-	-
Stage 2	336	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	17	290	-	-	354	-
Mov Cap-2 Maneuver	88	-	-	-	-	-
Stage 1	123	-	-	-	-	-
Stage 2	336	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	32.1	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	135	354	-
HCM Lane V/C Ratio	-	-	0.016	0.003	-
HCM Control Delay (s)	-	-	32.1	15.2	-
HCM Lane LOS	-	-	D	C	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	55	1582	31	114	1653
Future Vol, veh/h	21	55	1582	31	114	1653
Conflicting Peds, #/hr	1	0	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	23	60	1720	34	124	1797

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2886	878	0	0	1755	0
Stage 1	1738	-	-	-	-	-
Stage 2	1148	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	~ 13	295	-	-	361	-
Stage 1	130	-	-	-	-	-
Stage 2	269	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 9	295	-	-	361	-
Mov Cap-2 Maneuver	53	-	-	-	-	-
Stage 1	85	-	-	-	-	-
Stage 2	269	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	71.7	0	1.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	130	361	-
HCM Lane V/C Ratio	-	-	0.635	0.343	-
HCM Control Delay (s)	-	-	71.7	20.1	-
HCM Lane LOS	-	-	F	C	-
HCM 95th %tile Q(veh)	-	-	3.3	1.5	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Alternative B
Synchro

2019

2022 No Build

2022 Build

2042 No Build

2042 Build

Cap-X

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	2	125	1	47	3	653	204	41	516	3
Future Volume (vph)	1	1	2	125	1	47	3	653	204	41	516	3
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.93		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1612		1630	1436		1662	3260	1458	1630	3257	
Flt Permitted		0.97		0.76	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1575		1296	1436		1662	3260	1458	1630	3257	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1	1	2	130	1	49	3	680	212	43	538	3
RTOR Reduction (vph)	0	1	0	0	33	0	0	0	137	0	1	0
Lane Group Flow (vph)	0	3	0	130	17	0	3	680	76	43	540	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	0%	0%	2%	0%	4%	0%	2%	2%	2%	2%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4					6			
Actuated Green, G (s)		13.7		13.7	13.7		0.6	14.6	14.6	2.4	16.4	
Effective Green, g (s)		13.7		13.7	13.7		0.0	15.1	15.1	1.4	16.9	
Actuated g/C Ratio		0.32		0.32	0.32		0.00	0.36	0.36	0.03	0.40	
Clearance Time (s)		4.0		4.0	4.0		3.0	4.5	4.5	3.0	4.5	
Vehicle Extension (s)		2.0		4.0	4.0		2.0	4.5	4.5	2.0	5.0	
Lane Grp Cap (vph)		511		420	466		0	1166	521	54	1304	
v/s Ratio Prot					0.01			c0.21		0.03	0.17	
v/s Ratio Perm		0.00		c0.10					0.05			
v/c Ratio		0.01		0.31	0.04		no cap	0.58	0.15	0.80	0.41	
Uniform Delay, d1		9.6		10.7	9.7		Error	11.0	9.2	20.3	9.1	
Progression Factor		1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0		0.6	0.0		Error	1.0	0.2	51.7	0.4	
Delay (s)		9.6		11.3	9.8		Error	12.0	9.4	71.9	9.5	
Level of Service		A		B	A		F	B	A	E	A	
Approach Delay (s)		9.6			10.9			Error			14.1	
Approach LOS		A			B			F			B	

Intersection Summary			
HCM 2000 Control Delay	Error	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	42.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	47.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	2	125	1	47	3	653	204	41	516	3
Future Volume (vph)	1	1	2	125	1	47	3	653	204	41	516	3
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.93		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1612		1630	1436		1662	3260	1458	1630	3257	
Flt Permitted		0.97		0.76	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1576		1296	1436		1662	3260	1458	1630	3257	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1	1	2	130	1	49	3	680	212	43	538	3
RTOR Reduction (vph)	0	1	0	0	33	0	0	0	128	0	1	0
Lane Group Flow (vph)	0	3	0	130	17	0	3	680	85	43	540	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	0%	0%	2%	0%	4%	0%	2%	2%	2%	2%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4					6			
Actuated Green, G (s)		14.1		14.1	14.1		1.2	15.5	15.5	2.7	17.0	
Effective Green, g (s)		14.1		14.1	14.1		0.2	16.0	16.0	1.7	17.5	
Actuated g/C Ratio		0.32		0.32	0.32		0.00	0.37	0.37	0.04	0.40	
Clearance Time (s)		4.0		4.0	4.0		3.0	4.5	4.5	3.0	4.5	
Vehicle Extension (s)		2.0		4.0	4.0		2.0	4.5	4.5	2.0	5.0	
Lane Grp Cap (vph)		507		417	462		7	1190	532	63	1301	
v/s Ratio Prot					0.01		0.00	c0.21		c0.03	0.17	
v/s Ratio Perm		0.00		c0.10					0.06			
v/c Ratio		0.01		0.31	0.04		0.43	0.57	0.16	0.68	0.42	
Uniform Delay, d1		10.1		11.2	10.2		21.7	11.1	9.4	20.8	9.5	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0		0.6	0.0		14.6	0.9	0.2	21.6	0.5	
Delay (s)		10.1		11.8	10.2		36.3	12.1	9.6	42.3	9.9	
Level of Service		B		B	B		D	B	A	D	A	
Approach Delay (s)		10.1			11.3			11.6			12.3	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	43.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	47.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	1	2	125	1	47	3	653	204	41	516	3
Future Volume (veh/h)	1	1	2	125	1	47	3	653	204	41	516	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1750	1750	1723	1750	1750	1750	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	1	1	2	130	1	49	3	680	212	43	538	3
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	2	0	0	0	2	2	2	2	2
Cap, veh/h	144	126	171	469	7	320	162	1612	718	40	1399	8
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.10	0.49	0.49	0.02	0.42	0.41
Sat Flow, veh/h	205	572	777	1414	30	1458	1667	3273	1458	1641	3337	19
Grp Volume(v), veh/h	4	0	0	130	0	50	3	680	212	43	264	277
Grp Sat Flow(s),veh/h/ln	1554	0	0	1414	0	1488	1667	1637	1458	1641	1637	1719
Q Serve(g_s), s	0.0	0.0	0.0	3.5	0.0	1.2	0.1	6.1	3.9	1.1	5.1	5.1
Cycle Q Clear(g_c), s	0.1	0.0	0.0	3.6	0.0	1.2	0.1	6.1	3.9	1.1	5.1	5.1
Prop In Lane	0.25		0.50	1.00		0.98	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	440	0	0	469	0	327	162	1612	718	40	686	721
V/C Ratio(X)	0.01	0.00	0.00	0.28	0.00	0.15	0.02	0.42	0.30	1.09	0.38	0.38
Avail Cap(c_a), veh/h	1171	0	0	1153	0	1046	162	2661	1186	324	1510	1587
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.9	0.0	0.0	15.2	0.0	14.3	18.6	7.4	6.9	22.2	9.1	9.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.5	0.0	0.3	0.0	0.3	0.4	66.4	0.8	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	1.1	0.0	0.4	0.0	1.4	0.8	1.1	1.5	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.9	0.0	0.0	15.7	0.0	14.6	18.6	7.7	7.2	88.6	9.9	9.9
LnGrp LOS	B	A	A	B	A	B	B	A	A	F	A	A
Approach Vol, veh/h		4			180			895			584	
Approach Delay, s/veh		13.9			15.4			7.6			15.7	
Approach LOS		B			B			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	23.1		14.0	5.1	26.4		14.0				
Change Period (Y+Rc), s	3.0	4.5		4.0	3.0	4.5		4.0				
Max Green Setting (Gmax), s	5.0	41.5		32.0	10.0	36.5		32.0				
Max Q Clear Time (g_c+I1), s	2.1	7.1		5.6	3.1	8.1		2.1				
Green Ext Time (p_c), s	0.0	11.4		1.3	0.0	13.9		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	11.3
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	1	2	125	1	47	3	653	204	41	516	3
Future Volume (veh/h)	1	1	2	125	1	47	3	653	204	41	516	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1750	1750	1723	1750	1750	1750	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	1	1	2	130	1	49	3	680	212	43	538	3
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	2	0	0	0	2	2	2	2	2
Cap, veh/h	164	144	195	536	7	366	143	1393	620	37	1208	7
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.09	0.43	0.43	0.02	0.36	0.35
Sat Flow, veh/h	205	572	777	1414	30	1458	1667	3273	1458	1641	3337	19
Grp Volume(v), veh/h	4	0	0	130	0	50	3	680	212	43	264	277
Grp Sat Flow(s),veh/h/ln	1554	0	0	1414	0	1488	1667	1637	1458	1641	1637	1719
Q Serve(g_s), s	0.0	0.0	0.0	2.9	0.0	1.0	0.1	6.0	3.9	0.9	4.9	4.9
Cycle Q Clear(g_c), s	0.1	0.0	0.0	3.0	0.0	1.0	0.1	6.0	3.9	0.9	4.9	4.9
Prop In Lane	0.25		0.50	1.00		0.98	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	503	0	0	536	0	373	143	1393	620	37	592	622
V/C Ratio(X)	0.01	0.00	0.00	0.24	0.00	0.13	0.02	0.49	0.34	1.17	0.45	0.45
Avail Cap(c_a), veh/h	731	0	0	749	0	597	209	1807	805	206	903	949
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.2	0.0	0.0	12.3	0.0	11.6	16.7	8.3	7.7	19.5	9.7	9.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	0.2	0.0	0.5	0.6	97.2	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.9	0.0	0.3	0.0	1.4	0.8	1.3	1.4	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.2	0.0	0.0	12.6	0.0	11.8	16.7	8.8	8.3	116.6	10.8	10.7
LnGrp LOS	B	A	A	B	A	B	B	A	A	F	B	B
Approach Vol, veh/h		4			180			895			584	
Approach Delay, s/veh		11.2			12.4			8.7			18.6	
Approach LOS		B			B			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.4	18.4		14.0	4.9	21.0		14.0				
Change Period (Y+Rc), s	3.0	4.5		4.0	3.0	4.5		4.0				
Max Green Setting (Gmax), s	6.0	21.5		16.0	6.0	21.5		16.0				
Max Q Clear Time (g_c+I1), s	2.1	6.9		5.0	2.9	8.0		2.1				
Green Ext Time (p_c), s	0.0	6.9		0.8	0.0	8.4		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		12.6
HCM 6th LOS		B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	509	19	171	11	14	20	85	416	18	14	363	214
Future Volume (vph)	509	19	171	11	14	20	85	416	18	14	363	214
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	3.0	4.0	4.0	3.0	4.0		3.0	5.0		3.0	5.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.91		1.00	0.99		1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1646	1750	1430	1525	1550		1662	3198		1662	3060	
Flt Permitted	0.54	1.00	1.00	0.91	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	937	1750	1430	1460	1550		1662	3198		1662	3060	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	547	20	184	12	15	22	91	447	19	15	390	230
RTOR Reduction (vph)	0	0	109	0	21	0	0	2	0	0	62	0
Lane Group Flow (vph)	547	20	75	12	16	0	91	464	0	15	558	0
Heavy Vehicles (%)	1%	0%	4%	9%	7%	0%	0%	3%	11%	0%	3%	2%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	32.4	28.6	28.6	5.2	4.4		6.7	25.1		1.0	19.4	
Effective Green, g (s)	32.4	28.6	28.6	5.2	4.4		6.7	25.1		1.0	19.4	
Actuated g/C Ratio	0.46	0.41	0.41	0.07	0.06		0.10	0.36		0.01	0.28	
Clearance Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	5.0		3.0	5.0	
Vehicle Extension (s)	1.5	3.5	3.5	1.5	3.5		1.5	3.5		1.5	4.0	
Lane Grp Cap (vph)	682	709	580	108	96		157	1138		23	842	
v/s Ratio Prot	c0.28	0.01		0.00	0.01		c0.05	0.15		0.01	c0.18	
v/s Ratio Perm	c0.08		0.05	0.01								
v/c Ratio	0.80	0.03	0.13	0.11	0.17		0.58	0.41		0.65	0.66	
Uniform Delay, d1	15.5	12.6	13.1	30.5	31.3		30.6	17.1		34.6	22.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.4	0.0	0.1	0.2	1.0		3.2	0.3		40.7	2.2	
Delay (s)	21.9	12.6	13.3	30.6	32.3		33.8	17.4		75.3	24.8	
Level of Service	C	B	B	C	C		C	B		E	C	
Approach Delay (s)		19.5			31.9			20.1			26.0	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	22.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	70.5	Sum of lost time (s)	15.0
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	509	19	171	11	14	20	85	416	18	14	363	214
Future Volume (veh/h)	509	19	171	11	14	20	85	416	18	14	363	214
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1736	1750	1695	1627	1654	1654	1750	1709	1709	1750	1709	1709
Adj Flow Rate, veh/h	547	20	184	12	15	22	91	447	19	15	390	230
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	0	4	9	7	7	0	3	3	0	3	3
Cap, veh/h	687	644	528	173	27	40	116	1220	52	18	643	374
Arrive On Green	0.33	0.37	0.37	0.01	0.04	0.04	0.07	0.38	0.38	0.01	0.33	0.33
Sat Flow, veh/h	1654	1750	1437	1550	606	889	1667	3174	135	1667	1976	1150
Grp Volume(v), veh/h	547	20	184	12	0	37	91	228	238	15	320	300
Grp Sat Flow(s),veh/h/ln	1654	1750	1437	1550	0	1494	1667	1624	1685	1667	1624	1502
Q Serve(g_s), s	19.3	0.5	6.1	0.5	0.0	1.6	3.5	6.6	6.7	0.6	10.9	11.1
Cycle Q Clear(g_c), s	19.3	0.5	6.1	0.5	0.0	1.6	3.5	6.6	6.7	0.6	10.9	11.1
Prop In Lane	1.00		1.00	1.00		0.59	1.00		0.08	1.00		0.77
Lane Grp Cap(c), veh/h	687	644	528	173	0	67	116	624	648	18	529	489
V/C Ratio(X)	0.80	0.03	0.35	0.07	0.00	0.55	0.78	0.37	0.37	0.82	0.60	0.61
Avail Cap(c_a), veh/h	766	957	786	489	0	817	633	863	896	354	863	799
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.4	13.3	15.1	29.7	0.0	30.8	30.1	14.5	14.5	32.5	18.6	18.7
Incr Delay (d2), s/veh	4.6	0.0	0.5	0.1	0.0	8.3	4.3	0.4	0.4	27.4	1.6	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	0.2	1.8	0.2	0.0	0.7	1.5	2.2	2.3	0.4	3.7	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.1	13.3	15.6	29.8	0.0	39.1	34.4	14.9	14.9	59.9	20.2	20.5
LnGrp LOS	C	B	B	C	A	D	C	B	B	E	C	C
Approach Vol, veh/h		751			49			557			635	
Approach Delay, s/veh		20.3			36.8			18.1			21.3	
Approach LOS		C			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	3.7	30.3	3.6	28.2	7.6	26.4	24.9	7.0
Change Period (Y+Rc), s	3.0	5.0	3.0	4.0	3.0	5.0	3.0	4.0
Max Green Setting (Gmax), s	14.0	35.0	14.0	36.0	25.0	35.0	25.0	36.0
Max Q Clear Time (g_c+I1), s	2.6	8.7	2.5	8.1	5.5	13.1	21.3	3.6
Green Ext Time (p_c), s	0.0	6.0	0.0	2.0	0.1	8.3	0.6	0.2

Intersection Summary	
HCM 6th Ctrl Delay	20.4
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	1	119	2	1	1	73	428	5	8	381	25
Future Vol, veh/h	25	1	119	2	1	1	73	428	5	8	381	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	-	-	-	-	-	150	175	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	3	2	0	0	3	0
Mvmt Flow	27	1	131	2	1	1	80	470	5	9	419	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1085	1086	433	1147	1094	470	446	0	0	475	0	0
Stage 1	451	451	-	630	630	-	-	-	-	-	-	-
Stage 2	634	635	-	517	464	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.13	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.227	-	-	2.2	-	-
Pot Cap-1 Maneuver	196	218	627	178	216	598	1109	-	-	1098	-	-
Stage 1	592	574	-	473	478	-	-	-	-	-	-	-
Stage 2	471	476	-	545	567	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	179	195	627	129	193	598	1109	-	-	1098	-	-
Mov Cap-2 Maneuver	179	195	-	129	193	-	-	-	-	-	-	-
Stage 1	534	569	-	427	431	-	-	-	-	-	-	-
Stage 2	423	429	-	427	562	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.2	25.6	1.2	0.2
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1109	-	-	179	616	179	1098	-	-
HCM Lane V/C Ratio	0.072	-	-	0.153	0.214	0.025	0.008	-	-
HCM Control Delay (s)	8.5	0	-	28.7	12.4	25.6	8.3	-	-
HCM Lane LOS	A	A	-	D	B	D	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.5	0.8	0.1	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	1	496	1	1	478
Future Vol, veh/h	1	1	496	1	1	478
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	1	1	577	1	1	556

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1136	578	0	0	578	0
Stage 1	578	-	-	-	-	-
Stage 2	558	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	225	519	-	-	1006	-
Stage 1	565	-	-	-	-	-
Stage 2	577	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	225	519	-	-	1006	-
Mov Cap-2 Maneuver	225	-	-	-	-	-
Stage 1	564	-	-	-	-	-
Stage 2	577	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.6	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	314	1006	-
HCM Lane V/C Ratio	-	-	0.007	0.001	-
HCM Control Delay (s)	-	-	16.6	8.6	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	21	234	1	152	14	918	363	233	870	3
Future Volume (vph)	1	1	21	234	1	152	14	918	363	233	870	3
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.88		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected		1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1530		1630	1432		1662	3260	1458	1630	3258	
Flt Permitted		0.99		0.74	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1521		1272	1432		1662	3260	1458	1630	3258	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1	1	22	244	1	158	15	956	378	243	906	3
RTOR Reduction (vph)	0	16	0	0	112	0	0	0	247	0	1	0
Lane Group Flow (vph)	0	8	0	244	47	0	15	956	131	243	908	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	0%	0%	2%	0%	4%	0%	2%	2%	2%	2%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4					6			
Actuated Green, G (s)		16.1		16.1	16.1		0.9	18.7	18.7	9.0	26.8	
Effective Green, g (s)		16.1		16.1	16.1		0.0	19.2	19.2	8.0	27.3	
Actuated g/C Ratio		0.29		0.29	0.29		0.00	0.35	0.35	0.14	0.49	
Clearance Time (s)		4.0		4.0	4.0		3.0	4.5	4.5	3.0	4.5	
Vehicle Extension (s)		2.0		4.0	4.0		2.0	4.5	4.5	2.0	5.0	
Lane Grp Cap (vph)		442		370	416		0	1131	506	235	1608	
v/s Ratio Prot					0.03			c0.29		c0.15	0.28	
v/s Ratio Perm		0.01		c0.19					0.09			
v/c Ratio		0.02		0.66	0.11		no cap	0.85	0.26	1.03	0.56	
Uniform Delay, d1		14.0		17.2	14.4		Error	16.7	12.9	23.6	9.8	
Progression Factor		1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0		4.7	0.2		Error	6.4	0.5	67.8	0.8	
Delay (s)		14.0		21.9	14.5		Error	23.1	13.4	91.5	10.6	
Level of Service		B		C	B		F	C	B	F	B	
Approach Delay (s)		14.0			19.0			Error			27.7	
Approach LOS		B			B			F			C	

Intersection Summary			
HCM 2000 Control Delay	Error	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	55.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	21	234	1	152	14	918	363	233	870	3
Future Volume (vph)	1	1	21	234	1	152	14	918	363	233	870	3
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.88		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected		1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1530		1630	1432		1662	3260	1458	1630	3258	
Flt Permitted		0.99		0.74	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1523		1272	1432		1662	3260	1458	1630	3258	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1	1	22	244	1	158	15	956	378	243	906	3
RTOR Reduction (vph)	0	16	0	0	116	0	0	0	155	0	0	0
Lane Group Flow (vph)	0	8	0	244	43	0	15	956	223	243	909	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	0%	0%	2%	0%	4%	0%	2%	2%	2%	2%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4					6			
Actuated Green, G (s)		20.1		20.1	20.1		1.7	25.4	25.4	17.8	41.5	
Effective Green, g (s)		20.1		20.1	20.1		0.7	25.9	25.9	16.8	42.0	
Actuated g/C Ratio		0.27		0.27	0.27		0.01	0.35	0.35	0.22	0.56	
Clearance Time (s)		4.0		4.0	4.0		3.0	4.5	4.5	3.0	4.5	
Vehicle Extension (s)		2.0		4.0	4.0		2.0	4.5	4.5	2.0	5.0	
Lane Grp Cap (vph)		409		341	384		15	1128	504	366	1829	
v/s Ratio Prot					0.03		0.01	c0.29		c0.15	0.28	
v/s Ratio Perm		0.01		c0.19					0.15			
v/c Ratio		0.02		0.72	0.11		1.00	0.85	0.44	0.66	0.50	
Uniform Delay, d1		20.1		24.8	20.6		37.0	22.6	18.9	26.4	10.0	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0		7.5	0.2		232.4	6.5	1.1	3.5	0.4	
Delay (s)		20.1		32.2	20.8		269.4	29.2	19.9	29.9	10.4	
Level of Service		C		C	C		F	C	B	C	B	
Approach Delay (s)		20.1			27.7			29.3			14.5	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	23.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	74.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	1	21	234	1	152	14	918	363	233	870	3
Future Volume (veh/h)	1	1	21	234	1	152	14	918	363	233	870	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1750	1750	1723	1750	1750	1750	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	1	1	22	244	1	158	15	956	378	243	906	3
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	2	0	0	0	2	2	2	2	2
Cap, veh/h	57	26	315	425	2	338	172	1422	633	268	1655	5
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.10	0.43	0.43	0.16	0.49	0.49
Sat Flow, veh/h	12	113	1373	1388	9	1475	1667	3273	1458	1641	3346	11
Grp Volume(v), veh/h	24	0	0	244	0	159	15	956	378	243	443	466
Grp Sat Flow(s),veh/h/ln	1498	0	0	1388	0	1484	1667	1637	1458	1641	1637	1721
Q Serve(g_s), s	0.0	0.0	0.0	10.3	0.0	6.4	0.6	16.2	13.7	10.1	13.0	13.0
Cycle Q Clear(g_c), s	0.9	0.0	0.0	11.2	0.0	6.4	0.6	16.2	13.7	10.1	13.0	13.0
Prop In Lane	0.04		0.92	1.00		0.99	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	397	0	0	425	0	340	172	1422	633	268	809	851
V/C Ratio(X)	0.06	0.00	0.00	0.57	0.00	0.47	0.09	0.67	0.60	0.91	0.55	0.55
Avail Cap(c_a), veh/h	656	0	0	667	0	599	172	1557	694	402	1085	1141
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.9	0.0	0.0	24.9	0.0	23.1	28.1	15.7	15.0	28.5	12.2	12.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.7	0.0	1.4	0.1	1.3	1.8	13.5	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	3.8	0.0	2.3	0.2	5.4	4.2	4.7	4.3	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.0	0.0	0.0	26.6	0.0	24.5	28.2	17.0	16.8	42.0	13.4	13.3
LnGrp LOS	C	A	A	C	A	C	C	B	B	D	B	B
Approach Vol, veh/h		24			403			1349			1152	
Approach Delay, s/veh		21.0			25.8			17.1			19.4	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.2	38.3		19.9	15.3	34.1		19.9
Change Period (Y+Rc), s	3.0	4.5		4.0	3.0	4.5		4.0
Max Green Setting (Gmax), s	5.0	45.5		28.0	18.0	32.5		28.0
Max Q Clear Time (g_c+I1), s	2.6	15.0		13.2	12.1	18.2		2.9
Green Ext Time (p_c), s	0.0	18.8		2.7	0.4	11.4		0.0

Intersection Summary	
HCM 6th Ctrl Delay	19.2
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	1	21	234	1	152	14	918	363	233	870	3
Future Volume (veh/h)	1	1	21	234	1	152	14	918	363	233	870	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1750	1750	1723	1750	1750	1750	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	1	1	22	244	1	158	15	956	378	243	906	3
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	2	0	0	0	2	2	2	2	2
Cap, veh/h	79	26	319	471	2	342	193	1385	617	166	1367	5
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.12	0.42	0.42	0.10	0.41	0.40
Sat Flow, veh/h	14	111	1372	1388	9	1475	1667	3273	1458	1641	3346	11
Grp Volume(v), veh/h	24	0	0	244	0	159	15	956	378	243	443	466
Grp Sat Flow(s),veh/h/ln	1497	0	0	1388	0	1484	1667	1637	1458	1641	1637	1721
Q Serve(g_s), s	0.0	0.0	0.0	7.3	0.0	4.5	0.4	11.7	10.0	5.0	10.8	10.8
Cycle Q Clear(g_c), s	0.6	0.0	0.0	7.9	0.0	4.5	0.4	11.7	10.0	5.0	10.8	10.8
Prop In Lane	0.04		0.92	1.00		0.99	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	424	0	0	471	0	345	193	1385	617	166	669	703
V/C Ratio(X)	0.06	0.00	0.00	0.52	0.00	0.46	0.08	0.69	0.61	1.46	0.66	0.66
Avail Cap(c_a), veh/h	560	0	0	600	0	482	193	1460	651	166	730	768
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.8	0.0	0.0	17.5	0.0	16.3	19.4	11.6	11.1	22.2	11.8	11.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.3	0.0	1.4	0.1	1.6	2.2	237.3	3.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	2.5	0.0	1.5	0.1	3.4	2.7	12.7	3.6	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.8	0.0	0.0	18.8	0.0	17.7	19.5	13.2	13.2	259.4	14.8	14.7
LnGrp LOS	B	A	A	B	A	B	B	B	B	F	B	B
Approach Vol, veh/h		24			403			1349			1152	
Approach Delay, s/veh		14.8			18.3			13.3			66.4	
Approach LOS		B			B			B			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.7	24.1		15.4	9.0	24.9		15.4				
Change Period (Y+Rc), s	3.0	4.5		4.0	3.0	4.5		4.0				
Max Green Setting (Gmax), s	6.0	21.5		16.0	6.0	21.5		16.0				
Max Q Clear Time (g_c+I1), s	2.4	12.8		9.9	7.0	13.7		2.6				
Green Ext Time (p_c), s	0.0	6.8		1.5	0.0	6.6		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	34.9
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	660	313	366	122	230	175	174	555	203	261	507	273
Future Volume (vph)	660	313	366	122	230	175	174	555	203	261	507	273
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	3.0	4.0	4.0	3.0	4.0		3.0	5.0		3.0	5.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.94		1.00	0.96		1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1646	1750	1430	1525	1574		1662	3036		1662	3069	
Flt Permitted	0.14	1.00	1.00	0.56	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	235	1750	1430	896	1574		1662	3036		1662	3069	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	710	337	394	131	247	188	187	597	218	281	545	294
RTOR Reduction (vph)	0	0	238	0	19	0	0	29	0	0	52	0
Lane Group Flow (vph)	710	337	156	131	416	0	187	786	0	281	787	0
Heavy Vehicles (%)	1%	0%	4%	9%	7%	0%	0%	3%	11%	0%	3%	2%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	64.1	51.1	51.1	46.1	36.1		18.1	39.2		14.0	35.1	
Effective Green, g (s)	64.1	51.1	51.1	46.1	36.1		18.1	39.2		14.0	35.1	
Actuated g/C Ratio	0.50	0.40	0.40	0.36	0.28		0.14	0.30		0.11	0.27	
Clearance Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	5.0		3.0	5.0	
Vehicle Extension (s)	1.5	3.5	3.5	1.5	3.5		1.5	3.5		1.5	4.0	
Lane Grp Cap (vph)	389	691	565	368	439		232	920		179	833	
v/s Ratio Prot	c0.35	0.19		0.03	0.26		c0.11	0.26		c0.17	c0.26	
v/s Ratio Perm	c0.55		0.11	0.10								
v/c Ratio	1.83	0.49	0.28	0.36	0.95		0.81	0.85		1.57	0.95	
Uniform Delay, d1	37.0	29.3	26.5	29.3	45.7		53.9	42.4		57.7	46.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	381.3	0.6	0.3	0.2	29.7		17.2	8.0		281.6	19.2	
Delay (s)	418.3	29.9	26.9	29.5	75.4		71.1	50.4		339.3	65.3	
Level of Service	F	C	C	C	E		E	D		F	E	
Approach Delay (s)		220.4			64.8			54.3			134.1	
Approach LOS		F			E			D			F	

Intersection Summary			
HCM 2000 Control Delay	135.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.52		
Actuated Cycle Length (s)	129.3	Sum of lost time (s)	15.0
Intersection Capacity Utilization	118.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	660	313	366	122	230	175	174	555	203	261	507	273
Future Volume (veh/h)	660	313	366	122	230	175	174	555	203	261	507	273
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1736	1750	1695	1627	1654	1654	1750	1709	1709	1750	1709	1709
Adj Flow Rate, veh/h	710	337	394	131	247	188	187	597	218	281	545	294
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	0	4	9	7	7	0	3	3	0	3	3
Cap, veh/h	382	708	581	352	247	188	213	682	249	183	561	302
Arrive On Green	0.20	0.40	0.40	0.07	0.28	0.28	0.13	0.29	0.29	0.11	0.28	0.28
Sat Flow, veh/h	1654	1750	1437	1550	872	663	1667	2330	850	1667	2038	1097
Grp Volume(v), veh/h	710	337	394	131	0	435	187	416	399	281	434	405
Grp Sat Flow(s),veh/h/ln	1654	1750	1437	1550	0	1535	1667	1624	1556	1667	1624	1512
Q Serve(g_s), s	25.0	18.1	28.6	7.5	0.0	36.0	14.0	31.0	31.1	14.0	33.7	33.8
Cycle Q Clear(g_c), s	25.0	18.1	28.6	7.5	0.0	36.0	14.0	31.0	31.1	14.0	33.7	33.8
Prop In Lane	1.00		1.00	1.00		0.43	1.00		0.55	1.00		0.73
Lane Grp Cap(c), veh/h	382	708	581	352	0	434	213	475	455	183	447	416
V/C Ratio(X)	1.86	0.48	0.68	0.37	0.00	1.00	0.88	0.87	0.88	1.53	0.97	0.97
Avail Cap(c_a), veh/h	382	708	581	407	0	434	327	475	455	183	447	416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.7	27.9	31.1	28.7	0.0	45.6	54.5	42.8	42.8	56.6	45.6	45.7
Incr Delay (d2), s/veh	397.4	0.6	3.3	0.2	0.0	43.6	10.8	16.7	17.5	265.1	35.3	37.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	49.3	7.5	10.3	2.8	0.0	18.7	6.4	14.3	13.8	19.2	17.4	16.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	437.1	28.5	34.4	28.9	0.0	89.2	65.4	59.4	60.3	321.7	80.9	83.0
LnGrp LOS	F	C	C	C	A	F	E	E	E	F	F	F
Approach Vol, veh/h		1441			566			1002			1120	
Approach Delay, s/veh		231.5			75.2			60.9			142.1	
Approach LOS		F			E			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	42.2	12.5	55.5	19.2	40.0	28.0	40.0
Change Period (Y+Rc), s	3.0	5.0	3.0	4.0	3.0	5.0	3.0	4.0
Max Green Setting (Gmax), s	14.0	35.0	14.0	36.0	25.0	35.0	25.0	36.0
Max Q Clear Time (g_c+I1), s	16.0	33.1	9.5	30.6	16.0	35.8	27.0	38.0
Green Ext Time (p_c), s	0.0	1.4	0.1	3.1	0.2	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	144.4
HCM 6th LOS	F

Intersection	
Int Delay, s/veh	13.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	10	162	18	6	35	96	613	33	75	567	32
Future Vol, veh/h	31	10	162	18	6	35	96	613	33	75	567	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	-	-	-	-	-	150	175	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	3	2	0	0	3	0
Mvmt Flow	34	11	178	20	7	38	105	674	36	82	623	35

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1730	1725	641	1783	1706	674	658	0	0	710	0	0
Stage 1	805	805	-	884	884	-	-	-	-	-	-	-
Stage 2	925	920	-	899	822	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.13	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.227	-	-	2.2	-	-
Pot Cap-1 Maneuver	70	90	478	64	92	458	925	-	-	899	-	-
Stage 1	379	398	-	343	366	-	-	-	-	-	-	-
Stage 2	325	352	-	336	391	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	47	66	478	28	68	458	925	-	-	899	-	-
Mov Cap-2 Maneuver	47	66	-	28	68	-	-	-	-	-	-	-
Stage 1	307	362	-	278	297	-	-	-	-	-	-	-
Stage 2	236	285	-	186	355	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	51.5	171.8	1.2	1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	925	-	-	47	351	73	899	-	-
HCM Lane V/C Ratio	0.114	-	-	0.725	0.538	0.888	0.092	-	-
HCM Control Delay (s)	9.4	0	-	189.4	26.6	171.8	9.4	-	-
HCM Lane LOS	A	A	-	F	D	F	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	2.9	3	4.4	0.3	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	3	545	6	7	516
Future Vol, veh/h	2	3	545	6	7	516
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	2	3	619	7	8	586

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1225	623	0	0	626	0
Stage 1	623	-	-	-	-	-
Stage 2	602	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	199	490	-	-	965	-
Stage 1	539	-	-	-	-	-
Stage 2	551	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	197	490	-	-	965	-
Mov Cap-2 Maneuver	197	-	-	-	-	-
Stage 1	533	-	-	-	-	-
Stage 2	551	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.9	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	307	965	-
HCM Lane V/C Ratio	-	-	0.019	0.008	-
HCM Control Delay (s)	-	-	16.9	8.8	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	21	237	1	152	14	931	363	233	888	3
Future Volume (vph)	1	1	21	237	1	152	14	931	363	233	888	3
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.88		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected		1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1530		1630	1432		1662	3260	1458	1630	3258	
Flt Permitted		0.99		0.74	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1521		1272	1432		1662	3260	1458	1630	3258	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1	1	22	247	1	158	15	970	378	243	925	3
RTOR Reduction (vph)	0	16	0	0	112	0	0	0	248	0	1	0
Lane Group Flow (vph)	0	8	0	247	47	0	15	970	130	243	927	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	0%	0%	2%	0%	4%	0%	2%	2%	2%	2%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4					6			
Actuated Green, G (s)		16.1		16.1	16.1		0.9	18.4	18.4	9.0	26.5	
Effective Green, g (s)		16.1		16.1	16.1		0.0	18.9	18.9	8.0	27.0	
Actuated g/C Ratio		0.29		0.29	0.29		0.00	0.34	0.34	0.15	0.49	
Clearance Time (s)		4.0		4.0	4.0		3.0	4.5	4.5	3.0	4.5	
Vehicle Extension (s)		2.0		4.0	4.0		2.0	4.5	4.5	2.0	5.0	
Lane Grp Cap (vph)		445		372	419		0	1120	501	237	1599	
v/s Ratio Prot					0.03			c0.30		c0.15	0.28	
v/s Ratio Perm		0.01		c0.19					0.09			
v/c Ratio		0.02		0.66	0.11		no cap	0.87	0.26	1.03	0.58	
Uniform Delay, d1		13.8		17.1	14.2		Error	16.9	13.0	23.5	10.0	
Progression Factor		1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0		4.9	0.2		Error	7.7	0.5	65.2	0.8	
Delay (s)		13.8		21.9	14.4		Error	24.5	13.5	88.7	10.8	
Level of Service		B		C	B		F	C	B	F	B	
Approach Delay (s)		13.8			19.0			Error			27.0	
Approach LOS		B			B			F			C	

Intersection Summary			
HCM 2000 Control Delay	Error	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	1	21	237	1	152	14	931	363	233	888	3
Future Volume (veh/h)	1	1	21	237	1	152	14	931	363	233	888	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1750	1750	1723	1750	1750	1750	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	1	1	22	247	1	158	15	970	378	243	925	3
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	2	0	0	0	2	2	2	2	2
Cap, veh/h	79	26	321	473	2	345	190	1385	617	166	1373	4
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.11	0.42	0.42	0.10	0.41	0.40
Sat Flow, veh/h	14	111	1372	1388	9	1475	1667	3273	1458	1641	3346	11
Grp Volume(v), veh/h	24	0	0	247	0	159	15	970	378	243	452	476
Grp Sat Flow(s),veh/h/ln	1497	0	0	1388	0	1484	1667	1637	1458	1641	1637	1721
Q Serve(g_s), s	0.0	0.0	0.0	7.5	0.0	4.6	0.4	12.0	10.0	5.0	11.2	11.2
Cycle Q Clear(g_c), s	0.6	0.0	0.0	8.1	0.0	4.6	0.4	12.0	10.0	5.0	11.2	11.2
Prop In Lane	0.04		0.92	1.00		0.99	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	426	0	0	473	0	347	190	1385	617	166	671	706
V/C Ratio(X)	0.06	0.00	0.00	0.52	0.00	0.46	0.08	0.70	0.61	1.47	0.67	0.67
Avail Cap(c_a), veh/h	558	0	0	597	0	480	190	1454	648	166	727	764
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.8	0.0	0.0	17.6	0.0	16.3	19.6	11.7	11.1	22.3	11.9	11.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.3	0.0	1.3	0.1	1.7	2.2	240.1	3.2	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	2.5	0.0	1.5	0.1	3.5	2.7	12.8	3.7	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.8	0.0	0.0	18.9	0.0	17.6	19.7	13.5	13.3	262.4	15.1	15.0
LnGrp LOS	B	A	A	B	A	B	B	B	B	F	B	B
Approach Vol, veh/h		24			406			1363			1171	
Approach Delay, s/veh		14.8			18.4			13.5			66.4	
Approach LOS		B			B			B			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	24.3		15.6	9.0	25.0		15.6				
Change Period (Y+Rc), s	3.0	4.5		4.0	3.0	4.5		4.0				
Max Green Setting (Gmax), s	6.0	21.5		16.0	6.0	21.5		16.0				
Max Q Clear Time (g_c+I1), s	2.4	13.2		10.1	7.0	14.0		2.6				
Green Ext Time (p_c), s	0.0	6.6		1.5	0.0	6.4		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	35.1
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	660	313	376	124	230	175	174	572	203	261	531	273
Future Volume (vph)	660	313	376	124	230	175	174	572	203	261	531	273
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	3.0	4.0	4.0	3.0	4.0		3.0	5.0		3.0	5.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.94		1.00	0.96		1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1646	1750	1430	1525	1574		1662	3040		1662	3074	
Flt Permitted	0.14	1.00	1.00	0.56	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	235	1750	1430	896	1574		1662	3040		1662	3074	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	710	337	404	133	247	188	187	615	218	281	571	294
RTOR Reduction (vph)	0	0	245	0	19	0	0	28	0	0	47	0
Lane Group Flow (vph)	710	337	159	133	416	0	187	805	0	281	818	0
Heavy Vehicles (%)	1%	0%	4%	9%	7%	0%	0%	3%	11%	0%	3%	2%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	64.1	51.0	51.0	46.2	36.1		18.1	39.2		14.0	35.1	
Effective Green, g (s)	64.1	51.0	51.0	46.2	36.1		18.1	39.2		14.0	35.1	
Actuated g/C Ratio	0.50	0.39	0.39	0.36	0.28		0.14	0.30		0.11	0.27	
Clearance Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	5.0		3.0	5.0	
Vehicle Extension (s)	1.5	3.5	3.5	1.5	3.5		1.5	3.5		1.5	4.0	
Lane Grp Cap (vph)	389	690	564	369	439		232	921		179	834	
v/s Ratio Prot	c0.35	0.19		0.03	0.26		c0.11	0.26		c0.17	c0.27	
v/s Ratio Perm	c0.55		0.11	0.10								
v/c Ratio	1.83	0.49	0.28	0.36	0.95		0.81	0.87		1.57	0.98	
Uniform Delay, d1	37.0	29.4	26.7	29.3	45.7		53.9	42.7		57.7	46.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	381.3	0.6	0.3	0.2	29.7		17.2	9.4		281.6	26.3	
Delay (s)	418.3	30.0	27.0	29.5	75.4		71.1	52.2		339.3	73.1	
Level of Service	F	C	C	C	E		E	D		F	E	
Approach Delay (s)		219.2			64.6			55.6			138.4	
Approach LOS		F			E			E			F	

Intersection Summary			
HCM 2000 Control Delay	136.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.53		
Actuated Cycle Length (s)	129.3	Sum of lost time (s)	15.0
Intersection Capacity Utilization	118.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	660	313	376	124	230	175	174	572	203	261	531	273
Future Volume (veh/h)	660	313	376	124	230	175	174	572	203	261	531	273
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1736	1750	1695	1627	1654	1654	1750	1709	1709	1750	1709	1709
Adj Flow Rate, veh/h	710	337	404	133	247	188	187	615	218	281	571	294
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	0	4	9	7	7	0	3	3	0	3	3
Cap, veh/h	382	706	580	351	247	188	213	688	244	183	571	293
Arrive On Green	0.20	0.40	0.40	0.08	0.28	0.28	0.13	0.29	0.29	0.11	0.28	0.28
Sat Flow, veh/h	1654	1750	1437	1550	872	663	1667	2351	832	1667	2074	1067
Grp Volume(v), veh/h	710	337	404	133	0	435	187	425	408	281	447	418
Grp Sat Flow(s),veh/h/ln	1654	1750	1437	1550	0	1535	1667	1624	1559	1667	1624	1517
Q Serve(g_s), s	25.0	18.1	29.7	7.7	0.0	36.0	14.0	31.9	31.9	14.0	35.0	35.0
Cycle Q Clear(g_c), s	25.0	18.1	29.7	7.7	0.0	36.0	14.0	31.9	31.9	14.0	35.0	35.0
Prop In Lane	1.00		1.00	1.00		0.43	1.00		0.53	1.00		0.70
Lane Grp Cap(c), veh/h	382	706	580	351	0	434	213	475	456	183	447	417
V/C Ratio(X)	1.86	0.48	0.70	0.38	0.00	1.00	0.88	0.89	0.90	1.53	1.00	1.00
Avail Cap(c_a), veh/h	382	706	580	404	0	434	327	475	456	183	447	417
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.7	28.0	31.5	28.6	0.0	45.6	54.5	43.1	43.1	56.6	46.1	46.1
Incr Delay (d2), s/veh	397.4	0.6	3.8	0.2	0.0	43.6	10.8	19.1	20.0	265.1	42.7	44.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	49.3	7.5	10.7	2.9	0.0	18.7	6.4	15.0	14.5	19.2	18.9	17.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	437.1	28.6	35.3	28.9	0.0	89.2	65.4	62.2	63.1	321.7	88.8	90.7
LnGrp LOS	F	C	D	C	A	F	E	E	E	F	F	F
Approach Vol, veh/h		1451			568			1020			1146	
Approach Delay, s/veh		230.4			75.1			63.2			146.6	
Approach LOS		F			E			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	42.2	12.7	55.3	19.2	40.0	28.0	40.0
Change Period (Y+Rc), s	3.0	5.0	3.0	4.0	3.0	5.0	3.0	4.0
Max Green Setting (Gmax), s	14.0	35.0	14.0	36.0	25.0	35.0	25.0	36.0
Max Q Clear Time (g_c+I1), s	16.0	33.9	9.7	31.7	16.0	37.0	27.0	38.0
Green Ext Time (p_c), s	0.0	0.8	0.1	2.5	0.2	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	145.6
HCM 6th LOS	F

Intersection	
Int Delay, s/veh	16.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	10	168	18	6	35	96	634	33	75	607	32
Future Vol, veh/h	31	10	168	18	6	35	96	634	33	75	607	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	-	-	-	-	-	150	175	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	3	2	0	0	3	0
Mvmt Flow	34	11	185	20	7	38	105	697	36	82	667	35

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1797	1792	685	1854	1773	697	702	0	0	733	0	0
Stage 1	849	849	-	907	907	-	-	-	-	-	-	-
Stage 2	948	943	-	947	866	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.13	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.227	-	-	2.2	-	-
Pot Cap-1 Maneuver	63	82	452	57	84	444	891	-	-	881	-	-
Stage 1	358	380	-	333	357	-	-	-	-	-	-	-
Stage 2	316	344	-	316	373	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	42	60	452	23	61	444	891	-	-	881	-	-
Mov Cap-2 Maneuver	42	60	-	23	61	-	-	-	-	-	-	-
Stage 1	286	345	-	266	286	-	-	-	-	-	-	-
Stage 2	226	275	-	164	338	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	60	246.8	1.2	1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	891	-	-	42	331	61	881	-	-
HCM Lane V/C Ratio	0.118	-	-	0.811	0.591	1.063	0.094	-	-
HCM Control Delay (s)	9.6	0	-	230.1	30.4	246.8	9.5	-	-
HCM Lane LOS	A	A	-	F	D	F	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	3.1	3.6	5.2	0.3	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	0	32	2	0	3	64	545	6	7	516	48
Future Vol, veh/h	23	0	32	2	0	3	64	545	6	7	516	48
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	0	2	0	2	2	0	0	2	2
Mvmt Flow	25	0	35	2	0	3	70	592	7	8	561	52

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1340	1342	587	1357	1365	596	613	0	0	599	0	0
Stage 1	603	603	-	736	736	-	-	-	-	-	-	-
Stage 2	737	739	-	621	629	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.1	6.52	6.2	4.12	-	-	4.1	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.1	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.1	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.5	4.018	3.3	2.218	-	-	2.2	-	-
Pot Cap-1 Maneuver	130	152	510	127	147	507	966	-	-	988	-	-
Stage 1	486	488	-	414	425	-	-	-	-	-	-	-
Stage 2	410	424	-	478	475	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	117	134	510	107	129	507	966	-	-	988	-	-
Mov Cap-2 Maneuver	117	134	-	107	129	-	-	-	-	-	-	-
Stage 1	433	482	-	369	379	-	-	-	-	-	-	-
Stage 2	363	378	-	440	469	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	25.7	23.2	0.9	0.1
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	966	-	-	117	510	203	988	-	-
HCM Lane V/C Ratio	0.072	-	-	0.214	0.068	0.027	0.008	-	-
HCM Control Delay (s)	9	0	-	43.9	12.6	23.2	8.7	0	-
HCM Lane LOS	A	A	-	E	B	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.8	0.2	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	3	23	364	3	204	17	1186	593	285	1100	6
Future Volume (vph)	2	3	23	364	3	204	17	1186	593	285	1100	6
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.89		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected		1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1549		1630	1435		1662	3260	1458	1630	3257	
Flt Permitted		0.99		0.74	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1535		1267	1435		1662	3260	1458	1630	3257	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	2	3	24	379	3	212	18	1235	618	297	1146	6
RTOR Reduction (vph)	0	17	0	0	150	0	0	0	174	0	0	0
Lane Group Flow (vph)	0	12	0	379	66	0	18	1235	444	297	1152	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	0%	0%	2%	0%	4%	0%	2%	2%	2%	2%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4					6			
Actuated Green, G (s)		30.0		30.0	30.0		3.6	38.7	38.7	20.8	55.9	
Effective Green, g (s)		30.0		30.0	30.0		2.6	39.2	39.2	19.8	56.4	
Actuated g/C Ratio		0.30		0.30	0.30		0.03	0.39	0.39	0.20	0.56	
Clearance Time (s)		4.0		4.0	4.0		3.0	4.5	4.5	3.0	4.5	
Vehicle Extension (s)		2.0		4.0	4.0		2.0	4.5	4.5	2.0	5.0	
Lane Grp Cap (vph)		455		376	426		42	1265	565	319	1818	
v/s Ratio Prot					0.05		0.01	c0.38		c0.18	0.35	
v/s Ratio Perm		0.01		c0.30					0.30			
v/c Ratio		0.03		1.01	0.16		0.43	0.98	0.79	0.93	0.63	
Uniform Delay, d1		25.2		35.5	26.2		48.5	30.4	27.2	39.9	15.2	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0		48.4	0.2		2.5	19.8	7.9	32.5	1.0	
Delay (s)		25.2		83.9	26.4		51.0	50.2	35.1	72.4	16.3	
Level of Service		C		F	C		D	D	D	E	B	
Approach Delay (s)		25.2			63.0			45.2			27.8	
Approach LOS		C			E			D			C	

Intersection Summary			
HCM 2000 Control Delay	41.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	101.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	91.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	3	23	364	3	204	17	1186	593	285	1100	6
Future Volume (veh/h)	2	3	23	364	3	204	17	1186	593	285	1100	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1750	1750	1723	1750	1750	1750	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	2	3	24	379	3	212	18	1235	618	297	1146	6
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	2	0	0	0	2	2	2	2	2
Cap, veh/h	51	64	365	481	6	429	167	1323	590	299	1623	8
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.10	0.40	0.40	0.18	0.49	0.48
Sat Flow, veh/h	41	219	1247	1383	21	1465	1667	3273	1458	1641	3339	17
Grp Volume(v), veh/h	29	0	0	379	0	215	18	1235	618	297	562	590
Grp Sat Flow(s),veh/h/ln	1506	0	0	1383	0	1486	1667	1637	1458	1641	1637	1720
Q Serve(g_s), s	0.0	0.0	0.0	24.7	0.0	11.8	1.0	35.7	40.0	17.9	26.6	26.6
Cycle Q Clear(g_c), s	1.4	0.0	0.0	26.1	0.0	11.8	1.0	35.7	40.0	17.9	26.6	26.6
Prop In Lane	0.07		0.83	1.00		0.99	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	479	0	0	481	0	435	167	1323	590	299	795	836
V/C Ratio(X)	0.06	0.00	0.00	0.79	0.00	0.49	0.11	0.93	1.05	0.99	0.71	0.71
Avail Cap(c_a), veh/h	495	0	0	496	0	451	167	1323	590	299	877	921
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.2	0.0	0.0	33.9	0.0	29.0	40.5	28.2	29.5	40.4	19.9	19.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	8.6	0.0	1.2	0.1	12.3	50.3	50.6	3.3	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	9.9	0.0	4.4	0.4	15.2	21.1	11.2	10.1	10.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.3	0.0	0.0	42.5	0.0	30.2	40.6	40.5	79.8	91.0	23.2	23.0
LnGrp LOS	C	A	A	D	A	C	D	D	F	F	C	C
Approach Vol, veh/h		29			594			1871			1449	
Approach Delay, s/veh		25.3			38.0			53.5			37.0	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.9	52.1		32.9	22.0	44.0		32.9
Change Period (Y+Rc), s	3.0	4.5		4.0	3.0	4.5		4.0
Max Green Setting (Gmax), s	6.0	52.5		30.0	19.0	39.5		30.0
Max Q Clear Time (g_c+I1), s	3.0	28.6		28.1	19.9	42.0		3.4
Green Ext Time (p_c), s	0.0	19.0		0.9	0.0	0.0		0.1

Intersection Summary	
HCM 6th Ctrl Delay	44.9
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	829	362	513	159	268	215	250	790	264	289	719	353
Future Volume (vph)	829	362	513	159	268	215	250	790	264	289	719	353
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	3.0	4.0	4.0	3.0	4.0		3.0	5.0		3.0	5.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.93		1.00	0.96		1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1646	1750	1430	1525	1572		1662	3047		1662	3078	
Flt Permitted	0.11	1.00	1.00	0.53	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	182	1750	1430	854	1572		1662	3047		1662	3078	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	891	389	552	171	288	231	269	849	284	311	773	380
RTOR Reduction (vph)	0	0	201	0	22	0	0	24	0	0	44	0
Lane Group Flow (vph)	891	389	351	171	497	0	269	1109	0	311	1109	0
Heavy Vehicles (%)	1%	0%	4%	9%	7%	0%	0%	3%	11%	0%	3%	2%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	71.0	56.8	56.8	46.2	35.0		14.0	37.0		16.0	39.0	
Effective Green, g (s)	71.0	56.8	56.8	46.2	35.0		14.0	37.0		16.0	39.0	
Actuated g/C Ratio	0.52	0.42	0.42	0.34	0.26		0.10	0.27		0.12	0.29	
Clearance Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	5.0		3.0	5.0	
Vehicle Extension (s)	1.5	3.5	3.5	1.5	3.5		1.5	3.5		1.5	4.0	
Lane Grp Cap (vph)	450	730	597	345	404		171	828		195	882	
v/s Ratio Prot	c0.48	0.22		0.04	0.32		0.16	c0.36		c0.19	0.36	
v/s Ratio Perm	c0.55		0.25	0.13								
v/c Ratio	1.98	0.53	0.59	0.50	1.23		1.57	1.34		1.59	1.26	
Uniform Delay, d1	42.0	29.7	30.6	33.4	50.5		61.0	49.5		60.0	48.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	448.9	0.8	1.6	0.4	124.0		284.1	160.9		290.5	124.9	
Delay (s)	491.0	30.5	32.2	33.8	174.5		345.1	210.4		350.5	173.4	
Level of Service	F	C	C	C	F		F	F		F	F	
Approach Delay (s)		255.0			139.6			236.2			211.1	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	223.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.75		
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	143.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	829	362	513	159	268	215	250	790	264	289	719	353
Future Volume (veh/h)	829	362	513	159	268	215	250	790	264	289	719	353
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1736	1750	1695	1627	1654	1654	1750	1709	1709	1750	1709	1709
Adj Flow Rate, veh/h	891	389	552	171	288	231	269	849	284	311	773	380
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	0	4	9	7	7	0	3	3	0	3	3
Cap, veh/h	454	709	582	332	219	175	172	650	217	196	605	297
Arrive On Green	0.24	0.41	0.41	0.09	0.26	0.26	0.10	0.27	0.27	0.12	0.29	0.29
Sat Flow, veh/h	1654	1750	1437	1550	850	682	1667	2391	798	1667	2111	1035
Grp Volume(v), veh/h	891	389	552	171	0	519	269	576	557	311	594	559
Grp Sat Flow(s),veh/h/ln	1654	1750	1437	1550	0	1532	1667	1624	1565	1667	1624	1523
Q Serve(g_s), s	33.0	23.1	50.5	10.9	0.0	35.0	14.0	37.0	37.0	16.0	39.0	39.0
Cycle Q Clear(g_c), s	33.0	23.1	50.5	10.9	0.0	35.0	14.0	37.0	37.0	16.0	39.0	39.0
Prop In Lane	1.00		1.00	1.00		0.45	1.00		0.51	1.00		0.68
Lane Grp Cap(c), veh/h	454	709	582	332	0	394	172	442	426	196	466	437
V/C Ratio(X)	1.96	0.55	0.95	0.51	0.00	1.32	1.57	1.30	1.31	1.59	1.28	1.28
Avail Cap(c_a), veh/h	454	709	582	333	0	394	172	442	426	196	466	437
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.9	30.9	39.1	32.1	0.0	50.5	61.0	49.5	49.5	60.0	48.5	48.5
Incr Delay (d2), s/veh	440.7	1.0	25.2	0.6	0.0	159.4	281.8	152.7	154.5	286.6	139.9	142.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	65.9	9.8	21.4	4.1	0.0	30.7	19.3	33.4	32.4	22.2	33.3	31.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	482.6	32.0	64.3	32.7	0.0	209.9	342.8	202.2	204.0	346.6	188.4	191.3
LnGrp LOS	F	C	E	C	A	F	F	F	F	F	F	F
Approach Vol, veh/h		1832			690			1402			1464	
Approach Delay, s/veh		260.9			166.0			229.9			223.1	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	42.0	15.9	59.1	17.0	44.0	36.0	39.0
Change Period (Y+Rc), s	3.0	5.0	3.0	4.0	3.0	5.0	3.0	4.0
Max Green Setting (Gmax), s	16.0	37.0	13.0	55.0	14.0	39.0	33.0	35.0
Max Q Clear Time (g_c+I1), s	18.0	39.0	12.9	52.5	16.0	41.0	35.0	37.0
Green Ext Time (p_c), s	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	230.4
HCM 6th LOS	F

Intersection	
Int Delay, s/veh	196.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	9	290	20	5	34	183	967	39	70	842	17
Future Vol, veh/h	17	9	290	20	5	34	183	967	39	70	842	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	-	-	-	-	-	150	175	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	3	2	0	0	3	0
Mvmt Flow	19	10	319	22	5	37	201	1063	43	77	925	19

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2597	2597	935	2718	2563	1063	944	0	0	1106	0	0
Stage 1	1089	1089	-	1465	1465	-	-	-	-	-	-	-
Stage 2	1508	1508	-	1253	1098	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.13	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.227	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 17	25	325	~ 14	27	274	723	-	-	639	-	-
Stage 1	263	294	-	161	194	-	-	-	-	-	-	-
Stage 2	152	185	-	213	291	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 1	~ 6	325	-	6	274	723	-	-	639	-	-
Mov Cap-2 Maneuver	~ 1	~ 6	-	-	6	-	-	-	-	-	-	-
Stage 1	71	258	-	43	52	-	-	-	-	-	-	-
Stage 2	32	50	-	~ 4	256	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, $	1540.1		1.8	0.9
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	723	-	-	1	125	-	639	-	-
HCM Lane V/C Ratio	0.278	-	-	18.681	2.629	-	0.12	-	-
HCM Control Delay (s)	11.9	0	$	14372.3	$ 810.5	-	11.4	-	-
HCM Lane LOS	B	A	-	F	F	-	B	-	-
HCM 95th %tile Q(veh)	1.1	-	-	4	29.6	-	0.4	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	9	18	873	29	51	774
Future Vol, veh/h	9	18	873	29	51	774
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	10	20	949	32	55	841

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1916	965	0	0	981	0
Stage 1	965	-	-	-	-	-
Stage 2	951	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	75	312	-	-	712	-
Stage 1	373	-	-	-	-	-
Stage 2	379	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	64	312	-	-	712	-
Mov Cap-2 Maneuver	64	-	-	-	-	-
Stage 1	319	-	-	-	-	-
Stage 2	379	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	38.6	0	0.6
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	136	712	-
HCM Lane V/C Ratio	-	-	0.216	0.078	-
HCM Control Delay (s)	-	-	38.6	10.5	0
HCM Lane LOS	-	-	E	B	A
HCM 95th %tile Q(veh)	-	-	0.8	0.3	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	3	23	367	3	204	17	1199	593	285	1118	6
Future Volume (vph)	2	3	23	367	3	204	17	1199	593	285	1118	6
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.89		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected		1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1549		1630	1435		1662	3260	1458	1630	3257	
Flt Permitted		0.99		0.74	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1535		1267	1435		1662	3260	1458	1630	3257	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	2	3	24	382	3	212	18	1249	618	297	1165	6
RTOR Reduction (vph)	0	17	0	0	152	0	0	0	174	0	0	0
Lane Group Flow (vph)	0	12	0	382	64	0	18	1249	444	297	1171	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	0%	0%	2%	0%	4%	0%	2%	2%	2%	2%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4					6			
Actuated Green, G (s)		29.0		29.0	29.0		3.7	39.3	39.3	20.9	56.5	
Effective Green, g (s)		29.0		29.0	29.0		2.7	39.8	39.8	19.9	57.0	
Actuated g/C Ratio		0.29		0.29	0.29		0.03	0.40	0.40	0.20	0.57	
Clearance Time (s)		4.0		4.0	4.0		3.0	4.5	4.5	3.0	4.5	
Vehicle Extension (s)		2.0		4.0	4.0		2.0	4.5	4.5	2.0	5.0	
Lane Grp Cap (vph)		442		364	413		44	1288	576	322	1843	
v/s Ratio Prot					0.04		0.01	c0.38		c0.18	0.36	
v/s Ratio Perm		0.01		c0.30					0.30			
v/c Ratio		0.03		1.05	0.16		0.41	0.97	0.77	0.92	0.64	
Uniform Delay, d1		25.7		35.9	26.7		48.2	29.9	26.5	39.6	14.8	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0		60.7	0.2		2.2	18.2	7.1	30.4	1.0	
Delay (s)		25.7		96.6	27.0		50.5	48.1	33.6	70.0	15.8	
Level of Service		C		F	C		D	D	C	E	B	
Approach Delay (s)		25.7			71.4			43.4			26.8	
Approach LOS		C			E			D			C	

Intersection Summary			
HCM 2000 Control Delay	41.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	100.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	91.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	3	23	367	3	204	17	1199	593	285	1118	6
Future Volume (veh/h)	2	3	23	367	3	204	17	1199	593	285	1118	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1750	1750	1723	1750	1750	1750	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	2	3	24	382	3	212	18	1249	618	297	1165	6
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	2	0	0	0	2	2	2	2	2
Cap, veh/h	50	63	360	475	6	424	164	1344	599	296	1644	8
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.10	0.41	0.41	0.18	0.49	0.49
Sat Flow, veh/h	41	219	1247	1383	21	1465	1667	3273	1458	1641	3339	17
Grp Volume(v), veh/h	29	0	0	382	0	215	18	1249	618	297	571	600
Grp Sat Flow(s),veh/h/ln	1506	0	0	1383	0	1486	1667	1637	1458	1641	1637	1720
Q Serve(g_s), s	0.0	0.0	0.0	25.4	0.0	12.0	1.0	36.3	41.0	18.0	27.2	27.2
Cycle Q Clear(g_c), s	1.4	0.0	0.0	26.7	0.0	12.0	1.0	36.3	41.0	18.0	27.2	27.2
Prop In Lane	0.07		0.83	1.00		0.99	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	474	0	0	475	0	430	164	1344	599	296	806	847
V/C Ratio(X)	0.06	0.00	0.00	0.80	0.00	0.50	0.11	0.93	1.03	1.00	0.71	0.71
Avail Cap(c_a), veh/h	476	0	0	477	0	432	164	1344	599	296	885	930
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.7	0.0	0.0	34.6	0.0	29.5	41.0	28.1	29.4	40.9	19.8	19.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	10.1	0.0	1.3	0.1	11.7	45.3	53.4	3.3	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	10.3	0.0	4.4	0.4	15.3	20.8	11.5	10.3	10.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.8	0.0	0.0	44.7	0.0	30.8	41.1	39.8	74.8	94.3	23.0	22.9
LnGrp LOS	C	A	A	D	A	C	D	D	F	F	C	C
Approach Vol, veh/h		29			597			1885			1468	
Approach Delay, s/veh		25.8			39.7			51.3			37.4	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.8	53.2		32.9	22.0	45.0		32.9
Change Period (Y+Rc), s	3.0	4.5		4.0	3.0	4.5		4.0
Max Green Setting (Gmax), s	6.0	53.5		29.0	19.0	40.5		29.0
Max Q Clear Time (g_c+I1), s	3.0	29.2		28.7	20.0	43.0		3.4
Green Ext Time (p_c), s	0.0	19.5		0.1	0.0	0.0		0.1

Intersection Summary	
HCM 6th Ctrl Delay	44.2
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	829	362	523	161	268	215	250	807	264	289	743	353
Future Volume (vph)	829	362	523	161	268	215	250	807	264	289	743	353
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	3.0	4.0	4.0	3.0	4.0		3.0	5.0		3.0	5.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.93		1.00	0.96		1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1646	1750	1430	1525	1572		1662	3050		1662	3082	
Flt Permitted	0.11	1.00	1.00	0.54	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	182	1750	1430	860	1572		1662	3050		1662	3082	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	873	381	551	169	282	226	263	849	278	304	782	372
RTOR Reduction (vph)	0	0	194	0	22	0	0	23	0	0	42	0
Lane Group Flow (vph)	873	381	357	169	486	0	263	1104	0	304	1112	0
Heavy Vehicles (%)	1%	0%	4%	9%	7%	0%	0%	3%	11%	0%	3%	2%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	71.0	57.9	57.9	45.1	35.0		14.0	37.0		16.0	39.0	
Effective Green, g (s)	71.0	57.9	57.9	45.1	35.0		14.0	37.0		16.0	39.0	
Actuated g/C Ratio	0.52	0.43	0.43	0.33	0.26		0.10	0.27		0.12	0.29	
Clearance Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	5.0		3.0	5.0	
Vehicle Extension (s)	1.5	3.5	3.5	1.5	3.5		1.5	3.5		1.5	4.0	
Lane Grp Cap (vph)	450	745	608	334	404		171	829		195	883	
v/s Ratio Prot	c0.47	0.22		0.04	0.31		0.16	c0.36		c0.18	0.36	
v/s Ratio Perm	c0.54		0.25	0.13								
v/c Ratio	1.94	0.51	0.59	0.51	1.20		1.54	1.33		1.56	1.26	
Uniform Delay, d1	42.0	28.7	29.9	34.2	50.5		61.0	49.5		60.0	48.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	431.1	0.7	1.6	0.4	113.2		269.2	157.4		275.1	125.8	
Delay (s)	473.1	29.4	31.4	34.6	163.7		330.2	206.9		335.1	174.3	
Level of Service	F	C	C	C	F		F	F		F	F	
Approach Delay (s)		244.6			131.5			230.2			207.9	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	216.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.72		
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	144.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	829	362	523	161	268	215	250	807	264	289	743	353
Future Volume (veh/h)	829	362	523	161	268	215	250	807	264	289	743	353
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1736	1750	1695	1627	1654	1654	1750	1709	1709	1750	1709	1709
Adj Flow Rate, veh/h	873	381	551	169	282	226	263	849	278	304	782	372
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	0	4	9	7	7	0	3	3	0	3	3
Cap, veh/h	454	733	602	324	219	175	172	654	214	196	613	291
Arrive On Green	0.24	0.42	0.42	0.08	0.26	0.26	0.10	0.27	0.27	0.12	0.29	0.29
Sat Flow, veh/h	1654	1750	1437	1550	850	681	1667	2405	786	1667	2137	1014
Grp Volume(v), veh/h	873	381	551	169	0	508	263	573	554	304	594	560
Grp Sat Flow(s),veh/h/ln	1654	1750	1437	1550	0	1532	1667	1624	1568	1667	1624	1527
Q Serve(g_s), s	33.0	22.0	49.1	11.0	0.0	35.0	14.0	37.0	37.0	16.0	39.0	39.0
Cycle Q Clear(g_c), s	33.0	22.0	49.1	11.0	0.0	35.0	14.0	37.0	37.0	16.0	39.0	39.0
Prop In Lane	1.00		1.00	1.00		0.44	1.00		0.50	1.00		0.66
Lane Grp Cap(c), veh/h	454	733	602	324	0	394	172	442	426	196	466	438
V/C Ratio(X)	1.92	0.52	0.92	0.52	0.00	1.29	1.53	1.30	1.30	1.55	1.28	1.28
Avail Cap(c_a), veh/h	454	733	602	324	0	394	172	442	426	196	466	438
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.9	29.3	37.2	33.4	0.0	50.5	61.0	49.5	49.5	60.0	48.5	48.5
Incr Delay (d2), s/veh	423.0	0.8	18.8	0.7	0.0	147.8	266.9	149.5	151.1	271.3	139.7	142.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	63.7	9.2	20.0	4.2	0.0	29.4	18.6	33.0	32.0	21.4	33.3	31.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	464.9	30.1	56.1	34.1	0.0	198.3	327.9	199.0	200.6	331.3	188.2	191.1
LnGrp LOS	F	C	E	C	A	F	F	F	F	F	F	F
Approach Vol, veh/h		1805			677			1390			1458	
Approach Delay, s/veh		248.3			157.3			224.0			219.1	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	42.0	14.0	61.0	17.0	44.0	36.0	39.0
Change Period (Y+Rc), s	3.0	5.0	3.0	4.0	3.0	5.0	3.0	4.0
Max Green Setting (Gmax), s	16.0	37.0	11.0	57.0	14.0	39.0	33.0	35.0
Max Q Clear Time (g_c+I1), s	18.0	39.0	13.0	51.1	16.0	41.0	35.0	37.0
Green Ext Time (p_c), s	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	222.4
HCM 6th LOS	F

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	9	296	20	5	34	183	988	39	70	882	17
Future Vol, veh/h	17	9	296	20	5	34	183	988	39	70	882	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	-	-	-	-	-	150	175	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	3	2	0	0	3	0
Mvmt Flow	18	10	322	22	5	37	199	1074	42	76	959	18

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2634	2634	968	2758	2601	1074	977	0	0	1116	0	0
Stage 1	1120	1120	-	1472	1472	-	-	-	-	-	-	-
Stage 2	1514	1514	-	1286	1129	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.13	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.227	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 16	24	~ 311	~ 13	25	270	702	-	-	633	-	-
Stage 1	253	284	-	160	193	-	-	-	-	-	-	-
Stage 2	151	184	-	204	281	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 5	~ 311	-	~ 5	270	702	-	-	633	-	-
Mov Cap-2 Maneuver	-	~ 5	-	-	~ 5	-	-	-	-	-	-	-
Stage 1	62	250	-	39	47	-	-	-	-	-	-	-
Stage 2	28	45	-	-	247	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			1.8	0.8
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	702	-	-	-	111	-	633	-	-
HCM Lane V/C Ratio	0.283	-	-	-	2.987	-	0.12	-	-
HCM Control Delay (s)	12.1	0	-	-	$ 977.8	-	11.5	-	-
HCM Lane LOS	B	A	-	-	F	-	B	-	-
HCM 95th %tile Q(veh)	1.2	-	-	-	31.5	-	0.4	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	6.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	0	32	9	0	18	64	873	29	51	774	48
Future Vol, veh/h	23	0	32	9	0	18	64	873	29	51	774	48
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	0	2	0	2	2	0	0	2	2
Mvmt Flow	25	0	35	10	0	20	70	949	32	55	841	52

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2092	2098	867	2100	2108	965	893	0	0	981	0	0
Stage 1	977	977	-	1105	1105	-	-	-	-	-	-	-
Stage 2	1115	1121	-	995	1003	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.1	6.52	6.2	4.12	-	-	4.1	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.1	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.1	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.5	4.018	3.3	2.218	-	-	2.2	-	-
Pot Cap-1 Maneuver	38	52	352	38	51	312	759	-	-	712	-	-
Stage 1	302	329	-	258	286	-	-	-	-	-	-	-
Stage 2	252	282	-	297	320	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	27	35	352	26	34	312	759	-	-	712	-	-
Mov Cap-2 Maneuver	27	35	-	26	34	-	-	-	-	-	-	-
Stage 1	240	278	-	205	228	-	-	-	-	-	-	-
Stage 2	188	224	-	226	270	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	159.2	95.3	0.7	0.6
HCM LOS	F	F		

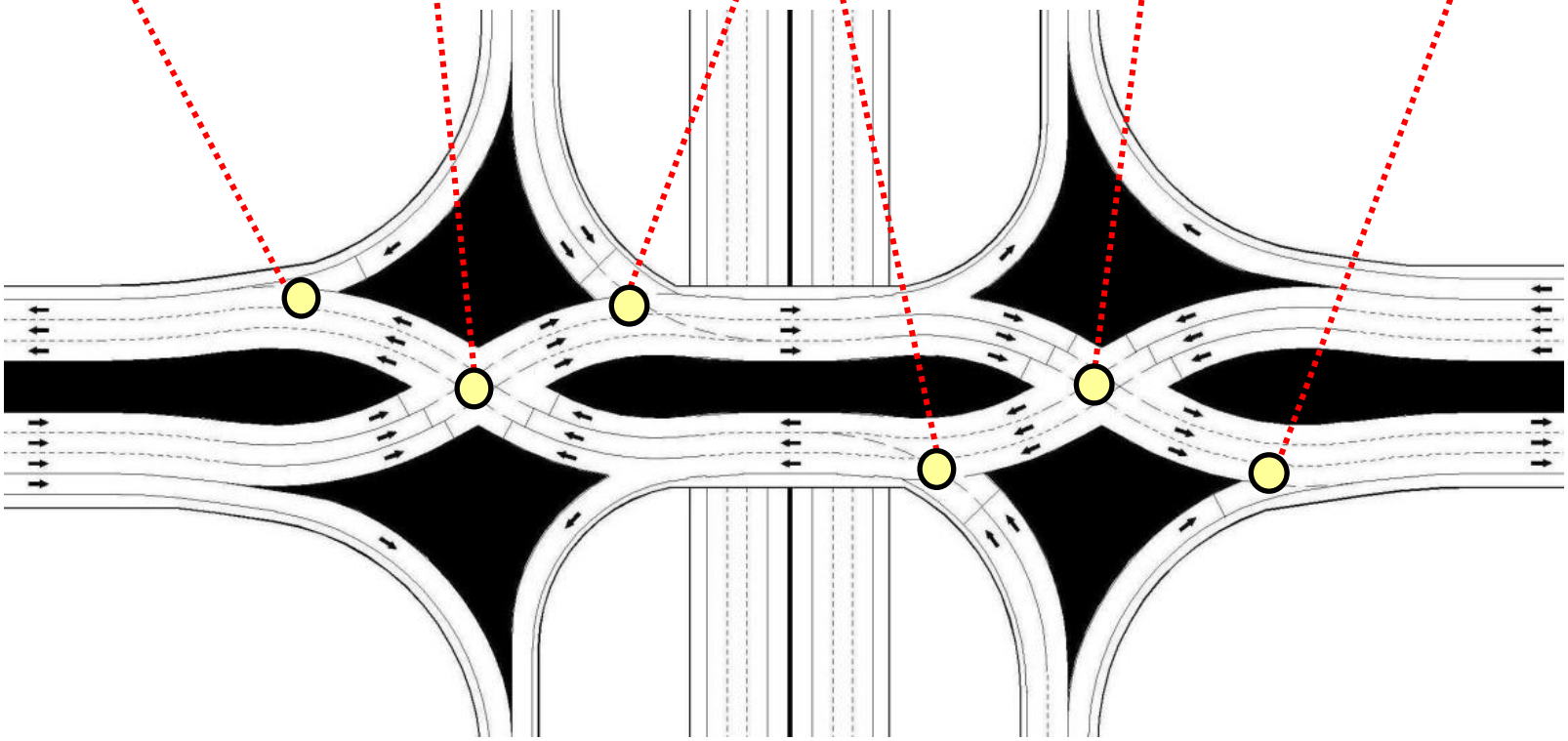
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	759	-	-	27	352	67	712	-	-
HCM Lane V/C Ratio	0.092	-	-	0.926	0.099	0.438	0.078	-	-
HCM Control Delay (s)	10.2	0	-	$ 358	16.3	95.3	10.5	0	-
HCM Lane LOS	B	A	-	F	C	F	B	A	-
HCM 95th %tile Q(veh)	0.3	-	-	2.9	0.3	1.7	0.3	-	-

Double Crossover Diamond Interchange (E-W)

Design and Results

Project Name:	*Gaming Facility*	***Critical Lane Volume Sum***			
Project Number:	*AESX0009*	**< 1200**	**1200 - 1399**	**1400 - 1599**	**≥ 1600**
Location	*Phoenix DDI*	**VOLUME / CAPACITY RATIO:**		**0.47**	
Date	2019				

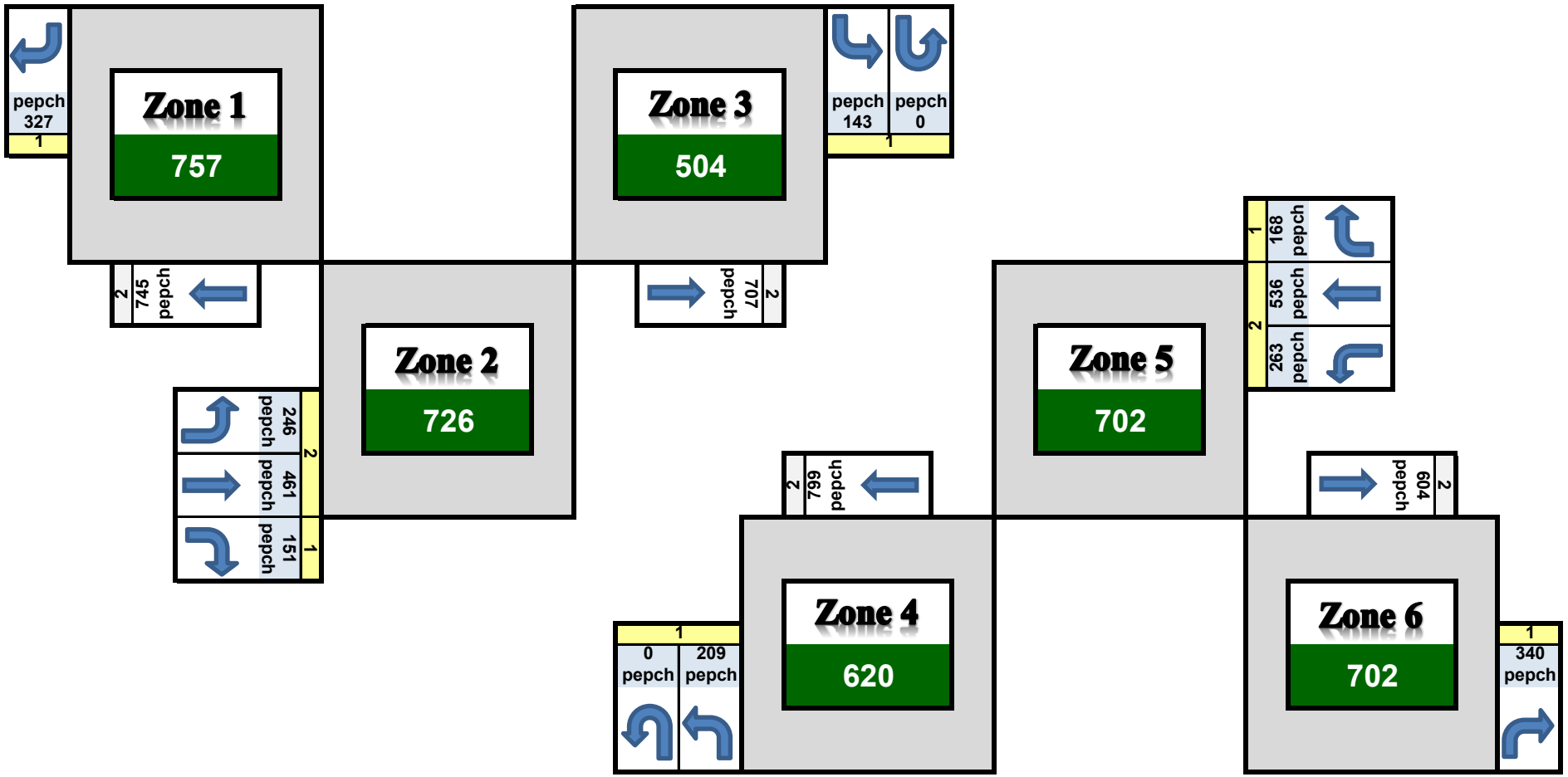
Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
757	726	504	620	702	702
0.47 V / C	0.45 V / C	0.32 V / C	0.39 V / C	0.44 V / C	0.44 V / C



Note: This diagram does not reflect the actual lane configuration of the Intersection

Double Crossover Diamond Interchange (E-W)

Data Input and Configuration



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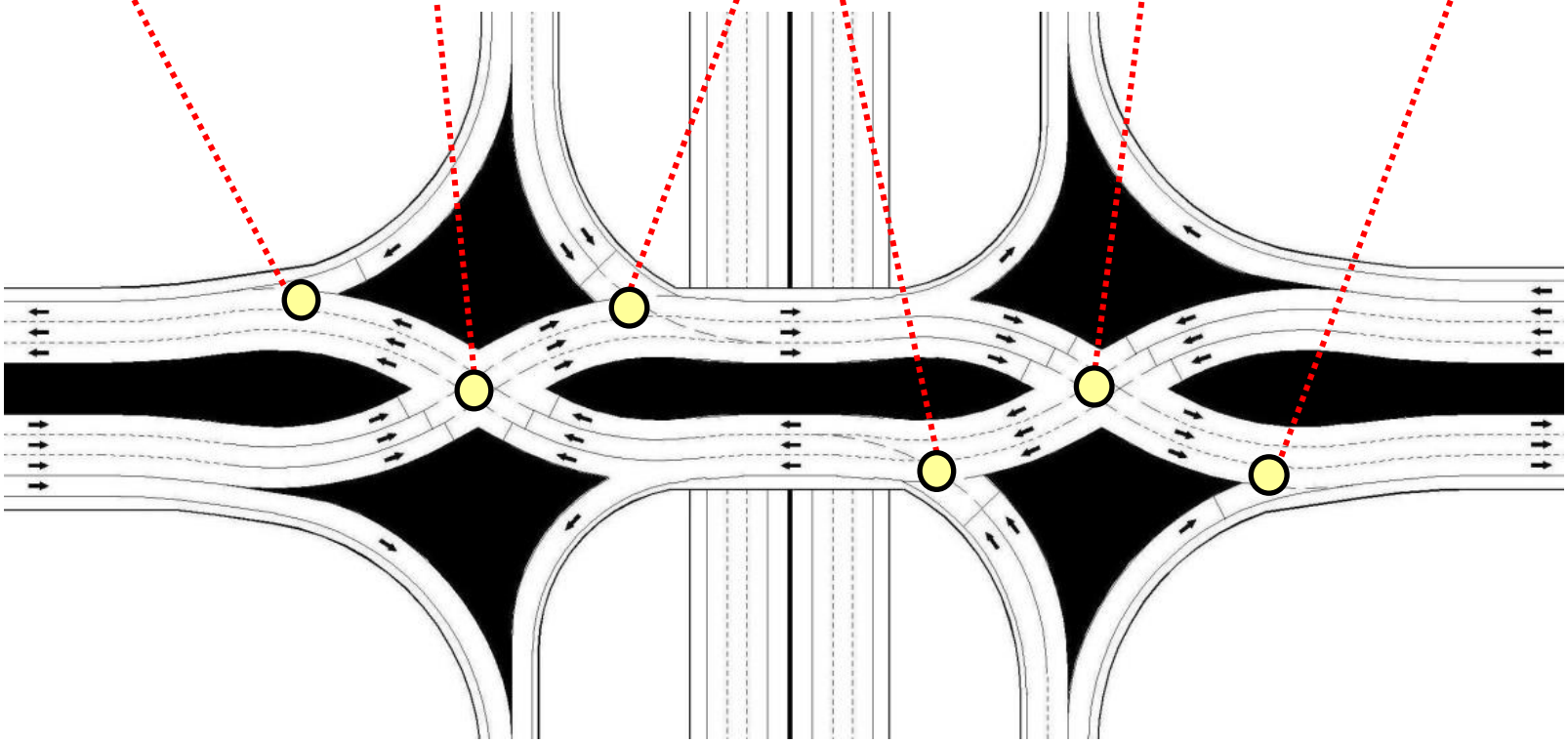
Double Crossover Diamond Interchange (E-W)

Design and Results

Project Name:	*Gaming Facility*	***Critical Lane Volume Sum***			
Project Number:	*AESX0009*	**< 1200**	**1200 - 1399**	**1400 - 1599**	**≥ 1600**
Location	*Phoenix DDI*	**VOLUME / CAPACITY RATIO:**		**0.51**	
Date	2022 Build				

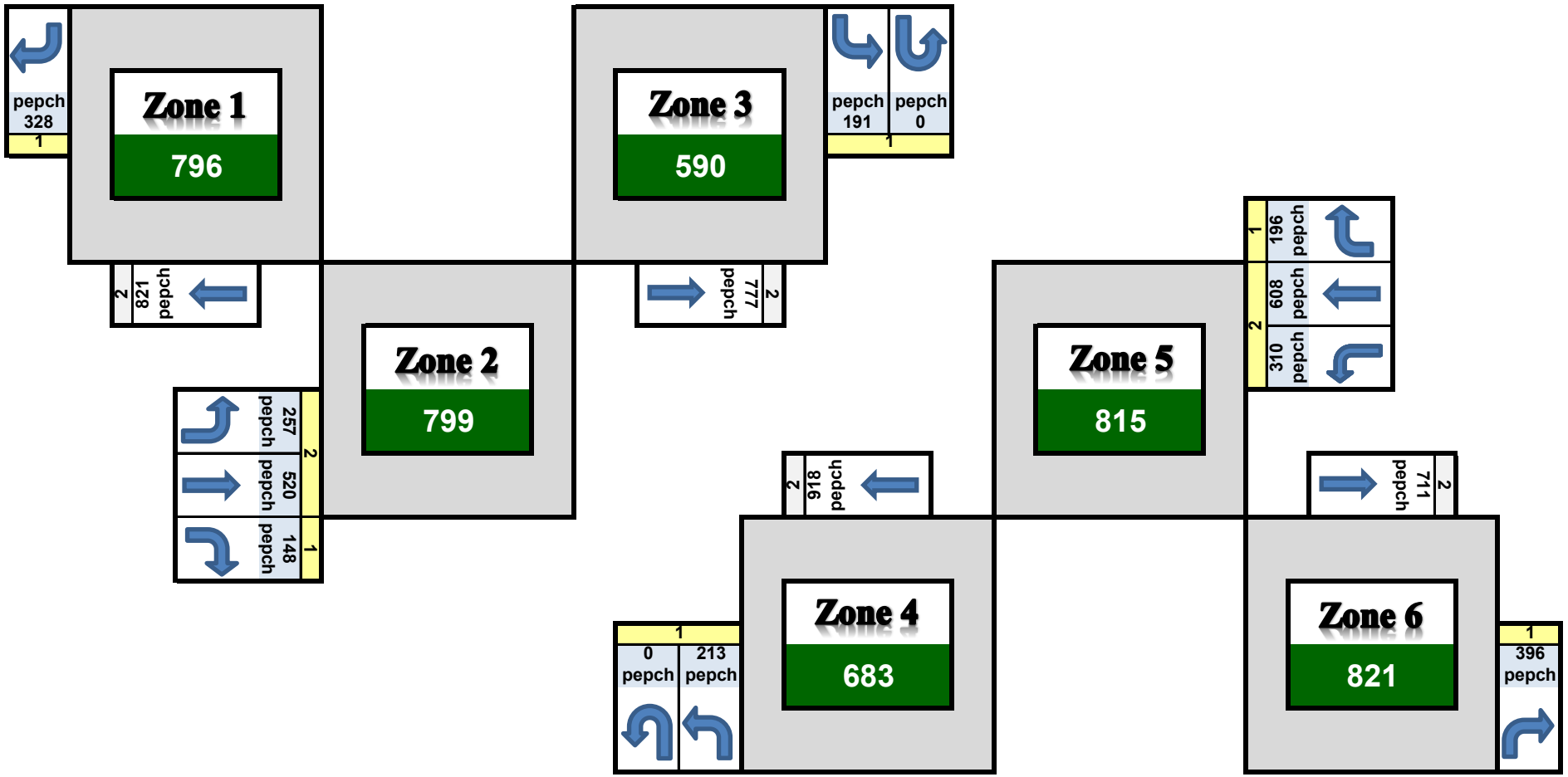
Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
796	799	590	683	815	821
0.5 V / C	0.5 V / C	0.37 V / C	0.43 V / C	0.51 V / C	0.51 V / C



Note: This diagram does not reflect the actual lane configuration of the Intersection

Double Crossover Diamond Interchange (E-W)

Data Input and Configuration



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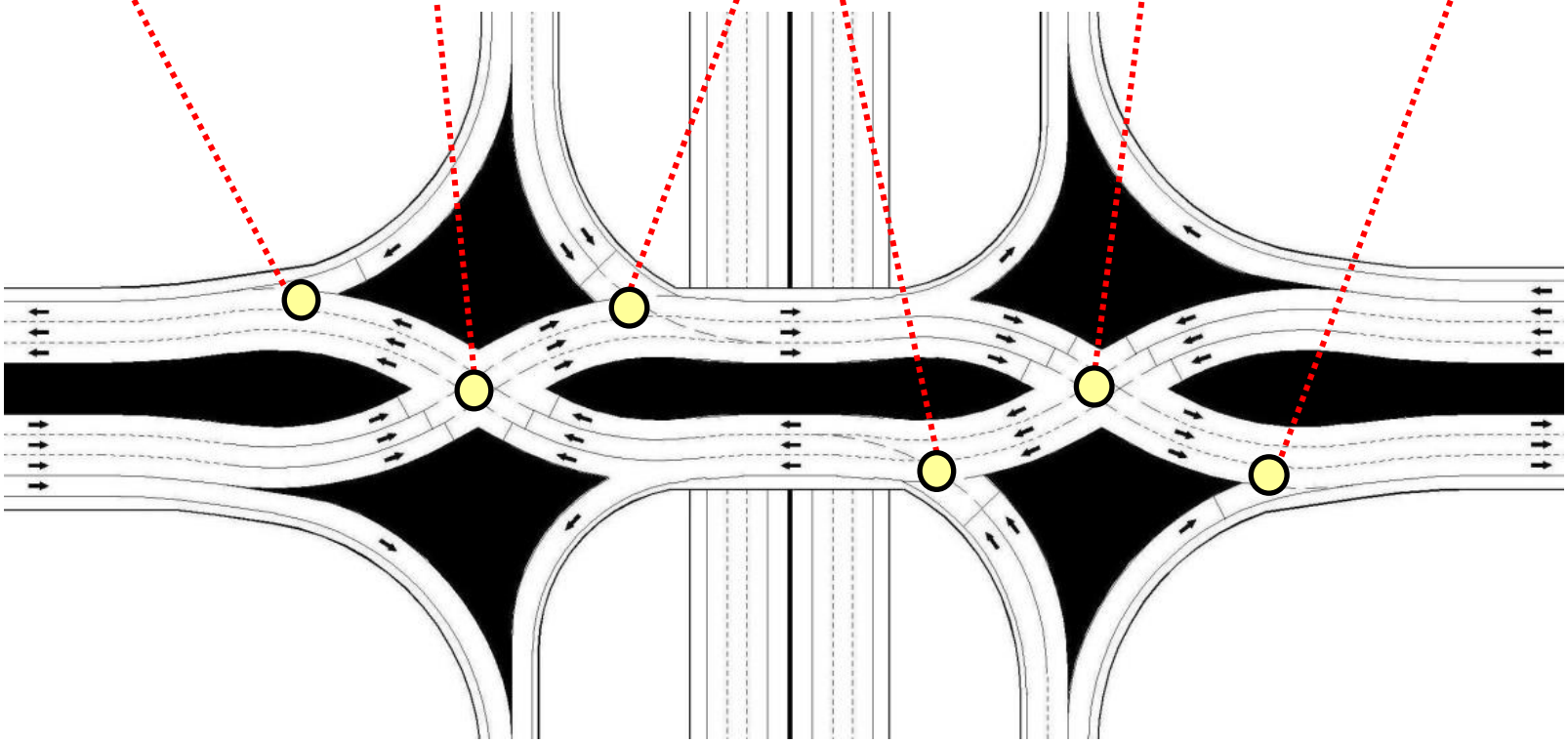
Double Crossover Diamond Interchange (E-W)

Design and Results

Project Name:	*Gaming Facility*	***Critical Lane Volume Sum***			
Project Number:	*AESX0009*	**< 1200**	**1200 - 1399**	**1400 - 1599**	**≥ 1600**
Location	*Phoenix DDI*	**VOLUME / CAPACITY RATIO:**		**0.49**	
Date	2022 No Build				

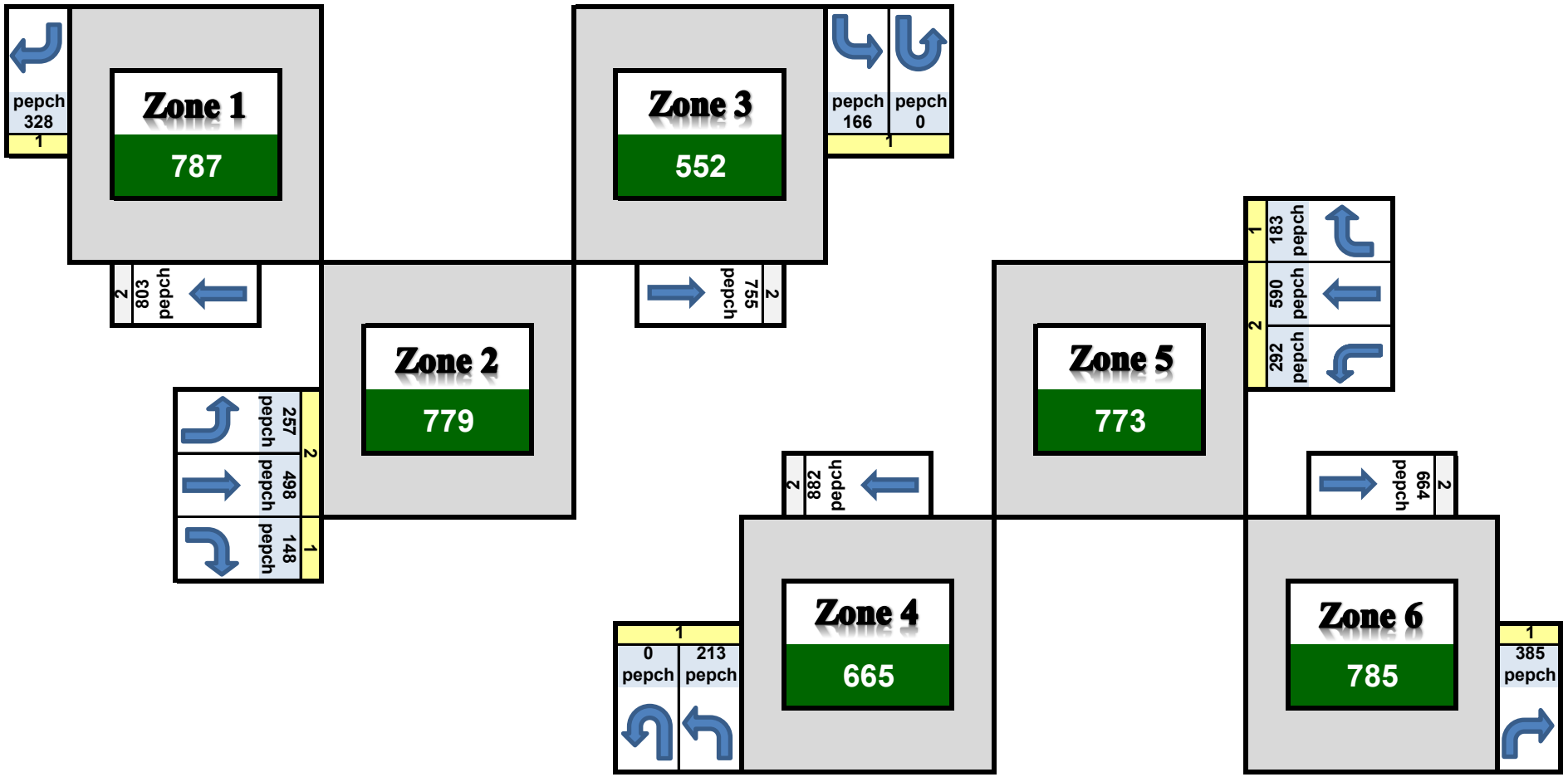
Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
787	779	552	665	773	785
0.49 V / C	0.49 V / C	0.35 V / C	0.42 V / C	0.48 V / C	0.49 V / C



Note: This diagram does not reflect the actual lane configuration of the Intersection

Double Crossover Diamond Interchange (E-W)

Data Input and Configuration



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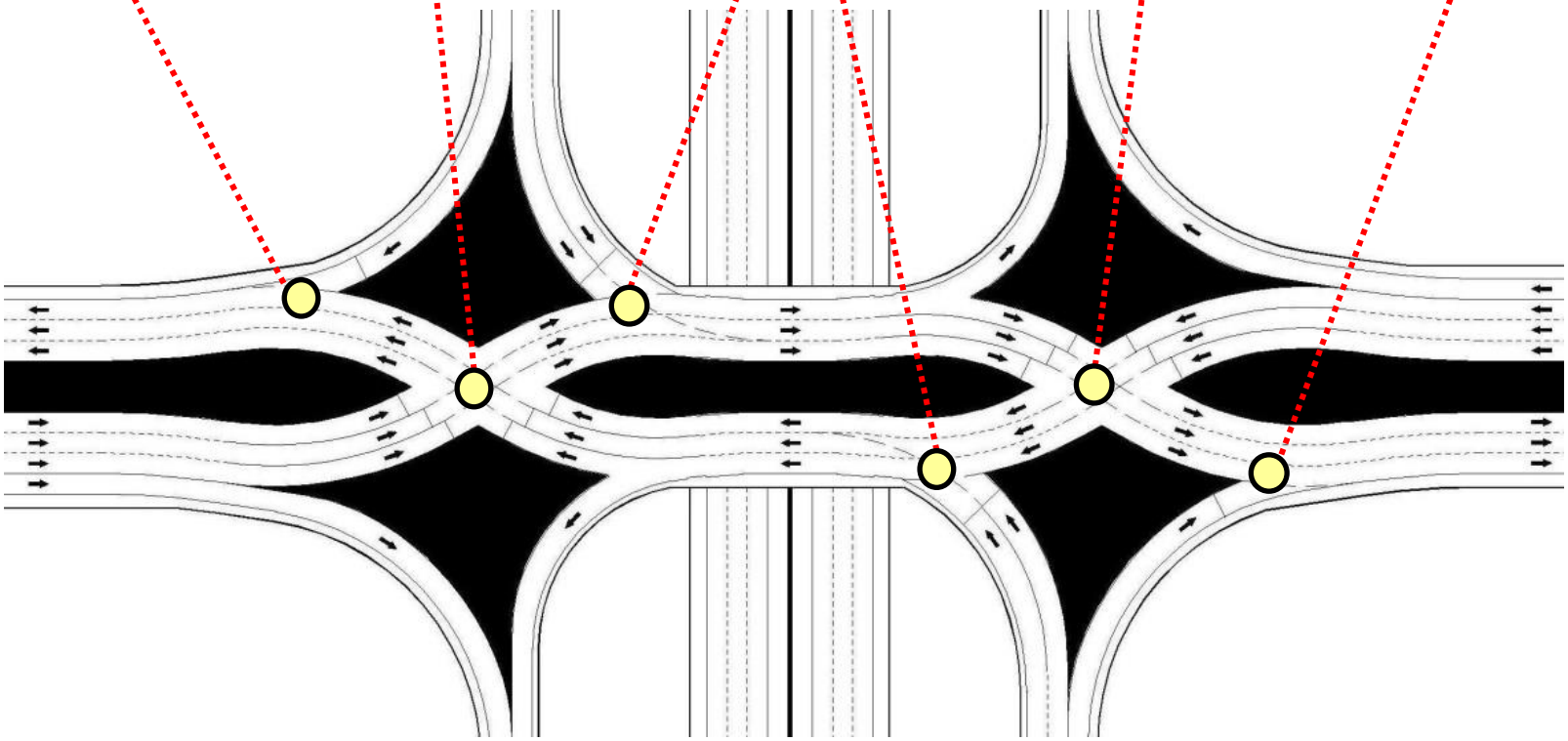
Double Crossover Diamond Interchange (E-W)

Design and Results

		Critical Lane Volume Sum			
Project Name:	*Gaming Facility*	< 1200	1200 - 1399	1400 - 1599	≥ 1600
Project Number:	*AESX0009*				
Location	*Phoenix DDI*	VOLUME / CAPACITY RATIO:	0.79		
Date	2042 Build				

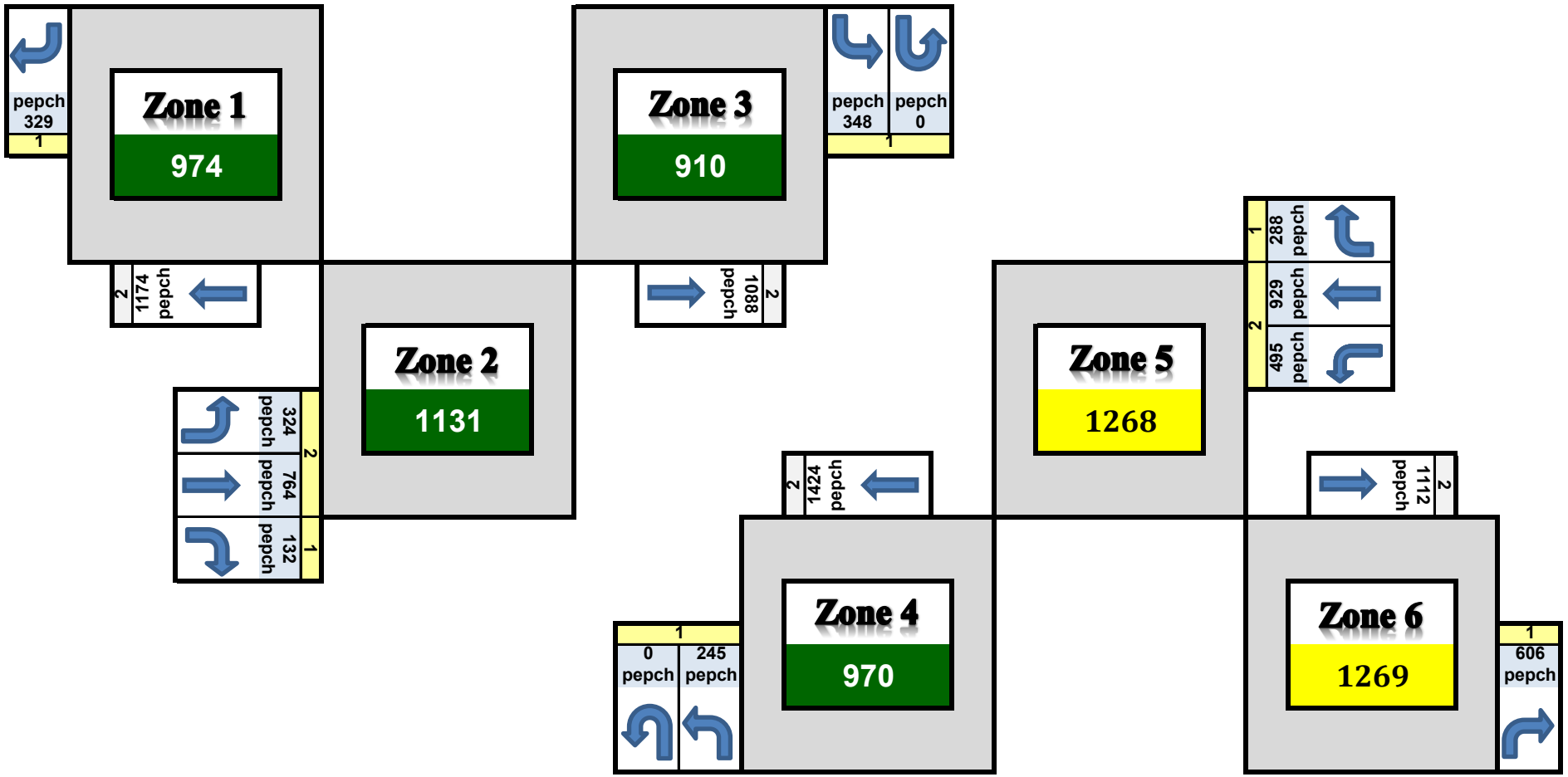
Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
974	1131	910	970	1268	1269
0.61 V / C	0.71 V / C	0.57 V / C	0.61 V / C	0.79 V / C	0.79 V / C



Note: This diagram does not reflect the actual lane configuration of the Intersection

Double Crossover Diamond Interchange (E-W)

Data Input and Configuration



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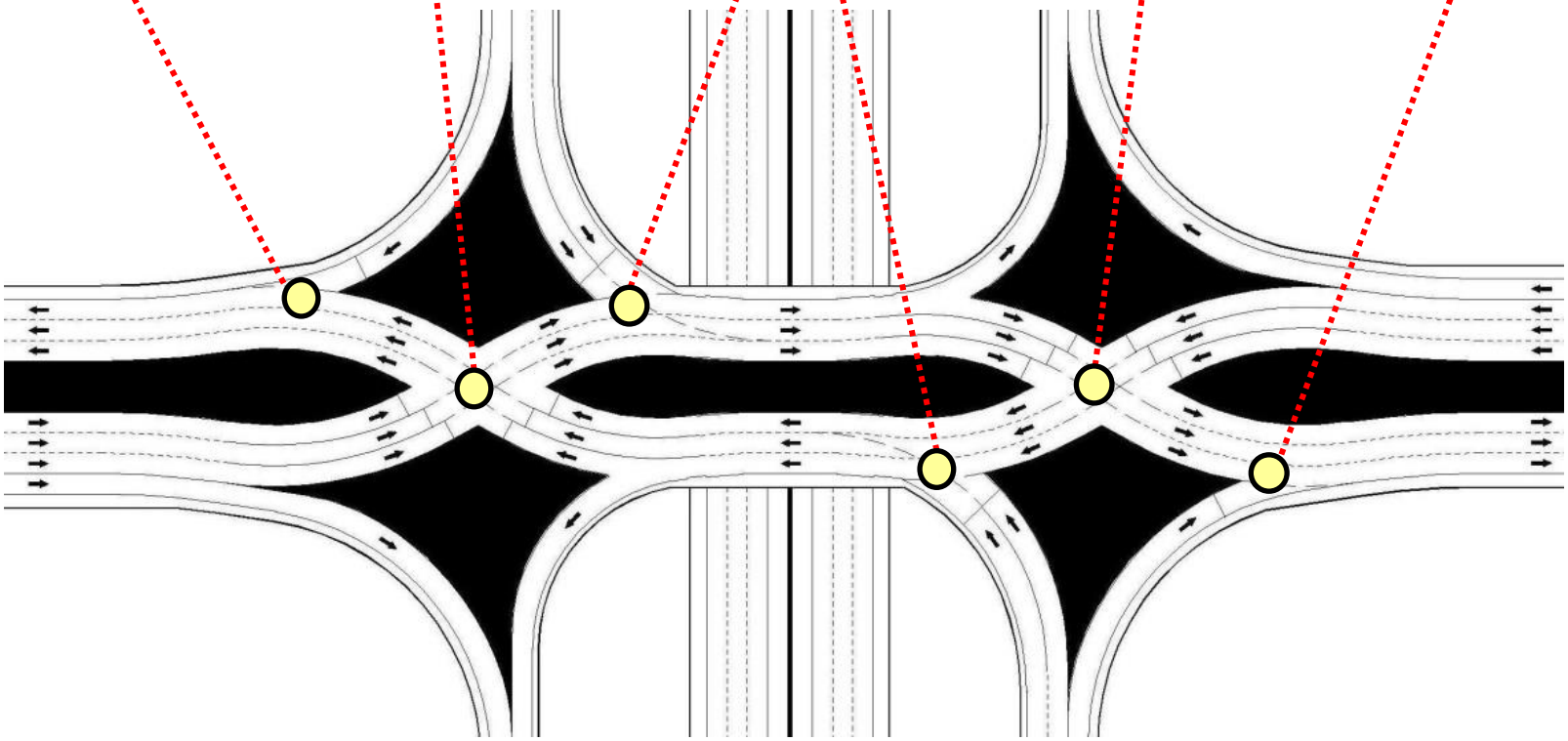
Double Crossover Diamond Interchange (E-W)

Design and Results

		Critical Lane Volume Sum			
Project Name:	*Gaming Facility*	< 1200	1200 - 1399	1400 - 1599	≥ 1600
Project Number:	*AESX0009*	VOLUME / CAPACITY RATIO:	0.77		
Location	*Phoenix DDI*				
Date	2042 No Build				

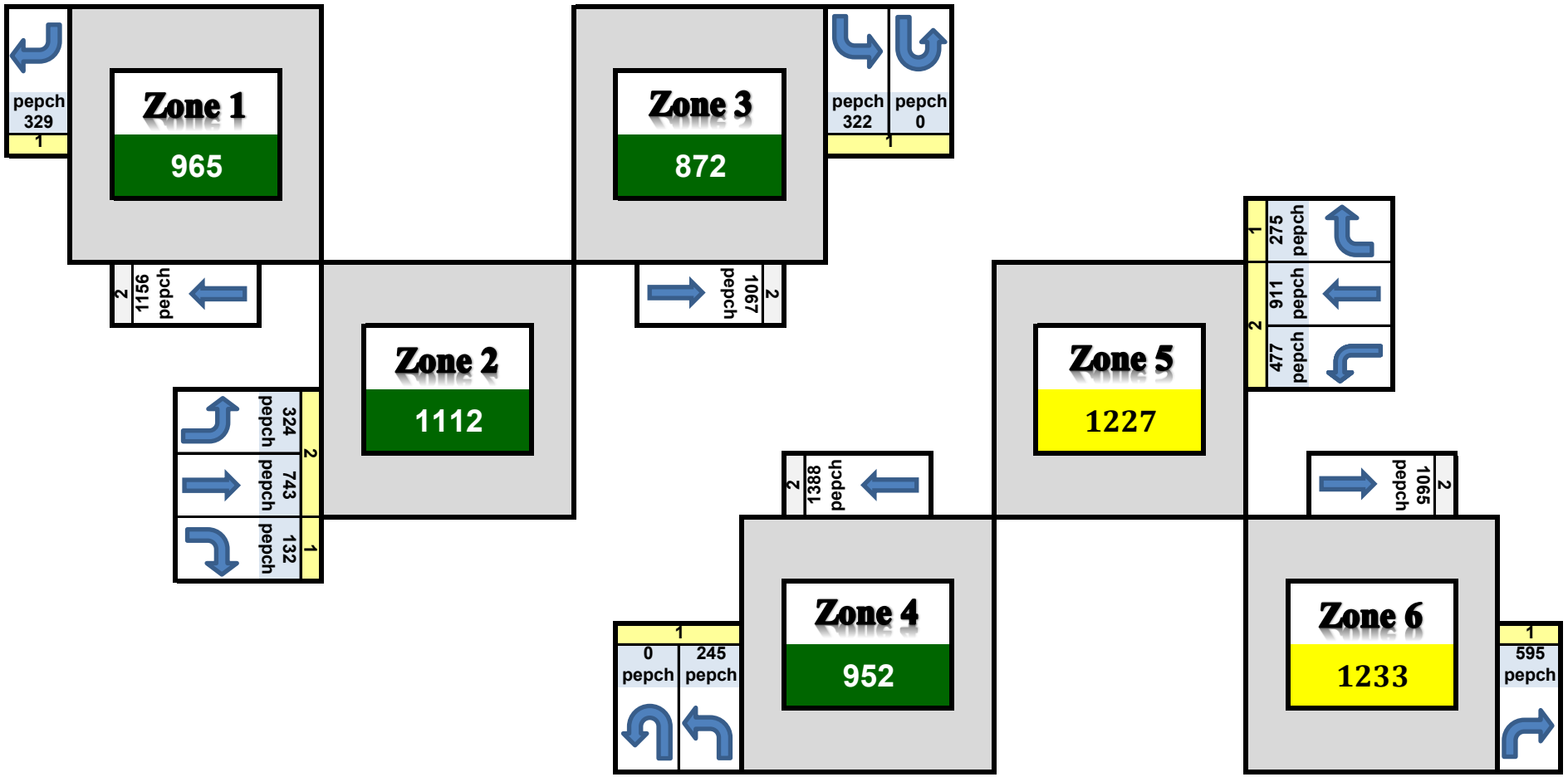
Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
965	1112	872	952	1227	1233
0.6 V / C	0.69 V / C	0.55 V / C	0.59 V / C	0.77 V / C	0.77 V / C



Note: This diagram does not reflect the actual lane configuration of the Intersection

Double Crossover Diamond Interchange (E-W)

Data Input and Configuration



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Alternative A
Garfield SimTraffic

2019 (Calibrated)

2042 No Build

2042 Build

20: Northbound I-5 Exit Ramp/Southbound I-5 Exit Ramp & Garfield Street/Highland Drive Performance b

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Vehicles Entered	563	430	435	320	548	612	396	358	391	613	4666
Vehicles Exited	566	428	434	318	545	609	399	359	392	618	4668
Hourly Exit Rate	566	428	434	318	545	609	399	359	392	618	4668
Input Volume	590	443	449	323	556	635	403	344	384	618	4744
% of Volume	96	97	97	99	98	96	99	104	102	100	98

30: Center Drive & Garfield Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vehicles Entered	163	911	29	65	945	541	21	16	55	488	26	308
Vehicles Exited	162	912	29	65	944	544	21	16	56	467	25	303
Hourly Exit Rate	162	912	29	65	944	544	21	16	56	467	25	303
Input Volume	171	908	28	70	945	551	25	15	53	527	26	330
% of Volume	95	100	103	93	100	99	83	105	106	89	95	92

30: Center Drive & Garfield Street Performance by movement

Movement	All
Vehicles Entered	3568
Vehicles Exited	3544
Hourly Exit Rate	3544
Input Volume	3650
% of Volume	97

60: OR 99 & Garfield Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vehicles Entered	50	305	50	540	503	225	66	503	465	323	657	34
Vehicles Exited	50	302	51	537	502	224	66	505	464	325	661	34
Hourly Exit Rate	50	302	51	537	502	224	66	505	464	325	661	34
Input Volume	56	298	49	560	509	235	65	514	473	325	658	33
% of Volume	89	101	104	96	99	95	102	98	98	100	100	104

60: OR 99 & Garfield Street Performance by movement

Movement	All
Vehicles Entered	3721
Vehicles Exited	3721
Hourly Exit Rate	3721
Input Volume	3776
% of Volume	99

Total Zone Performance

Vehicles Entered	3138
Vehicles Exited	150
Hourly Exit Rate	150
Input Volume	12170
% of Volume	1

Intersection: 20: Northbound I-5 Exit Ramp/Southbound I-5 Exit Ramp & Garfield Street/Highland Drive

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	L
Maximum Queue (ft)	267	287	265	300	154	134	221	292	276	296	230	210
Average Queue (ft)	134	151	106	146	18	61	81	149	143	79	112	120
95th Queue (ft)	216	237	206	241	103	116	151	237	228	250	192	194
Link Distance (ft)			1291	1291				1254	1254			1430
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	275	275			425	250	250			225	200	
Storage Blk Time (%)	0	0	0				0	0	1	1	1	1
Queuing Penalty (veh)	0	0	2				0	1	4	3	4	4

Intersection: 20: Northbound I-5 Exit Ramp/Southbound I-5 Exit Ramp & Garfield Street/Highland Drive

Movement	NB	SB	SB	SB
Directions Served	R	L	L	R
Maximum Queue (ft)	185	188	215	431
Average Queue (ft)	67	98	134	173
95th Queue (ft)	153	163	205	341
Link Distance (ft)			2042	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	300	375		600
Storage Blk Time (%)				0
Queuing Penalty (veh)				0

Intersection: 30: Center Drive & Garfield Street

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	TR	L	L	TR
Maximum Queue (ft)	264	381	352	249	710	680	293	68	133	325	747	735
Average Queue (ft)	95	143	143	54	325	221	126	22	51	311	651	614
95th Queue (ft)	181	282	288	234	663	611	266	56	97	375	928	971
Link Distance (ft)		843	843		1291	1291			309		707	707
Upstream Blk Time (%)					0	0					61	40
Queuing Penalty (veh)					1	1					0	0
Storage Bay Dist (ft)	200			400			200	175		225		
Storage Blk Time (%)	0	3			8	5	1		0	71	77	
Queuing Penalty (veh)	1	5			5	29	5		0	186	203	

Intersection: 60: OR 99 & Garfield Street

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	L	T	R	L	T	T	R	L
Maximum Queue (ft)	140	287	340	262	424	762	161	111	262	259	288	203
Average Queue (ft)	43	146	167	141	194	300	59	57	161	146	120	109
95th Queue (ft)	90	246	268	228	356	535	125	104	245	239	224	182
Link Distance (ft)			1303			843	843		1158	1158		
Upstream Blk Time (%)						0						
Queuing Penalty (veh)						0						
Storage Bay Dist (ft)	225	225		325	325			225			400	250
Storage Blk Time (%)	0	2	2		0	6			2			0
Queuing Penalty (veh)	0	4	5		0	34			1			0

Intersection: 60: OR 99 & Garfield Street

Movement	SB	SB	SB
Directions Served	L	T	T
Maximum Queue (ft)	208	279	279
Average Queue (ft)	101	138	155
95th Queue (ft)	172	233	251
Link Distance (ft)		2438	2438
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	250		
Storage Blk Time (%)	0	0	
Queuing Penalty (veh)	0	1	

Zone Summary

Zone wide Queuing Penalty: 501

Intersection: 20: Northbound I-5 Exit Ramp/Southbound I-5 Exit Ramp & Garfield Street/Highland Drive

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	L
Maximum Queue (ft)	293	316	413	456	281	151	350	1285	1283	325	300	1108
Average Queue (ft)	155	177	163	206	18	40	287	1022	1050	294	244	434
95th Queue (ft)	269	305	319	353	123	111	490	1576	1606	446	340	1038
Link Distance (ft)			1291	1291				1254	1254			1430
Upstream Blk Time (%)								15	17			1
Queuing Penalty (veh)								129	149			0
Storage Bay Dist (ft)	275	275			425	250	250			225	200	
Storage Blk Time (%)	0	1	1	0			0	76	72	4	37	31
Queuing Penalty (veh)	1	4	7	2			0	271	469	17	261	218

Intersection: 20: Northbound I-5 Exit Ramp/Southbound I-5 Exit Ramp & Garfield Street/Highland Drive

Movement	NB	SB	SB	SB
Directions Served	R	L	L	R
Maximum Queue (ft)	400	228	2098	700
Average Queue (ft)	174	76	1997	699
95th Queue (ft)	409	175	2429	717
Link Distance (ft)			2042	
Upstream Blk Time (%)			72	
Queuing Penalty (veh)			0	
Storage Bay Dist (ft)	300	375		600
Storage Blk Time (%)	1			81
Queuing Penalty (veh)	5			353

Intersection: 30: Center Drive & Garfield Street

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	TR	L	L	TR
Maximum Queue (ft)	300	872	894	500	1400	1427	300	224	322	325	744	736
Average Queue (ft)	292	803	793	433	1360	1387	212	154	199	308	642	615
95th Queue (ft)	341	987	1029	678	1406	1442	375	270	390	382	941	971
Link Distance (ft)		843	843		1291	1291			309		707	707
Upstream Blk Time (%)		19	15		41	36			30		63	42
Queuing Penalty (veh)		143	117		425	373			0		0	0
Storage Bay Dist (ft)	200			400			200	175		225		
Storage Blk Time (%)	87	20			69	20	8	43	7	72	78	
Queuing Penalty (veh)	556	37			135	114	50	83	7	187	203	

Intersection: 60: OR 99 & Garfield Street

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	L	T	R	L	T	T	R	L
Maximum Queue (ft)	275	325	1377	330	425	860	435	325	1183	1171	500	300
Average Queue (ft)	222	321	1268	216	323	506	94	283	920	971	481	291
95th Queue (ft)	337	345	1577	306	490	835	248	396	1352	1385	585	323
Link Distance (ft)			1310			843	843		1158	1158		
Upstream Blk Time (%)			58			1	0		5	14		
Queuing Penalty (veh)			0			7	0		42	117		
Storage Bay Dist (ft)	225	225		325	325			225			400	250
Storage Blk Time (%)	26	47	54	0	1	22		42	49	33	36	84
Queuing Penalty (veh)	113	197	245	1	7	143		198	73	196	169	390

Intersection: 60: OR 99 & Garfield Street

Movement	SB	SB	SB	SB	B4	B4
Directions Served	L	T	T	R	T	T
Maximum Queue (ft)	350	2533	2540	625	518	516
Average Queue (ft)	347	1930	1875	60	230	225
95th Queue (ft)	372	3085	3072	364	626	619
Link Distance (ft)		2454	2454		471	471
Upstream Blk Time (%)		47	33		41	34
Queuing Penalty (veh)		0	0		0	0
Storage Bay Dist (ft)	250			525		
Storage Blk Time (%)	85	28	18			
Queuing Penalty (veh)	392	107	13			

Zone Summary

Zone wide Queuing Penalty: 6726

Intersection: 20: Northbound I-5 Exit Ramp/Southbound I-5 Exit Ramp & Garfield Street/Highland Drive

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	L
Maximum Queue (ft)	323	373	497	474	341	154	350	1284	1289	325	300	1435
Average Queue (ft)	189	216	200	237	23	38	279	1059	1075	277	272	665
95th Queue (ft)	298	344	367	381	164	109	487	1655	1692	463	343	1439
Link Distance (ft)			1291	1291				1254	1254			1430
Upstream Blk Time (%)								18	26			8
Queuing Penalty (veh)								159	226			0
Storage Bay Dist (ft)	275	275			425	250	250			225	200	
Storage Blk Time (%)	1	2	2	1				79	75	5	54	44
Queuing Penalty (veh)	2	8	16	4				280	486	20	384	314

Intersection: 20: Northbound I-5 Exit Ramp/Southbound I-5 Exit Ramp & Garfield Street/Highland Drive

Movement	NB	SB	SB	SB
Directions Served	R	L	L	R
Maximum Queue (ft)	400	188	2098	700
Average Queue (ft)	256	63	2003	699
95th Queue (ft)	495	149	2444	717
Link Distance (ft)			2042	
Upstream Blk Time (%)			75	
Queuing Penalty (veh)			0	
Storage Bay Dist (ft)	300	375		600
Storage Blk Time (%)	1			83
Queuing Penalty (veh)	4			362

Intersection: 30: Center Drive & Garfield Street

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	TR	L	L	TR
Maximum Queue (ft)	300	837	857	500	1398	1414	300	220	333	325	717	663
Average Queue (ft)	245	621	621	429	1358	1386	183	187	269	268	516	480
95th Queue (ft)	371	990	994	685	1424	1459	364	294	437	402	921	896
Link Distance (ft)		843	843		1291	1291			309		707	707
Upstream Blk Time (%)		3	3		47	41			58		42	27
Queuing Penalty (veh)		22	25		484	431			0		0	0
Storage Bay Dist (ft)	200			400			200	175		225		
Storage Blk Time (%)	32	39			71	23	2	73	7	51	57	
Queuing Penalty (veh)	209	73			140	135	11	141	7	134	148	

Intersection: 60: OR 99 & Garfield Street

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	L	T	R	L	T	T	R	L
Maximum Queue (ft)	275	325	1266	341	425	870	810	325	1118	1168	500	300
Average Queue (ft)	228	315	1018	221	338	534	149	260	829	860	455	291
95th Queue (ft)	326	358	1689	309	496	879	486	398	1261	1318	624	333
Link Distance (ft)			1310			843	843		1158	1158		
Upstream Blk Time (%)			32			1	0		2	3		
Queuing Penalty (veh)			0			13	1		15	23		
Storage Bay Dist (ft)	225	225		325	325			225			400	250
Storage Blk Time (%)	26	34	44	0	1	23		24	58	45	4	69
Queuing Penalty (veh)	109	147	199	3	7	159		115	86	269	19	333

Intersection: 60: OR 99 & Garfield Street

Movement	SB	SB	SB	SB	B4	B4
Directions Served	L	T	T	R	T	T
Maximum Queue (ft)	350	1755	1768	625	203	208
Average Queue (ft)	345	1190	1161	125	68	62
95th Queue (ft)	384	2307	2287	536	336	319
Link Distance (ft)		2454	2454		471	471
Upstream Blk Time (%)		14	11		9	7
Queuing Penalty (veh)		0	0		0	0
Storage Bay Dist (ft)	250			525		
Storage Blk Time (%)	73	31	20			
Queuing Penalty (veh)	351	115	14			

Zone Summary

Zone wide Queuing Penalty: 6205

Intersection: 20: Northbound I-5 Exit Ramp/Southbound I-5 Exit Ramp & Garfield Street/Highland Drive

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	L
Maximum Queue (ft)	301	318	441	484	265	160	177	313	305	261	299	574
Average Queue (ft)	161	179	174	216	17	72	90	200	200	82	180	236
95th Queue (ft)	260	287	369	388	120	134	156	290	296	262	275	609
Link Distance (ft)			1291	1291				1254	1254			1430
Upstream Blk Time (%)												1
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	275	275			425	250	250			225	200	
Storage Blk Time (%)	0	1	2	1				3	6	1	6	8
Queuing Penalty (veh)	1	2	13	7				11	36	3	40	57

Intersection: 20: Northbound I-5 Exit Ramp/Southbound I-5 Exit Ramp & Garfield Street/Highland Drive

Movement	NB	SB	SB	SB
Directions Served	R	L	L	R
Maximum Queue (ft)	333	329	1333	689
Average Queue (ft)	144	148	501	491
95th Queue (ft)	293	288	1422	786
Link Distance (ft)			2042	
Upstream Blk Time (%)			2	
Queuing Penalty (veh)			0	
Storage Bay Dist (ft)	300	375		600
Storage Blk Time (%)	3	2	3	13
Queuing Penalty (veh)	19	17	26	57

Intersection: 30: Center Drive & Garfield Street

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	TR	L	L	TR
Maximum Queue (ft)	300	817	843	499	965	967	300	214	299	325	743	745
Average Queue (ft)	214	512	519	205	422	414	220	120	145	323	726	709
95th Queue (ft)	370	859	856	427	879	912	367	230	296	334	737	854
Link Distance (ft)		843	843		1291	1291			309		707	707
Upstream Blk Time (%)		1	2		0	1			8		85	63
Queuing Penalty (veh)		10	16		4	7			0		0	0
Storage Bay Dist (ft)	200			400			200	175		225		
Storage Blk Time (%)	31	30		0	10	22	2	18	3	91	94	
Queuing Penalty (veh)	199	55		0	20	126	16	36	3	238	246	

Intersection: 60: OR 99 & Garfield Street

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	L	T	TR	L	T	T	R	L
Maximum Queue (ft)	275	325	1371	374	420	593	574	325	1075	1100	500	300
Average Queue (ft)	209	324	1304	266	292	312	338	248	720	752	438	257
95th Queue (ft)	330	328	1507	390	432	518	502	406	1147	1208	638	361
Link Distance (ft)			1309			843	843		1158	1158		
Upstream Blk Time (%)			55						0	1		
Queuing Penalty (veh)			0						2	5		
Storage Bay Dist (ft)	225	225		325	325			225			400	250
Storage Blk Time (%)	16	43	59	2	7	3		6	59	41	5	45
Queuing Penalty (veh)	67	183	270	9	25	24		30	87	247	23	214

Intersection: 60: OR 99 & Garfield Street

Movement	SB	SB	SB	SB	B4	B4
Directions Served	L	T	T	R	T	T
Maximum Queue (ft)	350	1231	1204	375	79	60
Average Queue (ft)	316	807	787	65	17	12
95th Queue (ft)	427	1812	1772	379	130	100
Link Distance (ft)		2454	2454		471	471
Upstream Blk Time (%)		4	1			
Queuing Penalty (veh)		0	0			
Storage Bay Dist (ft)	250			525		
Storage Blk Time (%)	44	29	16			
Queuing Penalty (veh)	213	108	11			

Zone Summary

Zone wide Queuing Penalty: 2782

Oregon Department of Transportation

Transportation Development Branch

Transportation Planning Analysis Unit

Preliminary Traffic Signal Warrant Analysis[1]

Major Street:	OR 99	**Minor Street:**	Charlotte Ann
Project:	TIA	**City/County:**	Medford/Jackson
Year:	2042	**Alternative:**	Build

Preliminary Signal Warrant Volumes

Number of Approach lanes		ADT on major street approaching from both directions		ADT on minor street, highest approaching volume	
Major Street	Minor Street	Percent of standard warrants 100	70	Percent of standard warrants 100	70
Case A: Minimum Vehicular Traffic					
1	1	8850	6200	2650	1850
2 or more	1	10600	7400	2650	1850
2 or more	2 or more	10600	7400	3550	2500
1	2 or more	8850	6200	3550	2500
Case B: Interruption of Continuous Traffic					
1	1	13300	9300	1350	950
2 or more	1	15900	11100	1350	950
2 or more	2 or more	15900	11100	1750	1250
1	2 or more	13300	9300	1750	1250
	100 percent of standard warrants				
X	70 percent of standard warrants[2]				

Preliminary Signal Warrant Calculation

	Street	Number of Lanes	Warrant Volumes	Approach Volumes	Warrant Met
Case A	Major	2 or more	7400	38146	N
	Minor	1	1850	729	
Case B	Major	2 or more	11100	38146	N
	Minor	1	950	729	

Analyst and Date:	Reviewer and Date:

[1] Meeting preliminary signal warrants does **not** guarantee that a signal will be installed. When preliminary signal warrants are met, project analysts need to coordinate with Region Traffic to initiate the traffic signal engineering investigation as outlined in the Traffic Manual. Before a signal can be installed, the engineering investigation must be conducted or reviewed by the Region Traffic Manager who will forward signal recommendations to headquarters. Traffic signal warrants must be met and the State Traffic Engineer's approval obtained before a traffic signal can be installed on a state highway.

[2] Used due to 85th percentile speed in excess of 40 mph or isolated community with population of less than 10,000.

APPENDIX H –

Safety Data and Calculations

Ref. ID	Study Location	Collision Type													Total	Percent of Total	Severity				Crash Rate	For Calculations Only		
		Rear End	Fixed Object	Angle	Backing	Turning	Sideswipe-Overtaking	Head On	Non-Collision	Parked	Pedestrian	Bicycle	Miscellaneous	Sideswipe-Meeting			Fatal Crashes	Serious Injury Crashes	Minor Injury Crashes	Property Damage Only		TEV	AADT	MEV
	Intersections and segments	REAR	FIX	ANGL	BACK	TURN	SS-O	HEAD	NCOL	PARK	PED	BIKE	OTH	SS-M										
10	*S Riverside Ave / E Barnett Rd*	31	4	3	1	8	9	0	0	0	2	0	0	0	**58**	**15%**	0	2	24	32	**0.90**	2953	35234	64.3
20	*Barnett Rd / Highland Dr*	44	3	4	1	12	9	0	1	0	1	0	0	0	**75**	**19%**	0	0	32	43	**0.82**	4222	50375	91.9
30	*S Riverside Ave / E Stewart St*	29	2	4	0	5	3	1	0	0	0	0	0	1	**45**	**12%**	0	3	22	20	**0.68**	3037	36236	66.1
40	*Interchange 27*	53	4	0	0	22	5	0	0	0	0	0	1	0	**85**	**22%**	0	3	33	49	**0.83**	4677	55804	101.8
50	*Garfield St / Center Dr*	17	0	2	2	20	3	0	0	0	0	0	0	0	**44**	**11%**	0	0	18	26	**0.55**	3643	43467	79.3
60	*Garfield St / OR 99*	28	1	3	1	8	3	0	0	0	0	0	0	0	**44**	**11%**	0	0	23	21	**0.56**	3634	43359	79.1
70	*Charlotte Ann / OR 99*	2	1	0	0	3	0	0	0	0	0	0	0	0	**6**	**2%**	0	0	3	3	**0.13**	2181	26023	47.5
80	*Project Dvwy / OR 99*	0	1	0	0	0	0	0	0	0	0	0	0	0	**1**	**0%**	0	0	1	0	**0.02**	2149	25641	46.8
90	*Human Bean / OR 99*	1	0	0	0	6	0	0	0	0	0	0	0	0	**7**	**2%**	0	0	5	2	**0.15**	2142	25558	46.6
100	*Cherry Ln / N Phoenix Rd*	2	0	1	0	3	1	0	0	0	1	0	0	0	**8**	**2%**	0	0	5	3	**0.24**	1595	17922	32.7
110	*Barnett Rd / N Phoenix Rd*	2	0	1	0	2	0	0	0	0	0	0	0	0	**5**	**1%**	0	1	2	2	**0.132**	1854	20832	38.0
120	*Juanipero Way / N Phoenix Rd*	2	1	0	0	2	0	0	0	0	0	0	0	0	**5**	**1%**	0	0	3	2	**0.23**	1066	11978	21.9
130	*Project Dvwy / N Phoenix Rd*	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0%**	0	0	0	0	**0.00**	976	10967	20.0
140	*IC24 NB Ramp Terminal*	0	2	0	0	1	0	0	0	0	0	0	0	0	**3**	**1%**	0	0	2	1	**0.14**	1731	19450	21.3
150	*IC24 SB Ramp Terminal*	0	0	2	0	0	0	0	0	0	0	0	0	0	**2**	**1%**	0	0	1	1	**0.09**	1712	19237	21.1
		211	**19**	**20**	**5**	**92**	**33**	**1**	**1**	**0**	**4**	**0**	**1**	**1**	388		**0**	**9**	**174**	**205**				

HSM Part B - Critical Crash Rate

Ref. ID	Study Location	Intersection Type (Urban/Rural 3ST, 3SG, 4ST, 4SG)	Crash Rate	Reference Population Critical Crash Rate (95% CI)	Statewide 90th Percentile Crash Rate	Intersection Control	Crash Rate: Unsignalized Intersections	Crash Rate: Signalized Intersections	Summary
	Intersections and segments								
10	*S Riverside Ave / E Barnett Rd*	Urban 4SG	0.90	0.832	0.860	SIGNAL	FALSE	0.90	**0.90**
20	*Barnett Rd / Highland Dr*	Urban 4SG	0.82	0.802	0.860	SIGNAL	FALSE	0.82	0.82
30	*S Riverside Ave / E Stewart St*	Urban 4SG	0.68	0.829	0.860	SIGNAL	FALSE	0.68	0.68
40	*Interchange 27*	Urban 4SG	0.83	0.795	0.860	SIGNAL	FALSE	0.83	0.83
50	*Garfield St / Center Dr*	Urban 4SG	0.55	0.814	0.860	SIGNAL	FALSE	0.55	0.55
60	*Garfield St / OR 99*	Urban 4SG	0.56	0.814	0.860	SIGNAL	FALSE	0.56	0.56
70	*Charlotte Ann / OR 99*	Urban 3ST	0.13	0.185	0.293	STOP	0.13	FALSE	0.13
80	*Project Dvwy / OR 99*	Urban 3ST	0.02	0.186	0.293	STOP	0.02	FALSE	0.02
90	*Human Bean / OR 99*	Urban 3ST	0.15	0.186	0.293	STOP	0.15	FALSE	0.15
100	*Cherry Ln / N Phoenix Rd*	Urban 4SG	0.24	0.906	0.860	SIGNAL	FALSE	0.24	0.24
110	*Barnett Rd / N Phoenix Rd*	Urban 4SG	0.13	0.887	0.860	SIGNAL	FALSE	0.13	0.13
120	*Juanipero Way / N Phoenix Rd*	Urban 4ST	0.23	0.262	0.408	STOP	0.23	FALSE	0.23
130	*Project Dvwy / N Phoenix Rd*	Rural 3ST	0.00	0.269	0.000	STOP	0.00	FALSE	0.00
140	*IC24 NB Ramp Terminal*	Urban 3SG	0.14	0.235	0.509	SIGNAL	FALSE	0.14	0.14
150	*IC24 SB Ramp Terminal*	Urban 3SG	0.09	0.265	0.509	SIGNAL	FALSE	0.09	0.09

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections

General Information		Location Information	
Analyst	AARO	Roadway	Riverside
Agency or Company	DEA	Intersection	Riverside at Barnett Rd
Date Performed	08/01/19	Jurisdiction	Medford
		Analysis Year	2019

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AADT $_{major}$ (veh/day)	$AADT_{MAX}$ = 67,700 (veh/day)	--	31,762
AADT $_{minor}$ (veh/day)	$AADT_{MAX}$ = 33,400 (veh/day)	--	22,539
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C_i		1.00	1.05
Data for unsignalized intersections only:		--	--
Number of major-road approaches with left-turn lanes (0,1,2)		0	2
Number of major-road approaches with right-turn lanes (0,1,2)		0	0
Data for signalized intersections only:		--	--
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	4
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	1
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	4
Type of left-turn signal phasing for Leg #1		Permissive	Protected
Type of left-turn signal phasing for Leg #2		--	Protected
Type of left-turn signal phasing for Leg #3		--	Protected
Type of left-turn signal phasing for Leg #4 (if applicable)		--	Protected
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			10
Maximum number of lanes crossed by a pedestrian (n_{lanesx})		--	6
Number of bus stops within 300 m (1,000 ft) of the intersection		0	3
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.66	0.78	0.96	1.00	0.95	1.00	0.47

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-10.99	1.07	0.23	0.39	11.100	1.000	11.100	0.47	1.05	5.498
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	3.658	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.340	3.777	0.47	1.05	1.871
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	7.091	$(5)_{TOTAL}-(5)_{FI}$ 0.660	7.322	0.47	1.05	3.627

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bimv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bimv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bimv\ (TOTAL)}$ (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	1.871	1.000	3.627	5.498
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.501	0.937	0.402	1.458	2.396
Head-on collision	0.002	0.004	0.000	0.000	0.004
Angle collision	0.236	0.442	0.215	0.780	1.221
Sideswipe	0.004	0.007	0.012	0.044	0.051
Other multiple-vehicle collision	0.257	0.481	0.370	1.342	1.823

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-10.21	0.68	0.27	0.36	0.635	1.000	0.635	0.47	1.05	0.314
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.152	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.243	0.154	0.47	1.05	0.076
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.473	$(5)_{TOTAL}-(5)_{FI}$ 0.757	0.480	0.47	1.05	0.238

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	(9)$_{FI}$ from Worksheet 2E	from Table 12-13	(9)$_{PDO}$ from Worksheet 2E	(9)$_{PDO}$ from Worksheet 2E
Total	1.000	0.076	1.000	0.238	0.314
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with parked vehicle	0.000	0.000	0.000	0.000	0.000
Collision with animal	0.000	0.000	0.000	0.000	0.000
Collision with fixed object	0.097	0.007	0.722	0.172	0.179
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.888	0.068	0.056	0.013	0.081
Single-vehicle noncollision	0.015	0.001	0.222	0.053	0.054

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	--	--	--	--	1.05	--
Fatal and injury (FI)	--	--	--	--	1.05	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
4.15	1.00	1.00	4.15

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.019	4.15	1.05	0.081
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.05	0.081

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{bikei}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	5.498	0.314	5.812	0.015	1.05	0.092
Fatal and injury (FI)	--	--	--	--	1.05	0.092

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.937	1.458	2.396
Head-on collisions (from Worksheet 2D)	0.004	0.000	0.004
Angle collisions (from Worksheet 2D)	0.442	0.780	1.221
Sideswipe (from Worksheet 2D)	0.007	0.044	0.051
Other multiple-vehicle collision (from Worksheet 2D)	0.481	1.342	1.823
Subtotal	1.871	3.623	5.495
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.000	0.000
Collision with fixed object (from Worksheet 2F)	0.007	0.172	0.179
Collision with other object (from Worksheet 2F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 2F)	0.068	0.013	0.081
Single-vehicle noncollision (from Worksheet 2F)	0.001	0.053	0.054
Collision with pedestrian (from Worksheet 2G or 2I)	0.081	0.000	0.081
Collision with bicycle (from Worksheet 2J)	0.092	0.000	0.092
Subtotal	0.249	0.238	0.487
Total	2.120	3.861	5.982

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	6.0
Fatal and injury (FI)	2.1
Property damage only (PDO)	3.9

Worksheet 3A -- Predicted Crashes by Severity and Site Type and Observed Crashes Using the Site-Specific EB Method for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Collision type / Site type	**Predicted average crash frequency (crashes/year)**			**Observed crashes,** $N_{observed}$ (crashes/year)	**Overdispersion Parameter, k**	**Weighted adjustment, w**	**Expected average crash frequency,**
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)			Equation A-5 from Part C Appendix	Equation A-4 from Part C Appendix
ROADWAY SEGMENTS							
Multiple-vehicle nondriveway							
Segment 1	1.832	0.537	1.295		1.320	0.293	0.536
Segment 2	3.410	0.997	2.413		0.660	0.308	1.049
Segment 3						1.000	0.000
Segment 4						1.000	0.000
Single-vehicle							
Segment 1	0.679	0.104	0.576		0.860	0.631	0.429
Segment 2	0.427	0.116	0.311		1.370	0.631	0.269
Segment 3						1.000	0.000
Segment 4						1.000	0.000
Multiple-vehicle driveway-related							
Segment 1	0.130	0.037	0.093		1.390	0.847	0.110
Segment 2	0.369	0.090	0.279		1.100	0.711	0.262
Segment 3						1.000	0.000
Segment 4						1.000	0.000
INTERSECTIONS							
Multiple-vehicle							
Existing 2019	5.495	1.871	3.623	14	0.390	0.318	11.294
Intersection 2						1.000	0.000
Intersection 3						1.000	0.000
Intersection 4						1.000	0.000
Single-vehicle							
Existing 2019	0.314	0.076	0.238	1	0.360	0.898	0.384
Intersection 2							
Intersection 3						1.000	0.000
Intersection 4						1.000	0.000
COMBINED (sum of column)	12.657	3.827	8.829	15	--	--	14.334

Worksheet 3B -- Predicted Pedestrian and Bicycle Crashes for Urban and Suburban Arterials

(1)	(2)	(3)
Site Type	**N_{ped}**	**N_{bike}**
ROADWAY SEGMENTS		
Segment 1	0.022	0.015
Segment 2	0.068	0.055
Segment 3		
Segment 4		
INTERSECTIONS		
Intersection 1	0.081	0.092
Intersection 2	0.176	0.012
Intersection 3		
Intersection 4		
COMBINED (sum of column)	0.347	0.173

Worksheet 3C -- Site-Specific EB Method Summary Results for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)
Crash severity level	**$N_{predicted}$**	**N_{ped}**	**N_{bike}**	$N_{expected\ (VEHICLE)}$	$N_{expected}$
Total	$(2)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(8)_{COMB}$ Worksheet 3A	(3)+(4)+(5)
	12.7	0.3	0.2	14.3	14.9
Fatal and injury (FI)	$(3)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(5)_{TOTAL} * (2)_{FI} / (2)_{TOTAL}$	(3)+(4)+(5)
	3.8	0.3	0.2	4.3	4.9
Property damage only (PDO)	$(4)_{COMB}$ from Worksheet 3A	--	--	$(5)_{TOTAL} * (2)_{PDO} / (2)_{TOTAL}$	(3)+(4)+(5)
	8.8	0.0	0.0	10.0	10.0

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections

General Information		Location Information	
Analyst	AARO	Roadway	Riverside BUILD
Agency or Company	DEA	Intersection	Riverside at Barnett Rd
Date Performed	08/01/19	Jurisdiction	Medford
		Analysis Year	2022

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AADT $_{major}$ (veh/day)	$AADT_{MAX}$ = 67,700 (veh/day)	--	35,544
AADT $_{minor}$ (veh/day)	$AADT_{MAX}$ = 33,400 (veh/day)	--	26,977
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C_i		1.00	1.05
Data for unsignalized intersections only:		--	--
Number of major-road approaches with left-turn lanes (0,1,2)		0	2
Number of major-road approaches with right-turn lanes (0,1,2)		0	0
Data for signalized intersections only:		--	--
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	4
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	1
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	4
Type of left-turn signal phasing for Leg #1		Permissive	Protected
Type of left-turn signal phasing for Leg #2		--	Protected
Type of left-turn signal phasing for Leg #3		--	Protected
Type of left-turn signal phasing for Leg #4 (if applicable)		--	Protected
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			10
Maximum number of lanes crossed by a pedestrian (n_{lanesx})		--	6
Number of bus stops within 300 m (1,000 ft) of the intersection		0	3
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.66	0.78	0.96	1.00	0.95	1.00	0.47

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-10.99	1.07	0.23	0.39	13.048	1.000	13.048	0.47	1.05	6.463
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	4.346	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.344	4.483	0.47	1.05	2.220
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	8.304	$(5)_{TOTAL}-(5)_{FI}$ 0.656	8.565	0.47	1.05	4.243

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type(FI)**	**Predicted N *bimv* (FI) (crashes/year)**	**Proportion of Collision Type (PDO)**	**Predicted N *bimv* (PDO) (crashes/year)**	**Predicted N *bimv* (TOTAL) (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	2.220	1.000	4.243	6.463
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.501	1.112	0.402	1.706	2.818
Head-on collision	0.002	0.004	0.000	0.000	0.004
Angle collision	0.236	0.524	0.215	0.912	1.436
Sideswipe	0.004	0.009	0.012	0.051	0.060
Other multiple-vehicle collision	0.257	0.571	0.370	1.570	2.140

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-10.21	0.68	0.27	0.36	0.719	1.000	0.719	0.47	1.05	0.356
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.168	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.237	0.170	0.47	1.05	0.084
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.540	$(5)_{TOTAL}-(5)_{FI}$ 0.763	0.549	0.47	1.05	0.272

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	(9)$_{FI}$ from Worksheet 2E	from Table 12-13	(9)$_{PDO}$ from Worksheet 2E	(9)$_{PDO}$ from Worksheet 2E
Total	1.000	0.084	1.000	0.272	0.356
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with parked vehicle	0.000	0.000	0.000	0.000	0.000
Collision with animal	0.000	0.000	0.000	0.000	0.000
Collision with fixed object	0.097	0.008	0.722	0.196	0.204
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.888	0.075	0.056	0.015	0.090
Single-vehicle noncollision	0.015	0.001	0.222	0.060	0.062

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	--	--	--	--	1.05	--
Fatal and injury (FI)	--	--	--	--	1.05	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
4.15	1.00	1.00	4.15

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.020	4.15	1.05	0.087
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.05	0.087

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{bikei}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	6.463	0.356	6.819	0.015	1.05	0.107
Fatal and injury (FI)	--	--	--	--	1.05	0.107

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	1.112	1.706	2.818
Head-on collisions (from Worksheet 2D)	0.004	0.000	0.004
Angle collisions (from Worksheet 2D)	0.524	0.912	1.436
Sideswipe (from Worksheet 2D)	0.009	0.051	0.060
Other multiple-vehicle collision (from Worksheet 2D)	0.571	1.570	2.140
Subtotal	2.220	4.239	6.459
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.000	0.000
Collision with fixed object (from Worksheet 2F)	0.008	0.196	0.204
Collision with other object (from Worksheet 2F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 2F)	0.075	0.015	0.090
Single-vehicle noncollision (from Worksheet 2F)	0.001	0.060	0.062
Collision with pedestrian (from Worksheet 2G or 2I)	0.087	0.000	0.087
Collision with bicycle (from Worksheet 2J)	0.107	0.000	0.107
Subtotal	0.279	0.272	0.551
Total	2.500	4.510	7.010

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	7.0
Fatal and injury (FI)	2.5
Property damage only (PDO)	4.5

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections

General Information		Location Information	
Analyst	AARO	Roadway	Riverside BUILD
Agency or Company	DEA	Intersection	Riverside at Barnett Rd
Date Performed	08/01/19	Jurisdiction	Medford
		Analysis Year	2042

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AADT $_{major}$ (veh/day)	$AADT_{MAX}$ = 67,700 (veh/day)	--	39,971
AADT $_{minor}$ (veh/day)	$AADT_{MAX}$ = 33,400 (veh/day)	--	30,569
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C_i		1.00	1.05
Data for unsignalized intersections only:		--	--
Number of major-road approaches with left-turn lanes (0,1,2)		0	2
Number of major-road approaches with right-turn lanes (0,1,2)		0	0
Data for signalized intersections only:		--	--
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	4
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	1
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	4
Type of left-turn signal phasing for Leg #1		Permissive	Protected
Type of left-turn signal phasing for Leg #2		--	Protected
Type of left-turn signal phasing for Leg #3		--	Protected
Type of left-turn signal phasing for Leg #4 (if applicable)		--	Protected
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			10
Maximum number of lanes crossed by a pedestrian (n_{lanesx})		--	6
Number of bus stops within 300 m (1,000 ft) of the intersection		0	3
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.66	0.78	0.96	1.00	0.95	1.00	0.47

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-10.99	1.07	0.23	0.39	15.226	1.000	15.226	0.47	1.05	7.542
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	5.131	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.347	5.287	0.47	1.05	2.619
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	9.645	$(5)_{TOTAL}-(5)_{FI}$ 0.653	9.939	0.47	1.05	4.923

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type(FI)**	**Predicted N *bimv* (FI) (crashes/year)**	**Proportion of Collision Type (PDO)**	**Predicted N *bimv* (PDO) (crashes/year)**	**Predicted N *bimv* (TOTAL) (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	2.619	1.000	4.923	7.542
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.501	1.312	0.402	1.979	3.291
Head-on collision	0.002	0.005	0.000	0.000	0.005
Angle collision	0.236	0.618	0.215	1.058	1.677
Sideswipe	0.004	0.010	0.012	0.059	0.070
Other multiple-vehicle collision	0.257	0.673	0.370	1.822	2.495

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-10.21	0.68	0.27	0.36	0.806	1.000	0.806	0.47	1.05	0.399
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.183	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.231	0.186	0.47	1.05	0.092
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.611	$(5)_{TOTAL}-(5)_{FI}$ 0.769	0.620	0.47	1.05	0.307

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	$(9)_{FI}$ from Worksheet 2E	from Table 12-13	$(9)_{PDO}$ from Worksheet 2E	$(9)_{PDO}$ from Worksheet 2E
Total	1.000	0.092	1.000	0.307	0.399
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with parked vehicle	0.000	0.000	0.000	0.000	0.000
Collision with animal	0.000	0.000	0.000	0.000	0.000
Collision with fixed object	0.097	0.009	0.722	0.222	0.231
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.888	0.082	0.056	0.017	0.099
Single-vehicle noncollision	0.015	0.001	0.222	0.068	0.070

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	--	--	--	--	1.05	--
Fatal and injury (FI)	--	--	--	--	1.05	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
4.15	1.00	1.00	4.15

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.021	4.15	1.05	0.092
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.05	0.092

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{bikei}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	7.542	0.399	7.941	0.015	1.05	0.125
Fatal and injury (FI)	--	--	--	--	1.05	0.125

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	1.312	1.979	3.291
Head-on collisions (from Worksheet 2D)	0.005	0.000	0.005
Angle collisions (from Worksheet 2D)	0.618	1.058	1.677
Sideswipe (from Worksheet 2D)	0.010	0.059	0.070
Other multiple-vehicle collision (from Worksheet 2D)	0.673	1.822	2.495
Subtotal	2.619	4.918	7.537
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.000	0.000
Collision with fixed object (from Worksheet 2F)	0.009	0.222	0.231
Collision with other object (from Worksheet 2F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 2F)	0.082	0.017	0.099
Single-vehicle noncollision (from Worksheet 2F)	0.001	0.068	0.070
Collision with pedestrian (from Worksheet 2G or 2I)	0.092	0.000	0.092
Collision with bicycle (from Worksheet 2J)	0.125	0.000	0.125
Subtotal	0.309	0.307	0.616
Total	2.928	5.225	8.153

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	8.2
Fatal and injury (FI)	2.9
Property damage only (PDO)	5.2

Worksheet 3A -- Predicted Crashes by Severity and Site Type and Observed Crashes Using the Site-Specific EB Method for Urban and Suburban Arterials

Riverside BUILD

(1)	(2)	DEA	(4)	(5)	(6)	(7)	(8)
Collision type / Site type	**Predicted average crash frequency (crashes/year)**			**Observed crashes, $N_{observed}$** (crashes/year)	**Overdispersion Parameter, k**	**Weighted adjustment, w**	**Expected average crash frequency,**
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)			Equation A-5 from Part C Appendix	Equation A-4 from Part C Appendix
ROADWAY SEGMENTS							
Multiple-vehicle nondriveway							
Segment 1	1.832	0.537	1.295		1.320	0.293	0.536
Segment 2	3.410	0.997	2.413		0.660	0.308	1.049
Segment 3						1.000	0.000
Segment 4						1.000	0.000
Single-vehicle							
Segment 1	0.679	0.104	0.576		0.860	0.631	0.429
Segment 2	0.427	0.116	0.311		1.370	0.631	0.269
Segment 3						1.000	0.000
Segment 4						1.000	0.000
Multiple-vehicle driveway-related							
Segment 1	0.130	0.037	0.093		1.390	0.847	0.110
Segment 2	0.369	0.090	0.279		1.100	0.711	0.262
Segment 3						1.000	0.000
Segment 4						1.000	0.000
INTERSECTIONS							
Multiple-vehicle							
2022 build	6.459	2.220	4.239	14	0.390	0.284	11.857
2042 build	7.537	2.619	4.918	14	0.390	0.254	12.359
						1.000	0.000
						1.000	0.000
Single-vehicle							
2022 build	0.356	0.084	0.272	1	0.360	0.886	0.429
2042 build	0.399	0.092	0.307	1	0.360	0.874	0.474
						1.000	0.000
						1.000	0.000
COMBINED (sum of column)	21.599	6.896	14.703	30	--	--	27.776

Worksheet 3B -- Predicted Pedestrian and Bicycle Crashes for Urban and Suburban Arterials

(1)	(2)	(3)
Site Type	**N_{ped}**	**N_{bike}**
ROADWAY SEGMENTS		
Segment 1	0.022	0.015
Segment 2	0.068	0.055
Segment 3		
Segment 4		
INTERSECTIONS		
Intersection 1	0.087	0.107
Intersection 2	0.092	0.125
Intersection 3		
Intersection 4		
COMBINED (sum of column)	0.270	0.302

Worksheet 3C -- Site-Specific EB Method Summary Results for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)
Crash severity level	**$N_{predicted}$**	**N_{ped}**	**N_{bike}**	$N_{expected\ (VEHICLE)}$	$N_{expected}$
Total	$(2)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(8)_{COMB}$ Worksheet 3A	(3)+(4)+(5)
	21.6	0.3	0.3	27.8	28.3
Fatal and injury (FI)	$(3)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(5)_{TOTAL} * (2)_{FI} / (2)_{TOTAL}$	(3)+(4)+(5)
	6.9	0.3	0.3	8.9	9.4
Property damage only (PDO)	$(4)_{COMB}$ from Worksheet 3A	--	--	$(5)_{TOTAL} * (2)_{PDO} / (2)_{TOTAL}$	(3)+(4)+(5)
	14.7	0.0	0.0	18.9	18.9

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections

General Information		Location Information	
Analyst	KKD	Roadway	Riverside NO BUILD
Agency or Company	OSU	Intersection	Riverside at Barnett Rd
Date Performed	03/25/10	Jurisdiction	Medford
		Analysis Year	2022

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AADT $_{major}$ (veh/day)	$AADT_{MAX}$ = 67,700 (veh/day)	--	35,174
AADT $_{minor}$ (veh/day)	$AADT_{MAX}$ = 33,400 (veh/day)	--	26,846
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C_i		1.00	1.05
Data for unsignalized intersections only:		--	--
Number of major-road approaches with left-turn lanes (0,1,2)		0	2
Number of major-road approaches with right-turn lanes (0,1,2)		0	0
Data for signalized intersections only:		--	--
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	4
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	1
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	4
Type of left-turn signal phasing for Leg #1		Permissive	Protected
Type of left-turn signal phasing for Leg #2		--	Protected
Type of left-turn signal phasing for Leg #3		--	Protected
Type of left-turn signal phasing for Leg #4 (if applicable)		--	Protected
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			10
Maximum number of lanes crossed by a pedestrian (n_{lanesx})		--	6
Number of bus stops within 300 m (1,000 ft) of the intersection		0	3
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.66	0.78	0.96	1.00	0.95	1.00	0.47

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-10.99	1.07	0.23	0.39	12.889	1.000	12.889	0.47	1.05	6.384
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	4.288	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.343	4.423	0.47	1.05	2.191
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	8.206	$(5)_{TOTAL}-(5)_{FI}$ 0.657	8.465	0.47	1.05	4.193

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type(FI)**	**Predicted N *bimv* (FI) (crashes/year)**	**Proportion of Collision Type (PDO)**	**Predicted N *bimv* (PDO) (crashes/year)**	**Predicted N *bimv* (TOTAL) (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	2.191	1.000	4.193	6.384
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.501	1.098	0.402	1.686	2.783
Head-on collision	0.002	0.004	0.000	0.000	0.004
Angle collision	0.236	0.517	0.215	0.902	1.419
Sideswipe	0.004	0.009	0.012	0.050	0.059
Other multiple-vehicle collision	0.257	0.563	0.370	1.551	2.115

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-10.21	0.68	0.27	0.36	0.713	1.000	0.713	0.47	1.05	0.353
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.167	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.238	0.169	0.47	1.05	0.084
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.535	$(5)_{TOTAL}-(5)_{FI}$ 0.762	0.544	0.47	1.05	0.269

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	(9)$_{FI}$ from Worksheet 2E	from Table 12-13	(9)$_{PDO}$ from Worksheet 2E	(9)$_{PDO}$ from Worksheet 2E
Total	1.000	0.084	1.000	0.269	0.353
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with parked vehicle	0.000	0.000	0.000	0.000	0.000
Collision with animal	0.000	0.000	0.000	0.000	0.000
Collision with fixed object	0.097	0.008	0.722	0.194	0.203
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.888	0.075	0.056	0.015	0.090
Single-vehicle noncollision	0.015	0.001	0.222	0.060	0.061

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	--	--	--	--	1.05	--
Fatal and injury (FI)	--	--	--	--	1.05	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
4.15	1.00	1.00	4.15

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.020	4.15	1.05	0.087
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.05	0.087

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{bikei}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	6.384	0.353	6.737	0.015	1.05	0.106
Fatal and injury (FI)	--	--	--	--	1.05	0.106

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	1.098	1.686	2.783
Head-on collisions (from Worksheet 2D)	0.004	0.000	0.004
Angle collisions (from Worksheet 2D)	0.517	0.902	1.419
Sideswipe (from Worksheet 2D)	0.009	0.050	0.059
Other multiple-vehicle collision (from Worksheet 2D)	0.563	1.551	2.115
Subtotal	2.191	4.189	6.380
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.000	0.000
Collision with fixed object (from Worksheet 2F)	0.008	0.194	0.203
Collision with other object (from Worksheet 2F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 2F)	0.075	0.015	0.090
Single-vehicle noncollision (from Worksheet 2F)	0.001	0.060	0.061
Collision with pedestrian (from Worksheet 2G or 2I)	0.087	0.000	0.087
Collision with bicycle (from Worksheet 2J)	0.106	0.000	0.106
Subtotal	0.277	0.269	0.547
Total	2.468	4.458	6.927

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	6.9
Fatal and injury (FI)	2.5
Property damage only (PDO)	4.5

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections

General Information		Location Information	
Analyst	KKD	Roadway	Riverside NO BUILD
Agency or Company	OSU	Intersection	Riverside at Barnett Rd
Date Performed	03/25/10	Jurisdiction	Medford
		Analysis Year	2042

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AADT $_{major}$ (veh/day)	$AADT_{MAX}$ = 67,700 (veh/day)	--	39,601
AADT $_{minor}$ (veh/day)	$AADT_{MAX}$ = 33,400 (veh/day)	--	30,438
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C_i		1.00	1.05
Data for unsignalized intersections only:		--	--
Number of major-road approaches with left-turn lanes (0,1,2)		0	2
Number of major-road approaches with right-turn lanes (0,1,2)		0	0
Data for signalized intersections only:		--	--
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	4
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	1
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	4
Type of left-turn signal phasing for Leg #1		Permissive	Protected
Type of left-turn signal phasing for Leg #2		--	Protected
Type of left-turn signal phasing for Leg #3		--	Protected
Type of left-turn signal phasing for Leg #4 (if applicable)		--	Protected
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			10
Maximum number of lanes crossed by a pedestrian (n_{lanesx})		--	6
Number of bus stops within 300 m (1,000 ft) of the intersection		0	3
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.66	0.78	0.96	1.00	0.95	1.00	0.47

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-10.99	1.07	0.23	0.39	15.060	1.000	15.060	0.47	1.05	7.460
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	5.070	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.347	5.225	0.47	1.05	2.588
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	9.545	$(5)_{TOTAL}-(5)_{FI}$ 0.653	9.836	0.47	1.05	4.872

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type(FI)**	**Predicted N *bimv* (FI) (crashes/year)**	**Proportion of Collision Type (PDO)**	**Predicted N *bimv* (PDO) (crashes/year)**	**Predicted N *bimv* (TOTAL) (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	2.588	1.000	4.872	7.460
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.501	1.297	0.402	1.959	3.255
Head-on collision	0.002	0.005	0.000	0.000	0.005
Angle collision	0.236	0.611	0.215	1.047	1.658
Sideswipe	0.004	0.010	0.012	0.058	0.069
Other multiple-vehicle collision	0.257	0.665	0.370	1.803	2.468

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-10.21	0.68	0.27	0.36	0.799	1.000	0.799	0.47	1.05	0.396
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.182	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.231	0.185	0.47	1.05	0.092
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.606	$(5)_{TOTAL}-(5)_{FI}$ 0.769	0.615	0.47	1.05	0.305

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	$(9)_{FI}$ from Worksheet 2E	from Table 12-13	$(9)_{PDO}$ from Worksheet 2E	$(9)_{PDO}$ from Worksheet 2E
Total	1.000	0.092	1.000	0.305	0.396
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with parked vehicle	0.000	0.000	0.000	0.000	0.000
Collision with animal	0.000	0.000	0.000	0.000	0.000
Collision with fixed object	0.097	0.009	0.722	0.220	0.229
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.888	0.081	0.056	0.017	0.098
Single-vehicle noncollision	0.015	0.001	0.222	0.068	0.069

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	--	--	--	--	1.05	--
Fatal and injury (FI)	--	--	--	--	1.05	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
4.15	1.00	1.00	4.15

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.021	4.15	1.05	0.092
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.05	0.092

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{bikei}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	7.460	0.396	7.856	0.015	1.05	0.124
Fatal and injury (FI)	--	--	--	--	1.05	0.124

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	1.297	1.959	3.255
Head-on collisions (from Worksheet 2D)	0.005	0.000	0.005
Angle collisions (from Worksheet 2D)	0.611	1.047	1.658
Sideswipe (from Worksheet 2D)	0.010	0.058	0.069
Other multiple-vehicle collision (from Worksheet 2D)	0.665	1.803	2.468
Subtotal	2.588	4.867	7.455
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.000	0.000
Collision with fixed object (from Worksheet 2F)	0.009	0.220	0.229
Collision with other object (from Worksheet 2F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 2F)	0.081	0.017	0.098
Single-vehicle noncollision (from Worksheet 2F)	0.001	0.068	0.069
Collision with pedestrian (from Worksheet 2G or 2I)	0.092	0.000	0.092
Collision with bicycle (from Worksheet 2J)	0.124	0.000	0.124
Subtotal	0.307	0.305	0.612
Total	2.895	5.172	8.067

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	8.1
Fatal and injury (FI)	2.9
Property damage only (PDO)	5.2

Worksheet 3A -- Predicted Crashes by Severity and Site Type and Observed Crashes Using the Site-Specific EB Method for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Collision type / Site type	**Predicted average crash frequency (crashes/year)**			**Observed crashes,** $N_{observed}$ (crashes/year)	**Overdispersion Parameter, k**	**Weighted adjustment, w**	**Expected average crash frequency,**
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)			Equation A-5 from Part C Appendix	Equation A-4 from Part C Appendix
ROADWAY SEGMENTS							
Multiple-vehicle nondriveway							
Segment 1	1.832	0.537	1.295		1.320	0.293	0.536
Segment 2	3.410	0.997	2.413		0.660	0.308	1.049
Segment 3						1.000	0.000
Segment 4						1.000	0.000
Single-vehicle							
Segment 1	0.679	0.104	0.576		0.860	0.631	0.429
Segment 2	0.427	0.116	0.311		1.370	0.631	0.269
Segment 3						1.000	0.000
Segment 4						1.000	0.000
Multiple-vehicle driveway-related							
Segment 1	0.130	0.037	0.093		1.390	0.847	0.110
Segment 2	0.369	0.090	0.279		1.100	0.711	0.262
Segment 3						1.000	0.000
Segment 4						1.000	0.000
INTERSECTIONS							
Multiple-vehicle							
2022 no build	6.380	2.191	4.189	14	0.390	0.287	11.815
2042 no build	7.455	2.588	4.867	14	0.390	0.256	12.325
						1.000	0.000
						1.000	0.000
Single-vehicle							
2022 no build	0.353	0.084	0.269	1	0.360	0.887	0.426
2042 no build	0.396	0.092	0.305	1	0.360	0.875	0.471
						1.000	0.000
						1.000	0.000
COMBINED (sum of column)	21.432	6.834	14.598	30	--	--	27.694

Worksheet 3B -- Predicted Pedestrian and Bicycle Crashes for Urban and Suburban Arterials

(1)	(2)	(3)
Site Type	**N_{ped}**	**N_{bike}**
ROADWAY SEGMENTS		
Segment 1	0.022	0.015
Segment 2	0.068	0.055
Segment 3		
Segment 4		
INTERSECTIONS		
Intersection 1	0.087	0.106
Intersection 2	0.092	0.124
Intersection 3		
Intersection 4		
COMBINED (sum of column)	0.269	0.300

Worksheet 3C -- Site-Specific EB Method Summary Results for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)
Crash severity level	**$N_{predicted}$**	**N_{ped}**	**N_{bike}**	$N_{expected\ (VEHICLE)}$	$N_{expected}$
Total	$(2)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(8)_{COMB}$ Worksheet 3A	(3)+(4)+(5)
	21.4	0.3	0.3	27.7	28.3
Fatal and injury (FI)	$(3)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(5)_{TOTAL} * (2)_{FI} / (2)_{TOTAL}$	(3)+(4)+(5)
	6.8	0.3	0.3	8.8	9.4
Property damage only (PDO)	$(4)_{COMB}$ from Worksheet 3A	--	--	$(5)_{TOTAL} * (2)_{PDO} / (2)_{TOTAL}$	(3)+(4)+(5)
	14.6	0.0	0.0	18.9	18.9

DAVID EVANS AND ASSOCIATES INC.

MEMORANDUM

DATE: February 18, 2022

TO: Ryan Sawyer, Project Director
Acorn Environmental
5170 Golden Foothill Parkway
El Dorado Hills, CA 95762

FROM: Scott Harmon, P.E., David Evans and Associates, Inc.

SUBJECT: Hotel Trip Generation Impact on Coquille Indian Feet-to-Trust and Gaming Facility Project Draft Transportation Impact Analysis (TIA)

PROJECT: Coquille Indian Feet-to-Trust and Gaming Facility Project

CC: File

This memorandum is an addendum to the Draft Coquille Indian Tribe Fee-to-Trust and Gaming Facility Project, Traffic Impact Analysis (TIA) dated September 2019. Referred to in this memorandum as the 2019 TIA. The memorandum addresses the potential impact of the now under construction 110-room hotel located at 2399 South Pacific Highway, Medford, Oregon, on the Alternative A site for the gaming facility project evaluated in the 2019 TIA.

The evaluation in this memorandum relies upon analysis completed by David Evans and Associates, Inc. (DEA) as part of the 2019 TIA, a Trip Generation (Change of Use Thresholds) memorandum completed, for ODOT dated October 3, 2019, and review of trip generation from the 2010 and 2042 Rogue Valley Metropolitan Planning Organization (RVMPO) models use for the 2019 TIA.

1. Hotel Trip Generation

The now under construction hotel is 110-room "all suites" hotel, similar to a Home2 Suites by Hilton. As summarized in the 2019 Trip Generation memo, the hotel does not meet the thresholds for "change of use" as outlined in Oregon Administrative Rule (OAR) 734-051-3020, which for this area, is the addition of no more than 50 trips in a single hour, or 500 trips in a single day. The trip generation and associated traffic impacts of the hotel are consistent with planned land use for that site and accounted for in standard City, County and Regional transportation system planning, which is evaluated using the RVMPO regional travel demand models.

Review of the RVMPO 2010 and 2042 models used for the 2019 TIA show a significant increase of 373 peak and 4,460 daily trips from 2010 to 2042 in the transportation analysis zone (TAZ) containing both the hotel and the proposed gaming facility, as shown in Table 1.

Table 1: Daily and Peak Volumes in RVMPO Travel Demand Model at the TAZ Containing the Under Construction Hotel and Proposed Gaming Project

Time Period	2010	2042	Growth
Daily			
Out (Origin)	1,175	3,405	2,230
In (Destination)	1,175	3,405	2,230
Total	2,350	6,810	4,460
Peak			
Out (Origin)	119	332	213
In (Destination)	93	253	160
Total	212	585	373

The level of growth in the model TAZ indicates that the regional model used for traffic impact evaluation in the 2019 TIA and for transportation infrastructure planning by local agencies has accounted for traffic growth consistent with the addition of the now under construction hotel. It is reasonable to assume that the background growth used in the 2019 TIA accounts for the adjacent Hotel that is now under construction.

2. Access Management

The proposed gaming facility is adjacent to the under construction hotel and will either share access points to/from OR 99 or have a separate access point close to the hotel. The specific spacing and access management of the access points for both sites will be refined in coordination with ODOT before construction is approved as the gaming facility project moves into future design review and approval stages.

3. Conclusions

Based on review of the RVMPO model and the fact the hotel does not meet change of use thresholds, the analysis and mitigation finding of the 2019 TIA remain appropriate and no additional refinement of the 2019 TIA findings are needed due to the construction of the hotel. Access management of the hotel and gaming facilities will be refined as the gaming facility project moves forward in design development and ODOT review and approval.

Attachments/Enclosures: None

APPENDIX I

FCIR Form

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request 6/17/15
Name Of Project Coquille FTT and Gaming Facility Project	Federal Agency Involved Bureau of Indian Affairs
Proposed Land Use Gaming Facility	County And State Jackson County, Oregon
PART II *(To be completed by NRCS)*	Date Request Received By NRCS

Does the site contain prime, unique, statewide or local important farmland? *(If no, the FPPA does not apply -- do not complete additional parts of this form).*	Yes ☐	No ☐	Acres Irrigated	Average Farm Size
Major Crop*(s)*	Farmable Land In Govt. Jurisdiction Acres: %		Amount Of Farmland As Defined in FPPA Acres: %	
Name Of Land Evaluation System Used	Name Of Local Site Assessment System		Date Land Evaluation Returned By NRCS	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating			
	Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	7.0			
B. Total Acres To Be Converted Indirectly	0.0			
C. Total Acres In Site	49.3	0.0	0.0	0.0
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland				
B. Total Acres Statewide And Local Important Farmland				
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value				
PART V *(To be completed by NRCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*	0	0	0	0

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points				
1. Area In Nonurban Use	15	11			
2. Perimeter In Nonurban Use	10	10			
3. Percent Of Site Being Farmed	20	0			
4. Protection Provided By State And Local Government	20	20			
5. Distance From Urban Builtup Area	15	0			
6. Distance To Urban Support Services	15	0			
7. Size Of Present Farm Unit Compared To Average	10	0			
8. Creation Of Nonfarmable Farmland	10	0			
9. Availability Of Farm Support Services	5	3			
10. On-Farm Investments	20	0			
11. Effects Of Conversion On Farm Support Services	10	0			
12. Compatibility With Existing Agricultural Use	10	5			
TOTAL SITE ASSESSMENT POINTS	160	49	0	0	0
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100	0	0	0	0
Total Site Assessment *(From Part VI above or a local site assessment)*	160	49	0	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	49	0	0	0

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? Yes ☐ No ☐

Reason For Selection:

(See Instructions on reverse side) **Form AD-1006 (10-83)**

This form was electronically produced by National Production Services Staff

APPENDIX J

Municipal Services Agreement

IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF OREGON

THE CITY OF NORTH BEND, an Oregon Municipal Corporation,

Plaintiff,

vs.

COQUILLE INDIAN TRIBE OF OREGON and COQUILLE ECONOMIC DEVELOPMENT CORPORATION,

Defendants.

CASE NO. 6:09-cv-06273-HO

CONSENT DECREE

CONSENT DECREE

WHEREAS, the City of North Bend ("City") filed a civil action in the Coos County Circuit Court for the State of Oregon against the Coquille Indian Tribe ("Tribe") and the Coquille Economic Development Corporation ("CEDCO") to enforce performance of a Municipal Services Agreement for the provision of municipal services to certain lands held in trust for the Tribe by the United States located within the exterior boundaries of the City; and

WHEREAS, the City alleged that the Tribe and CEDCO breached the terms of a Municipal Services Agreement signed by the parties on or about October 24, 1994, by failing to make certain payments under the Agreement when due; and

WHEREAS, the Tribe removed the case to the United States District Court for the District of Oregon ("Court"), and subsequently filed a motion to dismiss, as well as an answer asserting several affirmative defenses and counterclaims; and

WHEREAS, the Tribe alleged that the Municipal Services Agreement is null and void as a matter of federal law (the Supremacy Clause, 25 U.S.C. § 81, and the Equal Protection Clause) and was therefore unenforceable, and in the alternative alleged that the City had breached the Agreement; and

WHEREAS, CEDCO made a special appearance in this action to move to dismiss on the grounds that it had not waived its immunity to be sued in this action; and

WHEREAS, the City filed a motion to remand; and

WHEREAS, the Court has not held a hearing nor issued a decision on any of the substantive motions filed in the case; and

WHEREAS, the Tribe, CEDCO and the City (the "Parties") agreed to participate in a judicial settlement conference with United States District Court Judge Michael R. Hogan; and

WHEREAS, the Parties engaged in good faith negotiations under the supervision of Judge Hogan; and

WHEREAS, as a result of that settlement conference, the parties reached an agreement to settle this matter under the terms and conditions set out in this Consent Decree without adjudication of any issue of fact or law; and

WHEREAS, the Tribe and CEDCO admit no liability for any of the matters alleged in the complaint, and the City admits no liability for any of the counterclaims alleged in the Tribe's answer, and the City does not admit to the validity of any of the arguments asserted by the Tribe or CEDCO in their respective motions to dismiss; and

WHEREAS, the Tribe, CEDCO and the City execute this Consent Decree freely after due deliberation and with the full consent and authority of their respective governing bodies; and

WHEREAS, the parties have been represented by the attorneys whose names appear hereafter;

THEREFORE, on the joint motion of the City, the Tribe, and CEDCO, it is hereby **ORDERED**, **ADJUDGED**, and **DECREED** as follows:

1. Parties. The parties to this Consent Decree are: the City of North Bend, a Municipal Corporation of the State of Oregon; the Coquille Indian Tribe, a federally-recognized Indian tribe; and the Coquille Economic Development Corporation, a wholly-owned corporation of the Tribe created under Tribal law (hereinafter collectively referred to as the "Parties"). This Consent Decree is for the benefit of the parties only and shall create no rights in any third parties.

2. Subject Matter Jurisdiction. This Court has jurisdiction of the subject matter and of the Parties specific to this action.

3. Definitions. For the purposes of this Consent Decree, the following terms shall have the following definitions:

"Municipal Services" shall mean the following municipal services provided by the City to properties and residents within the exterior boundaries of the City,: sewer and storm water services provided by the North Bend Public Works Department; the full range of law enforcement services provided by the North Bend Police Department; and the full

range of services provided by the North Bend Fire Department (including fire protection and EMT).

"Property" shall mean the real property on which the Mill Casino●Hotel is located and the improvements thereto, which is described more specifically in the legal description contained on Exhibit A attached hereto, which is incorporated by reference in its entirety into this Consent Decree.

4. Provision of Municipal Services. In consideration for the payments made by the Tribe and CEDCO pursuant to this Consent Decree, the City will provide Municipal Services to the Property and improvements at the same level and quality as that provided to all other residents and businesses within the City, including without limitation, the following:

a. Storm water. The Property will remain eligible to receive storm water services on the same basis as all other City businesses.

b. Sewer. The property will remain eligible for and shall receive sewer services on the same basis as all other City businesses.

c. Law Enforcement. The North Bend Police Department will provide law enforcement, patrol, investigation, and prosecution assistance services to the Property on the same basis as provided to all other City residents and businesses.

(Note: The Police Department, as a matter of practice, coordinates the provision of law enforcement services with other agencies on an as needed basis. It is the intent of the parties that, to the extent that the City does this for all other City residents and businesses, the City will be obligated under the Consent Decree to do so for the Property.)

d. Fire Protection. The North Bend Fire Department will provide fire protection, and EMT services to the Property to protect property and public safety on the Property on the same basis as other City businesses.

e. Water. The parties recognize that Water Services are provided by the Coos Bay-North Bend Water Board, which is an intergovernmental agency created by the Cities of Coos Bay and North Bend. The City will not contest or interfere with the Property's eligibility to receive such water services on the same basis as any other commercial entities.

5. Payments for Municipal Services. The parties have determined that the appropriate mode for payment for the provision of Municipal Services by the City to the Property would be on a fee-for-service basis, more specifically described as follows.

a. Sewer Services. CEDCO and the Tribe will continue to make sewer service payments on the same basis and at the same rates as all other commercial users of the sewer system.

b. Storm Water Services. If CEDCO or the Tribe utilize the City's storm water system, they will make payments to the City on the same basis and at the same rates as other commercial users of the storm water system.

c. Law Enforcement, Fire Protection and Other Municipal Services. The parties acknowledge that due to the nature of law enforcement, fire protection and EMT services generally, and due to the unique level of such services required for the business operated by the Tribe and CEDCO on the property, it is difficult to specifically quantify the cost of the services provided. Therefore, after reviewing cost data over the prior years, the parties have agreed to the following payment terms for these services:

i. Beginning January 1, 2010 the sole compensation for the provision of Municipal Services by the City will be a fee for service, for which the Tribe and CEDCO shall be jointly and severally liable.

ii. The fee for services will be paid in quarterly installments at the end of the month following each calendar quarter. These payments deadlines are: April 30, July 31, October 31, and January 31. The Tribe and CEDCO may pre-pay for Municipal Services. The parties may agree in writing to any alternate payment schedule. Payments may be made by a check written against an account of CEDCO or the Tribe.

iii. As of January 1, 2010 the fee for service will be $362,500 annually.

iv. Beginning January, 2011, the fee for service will increase by 5.25% per year.

v. The payment schedule for the term of this Consent Decree is set out in the attached Exhibit B (which is hereby incorporated by reference in its entirety) for payments to be made by the Tribe and/or CEDCO to the City for the provision of law enforcement and fire protection services for the term of this Consent Decree. Provided, that, if during the term of this Consent Decree the Tribe or CEDCO enters into a lease or sub-lease of the Property or any portion thereof with a non-tax-exempt entity, and such entity pays real property taxes on the value of said lease or sub-lease, then 50% of the amount of tax paid by such entity and received by the City shall be deducted from the amounts owed by the Tribe or CEDCO under this section. There shall be no deduction for real property taxes paid by a non-tax-exempt entity operating under any lease or sublease of the property that is in existence prior to the effective date of the Consent Decree, notwithstanding any assignment, transfer, renewal, modification, extension, or other amendment of said lease of sublease during the term of the Consent Decree.

vi. The Tribe and CEDCO will also make a one-time payment to the City to cover the provision of these Municipal Services from July 1, 2009 through December 31, 2009, in the amount of $275,000 on the date of the execution of this consent decree.

6. Reopening of Negotiations if Adverse Event Occurs. The Parties have negotiated and entered into this Consent Decree in order to provide stability and predictability for the provision of Municipal Services and the payments for those services. However, the Parties recognize that certain material adverse events may significantly impact the ability of one or more of the Parties to meet its obligations under this Consent Decree, and the Parties therefore agree that if a material adverse event occurs the parties will follow the procedure outlined in the subparagraphs below.

a. Provide written notice of the adverse event within thirty (30) days of its occurrence including a complete description of the adverse event.

b. Meet in good faith to reopen negotiations within thirty (30) days of the notice of the adverse event.

c. Recognize in the renegotiations that the best interests of all parties is paramount and the outcomes should be responsive to the related adverse event(s).

d. The parties may provide for any renegotiated terms to revert to the original terms once an adverse event ends.

e. Renegotiations under this provision will be subject to a gag order.

f. If agreement cannot be reached upon the renegotiation, the matter will be submitted to the presiding judge of this Court for assignment to a settlement judge for resolution.

7. Memorandum of Understanding. The Tribe and the City agree to work together in good faith to develop the terms of a formal government-to-government relationship between the parties by July 1, 2010. The MOU will address matters of mutual and enduring importance to the City and the Tribe, including:

a. Recognition of the roles and interests of each party in providing services and supporting the needs of the surrounding community.

b. Provisions to encourage and promote positive communications and information sharing between the Tribe and the City.

c. A protocol for resolving potential conflicts between the Tribe and the City that arise outside of the context of the Consent Decree.

d. An annual meeting between the City Council and Tribal Council.

8. Dispute Resolution. The Parties will make diligent and good faith efforts to directly communicate and resolve any differences and conflicts related to this Consent Decree. The Parties will attempt to resolve differences and conflicts without involving the Court.

However, the parties may request the Court to settle any differences or conflicts arising under this Consent Decree after following the procedure set up in the subparagraphs below:

a. Written notice of a dispute must be provided by one of the parties to the others.

b. The parties must meet in good faith within thirty (30) days of the written notice to negotiate the resolution of the dispute.

c. If an agreement cannot be reached, the matter will be submitted to the presiding judge of the Court for assignment to a settlement judge for Resolution.

d. Dispute resolution under this Agreement will be subject to a gag order.

9. Term. The Term of this Consent Decree will be from January 1, 2010 through December 31, 2019.

10. No Precedent. This Consent Decree is entered into between the parties to specifically address the issues concerning this litigation and the provision of Municipal Services to the Property at issue, and shall not have and may not be cited as precedent for any other matter involving the Parties or involving any other persons or entities.

11. Limited Waiver of Sovereign Immunity.

a. Nothing in this Consent Decree waives the sovereign immunity of any of the Parties, except for the limited purposes and on the limited terms set out in this paragraph; provided that, for the term of this Consent Decree, the Parties adopt a limited waiver of their respective sovereign immunity for the enforcement of this Consent Decree and submit to the ongoing jurisdiction of the Court for this purpose.

b. Except as otherwise provided in this Consent Decree, this limited waiver is granted only by the Parties and not by any subsidiaries, successors or affiliates of the Parties; except those identified in paragraph 12;

c. The foregoing limited waivers of sovereign immunity set forth in this paragraph apply to the term of this Consent Decree.

12. Assignment of Rights and Obligations. In the event that the Tribe dissolves or reorganizes CEDCO into another corporate or governmental entity, that successor entity shall be assigned all the rights and obligations of CEDCO under this Consent Decree as if it were a party hereto. In the event CEDCO is reorganized into a successor entity as defined in this paragraph, CEDCO agrees that it shall not finalize any assignment of its rights and obligations under this Consent Decree unless and until the successor entity has obtained the appropriate and necessary authorization from its governing body to become a party to this Consent Decree.

13. Mutual Release. It is the intent of the parties that this Consent Decree will exclusively govern the provisions of, and payment for, Municipal Services solely for the Term

described above. The parties mutually release one another from all claims, damages, costs, attorney's fees, liability, claims for indemnity and claims for breach of contract related to the agreement between the parties dated October 24, 1994, which may arise or could be asserted during the Term of this Consent Decree. The parties further agree that the 1994 Municipal Services Agreement shall not be terminated by reason of this Consent Decree.

14. Ongoing Jurisdiction. This Court shall retain jurisdiction of this matter for the purposes of enabling any of the parties to this consent decree to apply to the Court at any time for such further orders or directives as may be necessary or appropriate for the interpretation or modification of this Consent Decree, for the enforcement of compliance therewith, or for the punishment of violations thereof.

IT IS HEREBY ORDERED, ADJUDGED, AND DECREED, that the parties shall abide by the terms and conditions recited above for the term of this Consent Decree.

Dated this 3rd day of Feb., 2010.

The Honorable Michael R. Hogan
United States District Court Judge

The parties, by and through their respective counsel, hereby consent to the terms and conditions of the Consent Decree as set forth above and consent to the entry thereof.

For the City of North Bend:

Rich Wetherell, Mayor — Date: Feb. 2, 2010

Michael Stebbins, Attorney — Date: 2-2-10

For the Coquille Indian Tribe

Edward L. Metcalf, Tribal Chairman — Date: Feb 2, 2010

Edmund Clay Goodman, Attorney — Date: February 3, 2010

For Coquille Economic Development Corporation

Cal Mukumoto, Chief Executive Officer

2/3/2010
Date

Melissa Cribbins, Attorney

February 3, 2010
Date

EXHIBIT "A"

LEGAL DESCRIPTION

Parcel I:

All that portion of the following described property (Parcels A to H, inclusive) lying Southerly and Easterly of the following described line:

Beginning at a point on the Easterly boundary of the Southern Pacific Railroad right of way, from which the City monument located at the intersection of the centerline of Sherman Avenue and the South line of Ohio Avenue, said monument being the initial point of Coos Bay Plat "B" Addition to North Bend (amended), bears North 55° 05' 18" West 1564.63 feet, more or less; thence North 17° 39' 27" East 135.99 feet to a 3 inch galvanized iron pipe fence corner; thence South 83° 08' 40" East 73.85 feet, along an existing cyclone fence to a 3 inch galvanized iron pipe fence corner; thence North 9° 31" 50" East 172.13 feet along an existing cyclone fence to a 3 inch galvanized iron pipe fence corner; thence North 25° 45' 06" East 15.75 feet to a steel I-beam guard post; thence North 41° 22' 26" East 59.00 feet to a steel I-beam piping support post; thence South 80° 18' 00" East 180.00 feet, more or less, along the line parallel to the North line of vacated Lombard Street to the East edge of Wharf, per said Coos Bay Plat "B" (amended); thence continuing South 80° 18' 00" East 140.00 feet, more or less, along the Easterly projection parallel to the North line of vacated Lombard Street to the United States Harbor line.

Parcel A:

Lots 1 to 6, inclusive, Block 7, Coos Bay Plat "B", Coos County, Oregon.
ALSO; Beginning at the Northeast corner of said Block 7; thence East along the North line of said Block 7 extended for a distance of 50 feet; thence South along the East line of a parcel marked "Wharf" for a distance of 52 feet; thence West for a distance of 50 feet to the East line of said Block 7; thence North along the East line of said Block 7 for a distance of 52 feet to the point of beginning.

Parce B:

Beginning at the Southeast corner of said Lot 6, Block 7; thence Easterly 50 feet; thence Northerly 100 feet to a point which is Southerly of the North boundary line of said Block 7 if the boundary were extended Easterly, said point being also 50 feet Easterly of the Easterly boundary line of said Block 7; thence Westerly 50 feet to the Easterly boundary of said Block 7 to intersection with said boundary line 50 feet Southerly of the Northeast corner of said Block 7; thence Southerly 100 feet to the point of beginning.

Parcel C:

That part of the tide lands fronting and abutting upon Section 22, Township 25 South, Range 13 West of the Willamette Meridian, Coos County, Oregon more particularly described as follows:

Beginning at the Northeast corner of Block 7, Coos Bay Plat "B", Coos County, Oregon, thence Easterly along the Easterly prolongation of the Northerly line of said Block 7 to its intersection with the United States Harbor Line on Coos Bay; thence Southerly along said United States Harbor Line to its intersection with the Easterly prolongation of the Southerly line of Lot 6 of Block 7; thence Westerly along said Easterly prolongation of said Southerly line to the Southeast corner of said Lot 6; thence Northerly along the Easterly line of said Block 7 to the true

point of beginning.

Parcel D:

Lots 1 to 9, inclusive, Block 18, Coos Bay Plat "B", Coos County, Oregon.

Parcel E:

Blocks 8, 9, 16, 17, in Coos Bay Plat "B", Coos County, Oregon.

ALSO the vacated portion of Lewis Street lying East of the Easterly line of Tremont Street, described as follows; which would inure thereto by the reason of the vacation thereof.

Commencing at the Northwest corner of said Block 16; run thence Northerly along the Easterly line of Tremont Street 60 feet, more or less, to the Southwest corner of Block 15 in said plat; thence Easterly to the Southeast corner of Block 10 in said plat; thence Southerly 60 feet to the Northeast corner of said Block 9; thence Westerly along the South line of said Lewis Street to the place of beginning;

ALSO the vacated portion of Water Street, lying between said Block 9 and 16, described as follows, which would inure thereto by the reason of the vacation thereof.

Commencing at the Northeast corner of said Block 16; run thence Easterly 40 feet to the Northwest corner of said Block 9; thence Southerly along the Westerly line of said Block 9 to the Southwest corner of said Block 9; thence Westerly 40 feet to the Southeast corner of said Block 16; thence Northerly along the Easterly line of said Block 16 to the place of beginning;

ALSO, the vacated portion of Water Street lying between said Blocks 8 and 17, described as follows; which would inure thereto by the reason of the vacation thereof.

Commencing at the Northeast corner of said Block 17; run thence Easterly 40 feet to the Northwest corner of said Block 8; thence Southerly along the Westerly line of said Block 8 to the Southwest corner of said Block 8; thence Westerly 40 feet to the Southeast corner of said Block 17; thence Northerly along the Easterly line of said Block 17 to the place of beginning;

ALSO, beginning at the Southwest corner of Block 15 in Coos Bay Plat "B"; thence North 80° 18' West 30 feet to the center line of vacated Tremont Street; thence North 9° 42' East 42 feet; thence South 80° 18' East 295 feet to the center line of the 50 foot strip designated as "Wharf" in said Coos Bay Plat "B"; thence North 9° 42' East along the center line of said strip 182.06 feet; thence North 80° 18' West 25 feet to the Northeast corner of Block 10 in said Plat; thence North 80° 18' West 121.25 feet; thence North 9° 42' East 30 feet to the center line of vacated Lombard Street; thence South 80° 18' East along the center line of vacated Lombard Street 121.25 feet to the Westerly line of said strip "Wharf"; thence South 80° 18' East 50 feet to the Easterly line of said strip "Wharf" being the Easterly line of said Coos Bay Plat "B"; thence Southerly along said Easterly line of said strip "Wharf" to the center line of State Street extended; thence Westerly along said center line of State Street extended 50 feet to the Westerly line of said strip "Wharf"; thence Northerly along the Westerly line of said strip "Wharf" to the Southeast corner of said Block 10; thence North 80° 18' West 240 feet to the place of beginning.

Parcel F:

That portion of Clark Street lying between the Easterly line of Tremont Street and the Westerly line of Wharf; all that portion of State Street lying between the Easterly line of Tremont Street and the Westerly line of Wharf; all that portion of Water Street lying between the Southerly line of State Street and the Westerly prolongation of the Southerly line of Lot 6, Block 7, Coos Bay Plat "B", Coos County, Oregon, which would inure thereto by the reason of the vacation thereof .

Parcel G:

Lots 1 to 9, inclusive, Block 6; Lots 7, 8 and 9, Block 7; Lots 1 to 5, inclusive, Block 19, all in Coos Bay Plat "B", Coos County, Oregon.

SAVE & EXCEPT the Westerly 50 feet of Lots 6, 7, 8 and 9, Block 6, Coos Bay Plat "B", Coos County, Oregon.

Parcel H:

Vacated Water Street fronting and abutting Lots 1 to 9, inclusive, Block 6 and Lots 1 to 9, inclusive, Block 19, all in Coos Bay Plat "B", Coos County, Oregon, which would inure thereto by the reason of the vacation thereof.

ALSO, vacated Commercial Street fronting and abutting Lot 1, Block 6 and Lot 9, Block 7, all in Coos Bay Plat "B", Coos County, Oregon, which would inure thereto by the reason of the vacation thereof.

SAVE AND EXCEPT the Southerly 100 feet of vacated Water Avenue fronting and abutting Lots 6, 7, 8 and 9, Block 19 and Lots 6, 7, 8 and 9, Block 6, all in Coos Bay Plat "B", Coos County, Oregon.

Parcel I:

Beginning at the Southeast corner of Block 6, Coos Bay Plat "B", Coos County, Oregon, running thence Easterly 50 feet on a line which would be the North line of Newmark Street, if extended Easterly; thence Northerly to a point which is 50 feet Easterly of the North line of Lot 7 in Block 7, if extended; thence Westerly 50 feet to the Northeast corner of Lot 7, Block 7; thence Southerly along the East line of Block 7 and Block 6 to the point of beginning; being that portion marked "Wharf" and front on Block 6, and a portion of Block 7, all in Coos Bay Plat "B", Coos County, Oregon, which would inure thereto by the reason of the vacation thereof.

Parcel J:

That portion of Water Street lying between Lots 7 to 9, inclusive, Block 7 and Lots 7 to 9, inclusive, Block 18 in Coos Bay Plat "B" to the City of North Bend, Coos County, Oregon; and that portion of Commercial Street bounded on the North by Blocks 18 and 7, on the East by the portion of Street vacated by Ordinance No. 626 of the City of North Bend, on the South by Blocks 19 and 6, and on the West by U.S. Highway 101, all in Coos Bay Plat "B" to the City of North Bend, Coos County, Oregon, which would inure thereto by the reason of the vacation thereof.

Parcel K:

Lots 1 through 7 and the North 10 feet of Lot 8 in Block 15 of Coos Bay Plat "B",

Coos County, Oregon.

Lots 1 through 7 and the North 10 feet of Lot 8 in Block 10 of Coos Bay Plat "B", Coos County, Oregon.

That portion of vacated Water Street lying between the two above described portions of said Block 15 and 10, which would inure thereto by the reason of the vacation thereof.

That portion of the tract labeled "Wharf" which would inure thereto by the reason of the vacation thereof of said Coos Bay Plat "B" described as:

Beginning at the Northeast corner of Block 10 in Coos Bay Plat "B"; thence South 80° 18' East 25 feet; thence South 9° 42' West 182.06 feet; thence North 80° 18' West 25 feet to a point on the Easterly line of said Block 10, said point being 42 feet Northerly from the Southeast corner of said Block 10; thence Northerly along the Easterly line of said Block 10 to the place of beginning.

The East 30 feet (East half) of the portion of vacated Tremont Street lying between the West projection of the South line of the North 10 feet of Lot 8 of said Block 15 and the South line projected West, of said vacated Lombard Street; and that portion of the Southerly 30 feet of vacated Lombard Street lying between the Northward projections of the centerlines of said vacated portions of Water Street and of Tremont Street, which would inure thereto by the reason of the vacation thereof.

Parcel I:

All that part of that certain parcel shown marked "Wharf" on the map and plat of Coos Bay Plat "B", Coos County, Oregon, more particularly described as follows, which would inure thereto by the reason of the vacation thereof.

Beginning at the Northeast corner of Block 7, said Coos Bay Plat "B"; running thence North 30 feet along the Easterly boundary of said Block 7 extended Northerly to the center of the center of the East end of State Street; thence Easterly parallel with the North boundary of the extension of State Street East 50 feet, more or less, to the East boundary the parcel marked "Wharf" on the plat of Coos Bay Plat "B"; thence Southerly along the East boundary of said "Wharf" 30 feet, more or less, to a point 5 feet Easterly of the point of beginning and to the intersection of the North line of Block 7, extended Easterly; thence Westerly 50 feet along said extended lines of State Street to the point of beginning, which would inure thereto by the reason of the vacation thereof.

ALSO: Beginning at the Northeast corner of Block 7 of Coos Bay Plat "B", Coos County, Oregon; running thence North 30 feet along the Easterly boundary of said Block 7 extended Northerly to the center of the center of the East end of vacated State Street; thence Easterly parallel with the North boundary of the extension of State Street East 50 feet, more or less, to the East boundary of the parcel marked "Wharf" on the Plat of said Coos Bay Plat "B" and the true point of beginning; thence continuing Easterly to a point on the United States Harbor line; thence Southerly along said Harbor line to its intersection with the Easterly prolongation of the Northerly line of said Block 7; thence Westerly along said extended line of Block 7 to the Easterly boundary of said parcel marked "Wharf"; thence Northerly along said Easterly boundary 30 feet to the true point of beginning, which would inure thereto by the reason of the vacation thereof.

Parcel No

Beginning at the Northeast corner of Block 10 in Coos Bay Plat "B", Coos County, Oregon; thence North 9° 42' East 30 feet to the center line of vacated Lombard Street; thence South 80° 18' East along the center line of vacated Lombard Street 50 feet to the Easterly line of the 50 foot strip designated as "Wharf" in said Coos Bay Plat "B", and the true point of beginning; thence continuing South 80° 18' East along the Easterly project of the center line of said vacated Lombard Avenue to the United States Harbor Lone; thence Southerly along said Harbor Line to its intersection with the Easterly prolongation of the center line of vacated State Street; thence Westerly along said Easterly prolongation of the center line of State Street to the Easterly line of said "Wharf" strip; thence Northerly along the Easterly line of said "Wharf" strip to the true point of beginning, which would inure thereto by the reason of the vacation thereof.

ALSO, the following described property not otherwise included by property description stated in pages 1 through 6 of this Exhibit "A":

IN COOS COUNTY, OREGON:

A tract of land described as follows:

Beginning at a point on the Easterly boundary of the Southern Pacific Railroad Company's right of way, from which point the City monument located at the intersection of the centerline of Sherman Avenue and the South line of Ohio Avenue (said monument being the initial point of Coos Bay Plat "B" Addition to North Bend (amended), bears North 56° 01' 23" West 1,556.95 feet;

Thence North 17° 39' 27" East 135.99 feet to a 3 inch galvanized iron pipe fence corner.

Thence South 83° 08' 40" East 73.85 feet, along an existing cyclone fence, to a 3 inch galvanized iron pipe fence corner;

Thence North 9° 31' 50" East 172.13 feet, along an existing cyclone fence, to a 3 inch galvanized iron pipe fence corner;

Thence North 25° 45' 06" East 15.75 feet to a steel I-Beam guard post;

Thence North 41° 22' 26" East 59.00 feet to a steel I-Beam piping support post;

Thence South 80° 18' 00" East, along a line parallel to the North line of vacated Lombard Street, 180.00 feet, more or less, to the East edge of Wharf, per said Coos Bay Plat "B" (amended);

Thence continuing South 80° 18' 00" East 140 feet, more or less, to the United States Harbor line;

Thence Southerly, along said United States Harbor Line, to its intersection with the Easterly prolongation of the Southerly line of Lot 6 of Block 7, Coos Bay Plat "B";

Thence Westerly, along the Easterly prolongation of the Southerly line of Lot 6 of said Block 7, to its intersection with the Easterly line a parcel marked "Wharf" on said Coos Bay Plat "B";

Thence Southerly, along said Easterly line of "Wharf", to its intersection with the Easterly prolongation of the South line of Lot 9 of Block 6, said Coos Bay Plat "B";

Thence Westerly, along said Easterly prolongation and the South line of Lot 9 of said Block 6, to a point on the said South line 50 feet Easterly of the Southwest corner of said Lot 9;

Thence Northerly, parallel to the West line of said Block 6, to a point on the South line of Lot 5 of said Block 6;

Thence Westerly, along the South line of Lot 5, and along the Westerly prolongation of said South line, to the Southeast corner of Lot 5 of Block 19 of said Coos Bay Plat "B";

Thence Westerly, along the South line of Lot 5 of said Block 19, to the Southwest corner of said Lot 5, said point being on the Easterly line of vacated Tremont Street;

Thence Northerly, along said Easterly line, to the point of intersection of said Easterly line and a line which is 23.5 feet Easterly of, and parallel to the centerline of Southern Pacific Railroad Company's railroad;

Thence along said paralell line to the point of beginning.

It is the intent of the Grantor to convey to Grantee the following lands in Coos Bay Plat "B";

Lot 1-9, Block 6, except the West 50 feet of Lots 6-9;

All of Blocks 7, 8, 9 and 10;

Portions of Lots 1 to 8, Block 15;

Lot 9 of Block 15;

All of Blocks 16, 17 and 18;

Lots 1-5, Block 19;

That portion of vacated "Wharf", lying South of the most Northerly boundary of the metes and bounds description herein above set forth, and North of the Easterly prolongation of the South line of Lot 9, Block 6; which would inure thereto by the reason of the vacation thereof, together those portions of vacated Water, Tremont, Lombard, Lewis, Clark, State and Commercial Streets, lying within the above set forth metes and bounds description, which would inure thereto by the reason of the vacation thereof; and together with the tide lands, including all wharfage, riparian and water rights thereunto belonging or in anywise appertaining to and including within the following described real property lying:

(1) East of the East line of "Wharf: in Coos Bay Plat "B";

(2) West of the United States Harbor line;

(3) North of the Easterly prolongation of the South line of Lot 6 of Block 7, Coos Bay PLat "B"; and

(4) South of the most Northerly boundary of the metes and bounds description herein above set forth.

SAVE AND EXCEPT any portion lying within the limits of public roads and right of way.

ALSO SAVE AND EXCEPT any portion lying within the limits of the Southern Pacific Railroad right of way.

Parcel II:

Lots 10, 11, 12, 13, Block 31, Coos Bay Plat "B", Coos County, Oregon, and the Westerly 51 feet of Lots 1 to 9, inclusive, Block 31, Coos Bay Plat "B", Coos County, Oregon, together With the S 1/2, W 1/2 and the E 1/2 of vacated alleys fronting and abutting thereon, which Would inure thereto by the reason of the vacation thereof.

ALSO:

Lots 16, 17, 18, Block 31, Coos Bay Plat "B", Coos County, Oregon, together with half of the vacated alleys fronting and abutting the above described lots, which would inure thereto by the reason of the vacation thereof.

Parcel III:

A portion of Government Lot 4 of Section 15. Township 25 South, Range 13 West of the Willamette Meridian, Coos County, Oregon, described as follows:

A parcel of land located in portions of vacated Block 11 and vacated Wharf Street, Coos Bay Plat "B" Addition to North Bend, (Amended), including abutting tidelands to the U.S. Harbor Line, more specifically described as follows:

Beginning at a point on the North line of that parcel described in deed, dated June 20, 1985, to Grantee herein, recorded bearing Microfilm Reel No. #85-3-0745, Deed Records of Coos County, Oregon, (said point also being on the South line of said vacated Block 11), said point being South 80° 18' 00" East 111.42 feet from an I-Beam piping support post at the Northwest corner of said Deed bearing Microfilm Reel No. 85-3-0745, Records of Coos County, Oregon, and also bears South 70° 20' 16" East 1,679.77 feet from the initial point of said Coos Bay Plat "B", (amended);

thence North 9° 42' 00' East 14.53 feet;

thence South 80° 18' 00" East, parallel to said North line, 68.63 feet, more or less, to the East edge of said vacated Wharf Street;

thence continuing South 80° 18' 00" East 140.00 feet, more or less, to the U.S. Harbor Line;

thence Southerly 14.54 feet, more or less, along said Harbor Line to the Northeast corner of said Deed bearing Microfilm Reel No. 85-3-0745, Records of Coos County, Oregon;

thence North 80° 18' 00" West 208.58 feet, more or less, along the North line of said Deed bearing Microfilm Reel No. 85-3-0745, Records of Coos County, Oregon, to the point of beginning.

TOGETHER WITH all right to the interest in the property conveyed by the Deed dated April 17, 2006 from the State of Oregon to the United States in Trust for the Coquille Indian Tribe, and recorded on April 21, 2006 as #2006-5226 in the Coos County Clerk's records.

EXCEPTING all right for the interest in the property conveyed by the deed dated April 14, 2006 from the United Sates in Trust for the Coquille Indian Tribe, to the State of Oregon, and recorded on April 19, 2006 as #2006-5172 in the Coos County Clerk's records.

EXHIBIT B
PAYMENT SCHEDULE

Year	Q-1 Jan-Mar	Q-2 Apr-Jun	Q-3 Jul-Sep	Q-4 Oct-Dec	Total Annual Payment
2010	90,625	90,625	90,625	90,625	362,500
2011	95,383	95,383	95,383	95,383	381,531
2012	100,390	100,390	100,390	100,390	401,562
2013	105,661	105,661	105,661	105,661	422,644
2014	111,208	111,208	111,208	111,208	444,832
2015	117,047	117,047	117,047	117,047	468,186
2016	123,191	123,191	123,191	123,191	492,766
2017	129,659	129,659	129,659	129,659	518,636
2018	136,466	136,466	136,466	136,466	545,864
2019	143,631	143,631	143,631	143,631	574,522

APPENDIX K

Noise Output Files

Coquille Casino Noise Monitoring Results

Medford Site 1 24-hours

Information Panel

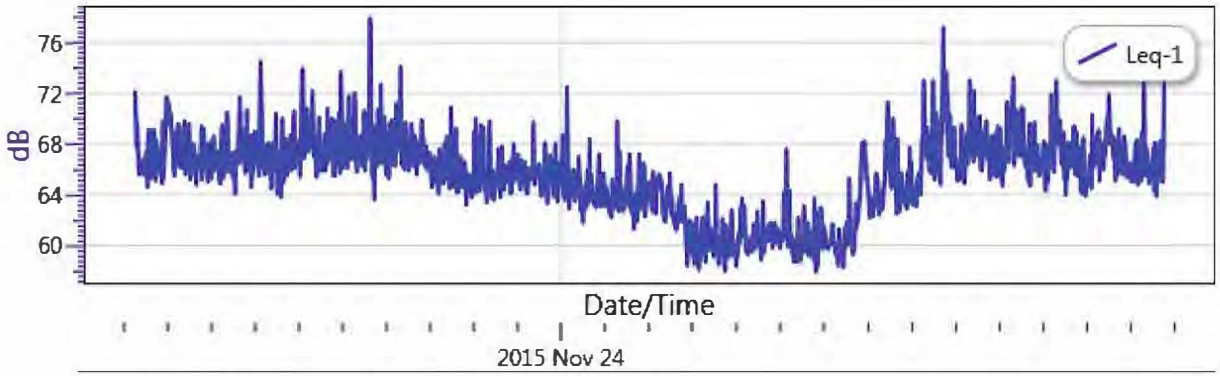
Name	Coquille Medford Site 1 24-hour
Start Time	11/23/2015 2:14:56 PM
Stop Time	11/24/2015 1:47:11 PM
Device Name	BGH060007
Model Type	SoundPro DL
Device Firmware Rev	R.13D
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	66.6 dB	CNEL	1	71.5 dB
LDN	1	71 dB	SEL	1	115.9 dB
Exchange Rate	1	3 dB	Weighting	1	Z
Response	1	SLOW	Criterion Time	1	8 hrs.

Logged Data Chart

Coquille Medford Site 1 24-hour: Logged Data Chart



Coquille Casino Noise Monitoring Results

Medford Site 2 24-hours

Information Panel

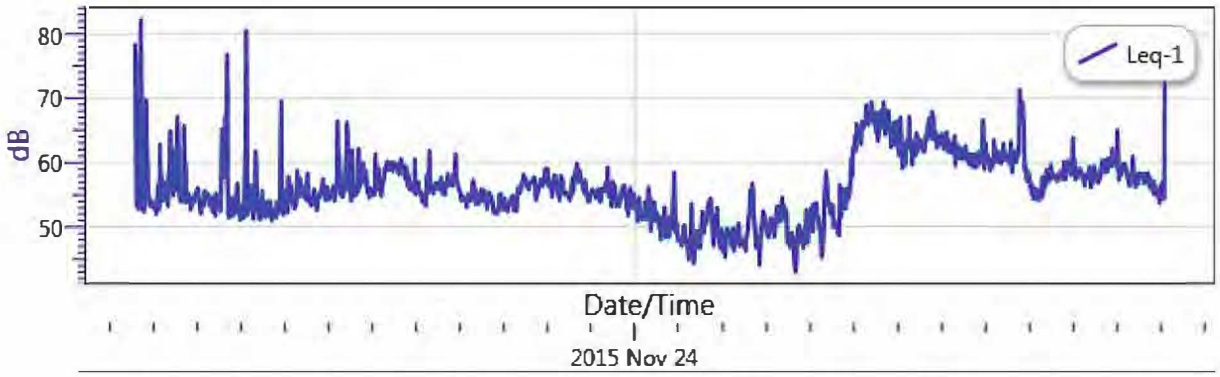
Name	Coquille Medford Site 2 24-hour
Start Time	11/23/2015 12:34:22 PM
Stop Time	11/24/2015 12:05:28 PM
Device Name	BGH060009
Model Type	SoundPro DL
Device Firmware Rev	R.13E
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	60.7 dB	CNEL	1	66.3 dB
LDN	1	66.2 dB	SEL	1	110 dB
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	IMPULSE	Criterion Time	1	8 hrs.

Logged Data Chart

Coquille Medford Site 2 24-hour: Logged Data Chart



Coquille Casino Noise Monitoring Results

Phoenix Site A 15-minutes

Information Panel

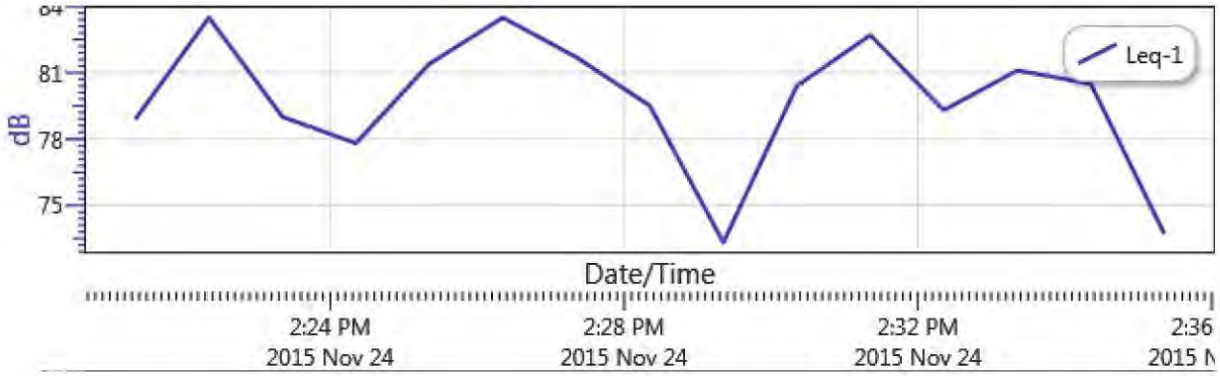
Name	Coquille Phoenix Site A 15-minute
Start Time	11/24/2015 2:20:21 PM
Stop Time	11/24/2015 2:35:29 PM
Device Name	BGH060007
Model Type	SoundPro DL
Device Firmware Rev	R.13D
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	80.5 dB	CNEL	1	80.5 dB
LDN	1	80.5 dB	SEL	1	110.1 dB
Exchange Rate	1	3 dB	Weighting	1	Z
Response	1	SLOW	Criterion Time	1	8 hrs.

Logged Data Chart

Coquille Phoenix Site A 15-minute: Logged Data Chart



Coquille Casino Noise Monitoring Results

Phoenix Site B 15-minutes

Information Panel

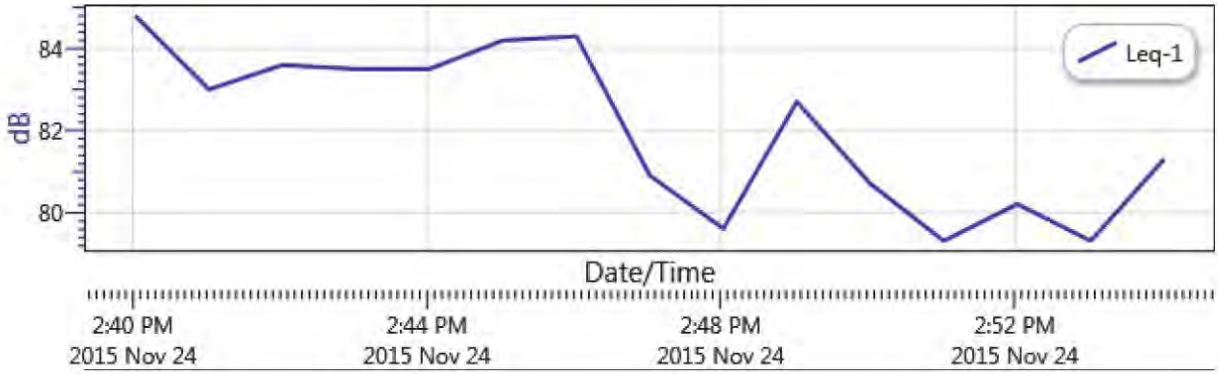
Name	Coquille Phoenix Site B 15-minute
Start Time	11/24/2015 2:39:02 PM
Stop Time	11/24/2015 2:54:44 PM
Device Name	BGH060007
Model Type	SoundPro DL
Device Firmware Rev	R.13D
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	86 dB	CNEL	1	86 dB
LDN	1	86 dB	SEL	1	115.7 dB
Exchange Rate	1	3 dB	Weighting	1	Z
Response	1	SLOW	Criterion Time	1	8 hrs.

Logged Data Chart

Coquille Phoenix Site B 15-minute: Logged Data Chart



Coquille Casino Noise Monitoring Results

Phoenix Site B 15-minutes

Information Panel

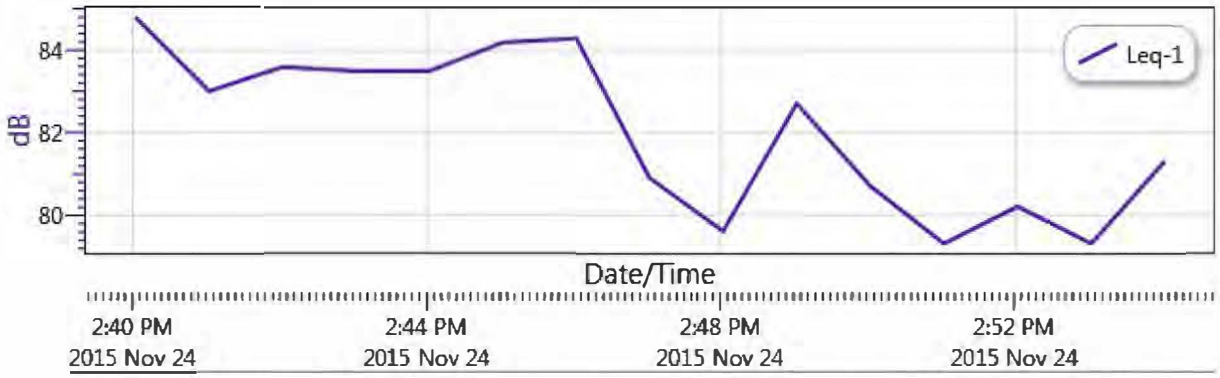
Name	Coquille Phoenix Site B 15-minute
Start Time	11/24/2015 2:39:02 PM
Stop Time	11/24/2015 2:54:44 PM
Device Name	BGH060007
Model Type	SoundPro DL
Device Firmware Rev	R.13D
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	86 dB	CNEL	1	86 dB
LDN	1	86 dB	SEL	1	115.7 dB
Exchange Rate	1	3 dB	Weighting	1	Z
Response	1	SLOW	Criterion Time	1	8 hrs.

Logged Data Chart

Coquille Phoenix Site B 15-minute: Logged Data Chart



APPENDIX L

Environmental Site Assessments

MEDFORD SITE PHASE I ESA

9725 SW Beaverton-Hillsdale Hwy, Suite 140
Beaverton, OR 97005-3364
p| 503-641-3478 f| 503-644-8034

May 24, 2012

5321 PHASE I ESA RPT (ROXY ANN LANES)

I-5 Landholdings, LLC
621 SW Morrison Street, Suite 400
Portland, OR 97205

Attention: Bill McCrae

SUBJECT: Phase I Environmental Site Assessment
Roxy Ann Lanes
2375 S Pacific Highway
Medford, Oregon

EXECUTIVE SUMMARY

GRI has conducted a Phase I Environmental Site Assessment (ESA) for the above-referenced site in Medford, Oregon. The ESA was conducted in general accordance with our proposal dated March 22, 2012, and subsequent e-mail dated May 9, 2012. Historical data indicate the site was developed for agriculture with an orchard. Roxy Ann Lanes bowling alley began operation between 1956 and 1965. The surrounding area has historically been a mix of residential and agricultural uses and transitioned to residential and commercial uses by 1991.

A data gap regarding the original boiler fuel source was further investigated. The original source was determined to likely be propane, and no evidence of an underground storage tank (UST) was revealed.

In our opinion, this assessment has disclosed no evidence of recognized environmental conditions associated with the site.

This Executive Summary is subject to the Limitations stated in this report.

INTRODUCTION

Purpose of Assessment

At the request of I-5 Landholdings, LLC, GRI has conducted a Phase I ESA for the above-referenced site in Medford, Oregon. The general location of the site is shown on the Vicinity Map, Figure 1. The purpose of the ESA was to evaluate, on a preliminary basis, the potential for recognized environmental conditions on the property and whether additional assessment would be warranted to evaluate this risk. This report describes the work accomplished and summarizes the results of the ESA.

Terms and Conditions

Our work was performed in general accordance with our proposal dated March 22, 2012, and subsequent e-mail dated May 9, 2012, and ASTM Practice E 1527-05 (Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process). A copy of our proposal and email is provided in Appendix A. Exceptions or deletions from ASTM E 1527-05 are listed in the Limitations section of this report.

Limitations

This report has been prepared to assist I-5 Landholdings, LLC in evaluating the potential for recognized environmental conditions at the referenced site. The scope of work was limited to the specific project, location, and activities described herein. In the performance of an assessment of this type, specific information is obtained at specific locations at specific times. Judgments leading to conclusions are generally made with an incomplete knowledge of the subsurface and historical conditions applicable to the project area. More extensive assessment, including additional historical review, site exploration, soil and groundwater sampling, and chemical analyses, may be used to supplement the information presented by this assessment. Our assessment of the property may also change as new data become available during additional site exploration or development. Our knowledge of information regarding environmental liens, specialized knowledge, or experience regarding the site is limited to the information provided by the sources referenced herein. It should be specifically noted that GRI has relied on interviews with persons affiliated with the site, as well as municipal records and other information maintained and provided by federal, state, and local agencies as noted in the text of this report. These records are presumed to be accurate, but GRI cannot be held responsible if information provided by government agencies or other parties is incorrect or incomplete.

Since site activities and regulations beyond our control could change at any time after the completion of this report, our observations, findings, and opinions can be considered valid only as of the date of this report. This report may be used only by I-5 Landholdings, LLC within a reasonable time from its issuance. Land use, on- and off-site conditions, or other factors may change over time, and additional work may be required with the passage of time.

Any party other than I-5 Landholdings, LLC who wish to use this report shall notify GRI in writing. Based on the intended use of the report, GRI may require that additional work be performed and that an updated report be issued. Non-compliance with any of these requirements will release GRI from any liability resulting from the use of this report by any unauthorized party.

By virtue of contract conditions, GRI has performed certain services for this project in substantial accordance with ASTM Practice E 1527-05. Because such standards are, of necessity, based upon a wide array of significant assumptions, GRI has exercised professional judgment to accommodate the unique site, project, and client involved. Any questions in this respect should be addressed to GRI.

The findings and conclusions presented in this report are based on our interpretation of the information obtained through the assessment procedures described in this report. No other warranty or representation, either expressed or implied, is included or intended in this report.

SITE AND PROJECT DESCRIPTION

Project Description

As shown on the Site Map, Figure 2, the site is located in Medford, Oregon, northeast of S Pacific Highway. The approximately 2.42-acre rectangular site, located at 2375 S Pacific Highway, is occupied by Roxy Ann Lanes.

As shown on Figure 2, commercial businesses are present along S Pacific Highway. The Bear Creek Golf Course is located adjacent to the site on the northwest and northeast sides. Residential neighborhoods are

present northeast of the commercial buildings. Bear Creek and a multi-use path, the Bear Creek Greenway, are located northeast of the site. Multi-family residences were under construction east of the site.

RECORDS REVIEW

Environmental Records Search

GRI subcontracted with Environmental FirstSearch (EFS) to compile government agency database information for listings of facilities or locations with recognized environmental conditions. The record review was completed on April 19, 2012, and dates of the database updates are included in the EFS report. A copy of the EFS report is provided in Appendix B. The database search distances and total number of mapped sites found for each database searched are tabulated below.

DATABASE SEARCH DISTANCES AND NUMBER OF SITES FOUND

Database Record	Search Distance, miles	On Project Site	In Search Radius	In Zip Code Search
US EPA National Priorities List (NPL)	1.0	0	0	0
US EPA Delisted NPL	0.50	0	0	0
US EPA Region 10 Comprehensive Environmental Response, Compensation, and Liability Act List (CERCLIS)	0.50	0	0	0
US EPA CERCLIS archived sites (NFRAP)	0.50	0	1	1
US EPA Resource Conservation and Recovery Act (RCRA) corrective actions list (CORRACTS)	1.0	0	0	0
US EPA RCRA Treatment, Storage and Disposal list (TSD)	0.50	0	0	0
US EPA RCRA generators list	0.25	0	7	0
US EPA Emergency Response Notification System (ERNS)	0.12	0	0	1
Federal and Oregon Institutional Control/Engineering Control registries (IC/EC)	0.25	0	0	0
Oregon Department of Environmental Quality (DEQ) Environmental Cleanup Site Information (ECSI)	1.0	0	14	1
DEQ spills registries	0.12	0	0	32
DEQ Solid Waste Landfill (SWL)	0.50	0	0	1
DEQ registered underground storage tanks (USTs)	0.25	0	9	2
DEQ leaking USTs	0.50	0	8	1

The site was not found on the reviewed listings.

According to the EFS report, the closest listing is for a leaking UST at 2399 S Pacific Highway, dated 1990. This facility is located in a multi-tenant commercial building adjacent to the site. The UST was removed and the listing received regulatory closure in 1991. Based on the DEQ file reviewed and closed status, it is our opinion the likelihood that this facility has affected the subject site is low. Other listings have occurred at commercial facilities along S Pacific Highway. Based on the distance to the site, it is our opinion the likelihood that these facilities may have affected the subject site is low.

Many spills have been recorded along I-5 and the nearby exits. Based on the nature of the listings, it is our opinion the likelihood that these facilities may have affected the subject site is low.

The EFS report also includes a number of unmapped environmental sites listed in the project area zip code. However, none of the listed sites were observed in the immediate vicinity of the property. In our opinion, the likelihood that these facilities may affect the subject site is low.

Title Records

Title records were not provided to GRI.

PHYSICAL SETTING

According to the USGS topographic map of the East Medford, Oregon, quadrangle (2011), the site is relatively flat at about elevation 1,420 ft NGVD. Mapping indicates the site is underlain by unconsolidated Quaternary older alluvium consisting of gravel, sand, silt, and clay.

Groundwater at the site is expected to be approximately 20 ft below the ground surface and generally flow toward Bear Creek. However, local subsurface geologic and manmade features can affect groundwater flow; therefore, this groundwater flow interpretation is only an estimate based on surface observations.

HISTORICAL INFORMATION

Aerial Photographs

Aerial photographs for the site were obtained from the U.S. Army Corps of Engineers' Portland District Office. Photographs were reviewed and interpreted for site and adjacent land use history.

Date	Comments
1939	The site is part of a large orchard located between S Pacific Highway and the banks of Bear Creek. Bear Creek and its banks are undeveloped. What appears to be a bridge or ferry dock is visible on the east side of the creek. Residential housing and a barn are visible to the northwest of the site.
1956	No significant changes were observed on site. A sand and mining operation is visible off-site on the east bank of Bear Creek. No significant changes were observed between S Pacific Highway and Bear Creek.
1965	The bowling alley and associated parking are present on the site. The neighboring golf course is also present. Bear Creek appears to be at or near flood stage. Much of the vegetation on the southwest bank of Bear Creek has been cleared. Land between Bear Creek and I-5 appears to be undergoing grading activities. I-5 is present northeast of the site.
1991	No significant changes were observed on the project site. A pedestrian bridge on the golf course crosses Bear Creek. Commercial development is visible along S Pacific Highway.
2002	No significant changes were observed on the site.

Additional photographs were reviewed online through Google Earth. Photographs show that construction of the Bear Creek Greenway began by 2006.

Sanborn Maps

Sanborn maps were not available for the site.

Interview

On April 3, 2012, Lela Larkin with Roxy Ann Lanes was interviewed regarding site history. Mrs. Larkin and her husband purchased the bowling alley in 2004 from the original owners. She is not aware of any environmental liens, activity use limitations, or other environmental reports or issues with the property.

Roxy Ann Lanes began operations in 1959. The bowling alley includes 24 lanes, a small pro shop, bar and food preparation area, common room, and a maintenance area and boiler room. Mrs. Larkin stated that the pro shop is leased and they do not own or maintain the equipment. The building is serviced by Rogue Valley Sewer Services, Medford Water Commission, Pacific Power electricity, and Avista natural gas. Kitchen grease is stored behind the building and picked up by a grease recycler. Mrs. Larkin stated that the bowling alley was remodeled in approximately 2002, and the property was annexed by the City of Medford approximately 3 years ago. She stated that they had recently had a fire marshal inspection and were required to add fire extinguishers throughout the building; the rest of the operation passed.

Historical Summary

Historical data indicates the site was developed for agriculture with an orchard. Roxy Ann Lanes began operations between 1956 and 1965.

SITE RECONNAISSANCE

Methodology

Teresa Nowicki of GRI conducted a walking reconnaissance of the site on April 3, 2012. A follow-up site visit was completed on May 17, 2012. Photographs taken during the April 3 site visit are provided in Appendix C.

Site Observations

The general configuration of the site is shown on Figure 2. The bowling alley occupies approximately 2.4 acres and includes a large asphalt-paved parking lot surrounding the bowling alley building and a large, steel storage building. The bowling alley consists of a bar and kitchen, pro shop, community room, and 24 bowling lanes. Automatic pin setters are used to set the pins and a maintenance area is accessed from behind the lanes. Small amounts of chemicals, including grease and cleaners, are stored in this area. A boiler room is present near the pro shop and community room. The boiler is an older machine that has been converted to natural gas. Mrs. Larkin did not know the original boiler fuel. A garbage dumpster is located near the front of the building and is fenced from the parking lot. Vent pipes, fill pipes, or other obvious indications of an UST were not noted around the building. A small wood building and a plastic drum are present near the southeast corner of the parking lot. This building and drum are used by the Bear Creek Golf Course. The building appeared to be well maintained and in good order.

Off-site Observations

The Bear Creek Golf Course is present north and northwest of the site. Commercial buildings were noted along S Pacific Highway. Construction for multi-family housing was visible southeast of the site. Obvious indications of impacts from off-site properties were not noted.

ADDITIONAL INVESTIGATION

The original fuel source for the boiler could not be determined during the April 3, 2012, site visit. Additional research was completed in an attempt to resolve this data gap.

Mr. Larkin was contacted by telephone. He spoke with former owner Ron Dixon and relayed that Mr. Dixon recalls that the boiler used natural gas in 1965. Mr. Larkin also contacted Western Burner, the boiler maintenance company. Western Burner also delivers heating oil to the area but does not recall delivering heating oil to Roxy Ann Lanes per Mr. Larkin.

Avista Utilities was contacted by telephone regarding potential natural gas service to the site. They stated that they began service to 2375 S Pacific Highway in 1988 but do not have a record of when they began service to the area.

The Oregon Boiler Program was contacted by telephone. They confirmed that the boiler at the site has been registered since 1981 and has passed inspection annually. The database for the program does not indicate what type of fuel the boiler uses.

The Medford Fire and Rescue was contacted via e-mail. They do not have any documentation regarding above- or below-ground tanks at 2375 S Pacific Highway.

On May 17, 2012, Teresa Nowicki met at the site with Carson Smith of Locates Down Under of Clackamas, Oregon, and John and Lela Larkin. Mr. Smith traced piping from the boiler to see if it was connected to an UST and also scanned the sidewalks and parking spaces west of the building to determine if any buried tank-like objects could be located. The boiler is located in an interior portion of the building between a meeting room and the bowling lanes and common areas. A hallway separates the boiler room from the pro shop. Mrs. Larkin recalled that the meeting room had been a nursing room with a private bathroom in the late 1960s or early 1970s. The meeting room has an emergency exit to the northwestern side of the building. Marks on the walls indicate that the room has been remodeled.

The piping from the boiler was traced across the hallway to the wall of the pro shop, where it appears to end. Intermittent indications of piping or other material were detected as Mr. Smith tried to trace the piping into the meeting room. No buried tank-like objects were noted in the meeting room or the adjacent sidewalks and parking spaces.

Based on this additional investigation, it appears likely that the boiler originally used propane and was converted to natural gas. The propane tank was likely above ground in the general area of the meeting room. No evidence of an UST was revealed.

FINDINGS AND CONCLUSIONS

Historical data indicate the site was developed for agriculture with an orchard. Roxy Ann Lanes bowling alley began operations between 1956 and 1965. The surrounding area has historically been a mix of residential and agricultural uses and transitioned to residential and commercial uses by 1991.

A data gap regarding the original boiler fuel source was further investigated. The original source was determined to likely be propane and no evidence of an UST was revealed.

In our opinion, this assessment has disclosed no evidence of recognized environmental conditions associated with the site.

We appreciate the opportunity to be of service to I-5 Landholdings, LLC. Please contact the undersigned if you have any questions regarding this report or require further assistance.

Submitted for GRI,

CERTIFIED
OREGON
GEORGE A. FREITAG
E1380
ENGINEERING GEOLOGIST

Expires 1/31/2013

George A. Freitag, CEG
Associate

Teresa A. Nowicki, RG
Project Geologist

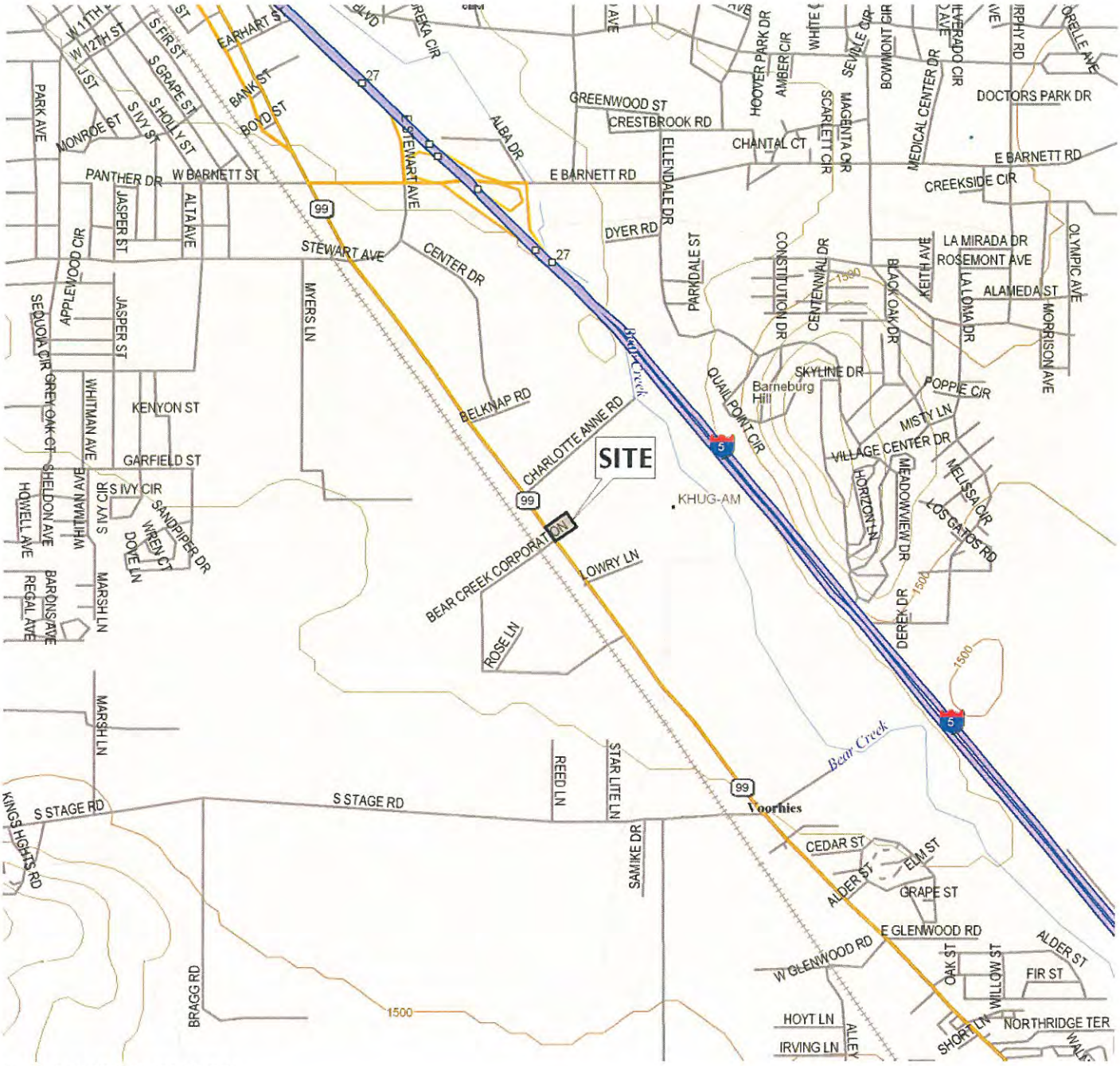
This document has been submitted electronically.

I declare that, to the best of my professional knowledge and belief, I meet the definition of environmental professional as defined in §312.10 of 40 CFR 312. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed all appropriate inquiries in general conformance with the standards and practices set forth in 40 CFR 312.

QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS

George Freitag, RG, CEG, is an associate and manager of GRI's environmental services. George received his BS and MS degrees in geology from California State University and is a Registered Geologist and Certified Engineering Geologist in Oregon, Washington, and California. George has over 24 years of technical experience in the practical application of engineering geology and environmental management in Oregon, Washington, Nevada, and California, and has completed Phase I and II ESAs for many projects. He has received ASTM training for phase I and II site assessments and hazardous materials evaluation and reporting and is a U.S. EPA AHERA/ASHARA-accredited Asbestos Materials Inspector. He has conducted Phase I and II ESAs for over 20 years.

Teresa Nowicki, RG, is a project geologist with GRI. Teresa received her BS degree in toxicology and environmental geology from Northeastern University in Boston, Massachusetts, and MS degree in hydrology from New Mexico Institute of Mining and Technology in Socorro, New Mexico, and is a Registered Geologist in Oregon and Licensed Geologist in Washington. Teresa has over 9 years of technical experience in the practical application of environmental geology and hydrology in Oregon, Washington, and California, and has completed Phase I and II ESAs for many projects. She is a U.S. EPA AHERA/ASHARA-accredited Asbestos Materials Inspector.



DELORME 3-D TOPOQUADS, OREGON
MEDFORD EAST, OREG. (3ba) 2004

North

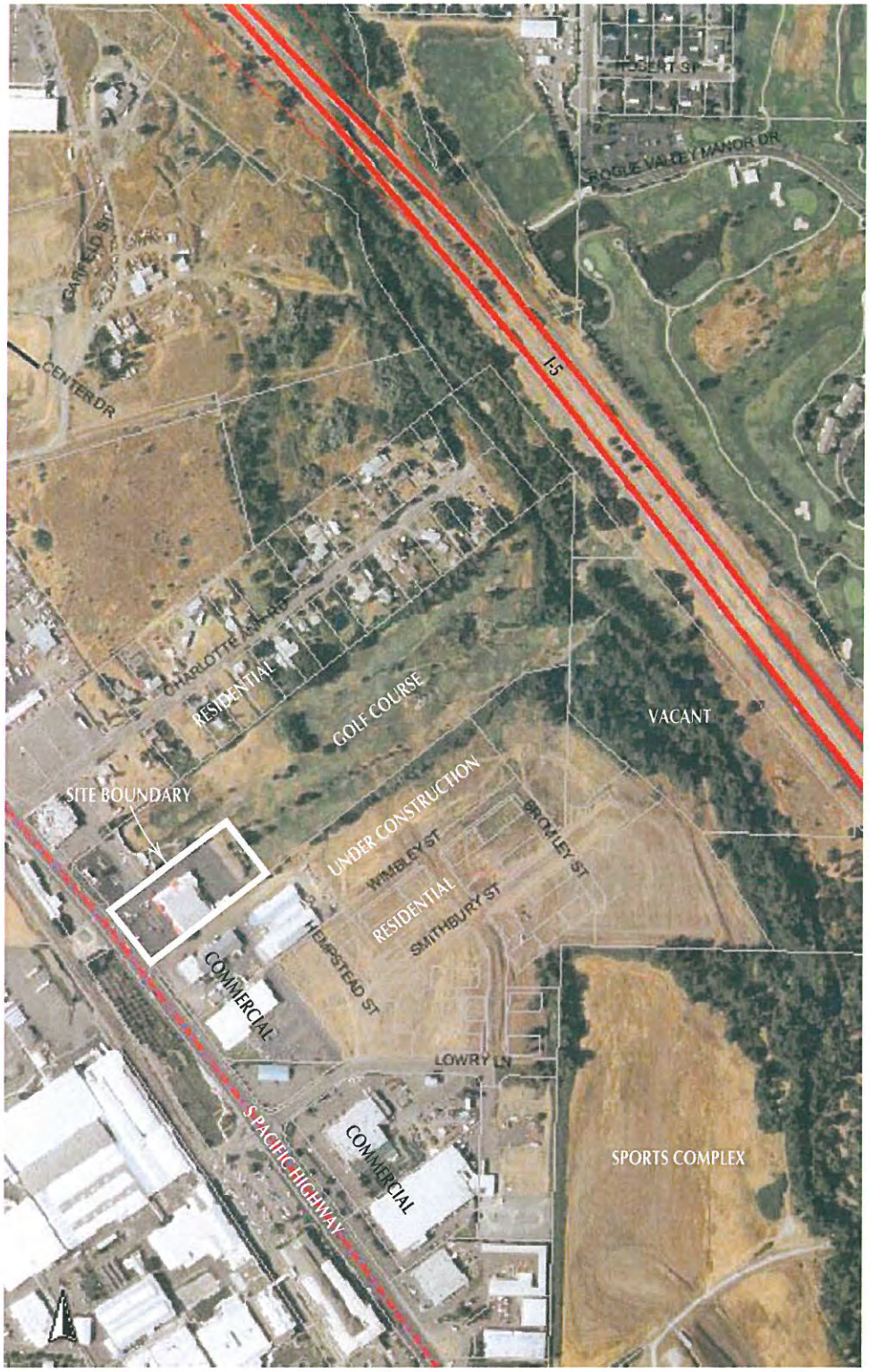
0 1/2 1 MILE

GRI

I-5 LANDHOLDINGS, LLC
PHASE I ESA (ROXY ANN LANES)

VICINITY MAP

MAY 2012 JOB NO. 5321 FIG. 1



SITE MAP FROM COUNTYWIDE COLOR AERIAL PHOTOS, DATED 2005

North

0 600 1,200 FT

GRI

I-5 LANDHOLDINGS, LLC
PHASE I ESA (ROXY ANN LANES)

SITE MAP

MAY 2012 JOB NO. 5321 FIG. 2

APPENDIX A

Proposal

9725 SW Beaverton-Hillsdale Hwy, Suite 140
Beaverton, OR 97005-3364
p| 503-641-3478 f| 503-644-8034

March 22, 2012

I-5 Landholdings, LLC
621 SW Morrison, Suite 400
Portland, OR 97205

Attention: Bill McCrae

SUBJECT: Proposal for Phase I Environmental Site Assessment
Parcel 4-1, 31-Acre Property
East Side of Hwy 99
Medford, Oregon

At your request, GRI has prepared this proposal to conduct a phase I environmental site assessment (ESA) for the above-referenced property in Medford, Oregon. We understand the 31-acre property is developed with a golf course and bowling alley. The primary purpose of the ESA will be to evaluate whether the potential exists for soil and/or groundwater contamination on the property and whether additional assessment would be warranted to evaluate this risk. Our ESA will include a review of current and historical uses of the site and adjacent areas, review of government agency files for records of contaminant sources in the vicinity, and evaluation of the hydrogeologic setting of the site. Information gathered will be compiled in an ESA report that will include our conclusions regarding the risk of contamination at the site and recommendations for additional due diligence-type environmental work that might be warranted.

Scope of Work

Our scope of work was developed to meet the American Society for Testing and Materials' standard for ESAs (ASTM E 1527-05). Our scope of work for this project is based on our preliminary understanding of environmental conditions at the site, our experience with similar projects, and review of the project information you provided. Our scope of work does not address non-standard conditions, such as potential mold, noise, asbestos, lead, or air quality issues associated with the property. If any portion of this scope of work does not meet your needs, we request the opportunity to modify this letter to our mutual satisfaction.

1) GRI personnel will obtain and review available information regarding geologic, groundwater, and environmental conditions for the vicinity of the site.

2) The nature of historical and current uses of the site and adjacent properties will be assessed by GRI using available historic aerial photographs. Historical city directories and Sanborn maps for the site will also be reviewed for indications of past occupants or businesses that may have had the potential to affect the soil or groundwater beneath the site.

3) A GRI subcontractor will compile listings of government agency file records for potential contaminant sources in the vicinity. Specifically, hazardous material environmental records from the US Environmental Protection Agency and Oregon

Department of Environmental Quality will be compiled and reviewed by GRI for indications of recognized environmental conditions for search area distances as outlined in ASTM E 1527-05. GRI will also evaluate available local agency hazardous material records that are available within the project timeframe for information regarding the site.

To the extent practical within project schedule and budget constraints, GRI will conduct follow-up inquiries regarding the nature and documented extent of recognized environmental conditions listed as having occurred on or having affected the site and the adjacent properties.

4) A physical reconnaissance of the site will be conducted by an experienced GRI environmental specialist. During the visit, the presence or absence of conspicuous recognized environmental conditions will be noted. Indications that the property was used in a manner that may have resulted in contamination will be noted and reported. A visual survey of neighboring properties will also be conducted to note businesses or features that have the obvious potential to affect the site.

5) The compiled information will be evaluated to assess the likelihood that recognized environmental conditions may exist on the site or close enough to the site to induce measurable effects. An ESA report will be prepared to document our findings and conclusions and, if warranted, to provide recommendations for additional assessment. Project findings, conclusions, and recommendations will be summarized in an Executive Summary. The report will be signed and stamped by an Oregon-registered professional engineer and/or licensed engineering geologist. An electronic copy of the project report will be provided for your use. Paper copies of the report will be provided upon request.

Assumptions

The following assumptions were used to prepare the ESA scope and cost estimate.

1) The property will be accessible to GRI for physical reconnaissance, and a contact person knowledgeable about site history will be available for an interview. Access to common areas in the golf course pro shop, golf course maintenance shop, and bowling alley will be available.

2) If available, records regarding hazardous material use, hazardous material permits, title records, and records of environmental liens for the site will be provided to GRI. If no such records are provided to GRI within 3 days of authorization to proceed, we will assume they do not exist or are not available to GRI.

Schedule, Terms, and Fee

It is anticipated the final report on the assessment can be submitted to you within 3 weeks after your authorization to proceed. To maintain the project schedule, verbal information can be submitted to you informally as it becomes available.

The ESA will be completed in in accordance with the attached General Conditions of the Proposal for a lump-sum fee of $. We require that formal authorization for our services be provided by signing and returning one copy of the attached General Conditions of the Proposal.

We appreciate the opportunity to submit this proposal and look forward to being of service on this project. Please contact the undersigned if you have any questions.

Submitted for GRI,

George A. Freitag, CEG
Associate

Teresa A. Nowicki, RG
Project Geologist

Enclosure: General Conditions of the Proposal

APPENDIX B

Environmental FirstSearch Report

Environmental FirstSearch

1 Mile Radius

ASTM Map: NPL, RCRACOR, STATE Sites

2355 PACIFIC HWY, MEDFORD OR 97501

Source: U.S. Census TIGER Files

Target Site (Latitude: 42.304177 Longitude: -122.848216) .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

Railroads .....

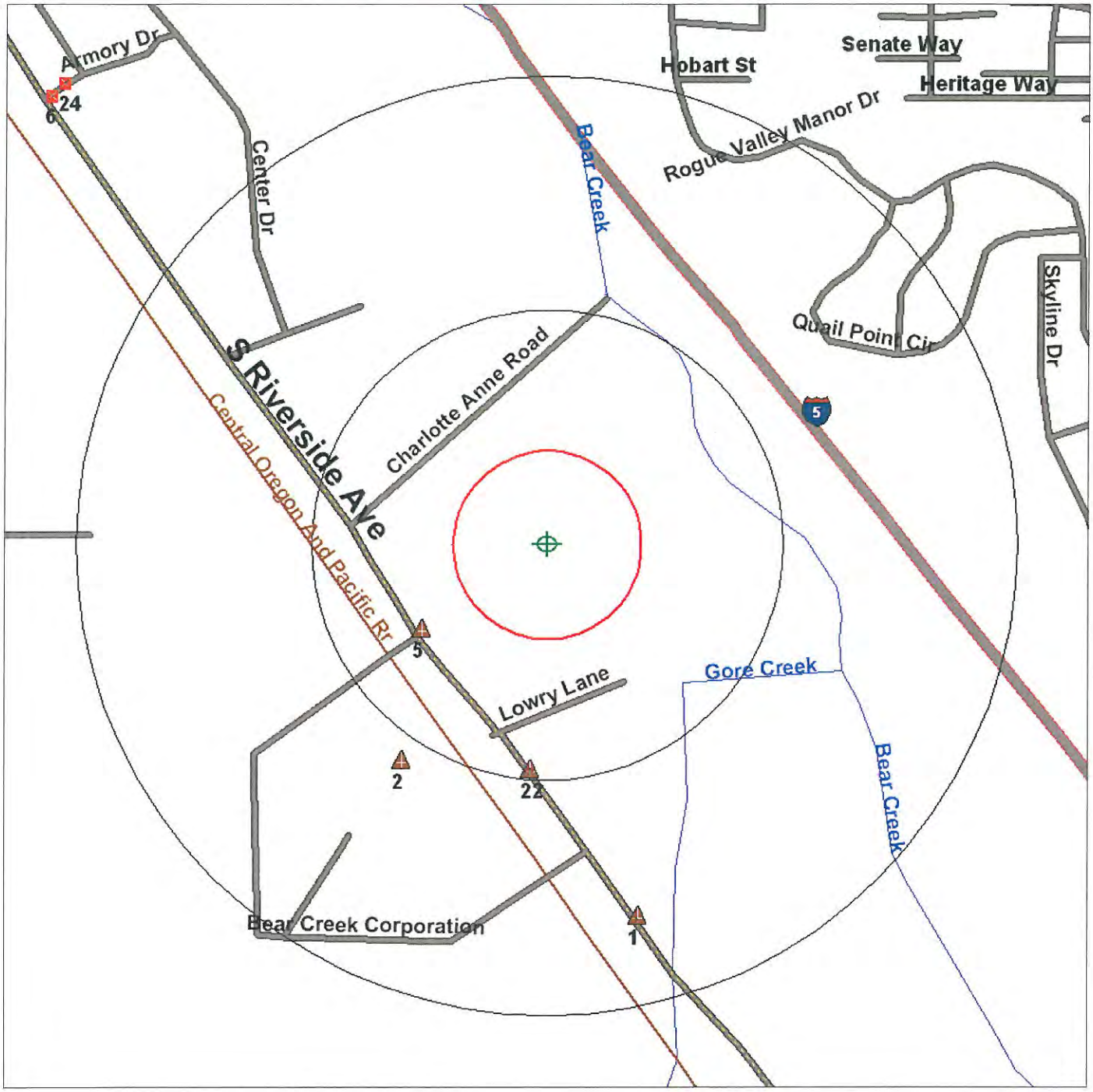
Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius

Environmental FirstSearch

.5 Mile Radius

ASTM Map: CERCLIS, RCRATSD, LUST, SWL

2355 PACIFIC HWY, MEDFORD OR 97501



Source: U.S. Census TIGER Files

Target Site (Latitude: 42.304177 Longitude: -122.848216) .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

Railroads .....

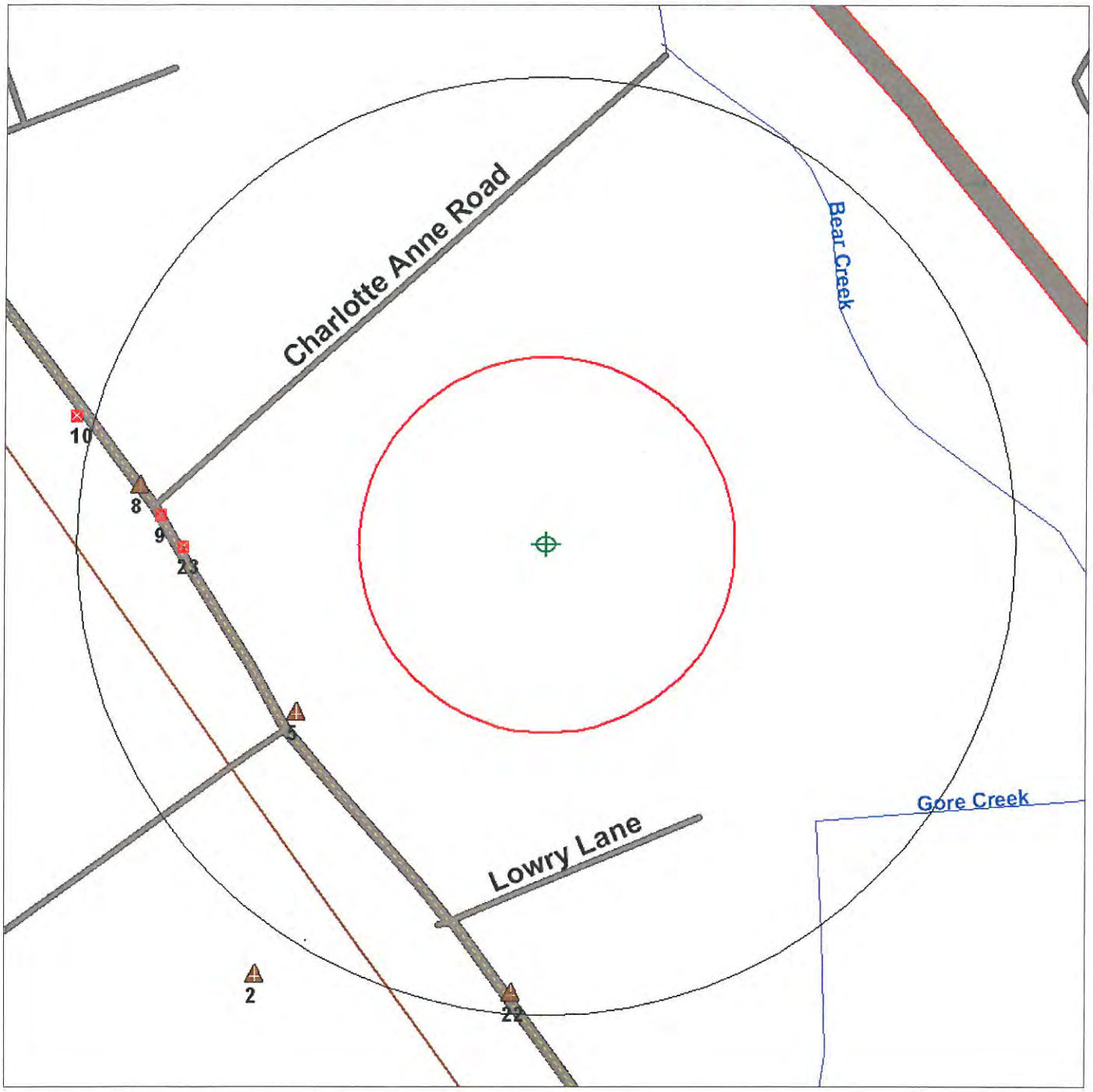
Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius

Environmental FirstSearch

.25 Mile Radius

ASTM Map: RCRAGEN, ERNS, UST

2355 PACIFIC HWY, MEDFORD OR 97501



Source: U.S. Census TIGER Files

Target Site (Latitude: 42.304177 Longitude: -122.848216) .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

Railroads .....

Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius

TRACK ➤ INFO SERVICES, LLC

Environmental FirstSearch™ Report

Target Property:

2355 PACIFIC HWY

MEDFORD OR 97501

Job Number: 5321

PREPARED FOR:

Geotechnical Resources, Inc.

9725 SW Beaverton-Hillsdale Hwy.

Beaverton, OR 97005

04-19-12

Tel: (866) 664-9981 *Fax: (818) 249-4227*

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Environmental FirstSearch
Search Summary Report

Target Site: 2355 PACIFIC HWY
MEDFORD OR 97501

FirstSearch Summary

Database	Sel	Updated	Radius	Site	1/8	1/4	1/2	1/2>	ZIP	TOTALS
NPL	Y	02-01-12	1.25	0	0	0	0	0	0	0
NPL Delisted	Y	02-01-12	0.75	0	0	0	0	0	0	0
CERCLIS	Y	02-27-12	0.75	0	0	0	0	0	0	0
NFRAP	Y	02-27-12	0.75	0	0	0	1	0	1	2
RCRA COR ACT	Y	03-13-12	1.25	0	0	0	0	0	0	0
RCRA TSD	Y	03-13-12	0.75	0	0	0	0	0	0	0
RCRA GEN	Y	03-13-12	0.50	0	0	2	5	-	0	7
RCRA NLR	Y	03-13-12	0.12	0	0	-	-	-	3	3
Federal IC / EC	Y	02-01-12	0.50	0	0	0	0	-	0	0
ERNS	Y	04-13-12	0.15	0	0	0	-	-	1	1
Tribal Lands	Y	12-15-08	1.25	0	0	0	0	0	0	0
State/Tribal Sites	Y	04-07-12	1.25	0	0	0	3	11	1	15
State Spills 90	Y	05-01-06	0.15	0	0	0	-	-	32	32
State/Tribal SWL	Y	09-26-11	0.75	0	0	0	0	0	1	1
State/Tribal LUST	Y	01-31-12	0.75	0	0	2	2	4	1	9
State/Tribal UST/AST	Y	01-31-12	0.50	0	0	5	4	-	2	11
State/Tribal EC	Y	NA	0.50	0	0	0	0	-	0	0
State/Tribal I C	Y	NA	0.50	0	0	0	0	-	0	0
State/Tribal VCP	Y	NA	0.75	0	0	0	0	0	0	0
State/Tribal Brownfields	Y	04-07-12	0.75	0	0	0	0	0	1	1
- TOTALS -				0	0	9	15	15	43	82

Notice of Disclaimer

Due to the limitations, constraints, inaccuracies and incompleteness of government information and computer mapping data currently available to TRACK Info Services, certain conventions have been utilized in preparing the locations of all federal, state and local agency sites residing in TRACK Info Services's databases. All EPA NPL and state landfill sites are depicted by a rectangle approximating their location and size. The boundaries of the rectangles represent the eastern and western most longitudes; the northern and southern most latitudes. As such, the mapped areas may exceed the actual areas and do not represent the actual boundaries of these properties. All other sites are depicted by a point representing their approximate address location and make no attempt to represent the actual areas of the associated property. Actual boundaries and locations of individual properties can be found in the files residing at the agency responsible for such information.

Waiver of Liability

Although TRACK Info Services uses its best efforts to research the actual location of each site, TRACK Info Services does not and can not warrant the accuracy of these sites with regard to exact location and size. All authorized users of TRACK Info Services's services proceeding are signifying an understanding of TRACK Info Services's searching and mapping conventions, and agree to waive any and all liability claims associated with search and map results showing incomplete and or inaccurate site locations.

Environmental FirstSearch
Site Information Report

Request Date:	04-19-12	**Search Type:**	COORD
Requestor Name:	Teresa Nowicki	**Job Number:**	5321
Standard:	ASTM-05	**Filtered Report**	

Target Site: 2355 PACIFIC HWY
MEDFORD OR 97501

Demographics

Sites:	82	**Non-Geocoded:**	43	**Population:**	NA
Radon:	NA				

Site Location

	Degrees (Decimal)	Degrees (Min/Sec)		UTMs
Longitude:	-122.848216	-122:50:54	**Easting:**	512510.695
Latitude:	42.304177	42:18:15	**Northing:**	4683346.695
			Zone:	10

Comment

Comment:

Additional Requests/Services

Adjacent ZIP Codes: 1 Mile(s)

ZIP Code	City Name	ST	Dist/Dir	Sel
97504	MEDFORD	OR	0.29 NE	Y

Services:

	Requested?	Date
Sanborns	No	
Aerial Photographs	No	
Historical Topos	No	
City Directories	No	
Title Search/Env Liens	No	
Municipal Reports	No	
Online Topos	No	

Environmental FirstSearch
Sites Summary Report

Target Property: 2355 PACIFIC HWY
MEDFORD OR 97501

JOB: 5321

TOTAL: 82 **GEOCODED:** 39 **NON GEOCODED:** 43 **SELECTED:** 7

Page No.	DB Type	Site Name/ID/Status	Address	Dist/Dir	Map ID
1	LUST	SMITH LUMBER CO. 15-90-0171/NOT REPORTED	2399 S PACIFIC HWY MEDFORD OR 97501	0.16 SW	5
N/A	RCRAGN	DAVIS FINISH PRODUCTS INC ORD027682772/VGN	2399 S PACIFIC HWY MEDFORD OR 97501	0.16 SW	5
1	UST	SMITH LUMBER CO 4126/NOT REPORTED	2399 S PACIFIC HWY MEDFORD OR 97501	0.16 SW	5
N/A	UST	NAUMES EQUIPMENT and FUEL 7370/NOT REPORTED	2233 S PACIFIC HWY MEDFORD OR 97501	0.19 SW	23
N/A	UST	FARMERS FINANCE CORP 9072/NOT REPORTED	2201 S PACIFIC HWY MEDFORD OR 97501	0.21 NW	9
N/A	RCRAGN	SKINNER BUICK CADILLAC INC ORD982659450/VGN	2177 S PACIFIC HWY MEDFORD OR 97501	0.22 NW	8
2	UST	SKINNER BUICK CADILLAC 2277/NOT REPORTED	2177 S PACIFIC HWY MEDFORD OR 97501	0.22 NW	8
2	LUST	GRANGE CO-OP 15-98-0018/NOT REPORTED	2531 S PACIFIC HWY MEDFORD OR 97501	0.24 SW	22
N/A	UST	GRANGE CO-OP 4751/NOT REPORTED	2531 S PACIFIC HWY MEDFORD OR 97501	0.24 SW	22
3	UST	KOGAP MANUFACTURING COMPANY 7617/NOT REPORTED	2080 S PACIFIC HWY MEDFORD OR 97501	0.26 NW	10
N/A	LUST	HARRY and DAVID (BEAR CREEK) 15-89-0024/NOT REPORTED	2518 S PACIFIC HWY MEDFORD OR 97501	0.28 SW	2
N/A	LUST	BEAR CREEK ORCHARDS 15-93-0123/NOT REPORTED	2518 S PACIFIC HWY MEDFORD OR 97501	0.28 SW	2
N/A	RCRAGN	BEAR CREEK OPERATIONS INC ORD007908429/VGN	2518 S PACIFIC HWY MEDFORD OR 97501	0.28 SW	2
N/A	UST	BEAR CREEK ORCHARD 4411/NOT REPORTED	2518 S PACIFIC HWY MEDFORD OR 97501	0.28 SW	2
N/A	UST	HARRY and DAVID 5005/NOT REPORTED	2518 S PACIFIC HWY MEDFORD OR 97501	0.28 SW	2
N/A	RCRAGN	CDS PUBLICATIONS, INC OR0000000976/SGN	2603 S PACIFIC HWY MEDFORD OR 97501	0.34 SE	3
N/A	RCRAGN	COMMERCIAL DOCUMENTATION SERVICES OR000000976/SGN	2603 S PACIFIC HWY MEDFORD OR 97501	0.34 SE	3
N/A	RCRAGN	COMMERCIAL DOCUMENTATION SVCS INC ORD000000976/SGN	2603 S PACIFIC HWY MEDFORD OR 97501	0.34 SE	3
4	STATE	HAYS OIL - BULK PLANT ESCI2080/SUSPECT	1890 S PACIFIC HWY. MEDFORD OR 97501	0.35 NW	13
N/A	UST	HAYS OIL PLANT CARDLOCK 3586/NOT REPORTED	1890 S PACIFIC HWY MEDFORD OR 97501	0.35 NW	13
N/A	NFRAP	HUBBARDS ACE HOME CTR ORD047630744/NFRAP-NFRAP-N	2655 S PACIFIC HWY MEDFORD OR 97501	0.41 SE	1

Environmental FirstSearch
Sites Summary Report

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MEDFORD OR 97501

JOB: 5321

TOTAL: 82 **GEOCODED:** 39 **NON GEOCODED:** 43 **SELECTED:** 7

Page No.	DB Type	Site Name/ID/Status	Address	Dist/Dir	Map ID
N/A	RCRAGN	CDS PUBLICATIONS, INC ORD987196706/SGN	2661 S PACIFIC HWY MEDFORD OR 97501	0.41 SE	4
N/A	STATE	NW PRINTED CIRCUITS ESCI1233/SUSPECT	2655 S PACIFIC HWY MEDFORD OR 97501	0.41 SE	1
N/A	STATE	HUBBARDS ACE HOME CTR (DUPLICATE) ESCI1473/HISTORICAL	2655 S PACIFIC HWY Medford OR 97501	0.41 SE	1
N/A	LUST	ROGUE VALLEY MANOR 15-95-0057/NOT REPORTED	1200 MIRA MAR MEDFORD OR 97504	0.61 NE	7
N/A	LUST	HEATING OIL TANK 15-91-0055/NOT REPORTED	1200 MIRAMAR AVENUE MEDFORD OR 97504	0.61 NE	7
N/A	STATE	ROGUE VALLEY MANOR ESCI3407/NO FURTHER ACTION	1200 MIRA MAR MEDFORD OR 97501	0.61 NE	7
N/A	LUST	GSA MOTOR POOL 15-91-0101/NOT REPORTED	1201 ARMORY DR MEDFORD OR 97501	0.71 NW	24
N/A	LUST	MEDFORD OMS 15-93-0013/NOT REPORTED	1701 S PACIFIC HWY MEDFORD OR 97501	0.71 NW	6
N/A	STATE	NORTHWEST CHEMICAL INC. - MEDFORD ESCI2091/SUSPECT	18 E STEWART AVE. MEDFORD OR 97501	0.84 NW	16
N/A	STATE	EARNST ORCHARD ESCI2021/SUSPECT	2310 VOORHIES ROAD MEDFORD OR 97501	0.90 SE	11
N/A	STATE	GRANGE CO-OP ESCI5471/SUSPECT	11 W STEWART AVE. MEDFORD OR 97501	0.91 NW	12
N/A	STATE	SOUTH GATEWAY CENTER ESCI1375/SUSPECT	BARNETT RD. and STEWART AVE MEDFORD OR 97501	0.91 NW	21
N/A	STATE	RICHFIELD BULK PETROLEUM FACILITY ESCI1760/SUSPECT	15 W STEWART AVE. MEDFORD OR 97501	0.92 NW	19
N/A	STATE	KOGAP VENEER/PLYWOOD PLANT (FORMER ESCI3796/SUSPECT	2080 SOUTH PACIFIC HIGHWAY MEDFORD OR 97501	1.00 NW	15
N/A	STATE	KENTUCKY FRIED CHICKEN ESCI1711/NO FURTHER ACTION	308 E BARNETT RD. MEDFORD OR 97501	1.01 NW	14
N/A	STATE	SI, CASA FLORES RESTAURANT ESCI4325/NO FURTHER ACTION	235 E. BARNETT ROAD MEDFORD OR 97501	1.08 NW	20
N/A	STATE	REGENCY CARWASH ESCI559/NO FURTHER ACTION	1001 S RIVERSIDE AVE. MEDFORD OR 97501	1.17 NW	18
N/A	STATE	PACIFICORP - MEDFORD OPERATIONS FA ESCI1735/SUSPECT	925 S GRAPE ST. MEDFORD OR 97501	1.19 NW	17

Environmental FirstSearch
Sites Summary Report

Target Property: 2355 PACIFIC HWY
MEDFORD OR 97501

JOB: 5321

TOTAL: 82 **GEOCODED:** 39 **NON GEOCODED:** 43 **SELECTED:** 7

Page No.	DB Type	Site Name/ID/Status	Address	Dist/Dir	Map ID
N/A	BROWNFIELD	SOUTH GATEWAY CENTER 1375/SUSPECT	BARNETT RD. and STEWART AVE MEDFORD OR 97501	NON GC	
N/A	ERNS	11 STEWART AVE NRC-865470/STORAGE TANK	11 STEWART AVE MEDFORD OR	NON GC	
N/A	LUST	FORMER CITY SHOPS (SOUTH GATEWAY) 15-91-0102/NOT REPORTED	I5 and BARNETT RD - SW CORN MEDFORD OR 97501	NON GC	
N/A	NFRAP	KOGAP PROPERTY ORN001002445/NFRAP-NFRAP-N	GARFIELD RD EXTENSION MEDFORD OR	NON GC	
N/A	RCRANLR	CHEVRON SS 93753 ORD987191012/NLR	417 E BARNETT RD MEDFORD OR 97501	NON GC	
N/A	RCRANLR	ODOT ORQ000022418/NLR	I-5 MP 28.19 THRU 29.08 VIA MEDFORD OR 97501	NON GC	
N/A	RCRANLR	USWCOM CHESTNUT MT 26876 ORD000641100/NLR	35 MI E OF MEDFORD MEDFORD OR 97501	NON GC	
N/A	SPILLS	5812/NOT REPORTED	I-5 SB ONRAMP MP 36 MEDFORD OR	NON GC	
N/A	SPILLS	RESP. CO.: FM:08-224-950505/NOT REPORTED	S STAGE RD AT VEERHIES MEDFORD OR 97501	NON GC	
N/A	SPILLS	505211/NOT REPORTED	I-5 SB MP 26.5 JUST S OF ME MEDFORD OR	NON GC	
N/A	SPILLS	5934/NOT REPORTED	I-5 MP 21 MEDFORD OR	NON GC	
N/A	SPILLS	RESP. CO.: FM:010076/NOT REPORTED	BEAR CREEL STATE PARK MEDFORD OR 97501	NON GC	
N/A	SPILLS	3314/NOT REPORTED	I-5 SB MP 26.5 JUST S OF ME MEDFORD OR	NON GC	
N/A	SPILLS	5550/NOT REPORTED	I-5 SB MP/EXIT 30 MEDFORD OR	NON GC	
N/A	SPILLS	SUNCREST 2196/NOT REPORTED	MILE 23 I-5 MEDFORD OR	NON GC	
N/A	SPILLS	RUFFING TRUCKING 2859/NOT REPORTED	I-5 MP 34.9 SOUTHBOUND MEDFORD OR	NON GC	
N/A	SPILLS	RESP. CO.: WP NATURAL GAS FM:08-224-920314/NOT REPORTED	STEWART and HOLLY MEDFORD OR 97501	NON GC	
6	SPILLS	RESP. CO.: WOODLAND TRUCK LINE FM:08-224-950287/NOT REPORTED	I5 SB OFF RAMP AT BARNETT R MEDFORD OR 97501	NON GC	
N/A	SPILLS	RESP. CO.: TREE LINE TRANSPORT FM:08-224-980439/NOT REPORTED	MP 27 I-5 MEDFORD OR 97501	NON GC	
N/A	SPILLS	RESP. CO.: LTM FM:010300/NOT REPORTED	I-5 SB ON RAMP MP 30 MEDFORD OR 97501	NON GC	

Environmental FirstSearch
Sites Summary Report

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MEDFORD OR 97501

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Page No.	DB Type	Site Name/ID/Status	Address	Dist/Dir	Map ID
N/A	SPILLS	RESP. CO.: CRYSTAL SPRINGS ORCH FM:08-224-950069/NOT REPORTED	ROADWAY 200 S 1626 MYERS L MEDFORD OR 97501	NON GC	
N/A	SPILLS	RESP. CO.: ABT INC FM:08-224-900507/NOT REPORTED	I-5 SB S OF BARNETT MEDFORD OR 97501	NON GC	
N/A	SPILLS	RESP. CO.: FM:000335/NOT REPORTED	STEWART and HULL RD MEDFORD OR 97501	NON GC	
N/A	SPILLS	RESP. CO.: FM:08-224-960662/NOT REPORTED	STEWART AVE AT BARNETT MEDFORD OR 97501	NON GC	
N/A	SPILLS	RESP. CO.: FM:000319/NOT REPORTED	I-5 NB AT MP 27 MEDFORD OR	NON GC	
N/A	SPILLS	TEXACO STATION 3901/NOT REPORTED	STEWART AVE and KINGS HWY MEDFORD OR	NON GC	
N/A	SPILLS	MEYERS CONTAINER 2533/NOT REPORTED	I-5 SOUTH MP 46.5 MEDFORD OR	NON GC	
N/A	SPILLS	OSP 2360/NOT REPORTED	I-5 N. MP 34 MEDFORD OR	NON GC	
N/A	SPILLS	RESP. CO.: FM:08-224-950328/NOT REPORTED	S PACIFIC HWY S STAGE MEDFORD OR 97501	NON GC	
N/A	SPILLS	RESP. CO.: FM:000348/NOT REPORTED	2200 CRATER LAKE HWY AT I-5 MEDFORD OR 97501	NON GC	
N/A	SPILLS	RESP. CO.: FM:08-224-920312/NOT REPORTED	EAST OF S PACIFIC MEDFORD OR 97501	NON GC	
N/A	SPILLS	RESP. CO.: P W TRUCKING FM:010202/NOT REPORTED	I-5 OFF RAMP HWY 62 MEDFORD OR 97501	NON GC	
N/A	SPILLS	RESP. CO.: FM:08-224-900062/NOT REPORTED	NB SHOULDER OF I-5 MEDFORD OR 97501	NON GC	
N/A	SPILLS	TEXACO STATION 597113/NOT REPORTED	STEWART AVE and KINGS HWY MEDFORD OR	NON GC	
N/A	SPILLS	RESP. CO.: PACIFIC POWER and LIGH FM:08-224-980457/NOT REPORTED	BELLKNAP and S PACIFIC HWY MEDFORD OR 97501	NON GC	
N/A	SPILLS	BIOMAS 1 1916/NOT REPORTED	I-5 MP 38 MEDFORD OR	NON GC	
N/A	SPILLS	RESP. CO.: FM:08-224-980469/NOT REPORTED	S PACIFIC HWY MEDFORD OR 97501	NON GC	
N/A	SPILLS	RESP. CO.: FM:08-224-980481/NOT REPORTED	I-5 SOUTHBOUND MP 28 MEDFORD OR 97501	NON GC	
N/A	SPILLS	RESP. CO.: FM:08-224-950494/NOT REPORTED	I-5 SOUTHBOUND MP 28 MEDFORD OR 97501	NON GC	
N/A	STATE	BEAR CREEK HISTORIC LANDFILL ESCI4467/SUSPECT	SISKIYOU BLVD. and HIGHLAND MEDFORD OR	NON GC	

Environmental FirstSearch
Sites Summary Report

Target Property: 2355 PACIFIC HWY
MEDFORD OR 97501

JOB: 5321

TOTAL: 82 **GEOCODED:** 39 **NON GEOCODED:** 43 **SELECTED:** 7

Page No.	DB Type	Site Name/ID/Status	Address	Dist/Dir	Map ID
N/A	SWL	MEDCO (DESERT POND) DISPOSAL SITE 1088/NOT REPORTED	MEDFORD AIRPORT DEVELOPMENT MEDFORD OR	NON GC	
N/A	UST	SOUTH GATEWAY PROPERTY 10987/NOT REPORTED	I5 and BARNETT RD - SW CORN MEDFORD OR 97501	NON GC	
N/A	UST	SAFEWAY GASOLINE 0525 12089/NOT REPORTED	1003 MEDFORD SHOPPING CENTE MEDFORD OR 97501	NON GC	

Environmental FirstSearch
Site Detail Report

Target Property: 2355 PACIFIC HWY
MEDFORD OR 97501

JOB: 5321

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 39 **DIST/DIR:** 0.16 SW **MAP ID:** 5

NAME: SMITH LUMBER CO.
ADDRESS: 2399 S PACIFIC HWY
MEDFORD OR 97501
CONTACT:

REV: 01/31/12
ID1: 15-90-0171
ID2:
STATUS: NOT REPORTED
PHONE:

REGION: *WR*
CLEANUP START DATE: *11/26/1990*
CLEANUP RECEIVED DATE: *09/03/1991*
SITE WORK COMPLETION DATE: *09/05/1991*

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 31 **DIST/DIR:** 0.16 SW **MAP ID:** 5

NAME: SMITH LUMBER CO
ADDRESS: 2399 S PACIFIC HWY
MEDFORD OR 97501
CONTACT: DAN HUNTER, MANAGER

REV: 01/31/12
ID1: 4126
ID2:
STATUS: NOT REPORTED
PHONE: (503)772-7166

Number of Permitted Tanks:
Number of Active Tanks:
Number of Decommissioned Tanks: *2*
Number of All Tanks: *2*
Permittee Name: *DAN HUNTER, MANAGER*
Permittee Phone: *(503)772-7166*

Environmental FirstSearch
Site Detail Report

Target Property: 2355 PACIFIC HWY
MEDFORD OR 97501

JOB: 5321

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 30 **DIST/DIR:** 0.22 NW **MAP ID:** 8

NAME: SKINNER BUICK CADILLAC
ADDRESS: 2177 S PACIFIC HWY
MEDFORD OR 97501
CONTACT: DAVE SHINN, SERVICE MANAGER

REV: 01/31/12
ID1: 2277
ID2:
STATUS: NOT REPORTED
PHONE: (503)772-6264

Number of Permitted Tanks:
Number of Active Tanks:
Number of Decommissioned Tanks: *1*
Number of All Tanks: *1*
Permittee Name: *DAVE SHINN, SERVICE MANAGER*
Permittee Phone: *(503)772-6264*

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 33 **DIST/DIR:** 0.24 SW **MAP ID:** 22

NAME: GRANGE CO-OP
ADDRESS: 2531 S PACIFIC HWY
MEDFORD OR 97501
CONTACT:

REV: 01/31/12
ID1: 15-98-0018
ID2:
STATUS: NOT REPORTED
PHONE:

REGION: *WR*
CLEANUP START DATE: *03/19/1998*
CLEANUP RECEIVED DATE: *03/20/1998*
SITE WORK COMPLETION DATE: *09/16/1999*

Environmental FirstSearch
Site Detail Report

Target Property: 2355 PACIFIC HWY
MEDFORD OR 97501

JOB: 5321

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 28 **DIST/DIR:** 0.26 NW **MAP ID:** 10

NAME: KOGAP MANUFACTURING COMPANY
ADDRESS: 2080 S PACIFIC HWY
MEDFORD OR 97501
CONTACT: C X HEFFNER, MANUFACTURING MANAGER

REV: 01/31/12
ID1: 7617
ID2:
STATUS: NOT REPORTED
PHONE: (503)776-6522

Number of Permitted Tanks:
Number of Active Tanks:
Number of Decommissioned Tanks: *2*
Number of All Tanks: *2*
Permittee Name: *C X HEFFNER, MANUFACTURING MANAGER*
Permittee Phone: *(503)776-6522*

Target Property: 2355 PACIFIC HWY
MEDFORD OR 97501

JOB: 5321

STATE

SEARCH ID: 11 **DIST/DIR:** 0.35 NW **MAP ID:** 13

NAME: HAYS OIL - BULK PLANT
ADDRESS: 1890 S PACIFIC HWY.
MEDFORD OR 97501
JACK
CONTACT:

REV: 04/07/12
ID1: ESCI2080
ID2: OR
STATUS: SUSPECT
PHONE:

Alias Name

GENERAL SITE INFORMATION:

NPL Site:	*0*
CERCLIS ID:	
Investigative Status:	*Suspect*
Orphan Site:	*0*
Study Area:	*0*
Size Of Site:	
Tax Lots:	
Township/Range Coordinates:	*37.00/1.00*
Section/Quarter Section Coordinates:	*32/*
Agency Latitude Coordinate:	*42.3088*
Agency Longitude Coordinate:	*-122.8578*

ADMINISTRATIVE ACTIONS

Administrative Action:	*Site added to database*
Agency:	*Department of Environmental Quality*
Subprogram:	*SAS*
Region:	*Western Region*
Start Date:	*07/21/1997*
Completion Date:	
Rank Value:	*0*
FRT Action Priority:	
Comments:	

Administrative Action:	*Site Screening recommended (EV)*
Agency:	*Department of Environmental Quality*
Subprogram:	*SAS*
Region:	*Western Region*
Start Date:	*07/21/1997*
Completion Date:	*07/21/1997*
Rank Value:	*0*
FRT Action Priority:	*Low*
Comments:	

PERMIT INFORMATION

OPERATIONS INFORMATION

Years of Operation:	*unknown*
Status:	*Unknown*
Comment:	

HAZARDOUS SUBSTANCE RELEASED

AGENCY COMMENTS ON HAZARDS RELEASED

- Continued on next page -

Environmental FirstSearch
Site Detail Report

Target Property: 2355 PACIFIC HWY
MEDFORD OR 97501

JOB: 5321

STATE

SEARCH ID: 11 **DIST/DIR:** 0.35 NW **MAP ID:** 13

NAME: HAYS OIL - BULK PLANT
ADDRESS: 1890 S PACIFIC HWY.
MEDFORD OR 97501
JACK
CONTACT:

REV: 04/07/12
ID1: ESCI2080
ID2: OR
STATUS: SUSPECT
PHONE:

CONTAMINATION

DATA SOURCES

DISPOSALS

GENERAL SITE DESCRIPTION

HAZARDOUS SUBSTANCE/WASTE TYPES

HEALTH THREATS

LAND USE (CURRENT/REASONABLY LIKELY)

MANNER OF RELEASE

MEDIA CONTAMINATION

PATHWAYS and OTHER HAZARDS

PROJECT ACTIVITY STATUS

PROJECT ISSUES SUMMARY

PROJECT TYPE

QUARTERLY PLANNING SUMMARY

REMEDIAL ACTION

RESIDUAL RISK ASSESSMENT

SITE CONTACTS *Bob Hays.*

SITE LOCATION

SITE OWNERSHIP

SUBSTANCES OF CONCERN

WATER USE (CURRENT/REASONABLY LIKELY)

SAMPLING RESULTS

STUDY AREA INFORMATION

Target Property: 2355 PACIFIC HWY
MEDFORD OR 97501

JOB: 5321

STATE SPILLS SITE

SEARCH ID: 67 **DIST/DIR:** NON GC **MAP ID:**

NAME: RESP. CO.: WOODLAND TRUCK LINE
ADDRESS: I5 SB OFF RAMP AT BARNETT RD
MEDFORD OR 97501
JACKSON
CONTACT:

REV: 01/13/99
ID1: FM:08-224-950287
ID2:
STATUS: NOT REPORTED
PHONE:

GENERAL INFORMATION

OFSM Incident Report (dept. and fire marshals):	*08-224-950287*
Fire Marshals Office Incident Report Number:	*950287*
Agency Report Number:	*340*
Date of Incident:	*02/10/1995*
District of Incident:	*MEDFORD*
County:	*JACKSON*
Department Responding:	*MEDFORD FD*
State Hazmat Team (if applicable):	
Hazmat Local (if applicable):	
Hazmat Log Number:	

PERSON MAKING REPORT

Name and Title:	*STEPHEN SHAFER C/O*
Agency and Agency ID:	*MFD 8100*
Phone Number:	*770-4453*

PARTY (ies)

Responsible Party(ies):	*UNKNOWN*
Company:	*WOODLAND TRUCK LINE*
Address:	,
Phone Number 1:	*800-426-6822*
Phone Number 2:	

SCENE TYPE

Public Road:	*Yes*
Public Structure:	*No*
Public Land:	*No*
Forest:	*No*
Private Road:	*No*
Private Structure:	*No*
Private Land:	*No*
Waterway:	*No*
Other (list):	

AREA TYPE

Industrial:	*No*	**Residential:**	*No*
Forest:	*No*	**Commercial:**	*Yes*
Rural/Agricultural:	*No*	**Other:**	*No*

AGENCIES RESPONDING (of units)

Police:	*0*	**Public Works:**	*0*
Ambulance:	*0*	**State Agency:**	*0*
Federal Agency:	*0*	**Railroad:**	*0*
State Regonal Hazmat Team:	*0*		
DEQ:	*0*		
Other:	*0*		
Other:			

ACTION TAKEN AT THE SCENE

Secure Area:	*No*	**Crowd Control:**	*No*
Containment:	*No*	**Hot Zone Determined:**	*No*
On-Site EMS:	*No*	**Transport Pt.:**	*No*

- Continued on next page -

Environmental FirstSearch
Site Detail Report

Target Property: 2355 PACIFIC HWY
MEDFORD OR 97501

JOB: 5321

STATE SPILLS SITE

SEARCH ID: 67 **DIST/DIR:** NON GC **MAP ID:**

NAME: RESP. CO.: WOODLAND TRUCK LINE
ADDRESS: I5 SB OFF RAMP AT BARNETT RD
MEDFORD OR 97501
JACKSON
CONTACT:

REV: 01/13/99
ID1: FM:08-224-950287
ID2:
STATUS: NOT REPORTED
PHONE:

Activate OERS:	*No*	**Traffic Control:**	*No*
Extinguishment:	*No*	**Identify Hazmat:**	*No*
Evacuation:	*No*	**Decontaminate:**	*No*
Evaluate:	*No*	**Clean-up:**	*No*
Pub Info Rel:	*No*	**Remove Hazard:**	*No*

SOURCE OF INCIDENT

Commercial Vehicle:	*No*	**Drug Lab:**	*No*
Car:	*Yes*	**Fixed Facility:**	*No*
Train:	*No*	**Pipeline:**	*No*
Ship:	*No*	**Aircraft:**	*No*
Other:	*No*		
Other Description:			

MATERIAL INVOLVED

Fuel:	*Yes*	**Cargo:**	*No*
Product:	*No*	**Waste Material:**	*No*

CAUSE OF INCIDENT

During Delivery Shipment:	*No*	**Normal Operation:**	*Yes*
During Fire/Explosion:	*No*	**During Storage:**	*No*
Excavation:	*No*	**Rail CAr Connect:**	*No*
MVA:	*No*	**During Manufacturel:**	*No*
Unauthorized Release:	*No*	**Derailment:**	*No*
During Repair:	*No*	**Abandoned/Parked:**	*No*
In Transit:	*No*	**Docked:**	*No*
Material Not Released:	*No*		

HAZMAT BEHAVIOR ON RELEASE

Inert/No Reaction:	*No*	**Caused Fire:**	*No*
Entered Waterway:	*No*	**Contributed to Fire:**	*No*
Became Airborne:	*No*	**Caused Explosion:**	*No*
Contaminated Area:	*No*	**Contributed to Explosion:**	*No*
Other:	*No*		
Other:			

CHEMICAL INFORMATION (if blank below, no info. reported)

Chemical/Trade Name 1: *UNKNOWN CHEMICAL*
Number of Containers: *0*
Size of Containers: *0*
Amount at Risk: **LBS:** *0* **Gallons:** **Cubic Feet:** *0*
Amount Released: **LBS:** *0* **Gallons:** **Cubic Feet:** *0*

Chemical/Trade Name 2:
Number of Containers: *0*
Size of Containers: *0*
Amount at Risk: **LBS:** *0* **Gallons:** **Cubic Feet:** *0*
Amount Released: **LBS:** *0* **Gallons:** **Cubic Feet:** *0*

Chemical/Trade Name 3:
Number of Containers: *0* **Size of Containers:** *0*
Amount at Risk: **LBS:** *0* **Gallons:** **Cubic Feet:** *0*
Amount Released: **LBS:** *0* **Gallons:** **Cubic Feet:** *0*

- Continued on next page -

Target Property: 2355 PACIFIC HWY
MEDFORD OR 97501

JOB: 5321

STATE SPILLS SITE

SEARCH ID: 67 **DIST/DIR:** NON GC **MAP ID:**

NAME: RESP. CO.: WOODLAND TRUCK LINE
ADDRESS: I5 SB OFF RAMP AT BARNETT RD
MEDFORD OR 97501
JACKSON
CONTACT:

REV: 01/13/99
ID1: FM:08-224-950287
ID2:
STATUS: NOT REPORTED
PHONE:

Chemical/Trade Name 4:
Number of Containers: **Size of Containers:**
Amount at Risk: **LBS:** *0* **Gallons:** **Cubic Feet:** *0*
Amount Released: **LBS:** *0* **Gallons:** **Cubic Feet:** *0*

Chemical/Trade Name 5:
Number of Containers: **Size of Containers:**
Amount at Risk: **LBS:** *0* **Gallons:** **Cubic Feet:** *0*
Amount Released: **LBS:** *0* **Gallons:** **Cubic Feet:** *0*

ESTIMATED PROPERTY LOSS
Vehicle and Cargo: *0*
Fixed Property: *0*

Environmental FirstSearch Descriptions

NPL: ***EPA*** NATIONAL PRIORITY LIST - Database of confirmed and proposed Superfund sites.

NPL Delisted: ***EPA*** NATIONAL PRIORITY LIST Subset - Database of delisted Superfund sites.

CERCLIS: ***EPA*** COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY INFORMATION SYSTEM - Database of current and potential Superfund sites currently or previously under investigation.

NFRAP: ***EPA*** COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY INFORMATION SYSTEM ARCHIVED SITES - database of Archive designated CERCLA sites that, to the best of EPA's knowledge, assessment has been completed and has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

RCRA COR ACT: ***EPA*** RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM SITES - Database of RCRA facilities with reported violations and subject to corrective actions.

RCRA TSD: ***EPA*** RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM TREATMENT, STORAGE, and DISPOSAL FACILITIES. - Database of facilities licensed to store, treat and dispose of hazardous waste materials.

RCRA GEN: ***EPA*** RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM SITES - Database of facilities that generate or transport hazardous waste or meet other RCRA requirements.e
LGN - Large Quantity Generatorse
SGN - Small Quantity Generatorse
VGN – Conditionally Exempt Generator.e
Included are RAATS (RCRA Administrative Action Tracking System) and CMEL (Compliance Monitoring &e Enforcement List) facilities.e

RCRA NLR: ***EPA*** RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM SITES - Database of facilities not currently classified by the EPA but are still included in the RCRIS database. Reasonse for non classification:e
Failure to report in a timely matter.e
No longer in business.e
No longer in business at the listed address.e
No longer generating hazardous waste materials in quantities which require reporting.e

Federal IC / EC: ***EPA*** BROWNFIELD MANAGEMENT SYSTEM (BMS) - database designed to assist EPA in collecting, tracking, and updating information, as well as reporting on the major activities and accomplishments of the various Brownfield grant Programs.
FEDERAL ENGINEERING AND INSTITUTIONAL CONTROLS- Superfund sites that have either an engineering or an institutional control. The data includes the control and the media contaminated.

ERNS: ***EPA/NRC*** EMERGENCY RESPONSE NOTIFICATION SYSTEM - Database of emergency response actions. Data since January 2001 has been received from the National Response System database as the EPA no longer maintains this data.

Tribal Lands: ***DOI/BIA*** INDIAN LANDS OF THE UNITED STATES - Database of areas with boundaries established by treaty, statute, and (or) executive or court order, recognized by the Federal Government as territory in which American Indian tribes have primary governmental authority. The Indian Lands of the United States map layer shows areas of 640 acres or more, administered by the Bureau of Indian Affairs. Included are Federally-administered lands within a reservation which may or may not be considered part of the reservation.

State/Tribal Sites: ***OR DEQ*** The DEQ adds sites that are or may be contaminated and may require cleanup to its Environmental Cleanup Site Information system (ECSI), and electronic filing system. DEQ adds these sites to the CRL and Inventory when it determines they meet the respective criteria for listing, described above. Sites

may be added to the CRL any time after they are added to the ECSI; they may be added to the Inventory only after a preliminary assessment is completed. Sites added to the Inventory are either already on the CRL or added to both lists at the same time. The CRL, Inventory, and Voluntary Cleanups are all subsets of information derived from the ECSI system. Each of those lists are described below and included in the ECSI information in the First Search reports. ODEQ maintains individual lists for each of these subsets but they have minimal details on sites listed and duplicate the information in ECSI.In order to avoid unnecessary duplication of records, and because the three categories are subsets of ECSI an extensive amount of details on ECSI sites are included in the First Search reports. It is much more comprehensive that what is provided on the individual lists and enables the report user to easily determine if a site falls into multiple categories.To determine which lists a site is affiliated with look at the "Administrative Actions" section in the details of the First Search report for each ECSI site your are concerned with. ST: CONFIRMED RELEASE LIST (CRL: included in ECSI)Oregon legislature has directed the Department of Environmental Quality (DEQ) to implement a comprehensive site discovery program to: A. Identify and assess releases or threats of releases of hazardous substances that may require removal or remedial action; B. Publish two separate lists of facilities, or sites, where releases of hazardous substances have been confirmed: I. A Confirmed Release List (CRL), including all facilities with a confirmed release; and II.an inventory, including facilities with a confirmed release which, in addition, based on a preliminary assessment, DEQ has determined require further investigation, removal, remedial action, or related long-term environmental or institutional controls: and C. Rank facilities on the Inventory based on the long and short-term threats they pose to public health and the environment.ST: VOLUNTARY CLEANUP SUB-PROGRAM (included in ECSI)There are a number of sites on both the CRL and Inventory where responsible parties have entered into an agreement with DEQ to voluntarily address contamination associated with their property. Under DEQ's Voluntary Cleanup Program, responsible parties may obtain DEQ oversight of assessment and cleanup actions leading to a No Further Action (NFA) determination from the agency. New voluntary cleanup projects are initiated as soon as resources become available. The initial VCS under the Current Program header on the CRL and Inventory is an indicator that the specified site has entered into the Voluntary Cleanup Program. The initials SRS indicate that the specified site may be facing enforcement action through the DEQ Site Response Program.The initials SAS would indicate that the site is still under investigation through the DEQ Site Assessment Program.The CRL and Inventory do not include all sites in Oregon that are in the voluntary cleanup process. At some sites, responsible parties will perform cleanup on their own without DEQ oversight. The requirements for this comprehensive site discovery program are established in Oregon's Environmental Cleanup Law, ORS 465.215 through 245, and DEQ's administrative rules, OAR 340-122-410-470.

State Spills 90: ***OR SP*** STATE SPILLS

State/Tribal SWL: ***OR DEQ*** ODEQ maintains separate lists of various solid waste facilities including: permitted, closed and municipal.

State/Tribal LUST: ***OR DEQ/EPA*** OR DEQ LEAKING UNDERGROUND STORAGE TANKS LISTING-ODEQ maintains a list of leaking underground tanks reported leaking, under investigation or cleanup indicating cleanup start date, lead, and completion date.
INDIAN LANDS LEAKING UNDERGROUND STORAGE TANKS LISTING- The US EPA Region 10 maintains an inventory of Indian Land leaking underground storage tanks currently under federal administration. For further information regarding this program or specific sites, please call Charlotte Boulind at the number listed with the source information.

State/Tribal UST/AST: ***OR DEQ/EPA*** OR DEQ UNDERGROUND STORAGE TANKS LISTING- ODEQ maintains an inventory of registered active and decommissioned underground storage tanks.
INDIAN LANDS UNDERGROUND STORAGE TANKS LISTING- The US EPA Region 10 maintains an inventory of Indian Land underground storage tanks currently under federal administration. For further information regarding this program or specific sites, please call Charlotte Boulind at the number listed with the source information.

State/Tribal Brownfields: ***OR DEQ/EPA*** ODEQ maintains a list of Brownfields sites as part of its Environmental Cleanup Site Information System. The ODEQ defines a brownfield site as "real property where expansion or redevelopment is complicated by actual or perceived environmental contamination."
Brownfields Management System (BMS) is an analytical database designed to assist EPA in collecting, tracking, and updating information, as well as reporting on the major activities and accomplishments of the various Brownfield grant Programs.

RADON: ***NTIS*** NATIONAL RADON DATABASE - EPA radon data from 1990-1991 national radon project collected for a variety of zip codes across the United States.

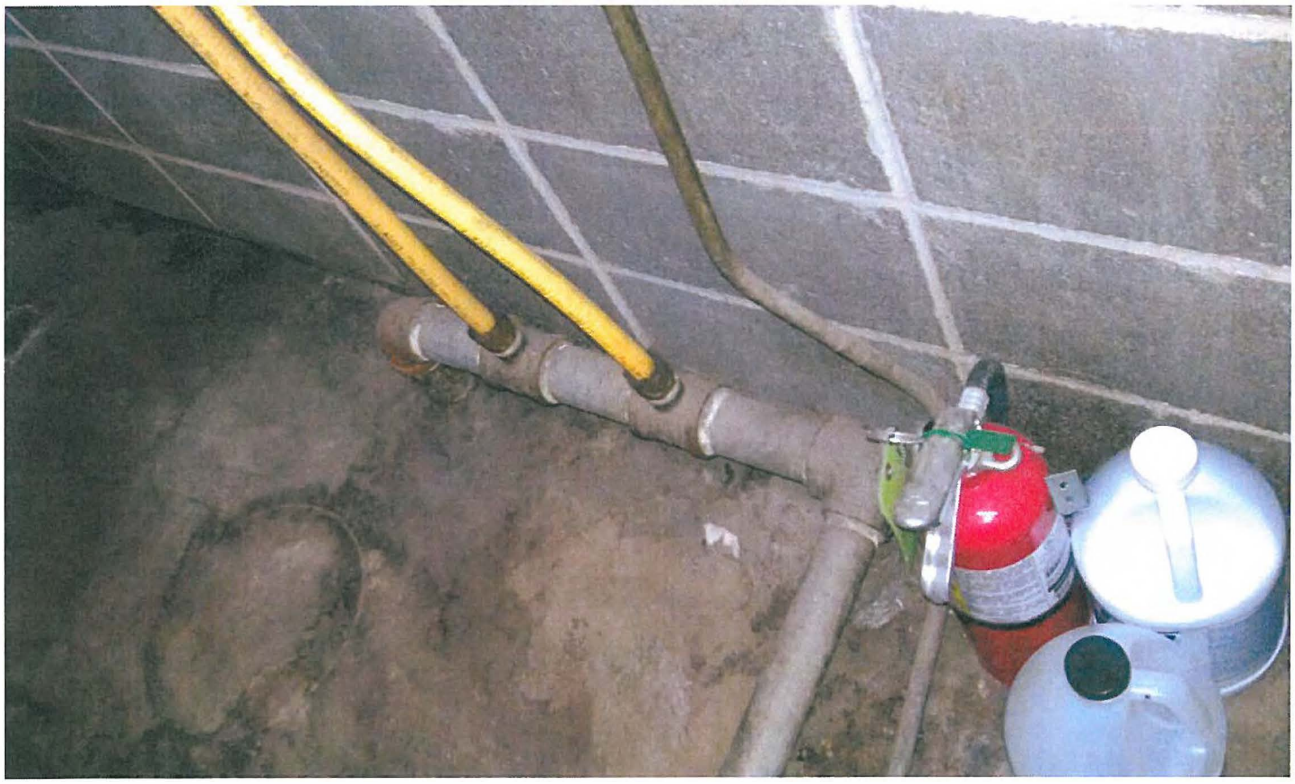
APPENDIX C

Site Photographs

Front of Roxy Ann Lanes bowling alley

Storage building behind bowling alley

Boiler used for steam heat



Natural gas conversion

Cleaning chemicals in maintenance area

MEDFORD SITE PHASE II ESA

Alpine Environmental Consultants, LLC
12208 Antioch Road
White City, Oregon 97503
541.944.4685
jwilliams@alpine-env-llc.com

December 16, 2015

Mr. Greg Aldridge, Executive Director, Development
Coquille Economic Development Corporation
3201 Tremont
North Bend, Oregon 97459

RE: DRAFT Supplemental Due Diligence Orchards Investigation, 2375 South Pacific Highway, Medford, Oregon; Map 371W32C, Tax Lot 4701

Dear Mr. Aldridge,

As requested by the Coquille Economic Development Corporation (CEDCO), this letter report prepared by Alpine Environmental Consultants, LLC (AEC) documents the methods used to collect soils data and evaluates potential historical agricultural-related impacts to soil in support of a Supplemental Due Diligence Orchards Investigation (Supplemental Investigation). The Supplemental Investigation was carried out at the property addressed as 2375 South Pacific Highway in Medford, Oregon (hereinafter referred to as the Site). The Site consists of 2.42 acres and is identified as Tax Lot 4701 of Jackson County's Map 371W32C. The Site lies within Section 32 of Township 37 South, Range 1 West. This letter report is organized as follows:

- Executive Summary
- Background
- Supplemental Investigation Objectives
- Supplemental Investigation Field Activities
- Laboratory Analyses
- Data Evaluation
- Conclusions

EXECUTIVE SUMMARY

In response to a specific request by the Coquille Economic Development Corporation (CEDCO), Alpine Environmental Consultants, LLC (AEC) conducted Site-specific soil testing on the Coquille Tribe's property on South Pacific Highway in Medford, Oregon. This Supplemental Due Diligence Orchards Investigation (Supplemental Investigation) supplements an initial Phase I Environmental Site Assessment (ESA) that found no recognized environmental conditions

associated with the Site. Because the Site was once part of a larger orchard, CEDCO requested the Supplemental Investigation to focus on potential soil impacts specific to the orchard industry. Soil samples were collected and submitted for laboratory analyses of pesticides-related contamination. Analtyical results for pesticides-related contamination identified the presence of metals and synthetic pesticides in the soils likely associated with historical orchard operations at the Site. However, the concentrations of these residual pesticides-related constituents are consistent with what would be expected from the previous agricultural uses. Levels of metals and synthetic compounds in Site soils – the presence of which are the result of the region's agricultural history, and for metals, the volcanic and igneous rocks that helped form the Rogue Valley – are approximately equivalent to, or even lower than levels for orchards or historical orchard properties in the surrounding area, throughout the Rogue Valley, and throughout the Pacific Northwest.

Potential health risks for soil contaminants directly depend on how the property will be used and whether there is any complete pathway for human receptors to be exposed to soil contaminants. Currently, Site soils are covered by structures, pavement, and compacted non-native fill materials, which fully encapsulate the underlying native soil and strictly limits any exposure to soil contaminants. Plans for the Site will not change those conditions. The proposed Site use is fully consistent with its current and past uses as a bowling alley and restaurant and is equally consistent with surrounding properties that also were also historically operated as orchards and now accommodate a church, a large fruit and gift packing business, and multifamily housing.

BACKGROUND

As we discussed in October 2015, research completed by AEC in support of the Supplemental Investigation indicated an orchard was present over the entire Site in 1952 (refer to **Figure 1**). An orchard was also present over the entire Site in an aerial photograph dated 1939, but the orchard was not present on the Site in an aerial photograph dated 1960. While AEC does not have any readily available data on historical orchard activities at the Site, it is reasonable to assume the orchard at the Site consisted of pears, and that the orchard may have been present at the Site since the early 1900s or potentially even earlier.

You provided AEC a copy of the Phase I Environmental Site Assessment (ESA) prepared by Geotechnical Resources, Inc. (GRI) of Beaverton, Oregon, that provided valuable background information and helped focus the Investigation. The Phase I ESA report prepared by GRI is dated May 24, 2012. Relevant findings of the GRI Phase I ESA report are that the Site was occupied by Roxy Ann Lanes (and is currently occupied by Roxy Ann Lanes), which reportedly started operations in 1959. While the GRI Phase I ESA report documented the presence of historical orchard operations at the Site between 1939 (i.e. the earliest historical aerial photograph) and at least 1956, their assessment "disclosed no evidence of recognized environmental conditions associated with the site."

Per our discussions in October 2015, AEC understands that based on their review of the GRI Phase I ESA report, CEDCO and affiliates believed the presence of historical orchard operations at the Site may have adversely impacted soil quality and decided to pursue supplemental due diligence investigation work to determine if there was any residual soil contamination associated with historical orchard activities that might pose unacceptable health risks.

As described in the Oregon Department of Environmental Quality's (DEQ's) Draft *Guidance for Evaluating Residual Pesticides on Lands Formerly Used for Agricultural Production* dated November 2005, (Agricultural Lands Guidance) pesticides can contain both metals (e.g. arsenic, lead) and synthetic organic compounds (e.g. DDT, chlordane), and some of these pesticides can accumulate in shallow soil and persist for long periods. AEC personnel have dealt with residual pesticides in shallow soils on a number of agricultural properties in Oregon, including in the Medford area.

For the purpose of this Supplemental Investigation report, the definition of a pesticide is consistent with that described in the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), which is "any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest." This includes insecticides, fungicides, herbicides, rodenticides, miticides, molluscides, nematicides, and antimicrobials. As described in the aforementioned DEQ agricultural lands guidance document, metals-based pesticide use in fruit orchards has been prevalent since the late 1800s, and the use of synthetic organic pesticides started in the mid-1940s. Given the known operational period of the Site orchards (i.e. from 1939 and likely earlier through at least 1956) and given the absence of readily available Site-specific pesticide use data, it is reasonable to assume that both metals-based and synthetic organic pesticides could have been used at the Site.

The issue of pesticides associated with historical orchard operations having accumulated in shallow soil (defined as the upper 3 feet of soil) is of particular concern when historical agricultural properties are redeveloped for residential (or school) use. This is because DEQ's generic risk-based concentrations (RBCs) for compounds of potential concern (COPCs) are typically lower for residential (or school) exposure scenarios since DEQ assumes that residents, particularly children, will be more frequently exposed to COPCs in soil through ingestion, dermal contact, and inhalation. However, the issue of pesticide residuals having accumulated in shallow soil can sometimes be a concern when properties are redeveloped for commercial or industrial use (i.e. occupational use), especially if there is a complete pathway between the residual pesticide contamination and potential receptors. Additional information regarding DEQ's RBCs can be found in DEQ's *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites* guidance document dated September 2003.

The Site is currently in commercial use as the Roxy Ann Lanes bowling alley. As illustrated on **Figure 2**, approximately 90 percent of the Site is currently paved with asphalt or occupied by Site structures. A narrow strip of property on the northeaster portion of the Site, distal to the primary Site commercial building, is currently unpaved but covered with 1.2 feet of compacted non-native fill (gravel). Given that approximately 90 percent of the Site is currently paved with

asphalt or occupied by Site structures, it is unlikely the potential presence of residual pesticides associated with historical orchard use at the Site would pose unacceptable risks to current users (i.e. occupational workers) because workers are unlikely to contact soil beneath buildings and pavement (i.e. there is no complete pathway of exposure over the Site). In the narrow unpaved strip of property on the northeastern portion of the Site, approximately 1.2 feet of compacted gravel with cobbles (i.e. non-native fill) overlies the native soil. The presence of this relatively thick gravel layer acts as a barrier between occupational workers and the underlying native soil.

Regardless, AEC understands that CEDCO's concerns about potential health risks associated with worker exposure to shallow soil that may have been impacted by historical orchard activities are technically appropriate, and warranted supplemental due diligence investigation.

SUPPLEMENTAL INVESTIGATION OBJECTIVES

Based on these warranted concerns, AEC completed the Investigation to meet the following objectives:

- Determine whether shallow soil at the Site has been impacted by residual pesticide contamination associated with historical orchard operations.
- If shallow soil was impacted by residual pesticide contamination, compare these analytical results to potentially applicable generic RBCs for both current and reasonably likely future Site uses and evaluate whether there are any complete exposure pathways posing unacceptable health risks for occupational workers in the present or proposed future use.

SUPPLEMENTAL INVESTIGATION FIELD ACTIVITIES

On October 22, 2015, Mr. Jonathan Williams of AEC supervised the excavation of two test pits on the Site using a small excavator. The small excavator was operated by Mr. Todd Marthoski of M&M Services, LLC of Medford, Oregon. Prior to any subsurface disturbances associated with excavating and sampling test pits, AEC contacted the Utility Notification Center in order to locate and trace any potential public ungrounded infrastructure of pipes, mains, and utility lines that may be present in the vicinity of the proposed test pits. No public underground utilities were identified in the area of investigation. AEC also scheduled the use of a private locator to identify any private underground pipes, mains, or utility lines that may have been present in the vicinity of the test pit locations. However, given the absence of any visible storm drains or pipes, electrical conduits, or other underground utilities proximal to the test pit locations, a private locator was not needed.

The two test pit locations are illustrated on **Figure 2**. At both test pit locations (TP-1 and TP-2), approximately 1.2 feet of compacted, dry, and poorly sorted gravel and rounded cobbles (i.e. bar run gravel) were observed overlying the native soil. The sampling objective at each test pit was to collect two discrete soil samples representing the uppermost 1 foot of soil and the

underlying interval of 1.0 to 3.0 feet of native soil. Given the presence of approximately 1.2 feet of overlying non-native fill at both test pit locations, both test pits were excavated to a depth of approximately 4.5 feet. During excavation activities at both test pits, the overlying compacted gravel was segregated from the underlying soil. This approach was taken so that at the conclusion of sampling activities, the test pits could be backfilled and compacted first with native soil, then backfilled and compacted using the overlying fill.

The rationale for collecting two discrete soil samples at each test pit location was that depth discrete analytical results might help characterize the vertical extent of potential pesticide contamination. The concept of depth discrete samples is also documented in the aforementioned DEQ Agricultural Lands Guidance of 2005. While this guidance suggests the "surface" sample consist of the upper 6 inches of soil, the shallower soil samples collected by AEC consisted of the upper 1 foot of native soil (i.e. 0.0 to 1.0 feet below the fill contact [bfc]) because it was unknown if shallower native or non-native soil had been graded prior to Site development in approximately 1959. The collection of four discrete soil samples from two test pit locations is consistent with the default sampling density for commercial/industrial redevelopment sites identified in the DEQ Agricultural Lands Guidance of 2005, which calls for one to seven discrete soil samples on properties where the size of single-crop area is 1 to 7 acres.

After the two test pits had been excavated, AEC personnel collected two depth discrete soil samples over the desired depth intervals from each test pit using clean stainless steel trowels and clean stainless steel bowls. Before and between the excavation of each test pit, the small excavator bucket was cleansed using an Alconox solution and rinsed with de-ionized water. The stainless steel trowels and stainless steel bowls were also cleansed prior to each use by scrubbing with a brush and an Alconox solution and rinsed with de-ionized water.

Soil samples representative of the native soil from depths of 0.0 to 1.0 feet bfc and 1.0 to 3.0 feet bfc were collected by scraping an equal and representative volume of soil off of the test pit walls over the desired depth intervals to fill the stainless steel bowls. The soil in the stainless steel bowls was then thoroughly homogenized using the stainless steel trowels to develop representative depth discrete soil samples. After the soil in the stainless steel bowls had been thoroughly homogenized, soil was transferred directly from the stainless steel bowls into laboratory-supplied glass jars using the stainless steel trowels. Accordingly, a total of four discrete soil samples were collected (i.e. two samples from each of the two test pits). After soil sample collection has been completed, the test pits were backfilled and compacted using the small excavator as described above.

AEC personnel were prepared to remove larger sized material (i.e., gravel greater than approximately ¼ to ½ inch in diameter) by hand. However, the encountered soils consisted of brown, damp, silty clay loams and no coarse material was identified. These soil observations made by AEC personnel are consistent with soil mapping completed by the U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) which identifies soils proximal to the two test pit locations as the Gregory silty clay loam and/or the Medford silty clay loam.

The four soil samples were placed in an iced cooler and shipped via Federal Express to Apex Labs (APEX) of Tigard, Oregon, using AEC's standard chain-of-custody protocol. APEX is an Oregon-accredited analytical laboratory.

LABORATORY ANALYSES

As discussed previously, all four soil samples were submitted to APEX. In order to constrain analytical costs, only the two shallower soil samples representing 0 to 1 foot bfc were analyzed initially, with the two deeper soil samples representing 1 to 3 feet bfc being archived at the analytical laboratory. Should pesticide-related analytes be detected at concentrations greater than Site-specific generic RBCs (i.e. occupational use) in the shallower samples, then the corresponding deeper soil samples at those locations would also be analyzed for those analytes for which the RBCs were exceeded in the shallow soil sample/s.

To be consistent with the DEQ Agricultural Lands Guidance of 2005, the two shallower soil samples from the two test pit locations were analyzed for the following pesticides analytes on a standard 10-day turnaround time:

- Seventeen metals by U.S. Environmental Protection Agency (USEPA) Method 6020. These 17 metals include the following: antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, mercury, molybdenum, selenium, silver, thallium, vanadium, and zinc.
- Organochlorine Pesticides by USEPA Method 8081B, including the following: aldrin; alpha-BHC; beta-BHC; delta-BHC; gamma-BHC (lindane); gamma-Chlordane; alpha-Chlordane; Chlordane (tech); 4,4-DDD; 4,4-DDE; 4,4-DDT; Dieldrin; Endosulfan I; Endosulfan II; Endosulfan sulfate; Endrin; Endrin aldehyde; Endrin ketone; Heptachlor; Heptachlor epoxide; Methoxychlor; and Toxaphene.
- Chlorinated herbicides by USEPA Method 8151A, including the following: 2,4-D; 2-4-DB; 2,4,5-T; 2,4,5-TP (Silvex); Dalapon; Dicamba; Dichloroprop; Dinoseb; MCPA; and MCPP. APEX subcontracted the chlorinated herbicides analyses to Weck Laboratories, Inc., another Oregon-accredited laboratory.
- Organophosphate pesticides by USEPA Method 8141A, including the following: Azinphos methyl; Bolstar; Chlorpyrifos; Coumaphos; Demeton; Diazinon; Dichlorovs; Dimethoate; Disulfoton; Ethoprop; Fensulfothion; Ronnel; Stirophos; Tokuthion; and Trichloronate. Apex subcontracted the organophosphate pesticides analyses to Weck Laboratories, Inc.

The DEQ Agricultural Lands Guidance of 2005 recommends a matrix spike/matrix spike duplicate (MS/MSD) sample be submitted for analysis with each batch of samples. The objective of running the MS/MSD quality control (QC) sample is to demonstrate that targeted pesticides can be recovered from the investigated soil. AEC collected additional sample volume for the shallower soil sample collected from Test Pit 1 (TP1-0-1) to accommodate running MS/MSD QC analyses, which were completed by APEX and the subcontracted laboratory (Weck

Laboratories, Inc.). While some matrix interferences were identified, resulting in elevated laboratory method reporting limits for some analytes, the analytical results were deemed valid by the laboratories.

Based on the initial analytical results for the shallower soil samples collected from Test Pit 1 and Test Pit 2, both the total arsenic and total lead results exceeded generic RBCs for occupational workers. Accordingly, AEC requested that the deeper soil samples archived at APEX also be analyzed for total arsenic and total lead. Analytical results for total metals, organochlorine pesticides, chlorinated herbicides, and organophosphorus pesticides are presented in **Tables 1**, **2**, **3**, and **4**, respectively. In addition to presenting the analytical results, **Tables 1** through **4** also identify the generic DEQ RBCs for soil. The generic RBCs identified in these tables are consistent with the current commercial land use and zoning, and assume occupational workers will be present on the site. These generic RBCs for occupational workers are also consistent with the anticipated future use of the Site.

DATA EVALUATION

The analytical results for total metals, organochlorine pesticides, chlorinated herbicides, and organophosphorus pesticides indicate that concentrations of only two analytes exceeded generic RBCs for occupational workers. These two analytes consisted of total arsenic and total lead (see **Table 1)**. While there were some relatively low level detections of organochlorine pesticides in the shallower soil samples suggesting organochlorine pesticides may have been used during historical orchard operations, none of the constituents detected exceeded any generic RBCs for occupational use (see **Table 2**). There were no detections of chlorinated herbicides or organophosphorus pesticides, and the laboratory method reporting limits were all below the applicable generic RBCs for occupational workers (see **Tables 3** and **4**).

As discussed in the preceding paragraph, the only two analytes exceeding generic RBCs for occupational workers at the Site are total arsenic and total lead. The following discussion compares the total arsenic and total lead results to generic RBCs for occupational uses and presents an abbreviated conceptual site model describing why these metals concentrations do not pose an unacceptable risk to occupational receptors at the Site under current or future anticipated conditions.

TOTAL ARSENIC - Total arsenic was detected in the shallower soil sample at Test Pit 1 at 27.7 milligrams per kilogram (mg/kg; approximately equivalent to parts per million) and in the shallower soil sample at Test Pit 2 at 33.1 mg/kg. These total arsenic concentrations exceed the generic RBC for occupational workers under the *soil ingestion, dermal contact, and inhalation pathway* of 1.9 mg/kg, as well as the generic RBC for construction workers of 15 mg/kg. Significant attenuation of total arsenic concentrations with soil depth were observed, with the total arsenic concentrations of the deeper soil samples for Test Pits 1 and 2 being 4.98 mg/kg and 7.32 mg/kg, respectively. The total arsenic concentrations for the two deeper soil samples are still above the generic RBC for occupational workers under the *soil ingestion, dermal*

contact, and inhalation pathway of 1.9 mg/kg, but below the generic RBC for construction workers of 15 mg/kg.

Arsenic, lead, and many other metals are naturally occurring in Oregon rocks and subsequently derived soils given Oregon's geologic province (i.e. volcanic and intrusive igneous rocks where metal-bearing sulfide minerals are prevalent). Therefore, an additional column documenting naturally occurring background concentrations of metals in Oregon is included in **Table 1.** These naturally occurring background metals concentrations data were derived from DEQ's Technical Report entitled *Development of Oregon Background Metals Concentrations in Soil*, dated March 2013. The background metals concentrations data in soil referenced in **Table 1** represent the 95 percent upper prediction limit for the Klamath Mountains region, which is the region in which the Site is located.

The total arsenic background concentration in soils for the Klamath Region is 12.490 mg/kg. It should be noted that this total arsenic background concentration in soil for the Klamath Region is approximately six times higher than the generic RBC for occupational workers under the *soil ingestion, dermal contact, and inhalation pathway* of 1.9 mg/kg. The total arsenic concentrations in the two shallower soil samples collected from Test Pit 1 (27.7 mg/kg) and Test Pit 2 (35.1 mg/kg) exceed this regional background concentration, suggesting pesticides containing arsenic were applied during historical orchard operations. However, the total arsenic concentrations for the deeper soil samples from Test Pit 1 (4.98 mg/kg) and Test Pit 2 (7.32 mg/kg) are below the regional background concentration of 12.490 mg/kg. This indicates that total arsenic concentrations attenuated significantly with depth to well below the regional background concentration and soils at depths greater than 1 foot bfc have not been impacted by total arsenic associated with historical orchard operations pesticide use.

The generic occupational RBC for total arsenic of 1.9 mg/kg under the *soil ingestion, dermal contact, and inhalation pathway* conservatively assumes that occupational workers at the Site could be exposed to soils. However, given that approximately 90 percent of the Site is paved or occupied by the single Site structure, and the remaining unpaved portion of the Site is covered by approximately 1.2 feet of compacted non-native fill (poorly sorted gravel and cobbles), it is not reasonable to assume that occupational workers at the Site would be exposed to shallow soil in a manner that would exceed unacceptable risks. While the generic RBC for total arsenic for construction workers of 15 mg/kg was exceeded in the shallower soil samples, this risk could be easily mitigated with proper communication to future construction workers requiring they wear appropriate personal protective equipment (PPE) and follow proper decontamination procedures subsequent to working. In discussions with CEDCO, AEC understands the property will continue to support commercial uses. Accordingly, there is no reason to believe that future occupational workers would be exposed to total arsenic in shallow soil that would generate unacceptable health risks.

TOTAL LEAD - Total lead was detected in the shallower soil sample at Test Pit 1 at 80.4 mg/kg and in the shallower soil sample at Test Pit 2 at 119 mg/kg. These total lead concentrations exceed the generic RBC for occupational workers under the *leaching to groundwater pathway*

of 15 mg/kg. Significant attenuation of total lead concentrations with soil depth were observed, with the total lead concentrations of the deeper soil samples for Test Pits 1 and 2 being 5.80 mg/kg and 6.87 mg/kg, respectively. The total lead concentrations for the two deeper soil samples are below the RBC for occupational workers under the *leaching to groundwater pathway* of 15 mg/kg.

The total lead background concentration in soils for the Klamath Region is 35.560 mg/kg. The total lead concentrations in the two shallower soil samples collected from Test Pit 1 (80.4 mg/kg) and Test Pit 2 (119 mg/kg) exceed this regional background concentration, suggesting pesticides containing lead were applied during historical orchard operations. However, the total lead concentrations for the deeper soil samples from Test Pit 1 (5.80 mg/kg) and Test Pit 2 (6.87 mg/kg) are below the regional background concentration of 35.560 mg/kg. This indicates that total lead concentrations attenuated significantly with depth to well below the regional background concentration and soils at depths greater than 1 foot bfc have not been impacted by total lead associated with historical orchard operations pesticide use.

The generic occupational RBC for the *leaching to groundwater pathway* conservatively assumes that a water supply well is being used at the Site or proximal to the Site, and that lead could be leached from the shallow soil, impact groundwater, and that occupational workers could subsequently be exposed to lead in drinking water. However, the Site and neighboring properties are serviced with municipal water from the Medford Water Commission. Furthermore, a review of the Oregon Water Resources Department (WRD) well records does not indicate the Site or neighboring properties have any water supply wells. It is reasonable and likely that the Site and neighboring properties will continue to utilize municipal water in the future; therefore, given the absence of wells and significant attenuation with soil depth, it is highly unlikely that the total lead in shallow soil at the Site will pose an unacceptable risk to occupational workers at the Site.

CONCLUSIONS

AEC completed this Supplemental Investigation of shallow soils at the Site to meet the following objectives:

- Determine whether shallow soil at the Site has been impacted by residual pesticide contamination associated with historical orchard operations.
- If shallow soil was impacted by residual pesticide contamination, compare these analytical results to potentially applicable generic RBCs for both current and reasonably likely future Site uses and evaluate whether there are any complete exposure pathways posing unacceptable health risks for occupational workers in the present or proposed future use.

In support of the Supplemental Investigation, two test pits were excavated at the Site. Two composite soil samples were collected from each test pit representing the intervals 0.0 to 1.0 feet bfc and 1.0 to 3.0 feet bfc. The two shallower soil samples were submitted for the

following analyses: total metals, organochlorine pesticides, chlorinated herbicides, and organophosphorus pesticides. In addition, the two deeper composite soil samples were submitted for total arsenic and total lead analyses. Analytical results for total metals, organochlorine pesticides, chlorinated herbicides, and organophosphorus pesticides are presented in **Tables 1**, **2**, **3**, and **4**, respectively.

The analytical results for total metals, organochlorine pesticides, chlorinated herbicides, and organophosphorus pesticides indicate that only two analytes exceeded generic RBCs for occupational workers. These two analytes consisted of total arsenic and total lead, as documented in **Table 1**. While there were some relatively low level detections of organochlorine pesticides in the shallower soil samples suggesting organochlorine pesticides may have been used during historical orchard operations, none of the constituents detected exceeded any generic RBCs for occupational use (see **Table 2**). There were no detections of chlorinated herbicides or organophosphorus pesticides, and the laboratory method reporting limits were all below the applicable generic RBCs for occupational workers (see **Tables 3** and **4**).

While the shallow soil sample analytical results for total arsenic and total lead exceed generic RBCs for occupational workers, it is unlikely these exceedances of generic RBCs pose an unacceptable risk to occupational workers at the Site for the following reasons:

- Potential health risks for total arsenic at the Site are associated with the *soil ingestion, dermal contact, and inhalation pathway*, which conservatively assumes occupational workers at the Site could be exposed to soils. However, given that approximately 90 percent of the Site is paved or occupied by the single Site structure, and the remaining unpaved portion of the Site is covered by approximately 1.2 feet of non-native compacted fill (poorly sorted gravel and cobbles), it is not reasonable to assume that occupational workers at the Site would be exposed to shallow soil in a manner that would exceed unacceptable risks. Furthermore, based on discussions with CEDCO, AEC understands there are no plans to changes the commercial use of the property in the future. Accordingly, there is no reason to believe that future occupational workers would be exposed to total arsenic in shallow soil that would generate unacceptable health risks.
- Potential health risks for total lead at the Site are associated with the *leaching to groundwater pathway,* which conservatively assumes that a water supply well is being used at the Site or proximal to the Site, and that lead could be leached from the shallow soil, impact groundwater, and that occupational workers could subsequently be exposed to lead in drinking water. However, the Site and neighboring properties are serviced with municipal water from the Medford Water Commission. Furthermore, a review of the WRD well records does not indicate the Site or neighboring properties have any water supply wells. It is reasonable and likely that the Site and neighboring properties will continue to utilize municipal water in the future; therefore, it is unlikely that the total lead in shallow soil at the Site will pose an unacceptable risk to occupational workers at the Site.

It should be noted that based on AEC's experience working with properties in the Medford area that had historical orchard operations and have been redeveloped for commercial or industrial uses, the total arsenic and total lead concentrations detected in shallow soils at the Site are not unexpected and approximately equivalent to or even lower than the total arsenic and total lead concentrations detected in shallow soils at similar properties in the Rogue Valley.

Please feel free to contact me at 541-944-4685 or jwilliams@alpine-enc-llc.com if you have any questions about our proposal.

Sincerely,

Alpine Environmental Consultants, LLC

Jonathan D. Williams, RG
Senior Hydrogeologist, Principal

Attachments:

Figure 1 – 1952 Historical Aerial Photograph
Figure 2 – Test Pit Locations
Table 1 –Soil Samples Analytical Results, Total Metals
Table 2 – Soil Samples Analytical Results, Organochlorine Pesticides
Table 3 – Soil Samples Analytical Results, Chlorinated Herbicides
Table 4 – Soil Samples Analytical Results, Organophosphorus Pesticides
Limitations

SOURCE: UNIVERSITY OF OREGON MAP LIBRARY

LEGEND

= Approximate Site Boundary

SCALE FEET

0 100 200

N W E S

ALPINE ENVIRONMENTAL CONSULTANTS, LLC

DATE: 12/14/15 DRAWN BY: SRM

Figure 1
1952 Historical Aerial Photograph
Supplemental Due Diligence Orchards Investigation
Coquille Economic Development Corporation
2375 South Pacific Highway, Medford, Oregon

SOURCE: GOOGLE EARTH (2015)

LEGEND

Approximate Site Boundary

TP-1 Test Pit and Soil Sampling Location

SCALE FEET

0 100 200

N W E S

ALPINE ENVIRONMENTAL CONSULTANTS, LLC

DATE: 12/14/15 DRAWN BY: SRM

Figure 2
Test Pit Soil Sampling Locations
Supplemental Due Diligence Orchards Investigation
Coquille Economic Development Corporation
2375 South Pacific Highway, Medford, Oregon

DRAFT Table 1
Soil Samples Analytical Results - Total Metals
Supplemental Due Dilligence Orchards Investigation
2375 South Pacific Highway, Medford, Oregon
Coquille Economic Development Corporation

Parameter	DEQ Risk-Based Concentrations for Soil (a)						DEQ's Background Concentrations in Soil (e)	Test Pit Soil Samples			
	Ingestion, Dermal Contact and Inhalation (b)			Volatilization to Outdoor Air (c)	Vapor Intrusion into Buildings	Leaching to Groundwater (d)		TP1-0-1 Northwest (0-1 ft bfc)	TP1-1-3 Northwest (1-3 ft bfc)	TP2-0-1 Southeast (0-1 ft bfc)	TP2-1-3 Southeast (1-3 ft bfc)
	Occupational	Construction Worker	Excavation Worker	Occupational	Occupational	Occupational		10/22/2015	10/22/2015	10/22/2015	10/22/2015
TOTAL METALS (mg/Kg) USEPA 6010/6020											
Antimony	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.587	1.22U	NA	1.21U	NA
Arsenic	1.9	15	420	NV	NV	*	12.490	**27.7**	**4.98**	**33.1**	**7.32**
Barium	220,000	69,000	>Max	NV	NV	*	632.0	**185**	NA	**200**	NA
Beryllium	2,300	700	19,000	NV	NV	*	1.397	0.510	NA	**0.495**	NA
Cadmium	1100	350	9,700	NV	NV	*	0.515	0.243U	NA	0.241U	NA
Chromium (III)	>Max	530,000	>Max		NV	*	894.0	**45.6**	NA	**50.0**	NA
Cobalt	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No Value	**17.8**	NA	**17.1**	NA
Copper	47,000	14,000	390,000	NV	NV	*	108.50	**53.8**	NA	**55.0**	NA
Lead	800	800	800	NV	NV	15	35.560	**80.4**	**5.80**	**119**	**5.87**
Mercury	350	110	2,900	NV	NV	*	0.166	0.0972U	NA	0.0965U	NA
Molybdenum	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No Value	1.22U	NA	1.21U	NA
Nickel	22,000	7,000	190,000	NV	NV	*	634.40	**32.4**	NA	**34.8**	NA
Selenium	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.799	2.43U	NA	2.41U	NA
Silver	5,800	1,800	49,000	NV	NV	*	0.159	0.243U	NA	0.241U	NA
Thallium	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.305	0.243U	NA	0.241U	NA
Vanadium	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	286.0	**61.0**	NA	**64.1**	NA
Zinc	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	139.0	**56.8**	NA	**59.4**	NA

Notes:
Analytical data in bold font indicates that the value exceeds the laboratory' method reporting limits.
Analytical data or DEQ background concetrations data highlighted in yellow indicates the value exceeded a generic RBC.

Data Qualifiers:
U - The analyte was analyzed for, but was not detected above the analytical laboratory's method reporting limit.

Footnotes:
(a) Risk-Based Concentrations are referenced from the November 1, 2015 update to the DEQ's Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites guidance document dated September 2003.
(b) This pathway is applicable anytime someone is likely to come into contact with contaminated soil. For the occupational scenario, exposure to contaminated soils should be considered for all contaminants found in the top three feet of soil.
(c) This pathway is applicable whenever vadose zone soils are contaminated with volatile compounds.
(d) This pathway is applicable whenever vadose zone contamination is found overlying an aquifer that is currently used or is reasonably likely to be used in the future.
(e) DEQ's Background Concentrations in Soil are referenced from the DEQ's Development of Oregon Background Metals Concentrations in Soil technical report dated March 2013. The background concentrations included in this table are 95% Upper Prediction Limit (UPL) for the Klamath Mountains region, which includes Medford area.

Symbols/Acronyms:
bfc - below fill contact
DEQ - Department of Environmental Quality
NA - Sample was not analyzed for this analyte.
NV - The chemical is considered "nonvolatile" for the purposes of the exposure calculations.
RBC - risk-based concentration
>Csat - This RBC exceeds the limit of three phase equilibrium partitioning. Soil concentrations in excess of Csat indicate that free product might be present.
>Max - The constituent RBC for this pathway is greater than 1,000,000 mg/Kg or 1,000,000 mg/L. Therefore, these substances are not expected to pose risks in the scenario shown.
>S - This groundwater RBC exceeds the solubility limit. Groundwater concentrations in excess of S indicate that free product may be present.

DRAFT Table 2
Soil Samples Analytical Results - Organochlorine Pesticides
Supplemental Due Dilligence Orchards Investigation
2375 South Pacific Highway, Medford, Oregon
Coquille Economic Development Corporation

	DEQ Risk-Based Concentrations for Soil (a)						Test Pit Soil Samples	
	Ingestion, Dermal Contact and Inhalation (b)			Volatilization to Outdoor Air (c)	Vapor Intrusion into Buildings	Leaching to Groundwater (d)	TP1-0-1 Northwest (0-1 ft bfc)	TP2-0-1 Southeast (0-1 ft bfc)
Parameter	Occupational	Construction Worker	Excavation Worker	Occupational	Occupational	Occupational	10/22/2015	10/22/2015
Organochlorine Pesticides (mg/Kg) USEPA 8081B							C-05	C-05
Aldrin	0.13	1.1	30	>Csat	>Csat	0.1	0.00233U	0.00219U
alpha-Hexachlorocyclohexane (alpha-BHC)	0.36	3	83	NV	NV	0.023	0.00233U	0.00219U
beta-BHC	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.00233U	0.00219U
delta-BHC	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.00233U	0.00219U
gamma-BHC (Lindane)	2.1	17	470	NV	NV	0.13	0.00233U	0.00219U
cis-Chlordane (Chlordane RBCs)	7.4	61	1700	>Csat	>Csat	2.1	0.00233U	0.00219U
trans-Chlordane (Chlordane RBCs)	7.4	61	1700	>Csat	>Csat	2.1	0.00233U	0.00219U
4,4'-Dichlorodiphenyldichloroethane (4,4'-DDD)	12	94	2,600	NV	NV	2.6	**0.00794**	**0.00872**
4,4'-Dichlorodiphenyldichloroethene (4,4'-DDE)	8.2	66	1,800	>Csat	>Csat	7.5	**0.178**	**0.208**
4,4'-Dichlorodiphenyltrichloroethane (4,4-DDT)	8.5	66	1,800	NV	NV	70	**0.107** Q-42	**0.114**
Dieldrin	0.14	1.2	33	NV	NV	0.03	**0.00433**	**0.00755**
Endosulfan I (Endosulfan alpha-beta RBC)	4900	1600	45,000	>Max	>Max	>Csat	0.00233U	0.00219U
Endosulfan II (Endosulfan alpha-beta RBC)	4900	1600	45,000	>Max	>Max	>Csat	0.00233U	0.00219U
Endosulfan Sulfate (Endosulfan alpha-beta RBC)	4900	1600	45,000	>Max	>Max	>Csat	0.00233U	0.00219U
Endrin	250	80	2200	NV	NV	>Csat	0.00233U	0.00219U
Endrin Aldehyde (Endrin RBC)	250	80	2200	NV	NV	>Csat	0.00233U	0.00219U
Endrin Ketone (Endrin RBC)	250	80	2200	NV	NV	>Csat	0.00233U	0.00219U
Heptachlor	0.45	4	110	230	230	0.048	0.00233U	0.00219U
Heptachlor expoxide	0.24	2	56	>Csat	>Csat	0.016	0.00233U	0.00219U
Methoxychlor	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.00698U	0.00658U
Chlordane (Technical)	7.4	61	1700	>Csat	>Csat	2.1	0.0698U	0.0658U
Toxaphene (Total)	2.1	17	470	NV	NV	0.093	0.0698U	0.0658U

Notes:
Analytical data in bold font indicates that the value exceeds the laboratory reporting limits.
Analytical data highlighted in yellow indicates the value exceeded a generic RBC.

Data Qualifiers:
U - The analyte was analyzed for, but was not detected above the analytical laboratory's method reporting limit.
C-05 - Extract has undergone a GPC (Gel-Permeation Chromatography) cleanup per EPA 3640A. Reporting levels may be raised due to dilution necessary for cleanup. Sample Final Volume includes the GPC dilution factor, see the Prep page for details.
Q-42 - Matrix Spike and/or Duplicate analysis was performed on this sample. % Recovery or RPD for this analyte is outside laboratory control limits. (Refer to the QC Section of Analytical Report.)

Footnotes:
(a) Risk-Based Concentrations are referenced from the November 1, 2015 update to the DEQ's Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites guidance document dated September 2003.
(b) This pathway is applicable anytime someone is likely to come into contact with contaminated soil. For the occupational scenario, exposure to contaminated soils should be considered for all contaminants found in the top three feet of soil.
(c) This pathway is applicable whenever vadose zone soils are contaminated with volatile compounds.
(d) This pathway is applicable whenever vadose zone contamination is found overlying an aquifer that is currently used or is reasonably likely to be used in the future.

Symbols/Acronyms:
bfc - below fill contact
DEQ - Department of Environmental Quality
NV - The chemical is considered "nonvolatile" for the purposes of the exposure calculations.
RBC - risk-based concentration
>Csat - This RBC exceeds the limit of three phase equilibrium partitioning. Soil concentrations in excess of Csat indicate that free product might be present.
>Max - The constituent RBC for this pathway is greater than 1,000,000 mg/Kg or 1,000,000 mg/L. Therefore, these substances are not expected to pose risks in the scenario shown.
>S - This groundwater RBC exceeds the solubility limit. Groundwater concentrations in excess of S indicate that free product may be present.

DRAFT Table 3
Soil Samples Analytical Results - Chlorinated Herbicides
Supplemental Due Dilligence Orchards Investigation
2375 South Pacific Highway, Medford, Oregon
Coquille Economic Development Corporation

	DEQ Risk-Based Concentrations for Soil (a)						Test Pit Soil Samples	
	Ingestion, Dermal Contact and Inhalation (b)			Volatilization to Outdoor Air (c)	Vapor Instrusion into Buildings	Leaching to Groundwater (d)	TP1-0-1 Northwest (0-1 ft bfc)	TP2-0-1 Southeast (0-1 ft bfc)
Parameter	Occupational	Construction Worker	Excavation Worker	Occupational	Occupational	Occupational	10/22/2015	10/22/2015
Chlorinated Herbicides (mg/Kg) USEPA 8151A								
2,4-Dichlorophenoxyacetic acid (2,4-D)	8,200	2,700	74,000	NV	NV	16	0.43U, M-02	0.43U, M-02
4-(2,4-dichlorophenoxy)butyric acid (2,4-DB)	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.43U, M-02	0.43U, M-02
2,4,5-Trichlorophenoxyacetic acid (2,4,5-T)	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.43U, M-02	0.43U, M-02
2,4,5-TP (Silvex)	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.43U, M-02	0.43U, M-02
Dalapon	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.43U, M-02	0.43U, M-02
Dicamba	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.43U, M-02	0.43U, M-02
Dichloroprop	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.43U, M-02	0.43U, M-02
Dinoseb	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.65U, M-02	0.64U, M-02
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	410	130	3,700	NV	NV	0.61	65U, M-02	64U, M-02
Methylchlorophenoxypropionic acid (MCPP)	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	65U, M-02	64U, M-02
Pentachlorophenol	4	34	960	NV	NV	0.17	0.43U, M-02	0.43U, M-02
Picloram	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.43U, M-02	0.43U, M-02

Notes:

Analytical data in bold font indicates that the value exceeds the laboratory reporting limits.

Analytical data highlighted in yellow indicates the value exceeded a generic RBC.

Data Qualifiers:

U - The analyte was analyzed for, but was not detected above the analytical laboratory's method reporting limit.

M-02 - Due to the nature of matrix interferences, sample was diluted prior to preparation. The MDL and MRL were raised due to the dilution.

Footnotes:

(a) Risk-Based Concentrations are referenced from the November 1, 2015 update to the DEQ's Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites guidance document dated September 2003.

(b) This pathway is applicable anytime someone is likely to come into contact with contaminated soil. For the occupational scenario, exposure to contaminated soils should be considered for all contaminants found in the top three feet of soil.

(c) This pathway is applicable whenever vadose zone soils are contaminated with volatile compounds.

(d) This pathway is applicable whenever vadose zone contamination is found overlying an aquifer that is currently used or is reasonably likely to be used in the future.

Symbols/Acronyms:

bfc - below fill contact

DEQ - Department of Environmental Quality

NV - The chemical is considered "nonvolatile" for the purposes of the exposure calculations.

DRAFT Table 4
Soil Samples Analytical Results - Organophosphorus Pesticides
Supplemental Due Dilligence Orchards Investigation
2375 South Pacific Highway, Medford, Oregon
Coquille Economic Development Corporation

	DEQ Risk-Based Concentrations for Soil (a)						Test Pit Soil Samples	
	Ingestion, Dermal Contact and Inhalation (b)			Volatilization to Outdoor Air (c)	Vapor Intrusion into Buildings	Leaching to Groundwater (d)	TP1-0-1 Northwest (0-1 ft bfc)	TP2-0-1 Southeast (0-1 ft bfc)
Parameter	Occupational	Construction Worker	Excavation Worker	Occupational	Occupational	Occupational	10/22/2015	10/22/2015
Organophosphorus Pesticides (mg/Kg) USEPA 8141A								
Azinphos	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.54U M-02	0.51U M-02
Bolstar	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.54U M-02	0.51U M-02
Chlorpyrifos	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.54U M-02	0.51U M-02
Coumaphos	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.54U M-02	0.51U M-02
Demeton-o	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.54U M-02	0.51U M-02
Demeton-s	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.54U M-02	0.51U M-02
Diazinon	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.54U M-02	0.51U M-02
Dichlorvos	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.54U M-02	0.51U M-02
Disulfoton	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.54U M-02	0.51U M-02
Ethoprop	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.54U M-02	0.51U M-02
Fensulfothion	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.54U M-02	0.51U M-02
Fenthion	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.54U M-02	0.51U M-02
Merphos	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.54U M-02	0.51U M-02
Mevinphos	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.54U M-02	0.51U M-02
Naled	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.54U M-02	0.51U M-02
Methyl parathion	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.54U M-02	0.51U M-02
Phorate	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.54U M-02	0.51U M-02
Ronnel	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.54U M-02	0.51U M-02
Stirophos	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.54U M-02	0.51U M-02
Tokuthion (Prothiofos)	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.54U M-02	0.51U M-02
Trichloronate	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.54U M-02	0.51U M-02
Malathion	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.54U M-02	0.51U M-02
Thionazin	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.54U M-02	0.51U M-02
Dimethoate	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.54U M-02	0.51U M-02
Ethyl parathion	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	No RBCs	0.54U M-02	0.51U M-02

Notes:

Analytical data in bold font indicates that the value exceeds the laboratory reporting limits.

Analytical data highlighted in yellow indicates the value exceeded a generic RBC.

Data Qualifiers:

U - The analyte was analyzed for, but was not detected above the analytical laboratory's method reporting limit.

M-02 - Due to the nature of matrix interferences, sample was diluted prior to preparation. The MDL and MRL were raised due to the dilution.

Footnotes:

(a) Risk-Based Concentrations are referenced from the November 1, 2015 update to the DEQ's Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites guidance document dated September 2003.

(b) This pathway is applicable anytime someone is likely to come into contact with contaminated soil. For the occupational scenario, exposure to contaminated soils should be considered for all contaminants found in the top three feet of soil.

(c) This pathway is applicable whenever vadose zone soils are contaminated with volatile compounds.

(d) This pathway is applicable whenever vadose zone contamination is found overlying an aquifer that is currently used or is reasonably likely to be used in the future.

Symbols/Acronyms:

bfc - below fill contact

DEQ - Department of Environmental Quality

NV - The chemical is considered "nonvolatile" for the purposes of the exposure calculations.

LIMITATIONS

The purpose of an environmental assessment is to reasonably evaluate the potential for or actual impact of past practices on a given site area. In performing an environmental assessment, it is understood that a balance must be struck between a reasonable inquiry into the environmental issues and an exhaustive analysis of each conceivable issue of potential concern. This environmental assessment contains professional opinions as to the environmental issues of concern and/or additional actions, which may be addressed to the property. In rendering its professional opinion, we warrant that services provided hereunder were performed, within the limits described, consistent with current generally accepted environmental consulting principles and practices. No other warranty, express or implied, is made. The following paragraphs discuss the assumptions and parameters under which such an opinion is rendered.

No investigation is thorough enough to exclude the presence of hazardous materials at a given site. If hazardous conditions have not been identified during the assessment, such a finding should not therefore be construed as a guarantee of the absence of such materials on the site, but rather as the result of the services performed within the scope, limitations, and cost of the work performed.

Any opinions or recommendations presented apply to site conditions existing when services were performed. We are unable to report on or accurately predict events that may change the site conditions after the described services are performed, whether occurring naturally or caused by external forces. We assume no responsibility for conditions we were not authorized to investigate, or conditions not generally recognized as environmentally unacceptable when services were performed.

Environmental conditions may exist at the site that cannot be identified by visual observation. Where the scope of services was limited to observations made during site reconnaissance, interviews, review of readily available reports and literature or any combination, any conclusions or recommendations or both are necessarily based in part on information supplied by others, the accuracy or sufficiency of which we may not have independently reviewed.

Where subsurface work was performed, our professional opinions are based in part on interpretation of data from discrete sampling locations that may not represent actual conditions at unsampled locations.

Except where there is express concern of our client, or where specific environmental contaminants have been previously reported by others, naturally occurring toxic substances, potential environmental contaminants inside buildings, or contaminant concentrations that are not of current environmental concern may not be reflected in this document.

We are not responsible for any potential impact of changes in applicable environmental standards, practices, or regulations following performance of services, on the conclusions or recommendations, or both, of the study.

Services hereunder were performed consistent with our agreement and understanding with, and solely for the use of, our client. Opinions and recommendations are intended for the client, purpose, site, location, time frame, and project parameters indicated. We are not responsible for subsequent separation, detachment, or partial use of this document. Any reliance on this report by a third party shall be at such party's sole risk.

APPENDIX M

Hazardous Materials Reports

MEDFORD SITE

2375 S Pacific Hwy, Medford, OR 97501
prepared for:
Ref:

2022-03-08

Environmental Radius Report

NETRONLINE

2055 E. Rio Salado Pkwy
Tempe, AZ 85381
480-967-6752

Summary

Federal

	< 1/4	1/4 - 1/2	1/2 - 1
Lists of Federal NPL (Superfund) sites	0	0	0
Lists of Federal Delisted NPL sites	0	0	-
Lists of Federal sites subject to CERCLA removals and CERCLA orders	0	0	-
Lists of Federal CERCLA sites with NFRAP	0	0	-
Lists of Federal RCRA facilities undergoing Corrective Action	0	0	-
Lists of Federal RCRA TSD facilities	0	0	-
Lists of Federal RCRA generators	0	-	-
Federal institutional control/engineering control registries	0	-	-
Federal ERNS list	0	-	-

State

	< 1/4	1/4 - 1/2	1/2 - 1
Lists of state and tribal Superfund equivalent sites	1	2	8
	3	2	-
Lists of state and tribal landfills and solid waste disposal facilities	0	0	-
	4	3	-
Lists of state and tribal registered storage tanks	0	-	-
	0	-	-
Lists of state and tribal voluntary cleanup sites	0	0	-
	0	0	-

Other

	< 1/4	1/4 - 1/2	1/2 - 1
State and/or tribal lists of permitted facilities	4	-	-
	1	4	-
U.S. EPA Underground Storage Tanks (UST)	4	-	-
	0	0	-

Lists of Federal NPL (Superfund) sites

No Federal NPL sites found within a one-mile radius of the target property.

Lists of Federal Delisted NPL sites

No Federal Delisted NPL sites found within a half-mile radius of the target property.

Lists of Federal sites subject to CERCLA removals and CERCLA orders

No Federal sites subject to CERCLA removals and/or orders found within a half-mile radius of the target property.

Lists of Federal CERCLA sites with NFRAP

No Federal CERCLA sites with No Further Remedial Action Planned (NFRAP) decisions found within a half-mile radius of the target property.

Lists of Federal RCRA facilities undergoing Corrective Action

No Federal RCRA facilities undergoing corrective action(s) found within a half-mile radius of the target property.

Lists of Federal RCRA TSD facilities

No Federal RCRA treatment, storage and disposal facilities (TSDFs) found within a half-mile radius of target property.

Lists of Federal RCRA generators

No Federal RCRA generators found at the target property and/or adjoining properties.

Federal institutional control/engineering control registries

No Federal institutional or engineering controls found at the target property.

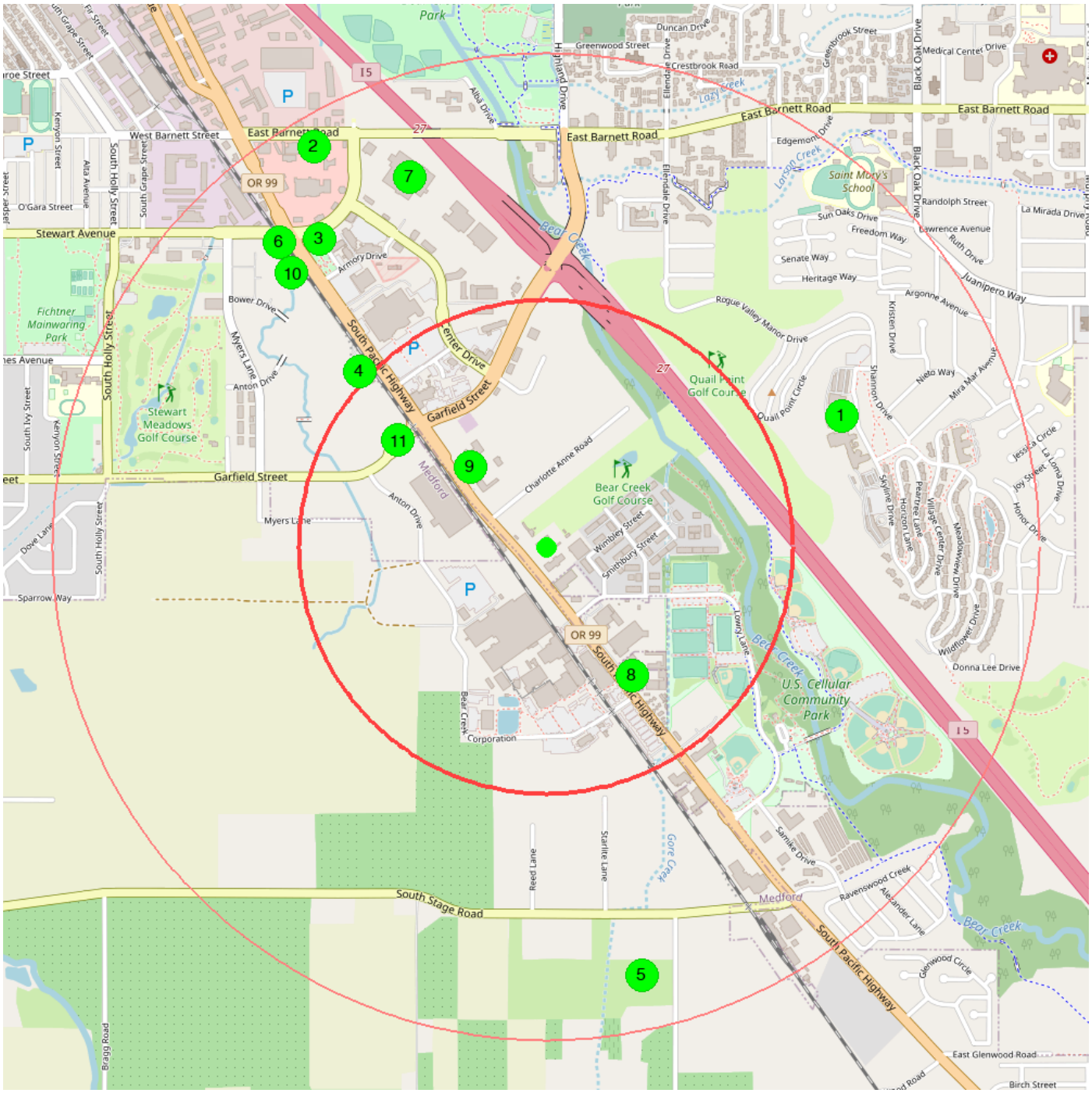
Federal ERNS list

No Federally recorded releases of oil and/or hazardous substances at the target property.

Lists of state and tribal Superfund equivalent sites

ORDEQ - ENVIRONMENTALLY CONTAMINATED SITES INVENTORY

The Oregon Department of Environmental Quality (DEQ) maintains Environmental Site Cleanup information database to track sites in Oregon with known or potential contamination from hazardous substances, and to document sites where DEQ has determined that no further action is required. Data in ECSI is "working information" used by DEQ's Environmental Cleanup Section.



center 42.30367 -122.850415 0.5 mile 1.0 mile

1

Facility Name	**ROGUE VALLEY MANOR**
Address	**1200 MIRA MAR AVE**
City	**Medford**
Interest	**Contaminated Site**
Status	**No further action required**
Detail	**Link**
distance from center (miles)	0.6545
data source	last updated 2021-11-17 from ORDEQ-ECSI

2

Facility Name	**KENTUCKY FRIED CHICKEN**
Address	**308 E BARNETT RD**
City	**Medford**
Interest	**Contaminated Site**
Status	**No further action required**
Detail	**Link**
distance from center (miles)	0.9365
data source	last updated 2021-11-17 from ORDEQ-ECSI

3

Facility Name	**NORTHWEST CHEMICAL INC. - MEDFORD**
Address	**18 EAST STEWART AVE**
City	**Medford**
Interest	**Contaminated Site**
Status	**Suspect site requiring further investigation**
Detail	**Link**
distance from center (miles)	0.7746
data source	last updated 2021-11-17 from ORDEQ-ECSI

4

Facility Name	**HAYS OIL PLANT CARDLOCK**
Address	**1890 S PACIFIC HWY**
City	**Medford**
Interest	**Contaminated Site**
Status	**Suspect site requiring further investigation**
Detail	**Link**
distance from center (miles)	0.5177
data source	last updated 2021-11-17 from ORDEQ-ECSI

5

Facility Name	**EDENVALE WINERY**
Address	**2310 VOORHIES RD**
City	**N/A**
Interest	**Contaminated Site**
Status	**Suspect site requiring further investigation**
Detail	**Link**
distance from center (miles)	0.8901
data source	last updated 2021-11-17 from ORDEQ-ECSI

6

Facility Name	**RICHFIELD BULK PETROLEUM FACILITY - MEDFORD**
Address	**15 W STEWART AVE**
City	**Medford**
Interest	**Contaminated Site**
Status	**Suspect site requiring further investigation**
Detail	**Link**
distance from center (miles)	0.8205
data source	last updated 2021-11-17 from ORDEQ-ECSI

7

Facility Name	**SOUTH GATEWAY CENTER**
Address	**BARNETT RD & STEWART AVE**
City	**Medford**
Interest	**Contaminated Site**
Status	**Suspect site requiring further investigation**
Detail	**Link**
distance from center (miles)	0.7973
data source	last updated 2021-11-17 from ORDEQ-ECSI

8

EPA Number	**047630744**
Facility Name	**HUBBARDS ACE HOME CTR (DUPLICATE)**
Address	**2655 S PACIFIC HWY**
City	**N/A**
Interest	**Contaminated Site**
Status	**Suspect site requiring further investigation**
Detail	**Link**
distance from center (miles)	0.3135
data source	last updated 2021-11-17 from ORDEQ-ECSI

9

Facility Name	**NAUMES PROPERTY (FORMER)**
Address	**2201 S PACIFIC HWY.**
City	**N/A**
Interest	**Contaminated Site**
Status	**No further action required**
Detail	**Link**
distance from center (miles)	0.2218
data source	last updated 2021-11-17 from ORDEQ-ECSI

10

Facility Name	**GRANGE CO-OP**
Address	**2531 S PACIFIC HWY**
City	**Medford**
Interest	**Contaminated Site**
Status	**Suspect site requiring further investigation**
Detail	**Link**
distance from center (miles)	0.7572
data source	last updated 2021-11-17 from ORDEQ-ECSI

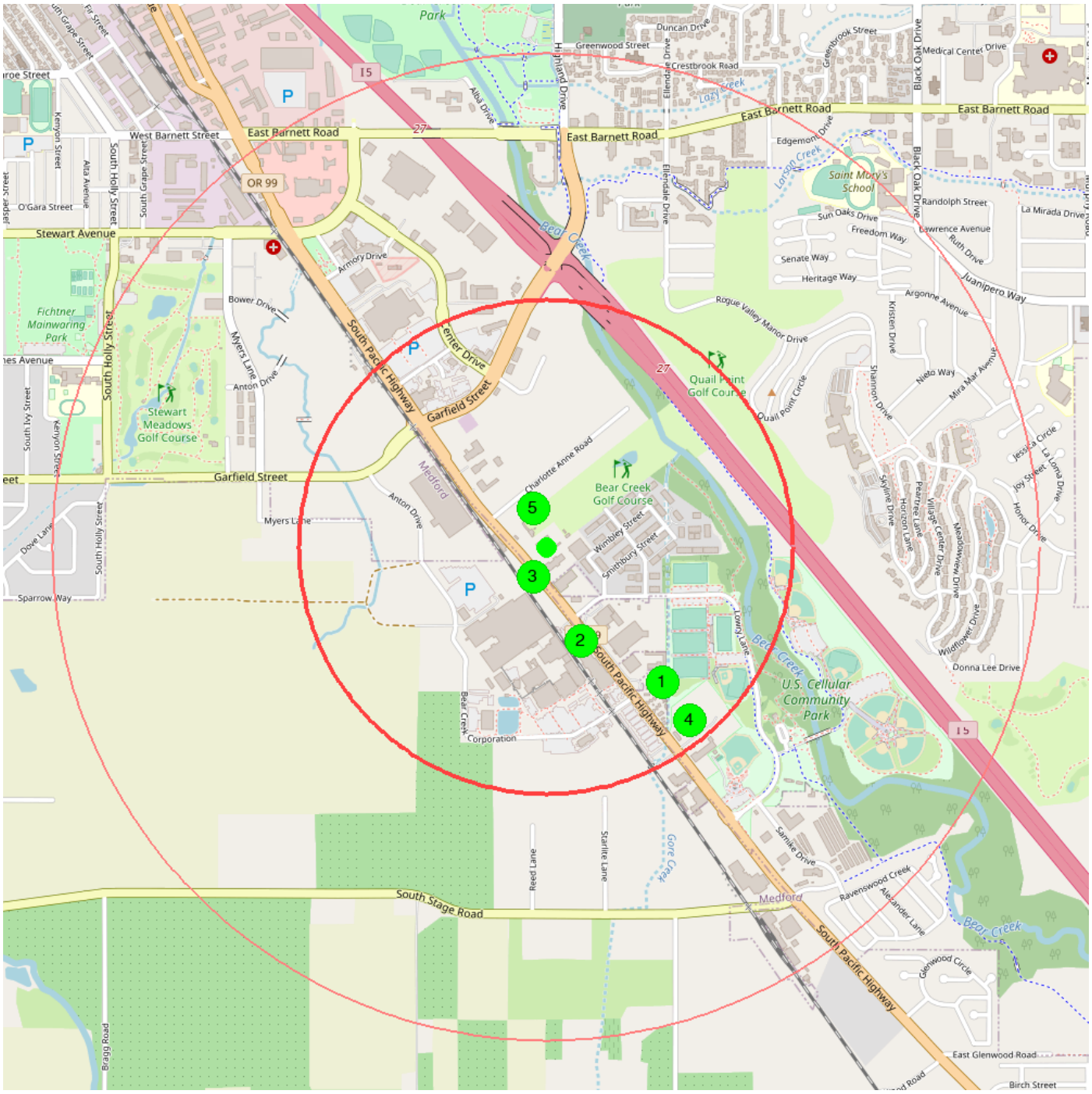
11

EPA Number	**001002445**
Facility Name	**KOGAP VENEER/PLYWOOD PLANT (FORMER)**
Address	**2080 S Pacific Hwy.**
City	**Medford**
Interest	**Contaminated Site**
Status	**Suspect site requiring further investigation**
Detail	**Link**
distance from center (miles)	0.3704
data source	last updated 2021-11-17 from ORDEQ-ECSI

Lists of state and tribal hazardous waste facilities

ORDEQ - HAZARDOUS WASTE FACILITIES

The Oregon Department of Environmental Quality (ORDEQ) is the lead agency for implementing the Resource Conservation and Recovery Act (RCRA) in Oregon. RCRA regulates the generation, transportation, treatment, storage and disposal of hazardous waste. It also provides a framework for the management of non-hazardous solid waste. Hazardous waste permits, officially known as RCRA Treatment, Storage, and Disposal Facility Permits, are complex and stringent. They are typically issued to facilities specializing in commercial hazardous waste management services. This dataset is representative of facilities with hazardous waste permits in the state of Oregon.



center 42.30367 -122.850415 0.5 mile 1.0 mile

1

EPA No.	**OR0000000976**
Facility Name	**COMMERCIAL DOCUMENTATION SERVICES INC**
Address	**2603 S PACIFIC HWY**
City	**N/A**
Type	**Generator**
Sub-Type	**CEG**
Detail	**Link**
distance from center (miles)	0.3617
data source	last updated 2021-11-17 from ORDEQ-HWS

2

EPA No.	**ORD007908429**
Facility Name	**BEAR CREEK OPERATIONS INC**
Address	**2518 S PACIFIC HWY**
City	**N/A**
Type	**Generator**
Sub-Type	**CEG**
Detail	**Link**
distance from center (miles)	0.2046
data source	last updated 2021-11-17 from ORDEQ-HWS

3

EPA No.	**ORD027682772**
Facility Name	**LUMBER YARD**
Address	**2399 S PACIFIC HWY**
City	**N/A**
Type	**Generator**
Sub-Type	**CEG**
Detail	**Link**
distance from center (miles)	0.0650
data source	last updated 2021-11-17 from ORDEQ-HWS

4

EPA No.	**ORD987196706**
Facility Name	**COMMERCIAL PRINTING COMPANY**
Address	**2661 S PACIFIC HWY**
City	**N/A**
Type	**Generator**
Sub-Type	**SQG**
Detail	**Link**
distance from center (miles)	0.4561
data source	last updated 2021-11-17 from ORDEQ-HWS

5

EPA No.	**ORD982659450**
Facility Name	**SKINNER BUICK CADILLAC INC**
Address	**2177 S PACIFIC HWY**
City	**N/A**
Type	**Generator**
Sub-Type	**CEG**
Detail	**Link**
distance from center (miles)	0.0819
data source	last updated 2021-11-17 from ORDEQ-HWS

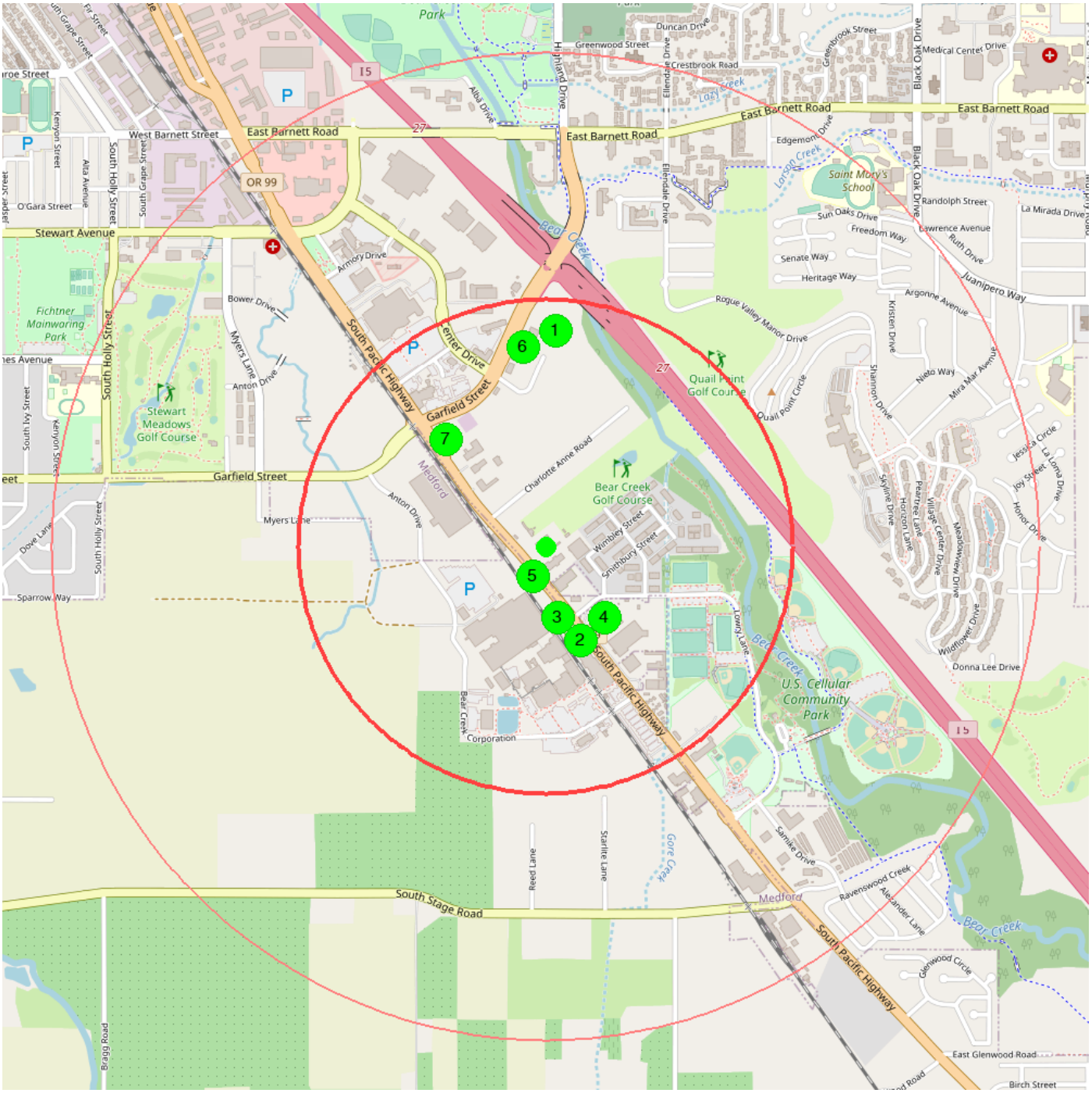
Lists of state and tribal landfills and solid waste disposal facilities

No State and/or tribal landfills or solid waste disposal facilities found within a half-mile radius of the target property.

Lists of state and tribal leaking storage tanks

ORDEQ - LEAKING UNDERGROUND STORAGE TANK

The Leaking Underground Storage Tank Program handles issues related to the cleanup of soil and groundwater contamination from spills and releases from regulated underground storage tanks (USTs), contractors working on cleanup of soil and groundwater at LUST sites, and enforcement of State and Federal LUST rules. This data layer represents points where the DEQ has identified or been notified of a Leaking Underground Storage Tank (LUST) containing either petroleum or a hazardous substance.



center 42.30367 -122.850415 0.5 mile 1.0 mile

1

Event No.	**15-00-0034**
Facility Name	**BARNETT TIGER MART #6387**
Address	**951 E BARNETT**
City	**N/A**
Interest	**REGULATED**
Status	**CLEANUP_COMPLETED**
Detail	**Link**
distance from center (miles)	0.4379
data source	last updated 2021-11-17 from ORDEQ-LUST

2

Event No.	**15-93-0123**
Facility Name	**BEAR CREEK OPERATIONS INC**
Address	**2518 S PACIFIC HWY**
City	**N/A**
Interest	**REGULATED**
Status	**CLEANUP_COMPLETED**
Detail	**Link**
distance from center (miles)	0.2046
data source	last updated 2021-11-17 from ORDEQ-LUST

3

Event No.	**15-89-0024**
Facility Name	**BEAR CREEK OPERATIONS INC**
Address	**2518 S PACIFIC HWY**
City	**N/A**
Interest	**REGULATED**
Status	**CLEANUP_COMPLETED**
Detail	**Link**
distance from center (miles)	0.2046
data source	last updated 2021-11-17 from ORDEQ-LUST

4

Event No.	**15-21-1104**
Facility Name	**GRANGE CO-OP II**
Address	**2531 S PACIFIC HWY**
Interest	**REGULATED**
Status	**CLEANUP_STARTED**
Detail	**Link**
distance from center (miles)	0.1880
data source	last updated 2021-11-17 from ORDEQ-LUST

5

Event No.	**15-90-0171**
Facility Name	**LUMBER YARD**
Address	**2399 S PACIFIC HWY**
City	**N/A**
Interest	**REGULATED**
Status	**CLEANUP_COMPLETED**
Detail	**Link**
distance from center (miles)	0.0650
data source	last updated 2021-11-17 from ORDEQ-LUST

6

Event No.	**15-16-1491**
Facility Name	**NASH HOLDINGS**
Address	**1401 CENTER DR**
City	**Medford**
Interest	**REGULATED**
Status	**CLEANUP_COMPLETED**
Detail	**Link**
distance from center (miles)	0.4053
data source	last updated 2021-11-17 from ORDEQ-LUST

7

Event No.	**15-21-0128**
Facility Name	**Rogue Credit Support Services Cntr**
Address	**2125 S PACIFIC HWY**
City	**Medford**
Interest	**REGULATED**
Status	**REPORTED**
Detail	**Link**
distance from center (miles)	0.2964
data source	last updated 2021-11-17 from ORDEQ-LUST

Lists of state and tribal registered storage tanks

No State and/or tribal registered storage tanks found at subject and adjoining properties.

State and tribal institutional control/engineering control registries

No State and/or tribal institutional and/or engineering controls found filed against the target property.

Lists of state and tribal voluntary cleanup sites

No State and/or tribal voluntary cleanup sites found within a half-mile radius of the target property.

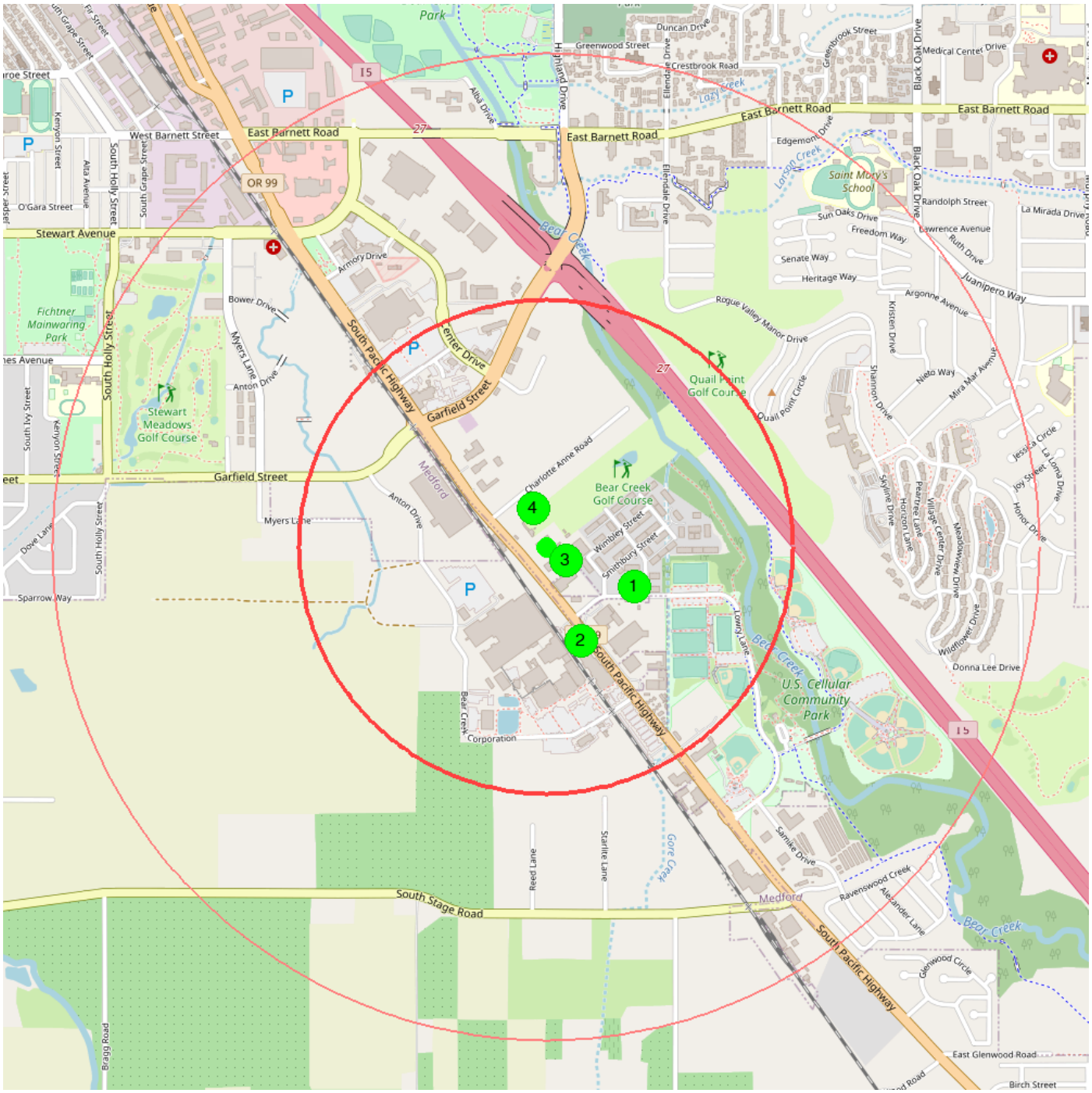
Lists of state and tribal brownfields sites

No State and/or tribal brownfields sites found within a half-mile radius of the target property.

State and/or tribal lists of permitted facilities

OREGON - DEPARTMENT OF ENVIRONMENTAL QUALITY

The Oregon Department of Environmental Quality (DEQ) is a regulatory agency whose job is to protect the quality of Oregon's Environment. DEQ uses a combination of technical assistance, inspections and permitting to help public and private facilities and citizens understand and comply with state and federal environmental regulations.



center 42.30367 -122.850415 0.5 mile 1.0 mile

1

Registry ID	**110037722328**
Name	**CHARLES POINT**
Address	**LOWRY LANE/S. PACIFIC HWY.**
City	**MEDFORD**
Site Type	**WATER SYSTEM**
Program Acronyms	**OR-DEQ:88024**
Interest Type	**STATE MASTER**
Date Created	**08-JAN-09**
FRS Facility Detail Report URL	**Link**
distance from center (miles)	0.1970
data source	last updated from FACILITY REGISTRY SERVICE

2

Registry ID	**110020977031**
Name	**JACKSON AND PERKINS CO**
Address	**2518 S PACIFIC HWY**
City	**MEDFORD**
Site Type	**MONITORING STATION**
Program Acronyms	**AIRS/AQS:13127, ICIS:2657694, NCDB:I10#2000082317045 2, NCDB:I10#2000082317045 3, OR-DEQ:3276, RCRAINFO:ORD007908429**
Interest Type	**AIR MONITORING SITE, COMPLIANCE ACTIVITY, FORMAL ENFORCEMENT ACTION, STATE MASTER, UNSPECIFIED UNIVERSE**
Date Created	**19-APR-05**
Date Updated	**21-APR-16**
FRS Facility Detail Report URL	**Link**
distance from center (miles)	0.2046
data source	last updated from FACILITY REGISTRY SERVICE

3

Registry ID	**110001657564**
Name	**JOURNEY CHURCH**
Address	**2399 OR-99**
City	**MEDFORD**
Site Type	**STATIONARY**
Program Acronyms	**OR-DEQ:72700, RCRAINFO:ORD027682772, TRIS:97501SMTHL2399S**
Interest Type	**STATE MASTER, TRI REPORTER, UNSPECIFIED UNIVERSE**
Point of Reference Description	**FACILITY CENTROID**
Date Created	**01-MAR-00**
Date Updated	**17-MAY-19**
FRS Facility Detail Report URL	**Link**
distance from center (miles)	0.0486
data source	last updated from FACILITY REGISTRY SERVICE

4

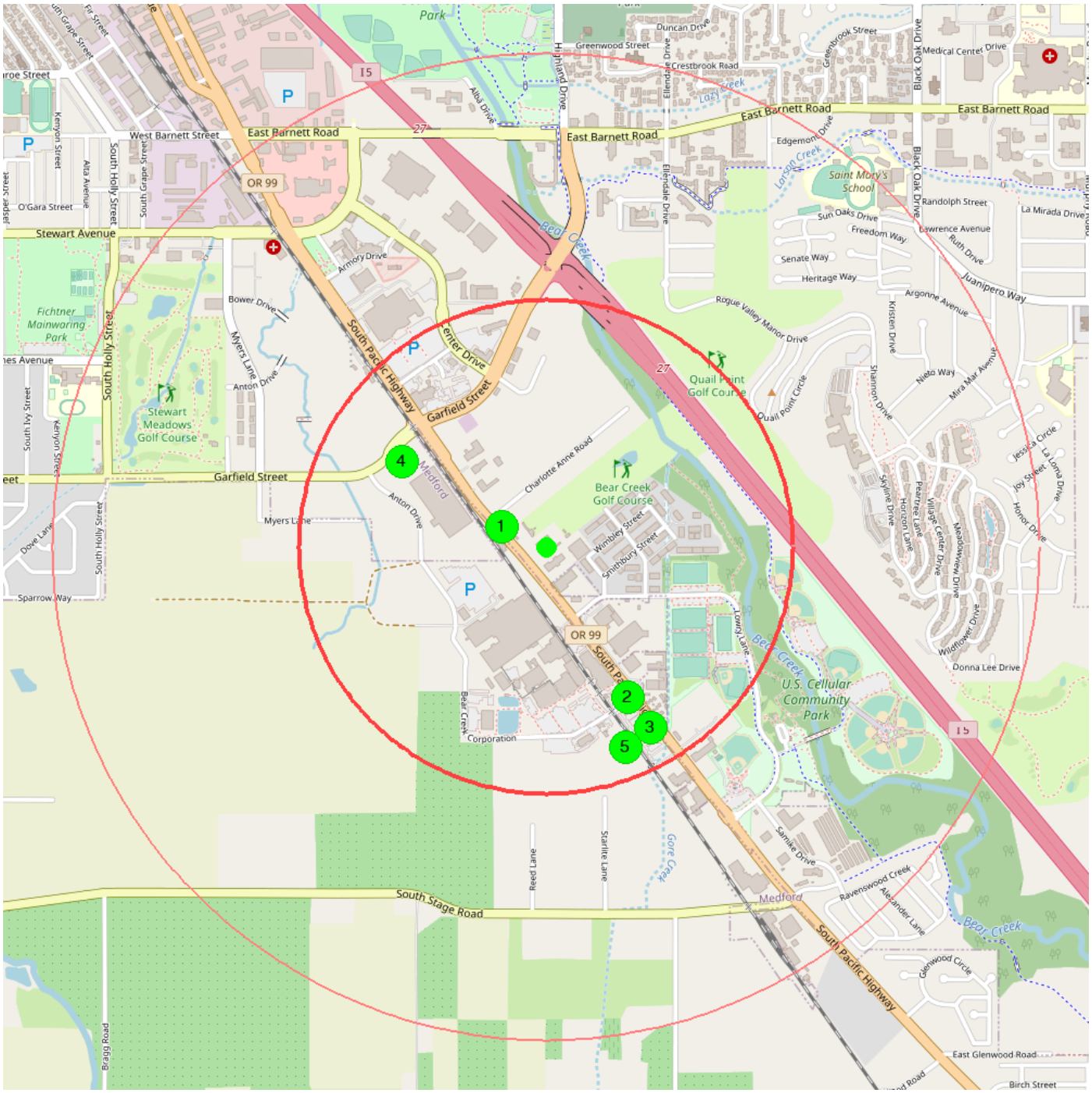
Registry ID	**110004795428**
Name	**SKINNER BUICK CADILLAC INC**
Address	**2177 S PACIFIC HWY**
City	**MEDFORD**
Site Type	**STATIONARY**
Program Acronyms	**OR-DEQ:2712, RCRAINFO:ORD982659450**
Interest Type	**STATE MASTER, UNSPECIFIED UNIVERSE**
Date Created	**01-MAR-00**
Date Updated	**27-JAN-12**
FRS Facility Detail Report URL	**Link**
distance from center (miles)	0.0819
data source	last updated from FACILITY REGISTRY SERVICE

Resource Conservation and Recovery Act Information (RCRAInfo)

RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM

RCRAInfo is EPA's comprehensive information system that supports the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984 through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste.

Please note that RCRAInfo contains all hazardous waste handlers in addition to TSDFs, generators, and facilities undergoing RCRA corrective action. One may encounter duplicate records from the TSDF, generators, and/or the RCRA corrective action sections. This source was searched for all records within a half-mile of the target property.



center 42.30367 -122.850415 0.5 mile 1.0 mile

1

Registry ID	**110004781219**
Name	**BROWNS AUTO BODY & PAINT**
Address	**2201 S PACIFIC HWY**
City	**MEDFORD**
Site Type	**STATIONARY**
Program Acronyms	**RCRAINFO:ORD027683713**
Interest Type	**UNSPECIFIED UNIVERSE**
Point of Reference Description	**PLANT ENTRANCE (GENERAL)**
Date Created	**01-MAR-00**
Date Updated	**27-JAN-12**
FRS Facility Detail Report URL	**Link**
distance from center (miles)	0.0993
data source	last updated from FACILITY REGISTRY SERVICE

2

Registry ID	**110004772336**
Name	**COMMERCIAL DOCUMENTATION SERVICES**
Address	**2603 S PACIFIC HWY**
City	**MEDFORD**
Site Type	**STATIONARY**
Program Acronyms	**OR-DEQ:3428, RCRAINFO:OR0000000976, RCRAINFO:OR000000976, RCRAINFO:ORD000000976**
Interest Type	**STATE MASTER, UNSPECIFIED UNIVERSE**
Point of Reference Description	**PLANT ENTRANCE (GENERAL)**
Date Created	**01-MAR-00**
Date Updated	**26-FEB-15**
FRS Facility Detail Report URL	**Link**
distance from center (miles)	0.3468
data source	last updated from FACILITY REGISTRY SERVICE

3

Registry ID	**110001657895**
Name	**COMMERCIAL DOCUMENTATION SERVICES**
Address	**2661 SOUTH PACIFIC HIGHWAY**
City	**MEDFORD**
Site Type	**STATIONARY**
Program Acronyms	**OR-DEQ:1706, RCRAINFO:ORD987196706**
Interest Type	**STATE MASTER, UNSPECIFIED UNIVERSE**
Point of Reference Description	**PLANT ENTRANCE (GENERAL)**
Date Created	**01-MAR-00**
Date Updated	**11-APR-14**
FRS Facility Detail Report URL	**Link**
distance from center (miles)	0.4239
data source	last updated from FACILITY REGISTRY SERVICE

4

Registry ID	**110002149602**
Name	**KOGAP MANUFACTURING SITE**
Address	**2080 OR-99**
City	**MEDFORD**
Site Type	**STATIONARY**
Program Acronyms	**NCDB:D10#1089-09-11-325, NCDB:I10#198809201747 2, RCRAINFO:ORD009038399, RCRAINFO:ORQ000009035, TRIS:97501KGPMN2080S**
Interest Type	**COMPLIANCE ACTIVITY, TRI REPORTER, UNSPECIFIED UNIVERSE**
Point of Reference Description	**FACILITY CENTROID**
Date Created	**01-MAR-00**
Date Updated	**09-MAY-19**
FRS Facility Detail Report URL	**Link**
distance from center (miles)	0.3383
data source	last updated from FACILITY REGISTRY SERVICE

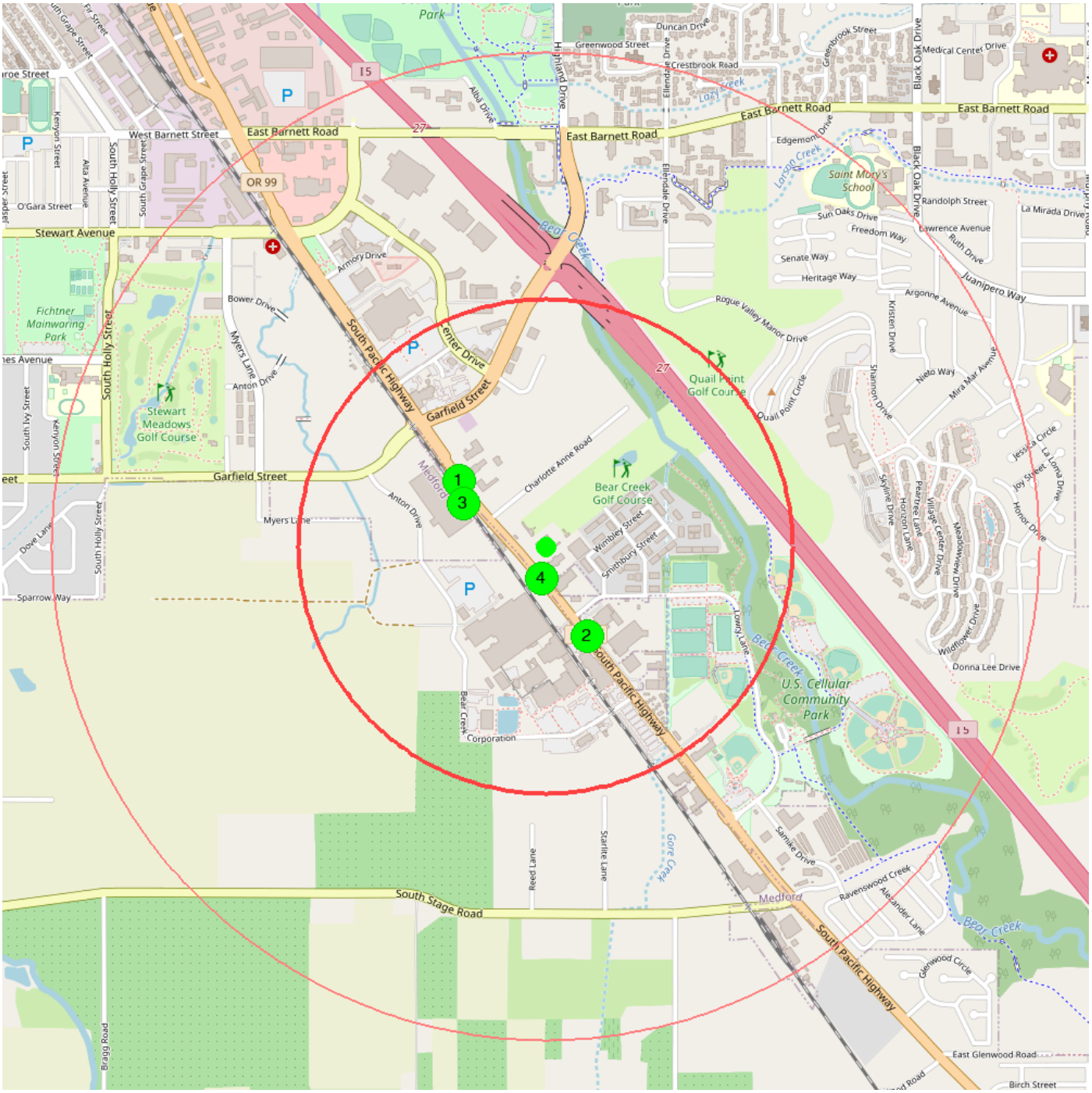
5

Registry ID	**110004783137**
Name	**NORTHWEST PRINTED CIRCUITS**
Address	**2655 S PACIFIC HWY**
City	**MEDFORD**
Site Type	**STATIONARY**
Program Acronyms	**NCDB:I10#19910815OR033 2, OR-DEQ:2915, RCRAINFO:ORD047630744**
Interest Type	**COMPLIANCE ACTIVITY, STATE MASTER, UNSPECIFIED UNIVERSE**
Point of Reference Description	**PLANT ENTRANCE (GENERAL)**
Date Created	**01-MAR-00**
Date Updated	**09-AUG-10**
FRS Facility Detail Report URL	**Link**
distance from center (miles)	0.4159
data source	last updated from FACILITY REGISTRY SERVICE

U.S. EPA Underground Storage Tanks (UST)

EPA - UNDERGROUND STORAGE TANKS

Approximately 542,000 underground storage tanks (USTs) nationwide store petroleum or hazardous substances. The greatest potential threat from a leaking UST is contamination of groundwater, the source of drinking water for nearly half of all Americans. EPA, states, territories, and tribes work in partnership with industry to protect the environment and human health from potential releases. EPA developed UST Finder, a mapping application containing a comprehensive, state-sourced national map of UST and leaking UST data. It provides attributes and locations of active and closed USTs, UST facilities, and LUST sites from states as of 2018-2019 and from Tribal lands and US territories as of 2020-2021. This data set was searched to return all records regarding the target and/or adjoining properties.



center 42.30367 -122.850415 0.5 mile 1.0 mile

1

Facility ID	**OR9072**
Name	**FARMERS FINANCE CORP**
Address	**2201 S PACIFIC HWY**
City	**MEDFORD**
State	**Oregon**
ZIP Code	**97501**
Latitude	**42.305583622569**
Longitude	**-122.85383061567**
Closed USTs	**1**
Facility Status	**Closed UST(s)**
Land Use	**Developed, High Intensity**
Population Within 1,500ft	**80**
Within Source Water Protection Area (SPA)	**No**
Within Groundwater Wellhead Protection Area (WHPA)	**No**
Within 100-Year Floodplain	**No**
distance from center (miles)	0.2190
data source	last updated 2020-11-18 from USEPA-UST

2

Facility ID	**OR4751**
Name	**GRANGE CO-OP**
Address	**2531 S PACIFIC HWY**
City	**MEDFORD**
State	**Oregon**
ZIP Code	**97501**
Latitude	**42.301058581222**
Longitude	**-122.84877033202**
Open USTs	**3**
Facility Status	**Open UST(s)**
Land Use	**Developed, Medium Intensity**
Population Within 1,500ft	**210**
Private Wells Within 1,500ft	**2**
Within Source Water Protection Area (SPA)	**No**
Within Groundwater Wellhead Protection Area (WHPA)	**No**
Within 100-Year Floodplain	**No**
distance from center (miles)	0.1990
data source	last updated 2020-11-18 from USEPA-UST

3

Facility ID	**OR7370**
Name	**NAUMES EQUIPMENT & FUEL**
Address	**2233 S PACIFIC HWY**
City	**MEDFORD**
State	**Oregon**
ZIP Code	**97501**
Latitude	**42.305130500721**
Longitude	**-122.8533920556**
Closed USTs	**2**
Facility Status	**Closed UST(s)**
Land Use	**Developed, High Intensity**
Population Within 1,500ft	**93**
Private Wells Within 1,500ft	**1**
Within Source Water Protection Area (SPA)	**No**
Within Groundwater Wellhead Protection Area (WHPA)	**No**
Within 100-Year Floodplain	**No**
distance from center (miles)	0.1826
data source	last updated 2020-11-18 from USEPA-UST

4

Facility ID	**OR4126**
Name	**SMITH LUMBER CO**
Address	**2399 S PACIFIC HWY**
City	**MEDFORD**
State	**Oregon**
ZIP Code	**975018757**
Latitude	**42.30274489933**
Longitude	**-122.85057030045**
Closed USTs	**2**
Facility Status	**Closed UST(s)**
Land Use	**Developed, High Intensity**
Population Within 1,500ft	**227**
Private Wells Within 1,500ft	**2**
Within Source Water Protection Area (SPA)	**No**
Within Groundwater Wellhead Protection Area (WHPA)	**No**
Within 100-Year Floodplain	**No**
distance from center (miles)	0.0644
data source	last updated 2020-11-18 from USEPA-UST

U.S. EPA Toxic Release Inventory System (TRIS)

No records found

Medford Site
Highway 99
Medford, OR 97501

Inquiry Number: 4572642.2s
March 23, 2016

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

HIGHWAY 99
MEDFORD, OR 97501

COORDINATES

Latitude (North):	42.3041160 - 42˚ 18' 14.81''
Longitude (West):	122.8512940 - 122˚ 51' 4.65''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	512257.0
UTM Y (Meters):	4683339.5
Elevation:	1418 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	6071121 MEDFORD EAST, OR
Version Date:	2014

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20120723
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
HIGHWAY 99
MEDFORD, OR 97501

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	DAVIS FINISH PRODUCT	2399 S PACIFIC HWY	RCRA NonGen / NLR, FINDS, ECHO	Higher	217, 0.041, SSE
A2	SMITH LUMBER CO	2399 S PACIFIC HWY	LUST, UST	Higher	217, 0.041, SSE
B3	NAUMES EQUIPMENT & F	2233 S PACIFIC HWY	UST	Higher	378, 0.072, NW
B4	NAUMES PROPERTY (FOR	2201 AND 2233 S PACI	ECSI, VCP	Higher	386, 0.073, NW
B5	FARMERS FINANCE CORP	2201 S PACIFIC HWY	UST	Higher	506, 0.096, NW
B6	BROWNS AUTO BODY & P	2201 S PACIFIC HWY	RCRA NonGen / NLR, FINDS, ECHO	Higher	506, 0.096, NW
B7		2201 S PACIFIC HWY	EDR Hist Auto	Higher	506, 0.096, NW
C8	SKINNER BUICK CADILL	2177 S PACIFIC HWY	UST	Higher	649, 0.123, NW
C9	SKINNER BUICK CADILL	2177 S PACIFIC HWY	RCRA-CESQG, FINDS, ECHO	Higher	649, 0.123, NW
D10	HARRY & DAVID	2500 S PACIFIC HWY	AST, HSIS	Higher	685, 0.130, SSE
D11	BEAR CREEK OPERATION	2518 S PACIFIC HWY	RCRA-CESQG, PADS, FINDS, ECHO	Higher	685, 0.130, SSE
D12	BEAR CREEK ORCHARD	2518 S PACIFIC HWY	LUST, UST	Higher	923, 0.175, SSE
D13	HARRY & DAVID	2518 S PACIFIC HWY	UST	Higher	923, 0.175, SSE
E14	GRANGE COOP SUPPLY A	2531 S PACIFIC HWY	AST, SPILLS, OR HAZMAT, HSIS	Higher	965, 0.183, SSE
E15	GRANGE CO-OP	2531 S PACIFIC HWY	LUST, UST	Higher	965, 0.183, SSE
F16	KOGAP VENEER/PLYWOOD	2080 S PACIFIC HWY.	ECSI, VCP	Lower	1052, 0.199, NW
F17	KOGAP ENTERPRISES IN	2080 S PACIFIC HWY	RCRA NonGen / NLR	Lower	1052, 0.199, NW
F18	KOGAP MFG CO	2080 S PACIFIC HWY	UST, RCRA NonGen / NLR	Lower	1052, 0.199, NW
E19	COMMERCIAL DOCUMENTA	2603 S PACIFIC HWY	RCRA-SQG, FINDS, HSIS, MANIFEST, ECHO	Higher	1223, 0.232, SSE
E20	COMMERCIAL DOCUMENTA	2603 S PACIFIC HWY	RCRA NonGen / NLR	Higher	1223, 0.232, SSE
G21	NW PRINTED CIRCUITS	2655 S PACIFIC HWY.	ECSI	Higher	1652, 0.313, SE
G22	NORTHWEST PRINTED CI	2655 S PACIFIC HWY	SEMS-ARCHIVE, RCRA NonGen / NLR, FTTS, HIST FTTS	Higher	1652, 0.313, SE
23	HAYS OIL - BULK PLAN	1890 S PACIFIC HWY.	ECSI, AST, HSIS	Lower	1833, 0.347, NW
H24	GRANGE CO-OP TANK PL	11 W STEWART AVE.	ECSI	Lower	3853, 0.730, NW
H25	RICHFIELD BULK PETRO	15 W STEWART AVE	ECSI, FINDS, ECHO	Lower	3867, 0.732, NW
H26	NORTHWEST CHEMICAL I	18 WEST STEWART	ECSI, VCP, FTTS, HIST FTTS	Lower	3951, 0.748, NW
27	ROGUE VALLEY MANOR	1200 MIRA MAR AVE	ECSI, SWF/LF, LUST, UST, SPILLS, OR HAZMAT, HSIS	Higher	4096, 0.776, ENE
28	KENTUCKY FRIED CHICK	308 E BARNETT RD	ECSI, FINDS, ECHO	Lower	4388, 0.831, NNW
29	ROYAL-GOLDENCREST-SI	3100 S PACIFIC HWY.	ECSI	Higher	4847, 0.918, SE
30	SI, CASA FLORES REST	235 E BARNETT RD.	ECSI, VCP	Lower	4875, 0.923, NW

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ..... National Priority List
Proposed NPL ..... Proposed National Priority List Sites
NPL LIENS ..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ..... National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ..... Federal Facility Site Information listing
SEMS ..... Superfund Enterprise Management System

Federal RCRA CORRACTS facilities list

CORRACTS ..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ..... RCRA - Large Quantity Generators

Federal institutional controls / engineering controls registries

LUCIS ..... Land Use Control Information System
US ENG CONTROLS ..... Engineering Controls Sites List
US INST CONTROL ..... Sites with Institutional Controls

Federal ERNS list

ERNS ..... Emergency Response Notification System

State- and tribal - equivalent CERCLIS

CRL ..... Confirmed Release List and Inventory

EXECUTIVE SUMMARY

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Solid Waste Facilities List

State and tribal leaking storage tank lists

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

FEMA UST..... Underground Storage Tank Listing
INDIAN UST..... Underground Storage Tanks on Indian Land

State and tribal institutional control / engineering control registries

ENG CONTROLS..... Engineering Controls Recorded at ESCI Sites
INST CONTROL..... Institutional Controls Recorded at ESCI Sites

State and tribal voluntary cleanup sites

INDIAN VCP..... Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS..... Brownfields Projects

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY..... Recycling Facility Location Listing
HIST LF..... Old Closed SW Disposal Sites
INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations
ODI..... Open Dump Inventory

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL..... National Clandestine Laboratory Register
AOCONCERN..... Columbia Slough
CDL..... Uninhabitable Drug Lab Properties
US CDL..... Clandestine Drug Labs

Local Land Records

LIENS 2..... CERCLA Lien Information

Records of Emergency Release Reports

HMIRS..... Hazardous Materials Information Reporting System

SPILLS	Spill Database
OR HAZMAT	Hazmat/Incidents
SPILLS 90	SPILLS 90 data from FirstSearch

Other Ascertainable Records

FUDS	Formerly Used Defense Sites
DOD	Department of Defense Sites
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
2020 COR ACTION	2020 Corrective Action Program List
TSCA	Toxic Substances Control Act
TRIS	Toxic Chemical Release Inventory System
SSTS	Section 7 Tracking Systems
ROD	Records Of Decision
RMP	Risk Management Plans
RAATS	RCRA Administrative Action Tracking System
PRP	Potentially Responsible Parties
PADS	PCB Activity Database System
ICIS	Integrated Compliance Information System
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
FINDS	Facility Index System/Facility Registry System
AIRS	Oregon Title V Facility Listing
COAL ASH	Coal Ash Disposal Sites Listing
DRYCLEANERS	Drycleaning Facilities
Financial Assurance	Financial Assurance Information Listing
HSIS	Hazardous Substance Information Survey
NPDES	Wastewater Permits Database
UIC	Underground Injection Control Program Database
ECHO	Enforcement & Compliance History Information
FUELS PROGRAM	EPA Fuels Program Registered Listing

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	EDR Proprietary Manufactured Gas Plants
EDR Hist Cleaner	EDR Exclusive Historic Dry Cleaners

EXECUTIVE SUMMARY

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS..... Recovered Government Archive State Hazardous Waste Facilities List
RGA LF..... Recovered Government Archive Solid Waste Facilities List
RGA LUST..... Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

A review of the SEMS-ARCHIVE list, as provided by EDR, and dated 01/11/2016 has revealed that there is 1 SEMS-ARCHIVE site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
NORTHWEST PRINTED CI	***2655 S PACIFIC HWY***	***SE 1/4 - 1/2 (0.313 mi.)***	***G22***	***103***

Federal RCRA generators list

RCRA-SQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA)

of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 06/09/2015 has revealed that there is 1 RCRA-SQG site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
COMMERCIAL DOCUMENTA	***2603 S PACIFIC HWY***	***SSE 1/8 - 1/4 (0.232 mi.)***	***E19***	***52***

RCRA-CESQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

A review of the RCRA-CESQG list, as provided by EDR, and dated 06/09/2015 has revealed that there are 2 RCRA-CESQG sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SKINNER BUICK CADILL	***2177 S PACIFIC HWY***	***NW 0 - 1/8 (0.123 mi.)***	***C9***	***19***
BEAR CREEK OPERATION	***2518 S PACIFIC HWY***	***SSE 1/8 - 1/4 (0.130 mi.)***	***D11***	***27***

State- and tribal - equivalent CERCLIS

ECSI: The Environmental Cleanup Site Information System records information about sites in Oregon that may be of environmental interest. The data come from the Department of Environmental Quality.

A review of the ECSI list, as provided by EDR, and dated 01/01/2016 has revealed that there are 11 ECSI sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
NAUMES PROPERTY (FOR Investigation: No Further Action State ID Number: 5750	***2201 AND 2233 S PACI***	***NW 0 - 1/8 (0.073 mi.)***	***B4***	***11***
NW PRINTED CIRCUITS Investigation: Suspect State ID Number: 1233	2655 S PACIFIC HWY.	SE 1/4 - 1/2 (0.313 mi.)	G21	96
ROGUE VALLEY MANOR Investigation: No Further Action State ID Number: 3407	***1200 MIRA MAR AVE***	***ENE 1/2 - 1 (0.776 mi.)***	***27***	***124***
ROYAL-GOLDENCREST-SI Investigation: Suspect State ID Number: 5901	3100 S PACIFIC HWY.	SE 1/2 - 1 (0.918 mi.)	29	137

Lower Elevation	Address	Direction / Distance	Map ID	Page
KOGAP VENEER/PLYWOOD Investigation: Suspect	***2080 S PACIFIC HWY.***	***NW 1/8 - 1/4 (0.199 mi.)***	***F16***	***44***

State ID Number: 3796				
HAYS OIL - BULK PLAN Investigation: Suspect State ID Number: 2080	***1890 S PACIFIC HWY.***	***NW 1/4 - 1/2 (0.347 mi.)***	***23***	***108***
GRANGE CO-OP TANK PL Investigation: Suspect State ID Number: 5471	11 W STEWART AVE.	NW 1/2 - 1 (0.730 mi.)	H24	113
RICHFIELD BULK PETRO Investigation: Suspect State ID Number: 1760	***15 W STEWART AVE***	***NW 1/2 - 1 (0.732 mi.)***	***H25***	***115***
NORTHWEST CHEMICAL I Investigation: Suspect State ID Number: 2091	***18 WEST STEWART***	***NW 1/2 - 1 (0.748 mi.)***	***H26***	***119***
KENTUCKY FRIED CHICK Investigation: No Further Action State ID Number: 1711	***308 E BARNETT RD***	***NNW 1/2 - 1 (0.831 mi.)***	***28***	***131***
SI, CASA FLORES REST Investigation: No Further Action State ID Number: 4325	***235 E BARNETT RD.***	***NW 1/2 - 1 (0.923 mi.)***	***30***	***138***

State and tribal leaking storage tank lists

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Environmental Quality's LUST Database List.

A review of the LUST list, as provided by EDR, and dated 01/13/2016 has revealed that there are 3 LUST sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SMITH LUMBER CO Facility ID: 15-90-0171 Cleanup Complete: 09/05/1991	***2399 S PACIFIC HWY***	***SSE 0 - 1/8 (0.041 mi.)***	***A2***	***10***
BEAR CREEK ORCHARD Facility ID: 15-89-0024 Facility ID: 15-93-0123 Cleanup Complete: 08/28/1993 Cleanup Complete: 12/26/2001	***2518 S PACIFIC HWY***	***SSE 1/8 - 1/4 (0.175 mi.)***	***D12***	***31***
GRANGE CO-OP Facility ID: 15-98-0018 Cleanup Complete: 09/16/1999	***2531 S PACIFIC HWY***	***SSE 1/8 - 1/4 (0.183 mi.)***	***E15***	***43***

State and tribal registered storage tank lists

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Environmental Quality's UST List on Disk.

A review of the UST list, as provided by EDR, and dated 01/26/2016 has revealed that there are 8 UST

sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SMITH LUMBER CO Facility ID: 4126	***2399 S PACIFIC HWY***	***SSE 0 - 1/8 (0.041 mi.)***	***A2***	***10***
NAUMES EQUIPMENT & F Facility ID: 7370	2233 S PACIFIC HWY	NW 0 - 1/8 (0.072 mi.)	B3	11
FARMERS FINANCE CORP Facility ID: 9072	2201 S PACIFIC HWY	NW 0 - 1/8 (0.096 mi.)	B5	16
SKINNER BUICK CADILL Facility ID: 2277	2177 S PACIFIC HWY	NW 0 - 1/8 (0.123 mi.)	C8	19
BEAR CREEK ORCHARD Facility ID: 4411	***2518 S PACIFIC HWY***	***SSE 1/8 - 1/4 (0.175 mi.)***	***D12***	***31***
HARRY & DAVID Facility ID: 5005	2518 S PACIFIC HWY	SSE 1/8 - 1/4 (0.175 mi.)	D13	32
GRANGE CO-OP Facility ID: 4751	***2531 S PACIFIC HWY***	***SSE 1/8 - 1/4 (0.183 mi.)***	***E15***	***43***

Lower Elevation	Address	Direction / Distance	Map ID	Page
KOGAP MFG CO Facility ID: 7617	***2080 S PACIFIC HWY***	***NW 1/8 - 1/4 (0.199 mi.)***	***F18***	***51***

AST: The Aboveground Storage Tank database contains registered ASTs. The data comes from the list of ASTs reported to the Office of State Fire Marshal.

A review of the AST list, as provided by EDR, and dated 11/25/2015 has revealed that there are 2 AST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
HARRY & DAVID Facility Id: 016396	***2500 S PACIFIC HWY***	***SSE 1/8 - 1/4 (0.130 mi.)***	***D10***	***22***
GRANGE COOP SUPPLY A Facility Id: 036000	***2531 S PACIFIC HWY***	***SSE 1/8 - 1/4 (0.183 mi.)***	***E14***	***32***

State and tribal voluntary cleanup sites

VCP: Responsible parties have entered into an agreement with DEQ to voluntarily address contamination associated with their property.

A review of the VCP list, as provided by EDR, and dated 01/05/2016 has revealed that there are 2 VCP sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
NAUMES PROPERTY (FOR ECS Site ID: 5750	***2201 AND 2233 S PACI***	***NW 0 - 1/8 (0.073 mi.)***	***B4***	***11***

Lower Elevation	Address	Direction / Distance	Map ID	Page
KOGAP VENEER/PLYWOOD	***2080 S PACIFIC HWY.***	***NW 1/8 - 1/4 (0.199 mi.)***	***F16***	***44***

EXECUTIVE SUMMARY

ECS Site ID: 3796

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 06/09/2015 has revealed that there are 5 RCRA NonGen / NLR sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
DAVIS FINISH PRODUCT	***2399 S PACIFIC HWY***	***SSE 0 - 1/8 (0.041 mi.)***	***A1***	***8***
BROWNS AUTO BODY & P	***2201 S PACIFIC HWY***	***NW 0 - 1/8 (0.096 mi.)***	***B6***	***16***
COMMERCIAL DOCUMENTA	2603 S PACIFIC HWY	SSE 1/8 - 1/4 (0.232 mi.)	E20	95

Lower Elevation	Address	Direction / Distance	Map ID	Page
KOGAP ENTERPRISES IN	2080 S PACIFIC HWY	NW 1/8 - 1/4 (0.199 mi.)	F17	50
KOGAP MFG CO	***2080 S PACIFIC HWY***	***NW 1/8 - 1/4 (0.199 mi.)***	***F18***	***51***

MANIFEST: Hazardous waste manifest information.

A review of the MANIFEST list, as provided by EDR, and dated 12/31/2014 has revealed that there is 1 MANIFEST site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
COMMERCIAL DOCUMENTA	***2603 S PACIFIC HWY***	***SSE 1/8 - 1/4 (0.232 mi.)***	***E19***	***52***
Status: SQG				
Status: Small quantity generator				
EPA Id: OR0000000976				

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR Hist Auto: EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station,

service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

A review of the EDR Hist Auto list, as provided by EDR, has revealed that there is 1 EDR Hist Auto site within approximately 0.125 miles of the target property.

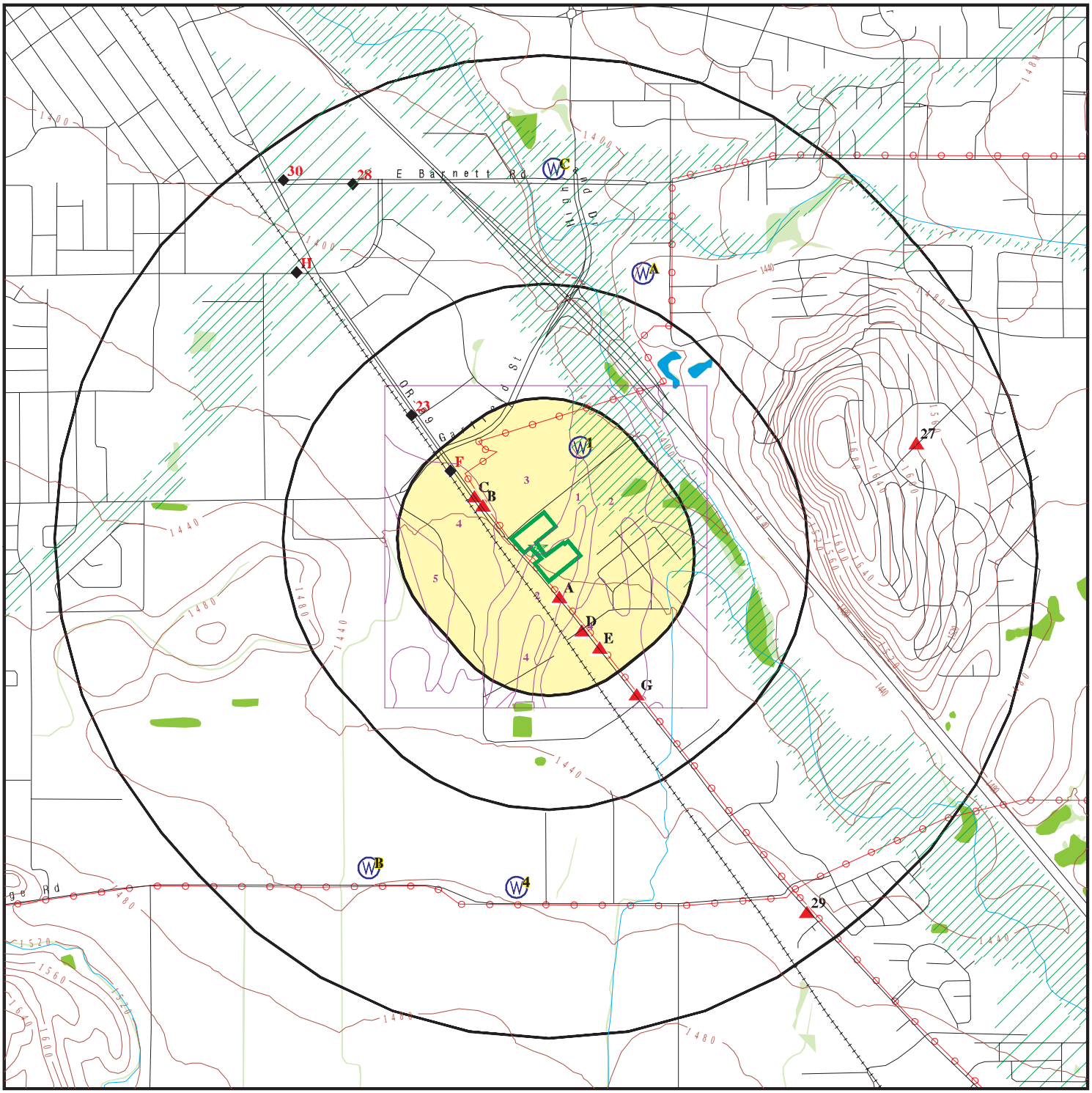
Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
Not reported	2201 S PACIFIC HWY	NW 0 - 1/8 (0.096 mi.)	B7	18

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 11 records.

Site Name	Database(s)
CITY CLEANERS - MEDFORD (FORMER)	ECSI
SOUTH GATEWAY CENTER	ECSI, VCP, BROWNFIELDS
KOGAP PROPERTY	SEMS-ARCHIVE
MEDFORD CORP	SEMS-ARCHIVE, RCRA NonGen / NLR
BIG Y SHOPPING CENTER	LUST, UST
MEDCO / MEDFORD CORP	RGA LUST
BOISE CASCADE - MEDFORD	RGA HWS
MEDFORD CORP	RGA LUST
MEDCO / MEDFORD CORP	RGA LUST
MEDFORD CORP. - NORTH MEDFORD	RGA HWS
MEDFORD CORP.	RGA LUST

OVERVIEW MAP - 4572642.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

Power transmission lines

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Medford Site	CLIENT: Analytical Environmental Serv.
ADDRESS: Highway 99 Medford OR 97501	CONTACT: Alison Middlekauff
LAT/LONG: 42.304116 / 122.851294	INQUIRY #: 4572642.2s
	DATE: March 23, 2016 10:33 pm

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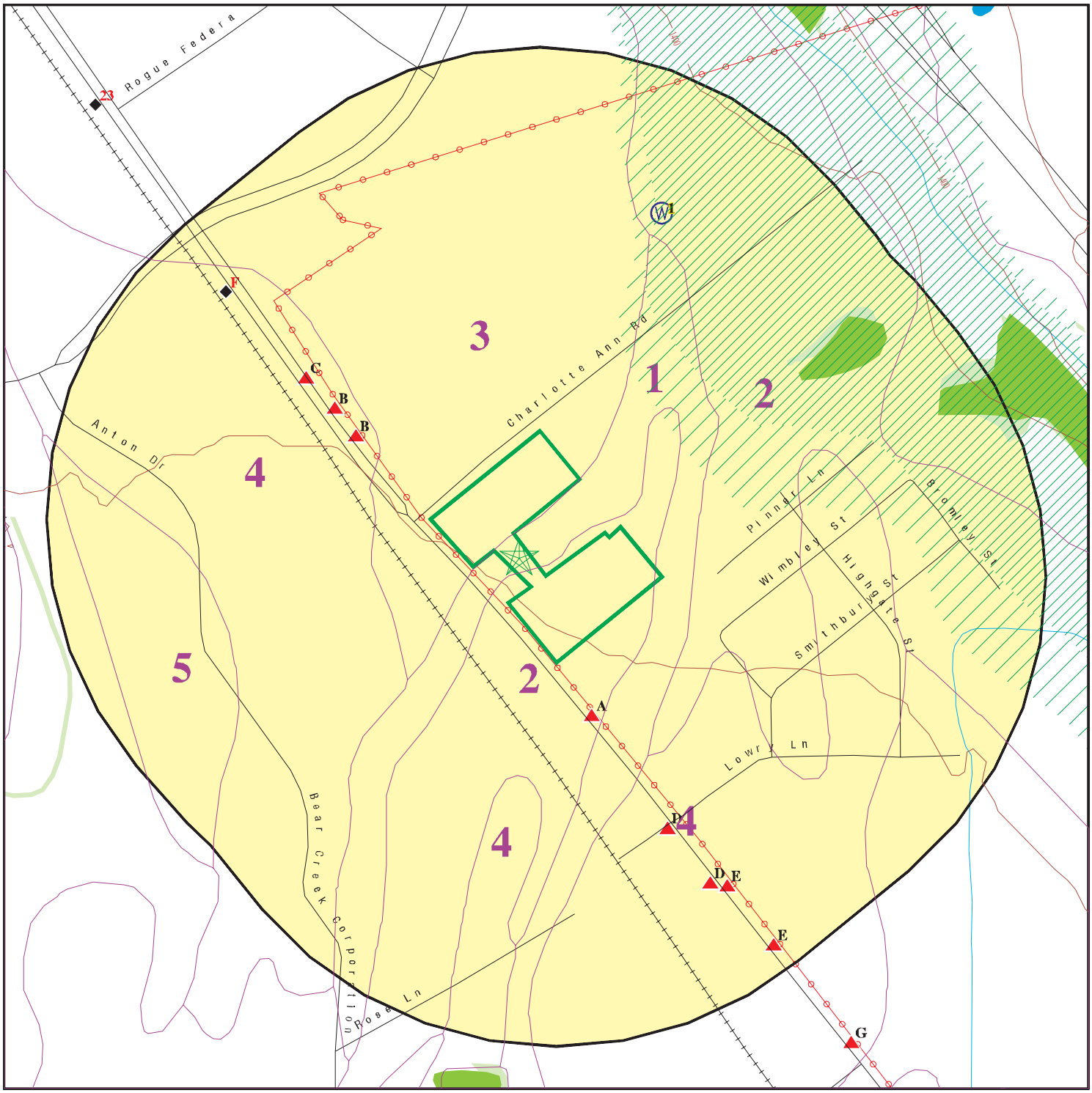
DETAIL MAP - 4572642.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

0 1/16 1/8 1/4 Miles

Indian Reservations BIA

Power transmission lines

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Medford Site	CLIENT: Analytical Environmental Serv.
ADDRESS: Highway 99 Medford OR 97501	CONTACT: Alison Middlekauff
LAT/LONG: 42.304116 / 122.851294	INQUIRY #: 4572642.2s DATE: March 23, 2016 10:34 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	0.001		0	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	1	NR	NR	1
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	1	NR	NR	NR	1
RCRA-CESQG	0.250		1	1	NR	NR	NR	2
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equivalent CERCLIS								
ECSI	1.000		1	1	2	7	NR	11
CRL	1.000		0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		1	2	0	NR	NR	3
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
UST	0.250		4	4	NR	NR	NR	8
AST	0.250		0	2	NR	NR	NR	2
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
ENG CONTROLS	0.500		0	0	0	NR	NR	0
INST CONTROL	0.500		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500		1	1	0	NR	NR	2
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
SWRCY	0.500		0	0	0	NR	NR	0
HIST LF	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
AOCONCERN	1.000		0	0	0	0	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
Local Land Records								
LIENS 2	0.001		0	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
SPILLS	0.001		0	NR	NR	NR	NR	0
OR HAZMAT	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		2	3	NR	NR	NR	5
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	0.001		0	NR	NR	NR	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
AIRS	0.001		0	NR	NR	NR	NR	0
COAL ASH	0.500		0	0	0	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
HSIS	0.001		0	NR	NR	NR	NR	0
MANIFEST	0.250		0	1	NR	NR	NR	1
NPDES	0.001		0	NR	NR	NR	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		1	NR	NR	NR	NR	1
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA HWS	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	11	16	3	7	0	37

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1 SSE < 1/8 0.041 mi. 217 ft. | **DAVIS FINISH PRODUCTS INC** | **RCRA NonGen / NLR** | **1004580512**
2399 S PACIFIC HWY | **FINDS** | **ORD027682772**
MEDFORD, OR 97501 | **ECHO**

Site 1 of 2 in cluster A

Relative: Higher

Actual: 1422 ft.

RCRA NonGen / NLR:

Date form received by agency:	12/31/2005
Facility name:	DAVIS FINISH PRODUCTS INC
Facility address:	2399 S PACIFIC HWY MEDFORD, OR 97501
EPA ID:	ORD027682772
Contact:	SHERYL DAVIS
Contact address:	1790 AVENUE G WHITE CITY, OR 97503
Contact country:	US
Contact telephone:	541 826-0589
Contact email:	Not reported
EPA Region:	10
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	DAVIS FINISH PRODUCTS, INC.
Owner/operator address:	2399 SOUTH PACIFIC HIGHWAY MEDFORD, OR 97501
Owner/operator country:	US
Owner/operator telephone:	(541) 772-6199
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	01/01/1995
Owner/Op end date:	Not reported

Owner/operator name:	DAVIS FINISH PRODUCTS, INC.
Owner/operator address:	2399 SOUTH PACIFIC HIGHWAY MEDFORD, OR 97501
Owner/operator country:	US
Owner/operator telephone:	(541) 772-6199
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	01/01/1995
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No

DAVIS FINISH PRODUCTS INC (Continued) **1004580512**

Used oil transporter: No

. Waste code: NA
. Waste name: NA

Historical Generators:
Date form received by agency:12/31/2003
Site name: DAVIS FINISH PRODUCTS INC
Classification: Not a generator, verified

Date form received by agency:01/03/2003
Site name: DAVIS FINISH PRODUCTS INC
Classification: Not a generator, verified

Date form received by agency:03/05/2002
Site name: DAVIS FINISH PRODUCTS INC
Classification: Not a generator, verified

Date form received by agency:04/06/2001
Site name: DAVIS FINISH PRODUCTS INC
Classification: Not a generator, verified

Date form received by agency:02/10/2000
Site name: DAVIS FINISH PRODUCTS INC
Classification: Not a generator, verified

Date form received by agency:02/22/1999
Site name: DAVIS FINISH PRODUCTS INC
Classification: Not a generator, verified

Date form received by agency:01/05/1998
Site name: DAVIS FINISH PRODUCTS INC
Classification: Not a generator, verified

Date form received by agency:01/08/1997
Site name: DAVIS FINISH PRODUCTS INC
Classification: Not a generator, verified

Date form received by agency:01/08/1996
Site name: SMITH LUMBER
Classification: Not a generator, verified

Date form received by agency:01/08/1996
Site name: DAVIS FINISH PRODUCTS INC
Classification: Not a generator, verified

Date form received by agency:04/14/1995
Site name: SMITH LUMBER
Classification: Not a generator, verified

Date form received by agency:03/14/1995
Site name: SMITH LUMBER
Classification: Not a generator, verified

Date form received by agency:06/21/1994
Site name: SMITH LUMBER
Classification: Not a generator, verified

DAVIS FINISH PRODUCTS INC (Continued) **1004580512**

Date form received by agency:03/05/1993
Site name: SMITH LUMBER
Classification: Not a generator, verified

Date form received by agency:04/01/1992
Site name: SMITH LUMBER
Classification: Not a generator, verified

. Waste code: NONE
. Waste name: None

Violation Status: No violations found

FINDS:

Registry ID: 110001657564

Environmental Interest/Information System

OR-DEQ (Oregon - Department Of Environmental Quality) is a regulatory agency whose job is to protect the quality of Oregon's Environment. DEQ uses a combination of technical assistance, inspections and permitting to help public and private facilities and citizens understand and comply with state and federal environmental regulations.

US EPA TRIS (Toxics Release Inventory System) contains information from facilities on the amounts of over 300 listed toxic chemicals that these facilities release directly to air, water, land, or that are transported off-site.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

ECHO:
Envid: 1004580512
Registry ID: 110001657564
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110001657564

A2 **SMITH LUMBER CO** **LUST** **1000406196**
SSE **2399 S PACIFIC HWY** **UST** **N/A**
< 1/8 **MEDFORD, OR 97501**
0.041 mi.
217 ft. **Site 2 of 2 in cluster A**

Relative:
Higher

Actual:
1422 ft.

LUST:
Region: Western Region
Facility ID: 15-90-0171
Cleanup Received Date: 09/03/1991
Cleanup Start Date: 11/26/1990
Cleanup Complete Date: 09/05/1991
Decode for Region: West Region

SMITH LUMBER CO (Continued) **1000406196**

UST:

Facility ID:	4126
Facility Telephone:	(503)772-7166
Permittee Name:	DAN HUNTER, MANAGER
Number of Permitted Tanks:	Not reported
Active Tanks:	Not reported
Decommissioned Tanks:	2
Number of Tanks:	2

B3 **NAUMES EQUIPMENT & FUEL** **UST** **U004016059**
NW **2233 S PACIFIC HWY** **N/A**
< 1/8 **MEDFORD, OR 97501**
0.072 mi.
378 ft. **Site 1 of 5 in cluster B**

Relative:
Higher

Actual:
1419 ft.

UST:

Facility ID:	7370
Facility Telephone:	(503)772-6223
Permittee Name:	SAM NAUMES, OWNER
Number of Permitted Tanks:	Not reported
Active Tanks:	Not reported
Decommissioned Tanks:	2
Number of Tanks:	2

B4 **NAUMES PROPERTY (FORMER)** **ECSI** **S112198887**
NW **2201 AND 2233 S PACIFIC HWY.** **VCP** **N/A**
< 1/8 **MEDFORD, OR 97501**
0.073 mi.
386 ft. **Site 2 of 5 in cluster B**

Relative:
Higher

Actual:
1419 ft.

ECSI:

State ID Number:	5750
Brown ID:	0
Study Area:	False
Region ID:	3
Legislatve ID:	0
Investigation:	No Further Action
FACA ID:	125942
Further Action:	0
Lat/Long (dms):	42 18 21.60 / -122 51 12.20
County Code:	15.00
Score Value:	Not reported
Cerclis ID:	Not reported
Township Coord.:	37.00
Township Zone:	S
Range Coord:	1.00
Range Zone:	W
Section Coord:	32
Qtr Section:	Not reported
Tax Lots:	700
Size:	3.82 acres
NPL:	False
Orphan:	False
Updated By:	GWISTAR
Update Date:	05/02/2013
Created Date:	09/13/2012

NAUMES PROPERTY (FORMER) (Continued) **S112198887**

Decode For RegionID: Western Region
Decode For BrownID: Not reported
Decode For Furtheract: Not reported
Decode For Investstat: No Further Action
Decode For Legislative: Not reported
Alias Name: Habitat for Humanity
Alias Name: Party Place

Hazardous Release:
Substance ID.: 122012
Haz Release ID: 388131
Qty Released: Up to 3,210 mg/kg (90th % UCL)
Date Released: May, 2012
Update Date: 05/01/2013
Update By: WMASON
Substance Code: ECD275
Substance Name: TOTAL PETROLEUM HYDROCARBONS (TPH)
Substance Abbrev.: Not reported
Substance Category ID: 8540
Substance Category: Petroleum Related Releases for OSPIRG Report
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8540
Substance Category: Petroleum Related Releases for OSPIRG Report
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Sampling Result ID: 350589
Feature Id: 0
Hazard Release Id: 388131
Medium: 703
Substance Abbrev.: 0
Unit Code: 110
Observation: True
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 05/22/2012
End Date: 05/22/2012
Min Concentration: .00
Max Concentration: 6640.00
Sample Comment: Up to 6640 mg/kg.
Last Update By: WMASON
Update Date: 05/01/2013
Decode for MediumID: Soil

Narrative:
NARR ID: 5754195
NARR Code: Contamination
Created By: SSADOFS
Created Date: 09/13/2012
Updated By: SSADOFS
Updated Date: 09/13/2012
Decode for NarcdID: Contamination
NARR Comments: Petroleum from auto maintenence operations.

NARR ID: 5754625

NAUMES PROPERTY (FORMER) (Continued) **S112198887**

NARR Code: Data Sources
Created By: WMASON
Created Date: 04/24/2013
Updated By: WMASON
Updated Date: 04/24/2013
Decode for NarcdID: Data Sources
NARR Comments: - Former Naumes Site Independent Cleanup Program Results Report, 2201 and 2233 South Pacific Highway, Medford, Oregon, ECSI No. 5750, Ash Creek Associates, February 11, 2013.

NARR ID: 5754617
NARR Code: General Site Description
Created By: WMASON
Created Date: 04/24/2013
Updated By: WMASON
Updated Date: 04/24/2013
Decode for NarcdID: General Site Description
NARR Comments: The former Naumes property is located in south Medford, and is zoned Commercial - Regional. The site is relatively flat, and is predominantly paved with asphalt. Three buildings and a small structure that supports an adjacent cellular communications tower are now present at the site.

NARR ID: 5754621
NARR Code: Hazardous Substance/Waste Types
Created By: WMASON
Created Date: 04/24/2013
Updated By: WMASON
Updated Date: 04/24/2013
Decode for NarcdID: Hazardous Substance/Waste Types
NARR Comments: Total petroleum hydrocarbons, volatile organic compounds, polycyclic aromatic hydrocarbons, and metals in groundwater and soil.

NARR ID: 5754620
NARR Code: Manner of Release
Created By: WMASON
Created Date: 04/24/2013
Updated By: WMASON
Updated Date: 04/24/2013
Decode for NarcdID: Manner of Release
NARR Comments: Very low concentrations of total petroleum hydrocarbons, volatile organic compounds, polycyclic aromatic hydrocarbons, and metals in groundwater and soil are present in soil and/or groundwater. The likely release mechanism is via drips or incidental spills.

NARR ID: 5754622
NARR Code: Pathways Other Hazards
Created By: WMASON
Created Date: 04/24/2013
Updated By: WMASON
Updated Date: 04/24/2013
Decode for NarcdID: Pathways & Other Hazards
NARR Comments: Direct contact with soil poses no unacceptable risk. Direct contact with groundwater poses no unacceptable risk.

NARR ID: 5754624
NARR Code: Remedial Action

NAUMES PROPERTY (FORMER) (Continued) **S112198887**

Created By: WMASON
Created Date: 04/24/2013
Updated By: WMASON
Updated Date: 04/24/2013
Decode for NarcdID: Remedial Action
NARR Comments: No remedial action is necessary to address the low levels of potential contaminants of concern at this site.

NARR ID: 5754623
NARR Code: Health Threats
Created By: WMASON
Created Date: 04/24/2013
Updated By: WMASON
Updated Date: 04/24/2013
Decode for NarcdID: Health Threats
NARR Comments: No unacceptable risks in soil or groundwater.

NARR ID: 5754619
NARR Code: Site History
Created By: WMASON
Created Date: 04/24/2013
Updated By: WMASON
Updated Date: 04/24/2013
Decode for NarcdID: Site History
NARR Comments: Historically, the buildings were used for sales and repair of automobiles, all-terrain vehicles, and motorcycles; sale and repair of small farm equipment; a machine shop; auto body repair; and a former aboveground storage tank farm. The first building was constructed in the 1960s on former orchard land and initially was used as an automobile sales business.

NARR ID: 5754618
NARR Code: 1922
Created By: WMASON
Created Date: 04/24/2013
Updated By: WMASON
Updated Date: 05/01/2013
Decode for NarcdID: Current Site Summary Statement
NARR Comments: The Bank of the Cascades took ownership of the former Naumes property through foreclosure in April, 2011. The bank has submitted an Independent Cleanup Report to us for our review on February 11, 2013, and has proposed that the site is appropriate for a No Further Action determination.

DEQ agreed, and issued a No Further Action letter on 4-26-2013.

Administrative Action:
Action ID: 9424
Region: Not reported
Complete Date: 09/13/2012
Rank Value: Not reported
Cleanup Flag: False
Created Date: 09/13/2012
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Not reported
Category: Administrative Action
Action Code Flag: False
Action: Site added to database
Further Action: Not reported

NAUMES PROPERTY (FORMER) (Continued) **S112198887**

Comments: Not reported

Action ID: 9519
Region: Western Region
Complete Date: 02/26/2013
Rank Value: Not reported
Cleanup Flag: False
Created Date: 09/13/2012
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Remedial Action
Action Code Flag: False
Action: VCS Waiting List
Further Action: 0
Comments: Not reported

Action ID: 9440
Region: Western Region
Complete Date: 04/26/2013
Rank Value: Not reported
Cleanup Flag: False
Created Date: 02/26/2013
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Remedial Action
Action Code Flag: False
Action: Letter Agreement
Further Action: 0
Comments: Not reported

Action ID: 9435
Region: Western Region
Complete Date: 04/26/2013
Rank Value: Not reported
Cleanup Flag: False
Created Date: 04/24/2013
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Remedial Action
Action Code Flag: False
Action: Independent Cleanup Program
Further Action: 0
Comments: Not reported

Action ID: 9459
Region: Western Region
Complete Date: 04/24/2013
Rank Value: Not reported
Cleanup Flag: True
Created Date: 04/24/2013
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Remedial Action
Action Code Flag: False
Action: PRELIMINARY ASSESSMENT EQUIVALENT
Further Action: 0
Comments: Not reported

NAUMES PROPERTY (FORMER) (Continued) **S112198887**

Action ID: 9443
Region: Western Region
Complete Date: 05/01/2013
Rank Value: Not reported
Cleanup Flag: True
Created Date: 05/01/2013
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Remedial Action
Action Code Flag: False
Action: NO FURTHER STATE ACTION REQUIRED
Further Action: 0
Comments: Not reported

VCS:
ECS Site ID: 5750
Facility Size: 3.82 acres
Action: NO FURTHER STATE ACTION REQUIRED
Start Date: 04/26/2013
End Date: 05/01/2013
Facility Status: Completed
Program: ICP
Latitude: 42.30599
Longitude: -122.8533

B5 **FARMERS FINANCE CORP** **UST** **U000436768**
NW **2201 S PACIFIC HWY** **N/A**
< 1/8 **MEDFORD, OR 97501**
0.096 mi.
506 ft. **Site 3 of 5 in cluster B**

Relative:
Higher

Actual:
1419 ft.

UST:
Facility ID: 9072
Facility Telephone: (503) 772-6208
Permittee Name: SAM NAUMES
Number of Permitted Tanks: Not reported
Active Tanks: Not reported
Decommissioned Tanks: 6
Number of Tanks: 6

B6 **BROWNS AUTO BODY & PAINT** **RCRA NonGen / NLR** **1000280977**
NW **2201 S PACIFIC HWY** **FINDS** **ORD027683713**
< 1/8 **MEDFORD, OR 97501** **ECHO**
0.096 mi.
506 ft. **Site 4 of 5 in cluster B**

Relative:
Higher

Actual:
1419 ft.

RCRA NonGen / NLR:
Date form received by agency: 02/25/1999
Facility name: BROWNS AUTO BODY & PAINT
Facility address: 2201 S PACIFIC HWY
MEDFORD, OR 97501
EPA ID: ORD027683713
Mailing address: 1271 FARWEST RD NE
CENTRAL POINT, OR 97502
Contact: PATRICK BROWN
Contact address: 1271 FARWEST RD NE

BROWNS AUTO BODY & PAINT (Continued) **1000280977**

CENTRAL POINT, OR 97502
Contact country: US
Contact telephone: (541) 664-4369
Contact email: Not reported
EPA Region: 10
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:
Owner/operator name: PATRICK BROWN
Owner/operator address: 1271 FARWEST NE
CENTRAL POINT, OR 97502
Owner/operator country: US
Owner/operator telephone: (541) 664-4369
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 02/25/1999
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 06/17/1998
Site name: BROWNS AUTO BODY & PAINT
Classification: Not a generator, verified

Date form received by agency: 04/16/1997
Site name: WEILER OLDS GMC BODY SHOP
Classification: Not a generator, verified

Date form received by agency: 09/28/1985
Site name: WEILER OLDS GMC BODY SHOP
Classification: Not a generator, verified

. Waste code: NONE
. Waste name: None

Violation Status: No violations found

FINDS:

BROWNS AUTO BODY & PAINT (Continued) **1000280977**

Registry ID: 110004781219

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

ECHO:
Envid: 1000280977
Registry ID: 110004781219
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110004781219

B7 **EDR Hist Auto** **1015333669**
NW **2201 S PACIFIC HWY** **N/A**
< 1/8 **MEDFORD, OR 97501**
0.096 mi.
506 ft. **Site 5 of 5 in cluster B**

Relative:
Higher

Actual:
1419 ft.

EDR Historical Auto Stations:

Name: STEVE DEHLE AUTO BODY
Year: 2001
Address: 2201 S PACIFIC HWY

Name: COLLISION PLUS
Year: 2002
Address: 2201 S PACIFIC HWY

Name: COLLISION PLUS
Year: 2003
Address: 2201 S PACIFIC HWY

Name: COLLISION PLUS & TOWING
Year: 2004
Address: 2201 S PACIFIC HWY

Name: COLLISION PLUS
Year: 2006
Address: 2201 S PACIFIC HWY

Name: COLLISION PLUS & TOWING
Year: 2007
Address: 2201 S PACIFIC HWY

Name: STEVE DEHLE AUTO BODY
Year: 2008
Address: 2201 S PACIFIC HWY

Name: BULLET CUSTOM ENGINES & MACHINE INC
Year: 2009
Address: 2201 S PACIFIC HWY

Name: COLLISION PLUS
Year: 2011

(Continued) **1015333669**

Address: 2201 S PACIFIC HWY

C8
NW
< 1/8
0.123 mi.
649 ft.

SKINNER BUICK CADILLAC
2177 S PACIFIC HWY
MEDFORD, OR 97501

UST **1000317572**
N/A

Site 1 of 2 in cluster C

Relative:
Higher

Actual:
1418 ft.

UST:

Facility ID:	2277
Facility Telephone:	(503)772-6264
Permittee Name:	DAVE SHINN, SERVICE MANAGER
Number of Permitted Tanks:	Not reported
Active Tanks:	Not reported
Decommissioned Tanks:	1
Number of Tanks:	1

C9
NW
< 1/8
0.123 mi.
649 ft.

SKINNER BUICK CADILLAC INC
2177 S PACIFIC HWY
MEDFORD, OR 97501

RCRA-CESQG **1004770364**
FINDS **ORD982659450**
ECHO

Site 2 of 2 in cluster C

Relative:
Higher

Actual:
1418 ft.

RCRA-CESQG:

Date form received by agency:	12/31/2003
Facility name:	SKINNER BUICK CADILLAC INC
Facility address:	2177 S PACIFIC HWY MEDFORD, OR 97501
EPA ID:	ORD982659450
Mailing address:	PO BOX 86 MEDFORD, OR 97501
Contact:	JOHN SKINNER
Contact address:	2177 S PACIFIC HWY MEDFORD, OR 97501
Contact country:	US
Contact telephone:	(541) 772-6264
Contact email:	Not reported
EPA Region:	10
Classification:	Conditionally Exempt Small Quantity Generator
Description:	Handler: generates 100 kg or less of hazardous waste per calendar month, and accumulates 1000 kg or less of hazardous waste at any time; or generates 1 kg or less of acutely hazardous waste per calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste

Owner/Operator Summary:

Owner/operator name:	SKINNER BUICK CADILLAC INC

SKINNER BUICK CADILLAC INC (Continued) **1004770364**

Owner/operator address: 2177 S PACIFIC HWY
MEDFORD, OR 97501
Owner/operator country: US
Owner/operator telephone: (541) 772-6264
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 12/31/2003
Owner/Op end date: Not reported

Owner/operator name: SKINNER BUICK CADILLAC INC
Owner/operator address: 2177 S PACIFIC HWY
MEDFORD, OR 97501
Owner/operator country: US
Owner/operator telephone: (541) 772-6264
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 12/31/2003
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 12/30/2002
Site name: SKINNER BUICK CADILLAC INC
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 01/02/2002
Site name: SKINNER BUICK CADILLAC INC
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 01/18/2001
Site name: SKINNER BUICK CADILLAC INC
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 01/12/2000
Site name: SKINNER BUICK CADILLAC INC
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 01/21/1999
Site name: SKINNER BUICK CADILLAC INC
Classification: Conditionally Exempt Small Quantity Generator

SKINNER BUICK CADILLAC INC (Continued) **1004770364**

Date form received by agency:01/09/1998
Site name: SKINNER BUICK CADILLAC INC
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency:02/20/1997
Site name: SKINNER BUICK CADILLAC INC
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency:01/09/1996
Site name: SKINNER BUICK CADILLAC INC
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency:02/13/1995
Site name: SKINNER BUICK CADILLAC INC
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency:02/03/1994
Site name: SKINNER BUICK CADILLAC INC
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency:01/19/1993
Site name: SKINNER BUICK CADILLAC INC
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency:04/01/1992
Site name: SKINNER BUICK CADILLAC INC
Classification: Conditionally Exempt Small Quantity Generator

. Waste code: NONE
. Waste name: None

Violation Status: No violations found

FINDS:

Registry ID: 110004795428

Environmental Interest/Information System
OR-DEQ (Oregon - Department Of Environmental Quality) is a regulatory agency whose job is to protect the quality of Oregon's Environment. DEQ uses a combination of technical assistance, inspections and permitting to help public and private facilities and citizens understand and comply with state and federal environmental regulations.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

ECHO:
Envid: 1004770364
Registry ID: 110004795428
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110004795428

D10 SSE 1/8-1/4 0.130 mi. 685 ft. | **HARRY & DAVID**
2500 S PACIFIC HWY
MEDFORD, OR 97501

Site 1 of 4 in cluster D

AST **S105857542**
HSIS **N/A**

Relative: Higher

Actual: 1425 ft.

AST:

Facility Id:	016396
Hazardous Substance:	GASOLINE
Reporting Quantities:	500-999
Quantity Units:	GALLONS
Physical State:	LIQUID
Storage 1:	ABOVEGROUND TANK

Facility Id:	016396
Hazardous Substance:	PROPANE
Reporting Quantities:	1,000-4,999
Quantity Units:	GALLONS
Physical State:	GAS
Storage 1:	ABOVEGROUND TANK

Facility Id:	016396
Hazardous Substance:	DIESEL FUEL
Reporting Quantities:	10,000-49,999
Quantity Units:	GALLONS
Physical State:	LIQUID
Storage 1:	ABOVEGROUND TANK

HSIS:

Facility Id:	016396
Chemical Is Extremely Hazardous Substance (EHS):	Yes
Department Or Division Of Company:	MAIN CAMPUS
Facility Has Written Emergency Plan:	Yes
Contains 112R:	No
NAICS Code 1:	454113
NAICS Desc 1:	MAIL-ORDER HOUSES
NAICS Code 2:	000000
NAICS Desc 2:	Not reported
Manager Name:	STEVE LIGHTMAN
Business Phone:	5418642121
Mailing Address:	PO BOX 2600
Mailing City,St,Zip:	MEDFORD, OR 97501
No. of Employees:	2000
Day Phone:	5418642290
Placard:	Yes
Fire Dept Code:	0224
Sprinkler System:	Yes
Emergency Contact:	JAY PHILLIPS
Emergency Procedure:	SAFETY OFFICE MAINT SHOP & SECURITY OFFICE
Business Type:	SPECIALTY GIFT & FRUIT RETAIL MAIL ORDER

Facility:

Facility Id:	016396
Physical State Of The Substance:	3
Physical State:	GAS
Average Amount Possessed During The Year Code:	20
Maximum Amount Possessed During The Year Code:	20
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS

HARRY & DAVID (Continued) **S105857542**

Type Code:	A
Description:	ABOVEGROUND TANK
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	2
Pressure Description:	GREATER THAN NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	1,000-4,999
Description Of The Avg Qnty Code:	1,000-4,999
Most Hazardous Ingridient:	PROPANE
United Nations/north America 4 Digit Class Number:	1075
Hazard Rank:	2
EHS Ingredient:	NONE LISTED ON MSDS
Substance Pure:	True
Substance Mix:	False
First Hazardous Class Code For Chemical:	Flammable Gas
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	2.1
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	Not reported

Chemical:

United Nations/north America 4 Digit Class Number:	1075
Chemical Abstract Service Identifier Number:	74986
Chemical Is Extremely Hazardous Substance (EHS):	No
First Hazardous Class Code For Chemical:	Flammable Gas
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	2.1
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Contains 112R:	No
Contains EHS:	No
Fertilizer:	No
Pesticide:	No
Contains 313:	No

Facility Id:	016396
Physical State Of The Substance:	2
Physical State:	LIQUID
Average Amount Possessed During The Year Code:	11
Maximum Amount Possessed During The Year Code:	11
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	N
Description:	PLASTIC BOTTLE, JUG, BUCKET
Type Code:	Not reported

HARRY & DAVID (Continued) **S105857542**

Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	500-999
Description Of The Avg Qnty Code:	500-999
Most Hazardous Ingridient:	ETHYLENE GLYCOL
United Nations/north America 4 Digit Class Number:	3082
Hazard Rank:	2
EHS Ingredient:	NONE LISTED ON MSDS
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Acute Health Hazard
Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	6.3
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported

Chemical:

United Nations/north America 4 Digit Class Number:	3082
Chemical Abstract Service Identifier Number:	107211
Chemical Is Extremely Hazardous Substance (EHS):	No
First Hazardous Class Code For Chemical:	Acute Health Hazard
Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	6.3
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Contains 112R:	No
Contains EHS:	No
Fertilizer:	No
Pesticide:	No
Contains 313:	Yes

Facility Id:	016396
Physical State Of The Substance:	3
Physical State:	GAS
Average Amount Possessed During The Year Code:	21
Maximum Amount Possessed During The Year Code:	21
Applicable Unit Of Measure Code:	3
Description Of The Unit Of Measure:	CUBIC FEET
Type Code:	L
Description:	CYLINDER
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	2
Pressure Description:	GREATER THAN NORMAL PRESSURE

HARRY & DAVID (Continued) **S105857542**

Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	5,000-9,999
Description Of The Avg Qnty Code:	5,000-9,999
Most Hazardous Ingridient:	OXYGEN
United Nations/north America 4 Digit Class Number:	1072
Hazard Rank:	2
EHS Ingredient:	Not reported
Substance Pure:	True
Substance Mix:	False
First Hazardous Class Code For Chemical:	Oxidizers
Second Hazardous Class Code For Chemical:	Non-flammable Gas
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	5.1
Hazard Class 2 Of The Chemical:	2.2
Hazard Class 3 Of The Chemical:	Not reported

Chemical:

United Nations/north America 4 Digit Class Number:	1072
Chemical Abstract Service Identifier Number:	7782447
Chemical Is Extremely Hazardous Substance (EHS):	No
First Hazardous Class Code For Chemical:	Oxidizers
Second Hazardous Class Code For Chemical:	Non-flammable Gas
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	5.1
Hazard Class 2 Of The Chemical:	2.2
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Contains 112R:	No
Contains EHS:	No
Fertilizer:	No
Pesticide:	No
Contains 313:	No

Facility Id:	016396
Physical State Of The Substance:	2
Physical State:	LIQUID
Average Amount Possessed During The Year Code:	20
Maximum Amount Possessed During The Year Code:	21
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	C
Description:	TANK INSIDE BUILDING
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	GREATER THAN NORMAL TEMPERATURE

HARRY & DAVID (Continued) **S105857542**

Temperature of The Hazardous Substance Code:	5
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	5,000-9,999
Description Of The Avg Qnty Code:	1,000-4,999
Most Hazardous Ingridient:	COCONUT OIL
United Nations/north America 4 Digit Class Number:	Not reported
Hazard Rank:	2
EHS Ingredient:	Not reported
Substance Pure:	True
Substance Mix:	False
First Hazardous Class Code For Chemical:	Combustible Material
Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	4.5
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported

Chemical:

United Nations/north America 4 Digit Class Number:	Not reported
Chemical Abstract Service Identifier Number:	8001318
Chemical Is Extremely Hazardous Substance (EHS):	Not reported
First Hazardous Class Code For Chemical:	Combustible Material
Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	4.5
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	Not reported
EPA Pesticide Registration Number:	Not reported
Contains 112R:	Not reported
Contains EHS:	Not reported
Fertilizer:	Not reported
Pesticide:	Not reported
Contains 313:	Not reported

Facility Id:	016396
Physical State Of The Substance:	2
Physical State:	LIQUID
Average Amount Possessed During The Year Code:	21
Maximum Amount Possessed During The Year Code:	30
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	A
Description:	ABOVEGROUND TANK
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported

HARRY & DAVID (Continued) **S105857542**

Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	10,000-49,999
Description Of The Avg Qnty Code:	5,000-9,999
Most Hazardous Ingridient:	PETROLEUM MID-DISTILLATES
United Nations/north America 4 Digit Class Number:	1993
Hazard Rank:	2
EHS Ingredient:	NONE LISTED ON MSDS
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Flammable and Combustible Liquid
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	3.0
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	Not reported

Chemical:

United Nations/north America 4 Digit Class Number:	1993
Chemical Abstract Service Identifier Number:	68476346
Chemical Is Extremely Hazardous Substance (EHS):	No
First Hazardous Class Code For Chemical:	Flammable and Combustible Liquid
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	3.0
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Contains 112R:	No
Contains EHS:	No
Fertilizer:	No
Pesticide:	No
Contains 313:	No

D11 **BEAR CREEK OPERATIONS INC** **RCRA-CESQG** **1015757977**
SSE **2518 S PACIFIC HWY** **PADS** **ORD007908429**
1/8-1/4 **MEDFORD, OR 97501** **FINDS**
0.130 mi. **ECHO**
685 ft. **Site 2 of 4 in cluster D**

Relative:
Higher

Actual:
1425 ft.

RCRA-CESQG:

Date form received by agency:	03/14/2003
Facility name:	BEAR CREEK OPERATIONS INC
Facility address:	2518 S PACIFIC HWY MEDFORD, OR 97501
EPA ID:	ORD007908429
Mailing address:	PO BOX 9000 MEDFORD, OR 97501
Contact:	RON J HENRI
Contact address:	2518 S PACIFIC HWY MEDFORD, OR 97501
Contact country:	US
Contact telephone:	(541) 864-2181
Contact email:	Not reported
EPA Region:	10

BEAR CREEK OPERATIONS INC (Continued) **1015757977**

Land type: Facility is not located on Indian land. Additional information is not known.
Classification: Conditionally Exempt Small Quantity Generator
Description: Handler: generates 100 kg or less of hazardous waste per calendar month, and accumulates 1000 kg or less of hazardous waste at any time; or generates 1 kg or less of acutely hazardous waste per calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste

Owner/Operator Summary:
Owner/operator name: BEAR CREEK OPERATIONS INC
Owner/operator address: PO BOX 9000
MEDFORD, OR 97501
Owner/operator country: US
Owner/operator telephone: (541) 776-2362
Legal status: Other
Owner/Operator Type: Operator
Owner/Op start date: 03/14/2003
Owner/Op end date: Not reported

Owner/operator name: BEAR CREEK CORP INC
Owner/operator address: PO BOX 9000
MEDFORD, OR 97501
Owner/operator country: US
Owner/operator telephone: (541) 864-2181
Legal status: Other
Owner/Operator Type: Owner
Owner/Op start date: 05/10/1993
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: NA

BEAR CREEK OPERATIONS INC (Continued) **1015757977**

. Waste name: NA

Historical Generators:
Date form received by agency: 03/21/2002
Site name: BEAR CREEK OPERATIONS INC
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 01/16/2001
Site name: BEAR CREEK OPERATIONS INC
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 02/09/2000
Site name: BEAR CREEK OPERATIONS INC
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 04/14/1999
Site name: BEAR CREEK OPERATIONS INC
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 11/19/1998
Site name: BEAR CREEK OPERATIONS INC
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 02/27/1997
Site name: BEAR CREEK OPERATIONS INC
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 01/04/1996
Site name: BEAR CREEK OPERATIONS INC
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 01/05/1995
Site name: BEAR CREEK OPERATIONS INC
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 01/04/1995
Site name: BEAR CREEK OPERATIONS INC
Classification: Large Quantity Generator

. Waste code: NONE
. Waste name: None

Date form received by agency: 05/10/1993
Site name: BEAR CREEK OPERATIONS INC
Classification: Small Quantity Generator

Facility Has Received Notices of Violations:
Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 12/01/2005
Date achieved compliance: 06/07/2006
Violation lead agency: State
Enforcement action: NOTICE OF NONCOMPLIANCE
Enforcement action date: 02/09/2006
Enf. disposition status: Not reported
Enf. disp. status date: Not reported

BEAR CREEK OPERATIONS INC (Continued) **1015757977**

Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 12/01/2005
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 06/07/2006
Evaluation lead agency: State

PADS:
EPAID: ORD007908429
Facility name: HARRY AND DAVID OPERATIONS INC.
Facility Address: 2500 S. PACIFIC HWY
MEDFORD, OR 97501
Facility country: US
Generator: Yes
Storer: No
Transporter: No
Disposer: No
Research facility: No
Smelter: No
Facility owner name: HARRY AND DAVID OPERATIONS INC.
Contact title: TITLE
Contact name: WAYNE EINARSON
Contact tel: 541-864-2862
Contact extension: Not reported
Mailing address: 2500 S. PACIFIC HWY
MEDFORD, OR 97501
Mailing country: US
Cert. title: SENIOR VP PRODUCTION
Cert. name: THOMAS FORSYTHE
Cert. date: 12/03/2009
Date received: 01/04/2010

FINDS:

Registry ID: 110020977031

Environmental Interest/Information System
OR-DEQ (Oregon - Department Of Environmental Quality) is a regulatory agency whose job is to protect the quality of Oregon's Environment. DEQ uses a combination of technical assistance, inspections and permitting to help public and private facilities and citizens understand and comply with state and federal environmental regulations.

NCDB (National Compliance Data Base) supports implementation of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Toxic Substances Control Act (TSCA). The system tracks inspections in regions and states with cooperative agreements, enforcement actions, and settlements.

US EPA Air Quality System (AQS) contains ambient air pollution data collected by EPA, State, Local, and Tribal air pollution control

BEAR CREEK OPERATIONS INC (Continued) **1015757977**

agencies from thousands of monitoring stations.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

ICIS (Integrated Compliance Information System) is the Integrated Compliance Information System and provides a database that, when complete, will contain integrated Enforcement and Compliance information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain Enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions. This information is maintained in ICIS by EPA in the Regional offices and it Headquarters. A future release of ICIS will replace the Permit Compliance System (PCS) which supports the NPDES and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities occurring in the Region that support Compliance and Enforcement programs. These include; Incident Tracking, Compliance Assistance, and Compliance Monitoring.

ECHO:

Envid:	1015757977
Registry ID:	110020977031
DFR URL:	http://echo.epa.gov/detailed_facility_report?fid=110020977031

Envid:	1015757977
Registry ID:	Not reported
DFR URL:	http://echo.epa.gov/detailed_facility_report?fid=ORG253524

D12 **BEAR CREEK ORCHARD** **LUST** **U000436735**
SSE **2518 S PACIFIC HWY** **UST** **N/A**
1/8-1/4 **MEDFORD, OR 97501**
0.175 mi.
923 ft. **Site 3 of 4 in cluster D**

Relative:
Higher

Actual:
1426 ft.

LUST:

Region:	Western Region
Facility ID:	15-89-0024
Cleanup Received Date:	08/29/1989
Cleanup Start Date:	08/29/1989
Cleanup Complete Date:	**08/28/1993**
Decode for Region:	**West Region**

Region:	Western Region
Facility ID:	15-93-0123
Cleanup Received Date:	12/16/1993
Cleanup Start Date:	12/15/1993
Cleanup Complete Date:	**12/26/2001**
Decode for Region:	**West Region**

UST:

Facility ID:	4411

BEAR CREEK ORCHARD (Continued) **U000436735**

Facility Telephone: (503) 776-2040
Permittee Name: DAVID ERNST, ENGINEERING MANAGER
Number of Permitted Tanks: Not reported
Active Tanks: Not reported
Decommissioned Tanks: 1
Number of Tanks: 1

D13
SSE
1/8-1/4
0.175 mi.
923 ft.

HARRY & DAVID **UST** **U004194176**
2518 S PACIFIC HWY **N/A**
MEDFORD, OR 97501

Site 4 of 4 in cluster D

Relative:
Higher

Actual:
1426 ft.

UST:
Facility ID: 5005
Facility Telephone: (503) 776-2040
Permittee Name: DAVID ERNST, ENGINEERING MANAGER
Number of Permitted Tanks: Not reported
Active Tanks: Not reported
Decommissioned Tanks: 2
Number of Tanks: 2

E14
SSE
1/8-1/4
0.183 mi.
965 ft.

GRANGE COOP SUPPLY ASSN **AST** **S104051357**
2531 S PACIFIC HWY **SPILLS** **N/A**
MEDFORD, OR 97501 **OR HAZMAT**
HSIS

Site 1 of 4 in cluster E

Relative:
Higher

Actual:
1427 ft.

AST:
Facility Id: 036000
Hazardous Substance: KEROSENE
Reporting Quantities: 500-999
Quantity Units: GALLONS
Physical State: LIQUID
Storage 1: ABOVEGROUND TANK

OR SPILLS:
Facility ID: 2008-0722
Incident Status: Archive
Material: Diesel fuel
Quantity: 1400
Unit of Measure: Gallons
Release Date: 03/18/2008
Description: More than 1000 gallons spilled to secondary containment at the Medford Grange Co-Op AST Bulk Plant yesterday. 1100 gallons recovered estimate 12000-200 gallons unaccounted for. Pump Pipe and Tank hired to cleanup.
Lat/Long: 42.3117 / -122.8605
Source: AST
Media: Suspected, unknown, or no discharge
Responsible Company: Grange Co-op
Responsible Address: 11 E Stewart Ave
Responsible City,St,Zip: Medford, OR 9752001-79

Facility ID: 2008-0722
Incident Status: Archive

GRANGE COOP SUPPLY ASSN (Continued) **S104051357**

Material: Diesel fuel
Quantity: 1400
Unit of Measure: Gallons
Release Date: 03/18/2008
Description: More than 1000 gallons spilled to secondary containment at the Medford Grange Co-Op AST Bulk Plant yesterday. 1100 gallons recovered estimate 12000-200 gallons unaccounted for. Pump Pipe and Tank hired to cleanup.
Lat/Long: 42.3117 / -122.8605
Source: AST
Media: On pavement/asphalt - not direct on soil
Responsible Company: Grange Co-op
Responsible Address: 11 E Stewart Ave
Responsible City,St,Zip: Medford, OR 9752001-79

HAZMAT:

Responsble Party:	DAWN MATCHETT
RP Company:	Not reported
RP Address:	1134 SUNCREST RD
RP City,St,Zip:	TALENT, OR 97540
Facility ID:	010303
OERS Number:	Not reported
Dept Rsp:	MEDFORD F&R
Narrative:	Not reported
Property Loss:	Not reported
Amount Released:	Not reported
Service County:	Not reported
Service Name:	Not reported
Incident Type:	Not reported
Civilian Casualty Activity:	Not reported
Chemical Name:	Not reported
Hazmat Area Affected:	Not reported
Hazmat Area Evacuated:	Not reported
Hazmat Container Type:	Not reported
Hazmat Physical State Released:	Not reported
Hazmat Released Into:	Not reported
Hazmat Released Volume Units:	Not reported
Hazmat Released Weight Units:	Not reported
Hazmat Released From:	Not reported
Hazmat Area Affected Measurement:	Not reported
Hazmat No. of People Evacuated:	Not reported
Hazmat No of Buildings Evacuated:	Not reported
Incident Content Loss:	Not reported
Civilian Casualty Patient Disposition:	Not reported
Incident Mixed Use Property:	Not reported
Location Type:	Not reported
Incident Aid Given Or Received:	Not reported
Incident AID Received from FDID:	Not reported
Incident Aided Department FDID:	Not reported
Person Involved Business Name:	Not reported
Person Involved First Name:	Not reported
Person Involved Last Name:	Not reported
Person Involved Type:	Not reported
Person Involved Phone Number:	Not reported
Person Involved Primary Language:	Not reported
Hazmat Evacuated Measurement:	Not reported
Hazmat Story of Release:	Not reported

GRANGE COOP SUPPLY ASSN (Continued) **S104051357**

Remark:	Not reported
Incident District:	MEDFORD F&R
Date Added:	10/18/2001
Unit:	Not reported
Agency Phone:	5417742500
Osfm Incident Report Number:	010303
Dept. Responding:	MEDFORD F&R
Person Making Report:	DENNIS MACEY
Title:	ACTING CAPT
Agency:	MEDFORD F&R
Phone:	5417742500
Date Of Incident:	08/22/2001
Call Time:	10:07:00 PM
In Route:	10:07:00 PM
Arrival:	10:16:00 PM
Depart Scene:	12:00:00 AM
Back In Quarters:	12:00:00 AM
In Service:	10:28:00 PM
Dist Of Incident:	MEDFORD F&R
Were State Resources Used?:	False
Was Oers Notified?:	False
Oers Number:	Not reported
Team Number:	Not reported
Agency Report Number:	01-03935
Unit:	Not reported
Highway:	Not reported
Mile Post:	Not reported
Scene Type:	Private Land
Area Type:	Commercial
Responsible Party(Ies):	DAWN MATCHETT
Company:	Not reported
Respcontact:	Not reported
Address:	1134 SUNCREST RD
Resp City:	TALENT
Resp State:	OR
Resp ZipCode:	97540
Phone:	5415355862
Resp Phone2:	Not reported
Weather:	0
Temperature:	0
Wind Speed:	0
Wind Direction:	Not reported
Were Haz Materials Released?:	True
Operation Performed:	During Delivery/Shipment
Cause:	Unknown
Vehicle And Cargo:	0
Fixed Property:	0
Total Loss:	$0.00
Hazmat Population Density:	Not reported
HazMat Actions Taken - Description:	Not reported
Hazmat Factors Contributing To Release:	Not reported
Hazmat DOT Hazard Classification:	Not reported
Hazmat CAS Number:	Not reported
Hazardous Materials Release:	Not reported
Fire Incident Type:	Not reported
Property Use:	Not reported
Latitude:	Not reported

GRANGE COOP SUPPLY ASSN (Continued) **S104051357**

Longitude: Not reported
Hazmat Disposition: Not reported

Chemical:
Chemical Info: 1926
Chemical Id: 13288
Incident Id: 010303
Chemical Name: GASOLINE
UNNA: Not reported
Amount At Risk: 4
Amount Released: 4
Amount Measured: 2
Biological: False
Radiological: False

Chemical Id: 13288
Chemical Name: GASOLINE
Hazardous Ingredient: PETROLEUM DISTILLATES
Hazardous Class 1: 3.1
Hazardous Class 2: 6.3
Hazardous Rank: 2
Case Number: 8006619
UNNA Number: 1203
EPA Pest Reg: Not reported
EHA Chem: N
PSM Chem: N
CAA 112R Chem: N

Method:
Method Used Id: 900
Incident Id: 010303
Identity Method: 6

Released:
Release Behavior Id: 3018
Incident Id: 010303
Behavior: 4

Release Behavior Id: 6575
Incident Id: 010303
Behavior: 10

Narrative:
Narrative Id: 1023
Incident Id: 010303
Incident Narrative: A CUSTOMER @ A CARD LOCK FUEL STATION WAS PUMPING GASLONE INTO HER CAR. SHE STATED THE AUTOMATIC FUEL SHUTOFF FAILED & HER TANK OVERFILLED SPILLING FUEL ON THE GROUND. SHE RAN OVER & MANUALLY SHUT IT OFF. ON-SCENE, 8103 SPREAD SOME ABSORBANT & USED DUCT TAPE TO BLOCK USE OF THAT ONE GAS PUMP. A NOTIFICATION WAS LEFT BEHIND TO INFORM COMPANY OF THE PROBLEM.
Incident Date: 8/22/2001

Responsble Party: SANDRA L KING
RP Company: FLY BY NIGHT FARM INC

GRANGE COOP SUPPLY ASSN (Continued) **S104051357**

RP Address:	9400 HWY #238
RP City,St,Zip:	JACKSONVILLE, OR 97530
Facility ID:	940235
OERS Number:	Not reported
Dept Rsp:	MEDFORD F&R
Narrative:	Not reported
Property Loss:	Not reported
Amount Released:	Not reported
Service County:	Not reported
Service Name:	Not reported
Incident Type:	Not reported
Civilian Casualty Activity:	Not reported
Chemical Name:	Not reported
Hazmat Area Affected:	Not reported
Hazmat Area Evacuated:	Not reported
Hazmat Container Type:	Not reported
Hazmat Physical State Released:	Not reported
Hazmat Released Into:	Not reported
Hazmat Released Volume Units:	Not reported
Hazmat Released Weight Units:	Not reported
Hazmat Released From:	Not reported
Hazmat Area Affected Measurement:	Not reported
Hazmat No. of People Evacuated:	Not reported
Hazmat No of Buildings Evacuated:	Not reported
Incident Content Loss:	Not reported
Civilian Casualty Patient Disposition:	Not reported
Incident Mixed Use Property:	Not reported
Location Type:	Not reported
Incident Aid Given Or Received:	Not reported
Incident AID Received from FDID:	Not reported
Incident Aided Department FDID:	Not reported
Person Involved Business Name:	Not reported
Person Involved First Name:	Not reported
Person Involved Last Name:	Not reported
Person Involved Type:	Not reported
Person Involved Phone Number:	Not reported
Person Involved Primary Language:	Not reported
Hazmat Evacuated Measurement:	Not reported
Hazmat Story of Release:	Not reported
Remark:	Not reported
Incident District:	MEDFORD F&R
Date Added:	01/01/1985
Unit:	Not reported
Agency Phone:	0007704453
Osfm Incident Report Number:	940235
Dept. Responding:	MEDFORD F&R
Person Making Report:	KURT BENNETT
Title:	ACT C/O
Agency:	MEDFORD F&R
Phone:	0007704453
Date Of Incident:	08/01/1994
Call Time:	2:09:00 PM
In Route:	12:00:00 AM
Arrival:	2:19:00 PM
Depart Scene:	12:00:00 AM
Back In Quarters:	12:00:00 AM
In Service:	2:40:00 PM

GRANGE COOP SUPPLY ASSN (Continued) **S104051357**

Dist Of Incident:	MEDFORD F&R
Were State Resources Used?:	False
Was Oers Notified?:	False
Oers Number:	Not reported
Team Number:	Not reported
Agency Report Number:	1385
Unit:	Not reported
Highway:	Not reported
Mile Post:	Not reported
Scene Type:	Private Land
Area Type:	Commercial
Responsible Party(Ies):	SANDRA L KING
Company:	FLY BY NIGHT FARM INC
Respcontact:	Not reported
Address:	9400 HWY #238
Resp City:	JACKSONVILLE
Resp State:	OR
Resp ZipCode:	97530
Phone:	Not reported
Resp Phone2:	Not reported
Weather:	0
Temperature:	0
Wind Speed:	0
Wind Direction:	Not reported
Were Haz Materials Released?:	True
Operation Performed:	In Route
Cause:	Abandoned
Vehicle And Cargo:	1.3
Fixed Property:	0
Total Loss:	$1.30
Hazmat Population Density:	Not reported
HazMat Actions Taken - Description:	Not reported
Hazmat Factors Contributing To Release:	Not reported
Hazmat DOT Hazard Classification:	Not reported
Hazmat CAS Number:	Not reported
Hazardous Materials Release:	Not reported
Fire Incident Type:	Not reported
Property Use:	Not reported
Latitude:	Not reported
Longitude:	Not reported
Hazmat Disposition:	Not reported

Chemical:

Chemical Info:	6775
Chemical Id:	35430
Incident Id:	940235
Chemical Name:	UNKNOWN CHEMICAL
UNNA:	Not reported
Amount At Risk:	0
Amount Released:	0
Amount Measured:	0
Biological:	False
Radiological:	False

Chemical Id:	35430
Chemical Name:	UNKNOWN CHEMICAL
Hazardous Ingredient:	UNKNOWN CHEMICAL
Hazardous Class 1:	9.0

GRANGE COOP SUPPLY ASSN (Continued) **S104051357**

Hazardous Class 2: Not reported
Hazardous Rank: 2
Case Number: Not reported
UNNA Number: Not reported
EPA Pest Reg: Not reported
EHA Chem: Not reported
PSM Chem: Not reported
CAA 112R Chem: Not reported

Released:
Release Behavior Id: 7610
Incident Id: 940235
Behavior: 10

Narrative:
Narrative Id: 4815
Incident Id: 940235
Incident Narrative: UPON ARRIVAL FOUND APPROX 1 GAL OF GASOLINE IN PARKING LOT OF THE GRANGE CO-OP. GRANGE EMPLOYEES HAD ALREADY CONTIANED PRODUCT WITH SPHAG-SORB. WE ADDED A SMALL AMOUNT OF CLAY ABSORBANT AND TERMINATED THE INCIDENT.
Incident Date: 8/1/1994

HSIS:
Facility Id: 036000
Chemical Is Extremely Hazardous Substance (EHS): No
Department Or Division Of Company: Not reported
Facility Has Written Emergency Plan: Yes
Contains 112R: No
NAICS Code 1: 444220
NAICS Desc 1: NURSERY, GARDEN CENTER, & FARM SUPPLY STO
NAICS Code 2: 424710
NAICS Desc 2: PETROLEUM BULK STATIONS & TERMINALS
Manager Name: BARRY ROBINO
Business Phone: 5417724730
Mailing Address: PO BOX 3637
Mailing City,St,Zip: CENTRAL POINT, OR 97502
No. of Employees: 30
Day Phone: 5417724730
Placard: Yes
Fire Dept Code: 0224
Sprinkler System: Yes
Emergency Contact: CHRIS TROTTER
Emergency Procedure: CUSTOMER SERVICE COUNTER
Business Type: FARM SUPPLY COOP W/ CARDLOCK

Facility:
Facility Id: 036000
Physical State Of The Substance: 2
Physical State: LIQUID
Average Amount Possessed During The Year Code: 10
Maximum Amount Possessed During The Year Code: 11
Applicable Unit Of Measure Code: 2
Description Of The Unit Of Measure: GALLONS
Type Code: F

GRANGE COOP SUPPLY ASSN (Continued) **S104051357**

Description:	CAN
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	500-999
Description Of The Avg Qnty Code:	200-499
Most Hazardous Ingridient:	ISOPROPYLAMINE SALT OF GLYPHOSATE
United Nations/north America 4 Digit Class Number:	0000
Hazard Rank:	2
EHS Ingredient:	NONE LISTED ON MSDS
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Acute Health Hazard
Second Hazardous Class Code For Chemical:	Pesticide
Third Hazardous Class Code For Chemical:	Chronic Health Hazard
Hazard Class 1 Of The Chemical:	6.3
Hazard Class 2 Of The Chemical:	6.5
Hazard Class 3 Of The Chemical:	6.4

Chemical:

United Nations/north America 4 Digit Class Number:	0000
Chemical Abstract Service Identifier Number:	38641940
Chemical Is Extremely Hazardous Substance (EHS):	No
First Hazardous Class Code For Chemical:	Acute Health Hazard
Second Hazardous Class Code For Chemical:	Pesticide
Third Hazardous Class Code For Chemical:	Chronic Health Hazard
Hazard Class 1 Of The Chemical:	6.3
Hazard Class 2 Of The Chemical:	6.5
Hazard Class 3 Of The Chemical:	6.4
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	MULTIPLE
Contains 112R:	No
Contains EHS:	No
Fertilizer:	No
Pesticide:	Yes
Contains 313:	No

Facility Id:	036000
Physical State Of The Substance:	2
Physical State:	LIQUID
Average Amount Possessed During The Year Code:	20
Maximum Amount Possessed During The Year Code:	21
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	B
Description:	UNDERGROUND TANK
Type Code:	Not reported
Temperature Description:	Not reported

GRANGE COOP SUPPLY ASSN (Continued) **S104051357**

Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	5,000-9,999
Description Of The Avg Qnty Code:	1,000-4,999
Most Hazardous Ingridient:	PETROLEUM MID-DISTILLATES
United Nations/north America 4 Digit Class Number:	1993
Hazard Rank:	2
EHS Ingredient:	NONE LISTED ON MSDS
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Flammable and Combustible Liquid
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	3.0
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	Not reported

Chemical:

United Nations/north America 4 Digit Class Number:	1993
Chemical Abstract Service Identifier Number:	68476346
Chemical Is Extremely Hazardous Substance (EHS):	No
First Hazardous Class Code For Chemical:	Flammable and Combustible Liquid
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	3.0
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Contains 112R:	No
Contains EHS:	No
Fertilizer:	No
Pesticide:	No
Contains 313:	No

Facility Id:	036000
Physical State Of The Substance:	1
Physical State:	SOLID
Average Amount Possessed During The Year Code:	20
Maximum Amount Possessed During The Year Code:	30
Applicable Unit Of Measure Code:	1
Description Of The Unit Of Measure:	POUNDS
Type Code:	J
Description:	BAG
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported

GRANGE COOP SUPPLY ASSN (Continued) **S104051357**

Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	250
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	10,000-49,999
Description Of The Avg Qnty Code:	1,000-4,999
Most Hazardous Ingridient:	AMMONIUM PHOSPHATE
United Nations/north America 4 Digit Class Number:	Not reported
Hazard Rank:	1
EHS Ingredient:	Not reported
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Miscellaneous Hazardous Material
Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	9.0
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported

Chemical:

United Nations/north America 4 Digit Class Number:	Not reported
Chemical Abstract Service Identifier Number:	7722761
Chemical Is Extremely Hazardous Substance (EHS):	No
First Hazardous Class Code For Chemical:	Miscellaneous Hazardous Material
Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	9.0
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Contains 112R:	No
Contains EHS:	No
Fertilizer:	Yes
Pesticide:	No
Contains 313:	No

Facility Id:	036000
Physical State Of The Substance:	2
Physical State:	LIQUID
Average Amount Possessed During The Year Code:	10
Maximum Amount Possessed During The Year Code:	11
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	A
Description:	ABOVEGROUND TANK
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4

GRANGE COOP SUPPLY ASSN (Continued) **S104051357**

Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	500-999
Description Of The Avg Qnty Code:	200-499
Most Hazardous Ingridient:	PETROLEUM DISTILLATE, ALIPHATIC
United Nations/north America 4 Digit Class Number:	1223
Hazard Rank:	2
EHS Ingredient:	Not reported
Substance Pure:	False
Substance Mix:	False
First Hazardous Class Code For Chemical:	Flammable and Combustible Liquid
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	3.0
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	Not reported

Chemical:

United Nations/north America 4 Digit Class Number:	1223
Chemical Abstract Service Identifier Number:	64742478
Chemical Is Extremely Hazardous Substance (EHS):	No
First Hazardous Class Code For Chemical:	Flammable and Combustible Liquid
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	3.0
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Contains 112R:	No
Contains EHS:	No
Fertilizer:	No
Pesticide:	No
Contains 313:	Yes

Facility Id:	036000
Physical State Of The Substance:	2
Physical State:	LIQUID
Average Amount Possessed During The Year Code:	20
Maximum Amount Possessed During The Year Code:	21
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	B
Description:	UNDERGROUND TANK
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365

GRANGE COOP SUPPLY ASSN (Continued) **S104051357**

Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	5,000-9,999
Description Of The Avg Qnty Code:	1,000-4,999
Most Hazardous Ingridient:	PETROLEUM DISTILLATES
United Nations/north America 4 Digit Class Number:	1203
Hazard Rank:	2
EHS Ingredient:	NONE LISTED ON MSDS
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Flammable and Combustible Liquid
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Chronic Health Hazard
Hazard Class 1 Of The Chemical:	3.0
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	6.4

Chemical:

United Nations/north America 4 Digit Class Number:	1203
Chemical Abstract Service Identifier Number:	8006619
Chemical Is Extremely Hazardous Substance (EHS):	No
First Hazardous Class Code For Chemical:	Flammable and Combustible Liquid
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Chronic Health Hazard
Hazard Class 1 Of The Chemical:	3.0
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	6.4
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Contains 112R:	Yes
Contains EHS:	No
Fertilizer:	No
Pesticide:	No
Contains 313:	Yes

E15 **GRANGE CO-OP** **LUST** **1000642191**
SSE **2531 S PACIFIC HWY** **UST** **N/A**
1/8-1/4 **MEDFORD, OR 97501**
0.183 mi.
965 ft. **Site 2 of 4 in cluster E**

Relative:
Higher

Actual:
1427 ft.

LUST:

Region:	Western Region
Facility ID:	15-98-0018
Cleanup Received Date:	03/20/1998
Cleanup Start Date:	03/19/1998
Cleanup Complete Date:	**09/16/1999**
Decode for Region:	**West Region**

UST:

Facility ID:	4751
Facility Telephone:	541-773-8464
Permittee Name:	Bill Christie
Number of Permitted Tanks:	3
Active Tanks:	3
Decommissioned Tanks:	Not reported
Number of Tanks:	3

F16 NW 1/8-1/4 0.199 mi. 1052 ft. | **KOGAP VENEER/PLYWOOD PLANT (FORMER)**
2080 S PACIFIC HWY.
MEDFORD, OR 97501

Site 1 of 3 in cluster F

ECSI **S106236686**
VCP **N/A**

Relative: Lower

Actual: 1417 ft.

ECSI:

State ID Number:	3796
Brown ID:	0
Study Area:	False
Region ID:	3
Legislatve ID:	831
Investigation:	Suspect
FACA ID:	48231
Further Action:	258
Lat/Long (dms):	42 18 24.50 / -122 51 22.70
County Code:	15.00
Score Value:	Not reported
Cerclis ID:	001002445
Township Coord.:	37.00
Township Zone:	S
Range Coord:	1.00
Range Zone:	W
Section Coord:	31
Qtr Section:	32
Tax Lots:	Not reported
Size:	Approx. 91 acres
NPL:	False
Orphan:	False
Updated By:	WMASON
Update Date:	10/01/2014
Created Date:	02/07/2003
Decode For RegionID:	Western Region
Decode For BrownID:	Not reported
Decode For Furtheract:	Medium
Decode For Investstat:	Suspect
Decode For Legislative:	Owner, operator or other party under agreement, order or consent decree under ORS 465.200 or 465.420

Alias Name: KOGAP Manufacturing Sawmill

Narrative:

NARR ID:	5755315
NARR Code:	Contamination
Created By:	WMASON
Created Date:	10/01/2014
Updated By:	WMASON
Updated Date:	10/01/2014
Decode for NarcdID:	Contamination

NARR Comments: Petroleum hydrocarbons, lead arsenate, DDD and DDE in soils.

NARR ID:	5755322
NARR Code:	Data Sources
Created By:	WMASON
Created Date:	10/01/2014
Updated By:	WMASON
Updated Date:	10/01/2014
Decode for NarcdID:	Data Sources

NARR Comments: Katalyst (2010). Limited Phase II Environmental Site Assessment:Stewart Meadows Development Medford, OR

KOGAP VENEER/PLYWOOD PLANT (FORMER) (Continued) **S106236686**

NARR ID: 5755313
NARR Code: General Site Description
Created By: WMASON
Created Date: 10/01/2014
Updated By: WMASON
Updated Date: 10/01/2014
Decode for NarcdID: General Site Description
NARR Comments: The Site is approximately 91 acres in size and lies in Sections 31 and 32, Township 37 South, Range 1 West of the Willamette Baseline and Meridian. The Site is located within a mix of industrial, commercial, municipal (Fichtner-Manwaring Park), residential, and agriculture properties.

NARR ID: 5755318
NARR Code: Hazardous Substance/Waste Types
Created By: WMASON
Created Date: 10/01/2014
Updated By: WMASON
Updated Date: 10/01/2014
Decode for NarcdID: Hazardous Substance/Waste Types
NARR Comments: Petroleum hydrocarbons, lead arsenate, DDD and DDE

NARR ID: 5755317
NARR Code: Site Location
Created By: WMASON
Created Date: 10/01/2014
Updated By: WMASON
Updated Date: 10/01/2014
Decode for NarcdID: Site Location
NARR Comments: The 80-acre Site is comprised of Tax Lots 200, 1000, 2000, 2190, 2300, 2500, 2501, 2800, 2802, and 4000, all of which are located in two different quarter sections of Section 31, of Township 37S, Range 1W.

NARR ID: 5755316
NARR Code: Manner of Release
Created By: WMASON
Created Date: 10/01/2014
Updated By: WMASON
Updated Date: 10/01/2014
Decode for NarcdID: Manner of Release
NARR Comments: Historical releases associated with above-ground and underground storage tanks, a former orchard,

NARR ID: 5755319
NARR Code: Pathways Other Hazards
Created By: WMASON
Created Date: 10/01/2014
Updated By: WMASON
Updated Date: 10/01/2014
Decode for NarcdID: Pathways & Other Hazards
NARR Comments: Direct contact with site soils.

NARR ID: 5755321
NARR Code: Remedial Action
Created By: WMASON
Created Date: 10/01/2014

KOGAP VENEER/PLYWOOD PLANT (FORMER) (Continued) **S106236686**

Updated By: WMASON
Updated Date: 10/01/2014
Decode for NarcdID: Remedial Action
NARR Comments: Soil contaminated with petroleum hydrocarbons was detected during the Phase II Environmental Site Assessment near the Old Maintenance Shop, and near several above-ground storage tanks (ASTs) in the maintenance yard. The decision was made to moveforward and remediate the hydrocarbon contaminated soil as part of the Phase II ESA.Remediation began on June 15, 2010. Excavation work was completed on July 1, 2010, and onsite soil bioremediation was completed on August 26, 2010. Approximately 5,400 cubic yards of petroleum-contaminated soil was excavated from the Old Maintenance Shop area. Of this total, approximately 4,515 cubic yards were excavated from the AST area, 822 cubic yards from the former gasoline underground storage tank area, and 63 cubic yards were excavated from the bottom and wetted edges of the Side Drainage Channel. Forty confirmation samples were collected from the sidewalls and bottom of the final extent of the excavation. Total petroleum hydrocarbons in the gasoline range (TPH-G) were not detected in any of the confirmation samples. Total petroleum hydrocarbons in the diesel range (TPH-Dx) were detected at de minimus concentrations a hundred times less than cleanup standards, and total petroleum hydrocarbons in the lube oil range (TPH-Oil) were detected at de minimus concentrations forty times less than the cleanup standard for TPH-Oil. All of the concrete on the ground surface appeared to be clean, and hydrocarbon concentrations in the buried concrete sample that was visually hydrocarbon-impacted contained no TPH-Dx and was 45 times less than cleanup standards for TPH-Oil. Arsenic in the soil was either not detected or below the ODEQ standard set for this Site. Lead concentrations in three soil samples were similar, and all below the standard set for this Site. TPH-G and TPH-Dx were not detected in any of the groundwater samples collected from test pits around the excavation, nor were they detected in surface water in the Side Drainage Canal. However, TPH-Oil was detected in each of these samples, all lower than the most stringent ODEQ standard. The highest concentration was encountered significantly upgradient from the excavation tothe southwest. This suggests that the presence of very low concentrations of TPH-Oil in shallow groundwater may be due to another off-site source.

NARR ID: 5755320
NARR Code: Health Threats
Created By: WMASON
Created Date: 10/01/2014
Updated By: WMASON
Updated Date: 10/01/2014
Decode for NarcdID: Health Threats
NARR Comments: Ingestion and inhalation of soils containing lead arsenate or petroleum hydrocarbons.

NARR ID: 5755312
NARR Code: Site History
Created By: WMASON
Created Date: 10/01/2014
Updated By: WMASON
Updated Date: 10/01/2014
Decode for NarcdID: Site History
NARR Comments: The subject property is currently owned by KOGAP Enterprises, Inc.

KOGAP VENEER/PLYWOOD PLANT (FORMER) (Continued) **S106236686**

(KOGAP), formerly the KOGAP Manufacturing Company, of Medford, Oregon. KOGAP has owned the property since at least the 1960s when a veneer mill and plywood mill were developed on the property. KOGAP operations at the veneer vill included log debarking, log steaming, veneer cutting and veneer drying. Operations at the plywood mill included veneer preparation, glue application, pressing, panel trimming and panel sanding.

NARR ID: 5755314
NARR Code: 1922
Created By: WMASON
Created Date: 10/01/2014
Updated By: WMASON
Updated Date: 10/01/2014
Decode for NarcdID: Current Site Summary Statement
NARR Comments: KOGAP Enterprises, Inc. (KOGAP) owns approximately 80-acres along the western edge of Highway 99 between Stewart Avenue and Garfield Avenue in downtown Medford, Oregon. KOGAP would like to redevelop the Site into a residential development called Stewart Meadows Village. Hansen Creek is a highly urbanized perennial stream that runs through the Site. Part of the planned development will be to completely re-route Hansen Creek into a much-improved new channel, and subsequently fill in the existing channel.

In June 2010, KOGAP remediated petroleum-contaminated soils that were present in the footprint of the proposed re-routed Hansen Creek. KOGAP also plans to address lead arsenate contamination in soils where a former orchard stood.

Administrative Action:
Action ID: 9510
Region: Western Region
Complete Date: 09/04/2009
Rank Value: Not reported
Cleanup Flag: False
Created Date: 09/04/2009
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Remedial Action
Action Code Flag: False
Action: State Expanded Preliminary Assessment recommended (XPA)
Further Action: Low
Comments: Not reported

Action ID: 9449
Region: 0
Complete Date: Not reported
Rank Value: Not reported
Cleanup Flag: False
Created Date: 09/04/2009
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Not reported
Category: Listing Action
Action Code Flag: False
Action: Insufficient information to list
Further Action: 0
Comments: Not reported

Action ID: 9423
Region: Western Region

KOGAP VENEER/PLYWOOD PLANT (FORMER) (Continued) **S106236686**

Complete Date: 08/17/2010
Rank Value: Not reported
Cleanup Flag: False
Created Date: 01/03/2011
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Remedial Action
Action Code Flag: False
Action: Ecological Risk Assessment
Further Action: 0
Comments: Not reported

Action ID: 9491
Region: Western Region
Complete Date: 11/01/2010
Rank Value: Not reported
Cleanup Flag: True
Created Date: 01/03/2011
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Remedial Action
Action Code Flag: False
Action: REMOVAL
Further Action: Medium
Comments: Not reported

Action ID: 9440
Region: Western Region
Complete Date: Not reported
Rank Value: Not reported
Cleanup Flag: False
Created Date: 01/03/2011
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Remedial Action
Action Code Flag: False
Action: Letter Agreement
Further Action: Medium
Comments: Not reported

Action ID: 9457
Region: Western Region
Complete Date: 11/25/2003
Rank Value: Not reported
Cleanup Flag: False
Created Date: 02/02/2011
Decode for AgencyID: Environmental Protection Agency
Decode for RegionID: Western Region
Category: EPA Led Action
Action Code Flag: False
Action: EPA Basic Preliminary Assessment
Further Action: 0
Comments: EPA Prelimininary Assessment

Action ID: 9444
Region: 0
Complete Date: 11/25/2003

KOGAP VENEER/PLYWOOD PLANT (FORMER) (Continued) **S106236686**

Rank Value: Not reported
Cleanup Flag: False
Created Date: 02/02/2011
Decode for AgencyID: Environmental Protection Agency
Decode for RegionID: Not reported
Category: EPA Led Action
Action Code Flag: False
Action: No Further Remedial Action Planned under Federal program
Further Action: 0
Comments: Not reported

Action ID: 9469
Region: Western Region
Complete Date: Not reported
Rank Value: Not reported
Cleanup Flag: False
Created Date: 08/14/2014
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Remedial Action
Action Code Flag: False
Action: REMEDIAL ACTION
Further Action: 0
Comments: Not reported

Action ID: 9424
Region: Not reported
Complete Date: 02/07/2003
Rank Value: Not reported
Cleanup Flag: False
Created Date: 02/07/2003
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Not reported
Category: Administrative Action
Action Code Flag: False
Action: Site added to database
Further Action: Not reported
Comments: Not reported

Action ID: 9421
Region: 0
Complete Date: 12/09/2002
Rank Value: Not reported
Cleanup Flag: False
Created Date: 10/03/2003
Decode for AgencyID: Environmental Protection Agency
Decode for RegionID: Not reported
Category: EPA Led Action
Action Code Flag: False
Action: Site added to CERCLIS
Further Action: 0
Comments: Not reported

Action ID: 9425
Region: Western Region
Complete Date: 09/04/2009
Rank Value: Not reported

KOGAP VENEER/PLYWOOD PLANT (FORMER) (Continued) **S106236686**

Cleanup Flag: False
Created Date: 10/06/2003
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Remedial Action
Action Code Flag: False
Action: SITE EVALUATION
Further Action: 0
Comments: Not reported

VCS:
ECS Site ID: 3796
Facility Size: Approx. 91 acres
Action: REMEDIAL ACTION
Start Date: 06/15/2010
End Date: Not reported
Facility Status: Active
Program: VCS
Latitude: 42.30680
Longitude: -122.8563

F17
NW
1/8-1/4
0.199 mi.
1052 ft.

KOGAP ENTERPRISES INC **RCRA NonGen / NLR** **1001229638**
2080 S PACIFIC HWY **ORQ000009035**
MEDFORD, OR 97501

Site 2 of 3 in cluster F

Relative:
Lower

Actual:
1417 ft.

RCRA NonGen / NLR:
Date form received by agency: 03/18/1999
Facility name: KOGAP ENTERPRISES INC
Facility address: 2080 S PACIFIC HWY
MEDFORD, OR 97501
EPA ID: ORQ000009035
Mailing address: PO BOX 1608
MEDFORD, OR 97501
Contact: ROGER NOTE
Contact address: PO BOX 1608
MEDFORD, OR 97501
Contact country: US
Contact telephone: (541) 776-6533
Contact email: Not reported
EPA Region: 10
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:
Owner/operator name: KOGAP ENTERPRISES INC
Owner/operator address: PO BOX 1608
MEDFORD, OR 97501
Owner/operator country: US
Owner/operator telephone: (541) 776-6500
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 03/18/1999
Owner/Op end date: Not reported

KOGAP ENTERPRISES INC (Continued) **1001229638**

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

Historical Generators:

Date form received by agency:	05/21/1998
Site name:	KOGAP ENTERPRISES INC
Classification:	Not a generator, verified
. Waste code:	NONE
. Waste name:	None
Violation Status:	No violations found

F18 **KOGAP MFG CO** **UST** **1000153948**
NW **2080 S PACIFIC HWY** **RCRA NonGen / NLR** **ORD009038399**
1/8-1/4 **MEDFORD, OR 97501**
0.199 mi.
1052 ft. **Site 3 of 3 in cluster F**

Relative:
Lower

Actual:
1417 ft.

UST:

Facility ID:	7617
Facility Telephone:	(503)776-6522
Permittee Name:	C X HEFFNER, MANUFACTURING MANAGER
Number of Permitted Tanks:	Not reported
Active Tanks:	Not reported
Decommissioned Tanks:	2
Number of Tanks:	2

RCRA NonGen / NLR:

Date form received by agency:	08/21/1980
Facility name:	KOGAP MFG CO
Facility address:	2080 S PACIFIC HWY MEDFORD, OR 97501
EPA ID:	ORD009038399
Mailing address:	PO BOX 1608 MEDFORD, OR 97501
Contact:	C HEFFNER
Contact address:	PO BOX 1608 MEDFORD, OR 97501
Contact country:	US
Contact telephone:	(503) 776-6500
Contact email:	Not reported
EPA Region:	10

KOGAP MFG CO (Continued) **1000153948**

Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:
Owner/operator name: KOGAP MANUFACTURING COMPANY
Owner/operator address: Not reported
Not reported
Owner/operator country: Not reported
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Violation Status: No violations found

E19 **COMMERCIAL DOCUMENTATION SERVICES** **RCRA-SQG** **1001029825**
SSE **2603 S PACIFIC HWY** **FINDS** **OR0000000976**
1/8-1/4 **MEDFORD, OR 97501** **HSIS**
0.232 mi. **MANIFEST**
1223 ft. **Site 3 of 4 in cluster E** **ECHO**

Relative:
Higher

Actual:
1427 ft.

RCRA-SQG:
Date form received by agency: 12/31/2014
Facility name: CDS PUBLICATIONS, INC
Facility address: 2603 S PACIFIC HWY
MEDFORD, OR 97501
EPA ID: OR0000000976
Mailing address: 2661 S PACIFIC HWY
MEDFORD, OR 97501
Contact: RUSSELL T KOCKX
Contact address: 2661 S PACIFIC HWY
MEDFORD, OR 97501
Contact country: US
Contact telephone: 541 734-7817
Contact email: RKOCKX@CDSPUBS.COM
EPA Region: 10
Land type: Private
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	CDS PUBLICATIONS, INC
Owner/operator address:	2661 S PACIFIC HWY MEDFORD, OR 97501
Owner/operator country:	US
Owner/operator telephone:	(541) 773-7575
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	12/31/2014
Owner/Op end date:	Not reported

Owner/operator name:	CDS PUBLICATIONS, INC
Owner/operator address:	2661 S PACIFIC HWY MEDFORD, OR 97501
Owner/operator country:	US
Owner/operator telephone:	541 773-7575
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	12/31/2014
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

. Waste code: NA
. Waste name: NA

Historical Generators:

Date form received by agency:12/31/2013
Site name: CDS PUBLICATIONS, INC
Classification: Small Quantity Generator

. Waste code: NA
. Waste name: NA

Date form received by agency:12/31/2013
Site name: CDS PUBLICATIONS, INC
Classification: Small Quantity Generator

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: NONE
. Waste name: None

. Waste code: NA
. Waste name: NA

Date form received by agency:12/31/2012
Site name: CDS PUBLICATIONS, INC
Classification: Small Quantity Generator

. Waste code: NA
. Waste name: NA

Date form received by agency:12/31/2011
Site name: CDS PUBLICATIONS, INC
Classification: Small Quantity Generator

. Waste code: NA
. Waste name: NA

Date form received by agency:12/31/2010
Site name: CDS PUBLICATIONS, INC
Classification: Small Quantity Generator

. Waste code: NA
. Waste name: NA

Date form received by agency:02/25/2010
Site name: CDS PUBLICATIONS, INC
Classification: Small Quantity Generator

. Waste code: NA
. Waste name: NA

Date form received by agency:02/25/2010
Site name: CDS PUBLICATIONS, INC
Classification: Small Quantity Generator

Date form received by agency:12/31/2008
Site name: CDS PUBLICATIONS, INC
Classification: Small Quantity Generator

Date form received by agency:12/31/2007
Site name: CDS PUBLICATIONS, INC
Classification: Small Quantity Generator

Date form received by agency:12/31/2006
Site name: CDS PUBLICATIONS, INC
Classification: Small Quantity Generator

Date form received by agency:12/31/2005

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Site name: CDS PUBLICATIONS, INC
Classification: Small Quantity Generator

Date form received by agency:03/02/2005
Site name: CDS PUBLICATIONS, INC
Classification: Small Quantity Generator

Date form received by agency:12/31/2004
Site name: CDS PUBLICATIONS
Classification: Small Quantity Generator

Date form received by agency:12/31/2003
Site name: CDS PUBLICATIONS
Classification: Small Quantity Generator

Date form received by agency:02/28/2003
Site name: CDS PUBLICATIONS
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency:03/01/2002
Site name: CDS PUBLICATIONS
Classification: Small Quantity Generator

Date form received by agency:02/26/2001
Site name: CDS PUBLICATIONS
Classification: Small Quantity Generator

Date form received by agency:03/17/2000
Site name: CDS PUBLICATIONS
Classification: Small Quantity Generator

Date form received by agency:06/28/1999
Site name: CDS PUBLICATIONS
Classification: Small Quantity Generator

Date form received by agency:03/22/1999
Site name: COMMERCIAL DOCUMENTATION SERVICES INC
Classification: Small Quantity Generator

Date form received by agency:02/23/1998
Site name: COMMERCIAL DOCUMENTATION SERVICES INC
Classification: Small Quantity Generator

Date form received by agency:03/03/1997
Site name: COMMERCIAL DOCUMENTATION SERVICES INC
Classification: Small Quantity Generator

Date form received by agency:02/22/1996
Site name: COMMERCIAL DOCUMENTATION SERVICES INC
Classification: Small Quantity Generator

Date form received by agency:03/01/1995
Site name: COMMERCIAL DOCUMENTATION SERVICES INC
Classification: Small Quantity Generator

Date form received by agency:09/13/1993
Site name: COMMERCIAL DOCUMENTATION SERVICES INC

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Classification: Small Quantity Generator

Facility Has Received Notices of Violations:

Regulation violated: Not reported
Area of violation: Generators - Pre-transport
Date violation determined: 01/15/2013
Date achieved compliance: 02/28/2013
Violation lead agency: State
Enforcement action: NOTICE OF NONCOMPLIANCE
Enforcement action date: 01/24/2013
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - Pre-transport
Date violation determined: 10/01/2009
Date achieved compliance: 11/16/2009
Violation lead agency: State
Enforcement action: NOTICE OF NONCOMPLIANCE
Enforcement action date: 10/28/2009
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 10/21/2004
Date achieved compliance: 02/17/2006
Violation lead agency: State
Enforcement action: NOTICE OF NONCOMPLIANCE
Enforcement action date: 11/17/2004
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 40 CFR 262.34(d)(4)
Area of violation: Generators - General
Date violation determined: 02/11/1999
Date achieved compliance: 04/26/1999
Violation lead agency: State
Enforcement action: NOTICE OF NONCOMPLIANCE
Enforcement action date: 02/22/1999
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Paid penalty amount: Not reported

Regulation violated: FR - 40 CFR 262.34(a)(2)
Area of violation: Generators - Pre-transport
Date violation determined: 02/11/1999
Date achieved compliance: 04/26/1999
Violation lead agency: State
Enforcement action: NOTICE OF NONCOMPLIANCE
Enforcement action date: 02/22/1999
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SS - ORS 466.095(1)
Area of violation: Generators - General
Date violation determined: 02/11/1999
Date achieved compliance: 04/26/1999
Violation lead agency: State
Enforcement action: NOTICE OF NONCOMPLIANCE
Enforcement action date: 02/22/1999
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 04/16/2013
Evaluation: COMPLIANCE ASSISTANCE VISIT
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 01/15/2013
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Pre-transport
Date achieved compliance: 02/28/2013
Evaluation lead agency: State

Evaluation date: 10/01/2009
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Pre-transport
Date achieved compliance: 11/16/2009
Evaluation lead agency: State

Evaluation date: 10/21/2004
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 02/17/2006
Evaluation lead agency: State

Evaluation date: 02/11/1999
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Area of violation: Generators - Pre-transport
Date achieved compliance: 04/26/1999
Evaluation lead agency: State

Evaluation date: 02/11/1999
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 04/26/1999
Evaluation lead agency: State

FINDS:

Registry ID: 110004772336

Environmental Interest/Information System

OR-DEQ (Oregon - Department Of Environmental Quality) is a regulatory agency whose job is to protect the quality of Oregon's Environment. DEQ uses a combination of technical assistance, inspections and permitting to help public and private facilities and citizens understand and comply with state and federal environmental regulations.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

HSIS:

Facility Id: 043822
Chemical Is Extremely Hazardous Substance (EHS): Yes
Department Or Division Of Company: BINDERY - OFFSET & DIGITA
Facility Has Written Emergency Plan: Yes
Contains 112R: No
NAICS Code 1: 323117
NAICS Desc 1: BOOKS PRINTING
NAICS Code 2: 000000
NAICS Desc 2: Not reported
Manager Name: TOM MUELLER
Business Phone: 5417737575
Mailing Address: 2661 S PACIFIC HWY
Mailing City,St,Zip: MEDFORD, OR 97501
No. of Employees: 140
Day Phone: 5417347817
Placard: Yes
Fire Dept Code: 0224
Sprinkler System: No
Emergency Contact: RUSSELL KOCKX
Emergency Procedure: ALL MSDS STATIONS
Business Type: PRINTER

Facility:

Facility Id: 043822
Physical State Of The Substance: 3
Physical State: GAS
Average Amount Possessed During The Year Code: 20

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Maximum Amount Possessed During The Year Code:	20
Applicable Unit Of Measure Code:	3
Description Of The Unit Of Measure:	CUBIC FEET
Type Code:	L
Description:	CYLINDER
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	1,000-4,999
Description Of The Avg Qnty Code:	1,000-4,999
Most Hazardous Ingridient:	PROPANE
United Nations/north America 4 Digit Class Number:	1954
Hazard Rank:	2
EHS Ingredient:	Not reported
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Flammable Gas
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	2.1
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	Not reported

Chemical:

United Nations/north America 4 Digit Class Number:	1954
Chemical Abstract Service Identifier Number:	74986
Chemical Is Extremely Hazardous Substance (EHS):	No
First Hazardous Class Code For Chemical:	Flammable Gas
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	2.1
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Contains 112R:	Yes
Contains EHS:	No
Fertilizer:	No
Pesticide:	No
Contains 313:	No

Facility Id:	043822
Physical State Of The Substance:	1
Physical State:	SOLID
Average Amount Possessed During The Year Code:	30
Maximum Amount Possessed During The Year Code:	30
Applicable Unit Of Measure Code:	1
Description Of The Unit Of Measure:	POUNDS

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Type Code:	R
Description:	OTHER
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	10,000-49,999
Description Of The Avg Qnty Code:	10,000-49,999
Most Hazardous Ingridient:	SULFURIC ACID
United Nations/north America 4 Digit Class Number:	2794
Hazard Rank:	4
EHS Ingredient:	SULFURIC ACID
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Acute Health Hazard
Second Hazardous Class Code For Chemical:	Corrosive Material
Third Hazardous Class Code For Chemical:	Chronic Health Hazard
Hazard Class 1 Of The Chemical:	6.3
Hazard Class 2 Of The Chemical:	8.0
Hazard Class 3 Of The Chemical:	6.4

Chemical:

United Nations/north America 4 Digit Class Number:	2794
Chemical Abstract Service Identifier Number:	7664939
Chemical Is Extremely Hazardous Substance (EHS):	No
First Hazardous Class Code For Chemical:	Acute Health Hazard
Second Hazardous Class Code For Chemical:	Corrosive Material
Third Hazardous Class Code For Chemical:	Chronic Health Hazard
Hazard Class 1 Of The Chemical:	6.3
Hazard Class 2 Of The Chemical:	8.0
Hazard Class 3 Of The Chemical:	6.4
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Contains 112R:	No
Contains EHS:	Yes
Fertilizer:	No
Pesticide:	No
Contains 313:	Yes

Facility Id:	043822
Physical State Of The Substance:	1
Physical State:	SOLID
Average Amount Possessed During The Year Code:	10
Maximum Amount Possessed During The Year Code:	11
Applicable Unit Of Measure Code:	1
Description Of The Unit Of Measure:	POUNDS
Type Code:	D
Description:	STEEL DRUM
Type Code:	Not reported

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	500-999
Description Of The Avg Qnty Code:	200-499
Most Hazardous Ingridient:	4,4-DIPHENYLMETHANE DIISOCYANATE
United Nations/north America 4 Digit Class Number:	3077
Hazard Rank:	2
EHS Ingredient:	Not reported
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Acute Health Hazard
Second Hazardous Class Code For Chemical:	Combustible Material
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	6.3
Hazard Class 2 Of The Chemical:	4.5
Hazard Class 3 Of The Chemical:	Not reported

Chemical:

United Nations/north America 4 Digit Class Number:	3077
Chemical Abstract Service Identifier Number:	101688
Chemical Is Extremely Hazardous Substance (EHS):	No
First Hazardous Class Code For Chemical:	Acute Health Hazard
Second Hazardous Class Code For Chemical:	Combustible Material
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	6.3
Hazard Class 2 Of The Chemical:	4.5
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Contains 112R:	No
Contains EHS:	No
Fertilizer:	No
Pesticide:	No
Contains 313:	Yes

Facility Id:	043822
Physical State Of The Substance:	1
Physical State:	SOLID
Average Amount Possessed During The Year Code:	20
Maximum Amount Possessed During The Year Code:	20
Applicable Unit Of Measure Code:	1
Description Of The Unit Of Measure:	POUNDS
Type Code:	O
Description:	TOTEBIN
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	1,000-4,999
Description Of The Avg Qnty Code:	1,000-4,999
Most Hazardous Ingridient:	PARAFFIN WAX
United Nations/north America 4 Digit Class Number:	Not reported
Hazard Rank:	2
EHS Ingredient:	Not reported
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Miscellaneous Hazardous Material
Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	9.0
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported

Chemical:

United Nations/north America 4 Digit Class Number:	Not reported
Chemical Abstract Service Identifier Number:	8002742
Chemical Is Extremely Hazardous Substance (EHS):	No
First Hazardous Class Code For Chemical:	Miscellaneous Hazardous Material
Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	9.0
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Contains 112R:	No
Contains EHS:	No
Fertilizer:	No
Pesticide:	No
Contains 313:	No

OR MANIFEST:

Manifest Year:	Manifest Year - 2014
EPA Id:	OR0000000976
Inactive Status:	Not reported
Organization Name:	CDS Publications
Contact Name:	Russell Kockx
Contact Telephone Number:	Not reported
Mailing Address:	2661 S Pacific Hwy
Mailing City/State/Zip:	Medford, OR 97501

Manifest:

Year :	2014
RCRA Id :	OR0000000976
Inactive :	Not reported

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Status: Small quantity generator
Manifest : 004069415SKS
Ship Date : 01/03/2014
TSD : ORD981766124
WS Num: 1
Transporter: TXR000081205
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammable Liquids Petroleum Distaillates
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1124.2265
Total Amt Of Waste Stream Generated in Reporting Yr 2: 470.95974999999999

Year : 2014
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 004152588SKS
Ship Date : 03/27/2014
TSD : ORD981766124
WS Num: 1
Transporter: TXR000081205
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammable Liquids Petroleum Distaillates
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1124.2265
Total Amt Of Waste Stream Generated in Reporting Yr 2: 182.30699999999999

Year : 2014
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 007017949FLE
Ship Date : 07/17/2014
TSD : ARD981057870
WS Num: 1
Transporter: KS0000336891
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammable Liquids Petroleum Distaillates
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1124.2265
Total Amt Of Waste Stream Generated in Reporting Yr 2: 167.11474999999999

Year : 2014
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 004152779SKS
Ship Date : 11/21/2014
TSD : NED981723513
WS Num: 1
Transporter: TXR000081205

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammable Liquids Petroleum Distaillates
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1124.2265
Total Amt Of Waste Stream Generated in Reporting Yr 2: 136.73025000000001

Year : 2014
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : Not reported
Ship Date : 12/31/2014
TSD : ARD981057870
WS Num: 1
Transporter: KS0000336891
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammable Liquids Petroleum Distaillates
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1124.2265
Total Amt Of Waste Stream Generated in Reporting Yr 2: 167.11474999999999

Year : 2014
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 004152779SKS
Ship Date : 11/21/2014
TSD : NED981723513
WS Num: 4
Transporter: TXR000081205
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D002
Waste Description: UNUSED HYDROXYACETIC ACID
Total Amt Of Waste Stream Generated in Reporting Yr 1: 136.05000000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 136.05000000000001

Year : 2014
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 004152779SKS
Ship Date : 11/21/2014
TSD : NED981723513
WS Num: 3
Transporter: TXR000081205
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D002
Waste Description: Unused hydrochloric acid
Total Amt Of Waste Stream Generated in Reporting Yr 1: 90.700000000000003

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Total Amt Of Waste Stream Generated in Reporting Yr 2: 90.700000000000003

Year : 2014
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : Not reported
Ship Date : 12/30/2014
TSD : NED981723513
WS Num: 2
Transporter: TXR000081205
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001
Waste Description: Waste UV Coating with Isopropyl Alcohol
Total Amt Of Waste Stream Generated in Reporting Yr 1: 133.6918
Total Amt Of Waste Stream Generated in Reporting Yr 2: 157.99940000000001

Manifest:
Year : 2013
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 004866983FLE
Ship Date : 01/03/2013
TSD : ARD981057870
WS Num: 1
Transporter: KS0000336891
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammable Liquids Petroleum Distaillates
Total Amt Of Waste Stream Generated in Reporting Yr 1: 401.0754
Total Amt Of Waste Stream Generated in Reporting Yr 2: 334.22949999999997

Year : 2013
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 007017672FLE
Ship Date : 11/21/2013
TSD : ARD981057870
WS Num: 1
Transporter: KS0000336891
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammable Liquids Petroleum Distaillates
Total Amt Of Waste Stream Generated in Reporting Yr 1: 401.0754
Total Amt Of Waste Stream Generated in Reporting Yr 2: 334.22949999999997

Year : 2013

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 002017998FLE
Ship Date : 09/05/2013
TSD : ARD981057870
WS Num: 1
Transporter: KS0000336891
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammable Liquids Petroleum Distaillates
Total Amt Of Waste Stream Generated in Reporting Yr 1: 401.0754
Total Amt Of Waste Stream Generated in Reporting Yr 2: 334.22949999999997

Year : 2013
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 003105941SKS
Ship Date : 07/12/2013
TSD : ORD981766124
WS Num: 2
Transporter: TXR000081205
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1507.0712000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 443.61369999999999

Year : 2013
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 003387239SKS
Ship Date : 03/13/2013
TSD : ORD981766124
WS Num: 2
Transporter: TXR000081205
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1507.0712000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 461.84440000000001

Year : 2013
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 003393543SKS
Ship Date : 03/30/2013
TSD : ORD981766124

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

WS Num: 2
Transporter: TXR000081205
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1507.0712000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 24.307600000000001

Year : 2013
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 003891573SKS
Ship Date : 08/02/2013
TSD : ORD981766124
WS Num: 2
Transporter: TXR000081205
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1507.0712000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 24.307600000000001

Year : 2013
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 003891763SKS
Ship Date : 10/11/2013
TSD : ORD981766124
WS Num: 2
Transporter: TXR000081205
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1507.0712000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 449.69060000000002

Year : 2013
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 003891781SKS
Ship Date : 12/04/2013
TSD : ORD981766124
WS Num: 2
Transporter: TXR000081205
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1507.0712000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 21.26915

Manifest:
Year : 2012
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 002778434SKS
Ship Date : 03/23/2012
TSD : ORD981766124
WS Num: 2
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2012
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 003051055SKS
Ship Date : 06/15/2012
TSD : ORD981766124
WS Num: 2
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2012
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 003191227SKS
Ship Date : 12/19/2012
TSD : ORD981766124
WS Num: 2
Transporter: TXR000081205
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Year : 2012
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 002752935SKS
Ship Date : 04/17/2012
TSD : ORD981766124
WS Num: 2
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2012
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 003085925FLE
Ship Date : 03/20/2012
TSD : ARD981057870
WS Num: 3
Transporter: ORQ000026953
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammable Liquids Petroleum Distaillates
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Manifest:
Year : 2011
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 004315382
Ship Date : 08/25/2011
TSD : ORD981766124
WS Num: 2
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2136.03035
Total Amt Of Waste Stream Generated in Reporting Yr 2: 24.307600000000001

Year : 2011
RCRA Id : OR0000000976
Inactive : Not reported

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Status: Small quantity generator
Manifest : 001979188
Ship Date : 10/05/2011
TSD : ORD981766124
WS Num: 2
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2136.03035
Total Amt Of Waste Stream Generated in Reporting Yr 2: 385.88315

Year : 2011
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 002764308
Ship Date : 12/29/2011
TSD : ORD981766124
WS Num: 2
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2136.03035
Total Amt Of Waste Stream Generated in Reporting Yr 2: 464.88285000000002

Year : 2011
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 003592375
Ship Date : 03/09/2011
TSD : ORD981766124
WS Num: 2
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2136.03035
Total Amt Of Waste Stream Generated in Reporting Yr 2: 24.307600000000001

Year : 2011
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 003592514
Ship Date : 04/14/2011
TSD : ORD981766124
WS Num: 2
Transporter: TXR000050930

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2136.03035
Total Amt Of Waste Stream Generated in Reporting Yr 2: 370.6909

Year : 2011
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 003648277
Ship Date : 01/14/2011
TSD : ORD981766124
WS Num: 2
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2136.03035
Total Amt Of Waste Stream Generated in Reporting Yr 2: 398.03694999999999

Year : 2011
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 004258770
Ship Date : 07/14/2011
TSD : ORD981766124
WS Num: 2
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2136.03035
Total Amt Of Waste Stream Generated in Reporting Yr 2: 443.61369999999999

Year : 2011
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 001691985
Ship Date : 05/04/2011
TSD : ORD981766124
WS Num: 2
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2136.03035

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Total Amt Of Waste Stream Generated in Reporting Yr 2: 24.307600000000001

Year : 2011
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 0025649769
Ship Date : 11/08/2011
TSD : ARD981057870
WS Num: 3
Transporter: OHR000162800
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammable Liquids Petroleum Distaillates
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1082.2958900000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 167.11474999999999

Year : 2011
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 0025649769
Ship Date : 09/20/2011
TSD : ARD981057870
WS Num: 3
Transporter: OHR000162800
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammable Liquids Petroleum Distaillates
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1082.2958900000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 167.11474999999999

Year : 2011
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 002549499
Ship Date : 04/19/2011
TSD : ARD981057870
WS Num: 3
Transporter: OHR000162800
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammable Liquids Petroleum Distaillates
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1082.2958900000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 167.11474999999999

Year : 2011
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Manifest : 002549562
Ship Date : 06/07/2011
TSD : ARD981057870
WS Num: 3
Transporter: OHR000162800
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammable Liquids Petroleum Distaillates
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1082.2958900000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 167.11474999999999

Manifest:
Year : 2010
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 003661625FLE
Ship Date : 11/19/2010
TSD : ORD981766124
WS Num: 2
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1698.4935499999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 21.26915

Year : 2010
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 002059983SKS
Ship Date : 02/05/2010
TSD : ORD981766124
WS Num: 2
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1698.4935499999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 419.30610000000001

Year : 2010
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 004271869FLE
Ship Date : 10/22/2010
TSD : ORD981766124

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

WS Num: 2
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1698.4935499999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 367.65244999999999

Year : 2010
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 00268475SKS
Ship Date : 05/05/2010
TSD : ORD981766124
WS Num: 2
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1698.4935499999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 398.03694999999999

Year : 2010
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 002433008SKS
Ship Date : 07/30/2010
TSD : ORD981766124
WS Num: 2
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1698.4935499999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 394.99849999999998

Year : 2010
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 002425909SKS
Ship Date : 03/31/2010
TSD : ORD981766124
WS Num: 2
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1698.4935499999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 24.307600000000001

Year : 2010
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 002407791SKS
Ship Date : 06/28/2010
TSD : ORD981766124
WS Num: 2
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1698.4935499999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 24.307600000000001

Year : 2010
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 00237335SKS
Ship Date : 03/04/2010
TSD : ORD981766124
WS Num: 2
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1698.4935499999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 24.307600000000001

Year : 2010
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 002250609SKS
Ship Date : 06/01/2010
TSD : ORD981766124
WS Num: 2
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1698.4935499999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 24.307600000000001

Year : 2010
RCRA Id : OR0000000976

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Inactive : Not reported
Status: Small quantity generator
Manifest : 003464066
Ship Date : 09/15/2010
TSD : ARD981757870
WS Num: 3
Transporter: OHD042311209
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammable Liquids Petroleum, Distillates, Tetrochloroethylene
Total Amt Of Waste Stream Generated in Reporting Yr 1: 583.38239999999996
Total Amt Of Waste Stream Generated in Reporting Yr 2: 167.11474999999999

Year : 2010
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 003921171FLE
Ship Date : 10/12/2010
TSD : ARD981757870
WS Num: 3
Transporter: OHD042311209
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammable Liquids Petroleum, Distillates, Tetrochloroethylene
Total Amt Of Waste Stream Generated in Reporting Yr 1: 583.38239999999996
Total Amt Of Waste Stream Generated in Reporting Yr 2: 167.11474999999999

Year : 2010
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 001125481FLE
Ship Date : 01/06/2010
TSD : ARD981057870
WS Num: 3
Transporter: OHD042311209
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammable Liquids Petroleum, Distillates, Tetrochloroethylene
Total Amt Of Waste Stream Generated in Reporting Yr 1: 583.38239999999996
Total Amt Of Waste Stream Generated in Reporting Yr 2: 167.11474999999999

Manifest:
Year : 2009
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 001830594

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Ship Date : 05/22/2009
TSD : ORD981766124
WS Num: 1
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1777.49325
Total Amt Of Waste Stream Generated in Reporting Yr 2: 358.53710000000001

Year : 2009
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 002109344
Ship Date : 09/09/2009
TSD : ORD981766124
WS Num: 1
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1777.49325
Total Amt Of Waste Stream Generated in Reporting Yr 2: 30.384499999999999

Year : 2009
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 002088980
Ship Date : 08/14/2009
TSD : ORD981766124
WS Num: 1
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1777.49325
Total Amt Of Waste Stream Generated in Reporting Yr 2: 382.84469999999999

Year : 2009
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 001979391
Ship Date : 06/26/2009
TSD : ORD981766124
WS Num: 1
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1777.49325
Total Amt Of Waste Stream Generated in Reporting Yr 2: 18.230699999999999

Year : 2009
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 000269705
Ship Date : 10/06/2009
TSD : ORD981766124
WS Num: 1
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1777.49325
Total Amt Of Waste Stream Generated in Reporting Yr 2: 21.26915

Year : 2009
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 001884753
Ship Date : 07/17/2009
TSD : ORD981766124
WS Num: 1
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1777.49325
Total Amt Of Waste Stream Generated in Reporting Yr 2: 21.26915

Year : 2009
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 001825556
Ship Date : 12/30/2009
TSD : ORD981766124
WS Num: 1
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1777.49325
Total Amt Of Waste Stream Generated in Reporting Yr 2: 27.346050000000002

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Year : 2009
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 001665882
Ship Date : 03/25/2009
TSD : ORD981766124
WS Num: 1
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1777.49325
Total Amt Of Waste Stream Generated in Reporting Yr 2: 21.26915

Year : 2009
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 001642199
Ship Date : 02/06/2009
TSD : ORD981766124
WS Num: 1
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1777.49325
Total Amt Of Waste Stream Generated in Reporting Yr 2: 21.26915

Year : 2009
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 001602200
Ship Date : 02/26/2009
TSD : ORD981766124
WS Num: 1
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1777.49325
Total Amt Of Waste Stream Generated in Reporting Yr 2: 391.96005000000002

Year : 2009
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 000893224
Ship Date : 01/08/2009

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

TSD : ORD981766124
WS Num: 1
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1777.49325
Total Amt Of Waste Stream Generated in Reporting Yr 2: 21.26915

Year : 2009
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 000335056
Ship Date : 11/05/2009
TSD : ORD981766124
WS Num: 1
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1777.49325
Total Amt Of Waste Stream Generated in Reporting Yr 2: 416.26765

Year : 2009
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 000301485
Ship Date : 12/03/2009
TSD : ORD981766124
WS Num: 1
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1777.49325
Total Amt Of Waste Stream Generated in Reporting Yr 2: 24.307600000000001

Year : 2009
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 001901326
Ship Date : 04/20/2009
TSD : ORD981766124
WS Num: 1
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

EPA Waste Codes: D001
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1777.49325
Total Amt Of Waste Stream Generated in Reporting Yr 2: 21.26915

Year : 2009
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 001125425
Ship Date : 11/12/2009
TSD : ARD981057870
WS Num: 2
Transporter: OHD042311209
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammabble Liquids Petroleum Distillates, Tetrachloroethylene
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1002.6885
Total Amt Of Waste Stream Generated in Reporting Yr 2: 501.34424999999999

Year : 2009
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 001123096
Ship Date : 03/04/2009
TSD : ARD981057870
WS Num: 2
Transporter: OHD042311209
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammabble Liquids Petroleum Distillates, Tetrachloroethylene
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1002.6885
Total Amt Of Waste Stream Generated in Reporting Yr 2: 167.11474999999999

Year : 2009
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 001125141
Ship Date : 04/01/2009
TSD : ARD981057870
WS Num: 2
Transporter: OHD042311209
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammabble Liquids Petroleum Distillates, Tetrachloroethylene
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1002.6885
Total Amt Of Waste Stream Generated in Reporting Yr 2: 167.11474999999999

Year : 2009

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 001125238
Ship Date : 06/24/2009
TSD : ARD981057870
WS Num: 2
Transporter: OHD042311209
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammabble Liquids Petroleum Distillates, Tetrachloroethylene
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1002.6885
Total Amt Of Waste Stream Generated in Reporting Yr 2: 167.11474999999999

Manifest:
Year : 2008
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 001056307
Ship Date : 12/02/2008
TSD : ORD981766124
WS Num: 1
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D039
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2365.1385500000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 689.72815000000003

Year : 2008
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 001169995
Ship Date : 06/23/2008
TSD : ORD981766124
WS Num: 1
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D039
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2365.1385500000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 528.69029999999998

Year : 2008
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Manifest : 001191889
Ship Date : 05/01/2008
TSD : ORD981766124
WS Num: 1
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D039
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2365.1385500000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 18.230699999999999

Year : 2008
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 001446026
Ship Date : 10/27/2008
TSD : ORD981766124
WS Num: 1
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D039
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2365.1385500000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 21.26915

Year : 2008
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 001127958
Ship Date : 11/20/2008
TSD : ARD981057870
WS Num: 2
Transporter: OHD042311209
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammabble Liquids Petroleum Distillates, Tetrachloroethylene
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1835.9947500000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 334.22949999999997

Year : 2008
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 001055608
Ship Date : 07/11/2008
TSD : ORD981766124
WS Num: 1
Transporter: TXR000050930
Ship Qty : Not reported

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D039
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2365.1385500000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 18.230699999999999

Year : 2008
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 000912891
Ship Date : 03/07/2008
TSD : ORD981766124
WS Num: 1
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D039
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2365.1385500000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 21.26915

Year : 2008
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 001375160
Ship Date : 09/15/2008
TSD : ORD981766124
WS Num: 1
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D039
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2365.1385500000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 309.92189999999999

Year : 2008
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 001141092
Ship Date : 06/07/2008
TSD : ORD981766124
WS Num: 1
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D039
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2365.1385500000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 21.26915

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Year : 2008
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 001398192
Ship Date : 08/14/2008
TSD : ORD981766124
WS Num: 1
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D039
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2365.1385500000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 21.26915

Year : 2008
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 000028767
Ship Date : 01/07/2008
TSD : TXD077603371
WS Num: 2
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammabble Liquids Petroleum Distillates, Tetrachloroethylene
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1835.9947500000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 331.96199999999999

Year : 2008
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 000981627
Ship Date : 02/01/2008
TSD : ORD981766124
WS Num: 1
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D039
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2365.1385500000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 21.26915

Year : 2008
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 001127853
Ship Date : 10/09/2008

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

TSD : ARD981057870
WS Num: 2
Transporter: OHD042311209
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammabble Liquids Petroleum Distillates, Tetrachloroethylene
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1835.9947500000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 167.11474999999999

Year : 2008
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 000946799
Ship Date : 01/07/2008
TSD : ORD981766124
WS Num: 1
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D039
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2365.1385500000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 693.99104999999997

Year : 2008
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 001127827
Ship Date : 08/27/2008
TSD : ARD981057870
WS Num: 2
Transporter: OHD042311209
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammabble Liquids Petroleum Distillates, Tetrachloroethylene
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1835.9947500000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 668.45899999999995

Year : 2008
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 001123470
Ship Date : 03/12/2008
TSD : ARD981057870
WS Num: 2
Transporter: OHD042311209
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammabble Liquids Petroleum Distillates, Tetrachloroethylene
Total Amt Of Waste Stream Generated in Reporting Yr 1: 1835.9947500000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 334.22949999999997

Manifest:
Year : 2007
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 471058
Ship Date : 04/13/2007
TSD : ORD981766124
WS Num: 1
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D039
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2719.4099999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 589.46000000000004

Year : 2007
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 28751
Ship Date : 12/21/2007
TSD : ORD981766124
WS Num: 1
Transporter: TXR000050390
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D039
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2719.4099999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 21.27

Year : 2007
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 135369
Ship Date : 04/13/2007
TSD : TXD077603371
WS Num: 2
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammabble Liquids Petroleum Distillates, Tetrachloroethylene
Total Amt Of Waste Stream Generated in Reporting Yr 1: 751

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Total Amt Of Waste Stream Generated in Reporting Yr 2: 274.81999999999999

Year : 2007
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 791456
Ship Date : 09/28/2007
TSD : ORD981766124
WS Num: 1
Transporter: TXR000050390
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D039
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2719.4099999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 704.91999999999996

Year : 2007
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 765362
Ship Date : 11/16/2007
TSD : ORD981766124
WS Num: 1
Transporter: TXR000050390
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D039
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2719.4099999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 24.309999999999999

Year : 2007
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 135420
Ship Date : 01/16/2007
TSD : TXD077603371
WS Num: 2
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammabble Liquids Petroleum Distillates, Tetrachloroethylene
Total Amt Of Waste Stream Generated in Reporting Yr 1: 751
Total Amt Of Waste Stream Generated in Reporting Yr 2: 162.34999999999999

Year : 2007
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Manifest : 341707
Ship Date : 01/16/2007
TSD : ORD981766124
WS Num: 1
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D039
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2719.4099999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 701.88

Year : 2007
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 33143
Ship Date : 07/11/2007
TSD : TXD077603371
WS Num: 2
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammabble Liquids Petroleum Distillates, Tetrachloroethylene
Total Amt Of Waste Stream Generated in Reporting Yr 1: 751
Total Amt Of Waste Stream Generated in Reporting Yr 2: 165.97999999999999

Year : 2007
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 451892
Ship Date : 07/11/2007
TSD : ORD981766124
WS Num: 1
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D039
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2719.4099999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 656.30999999999995

Year : 2007
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 28611
Ship Date : 08/28/2007
TSD : ORD981766124
WS Num: 1
Transporter: TXR000050930
Ship Qty : Not reported

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Rpt Unit : Not reported
Off Mng : H020
EPA Waste Codes: D039
Waste Description: Spent solvent from parts washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: 2719.4099999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 24.309999999999999

Year : 2007
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 135303
Ship Date : 03/08/2007
TSD : TXD077603371
WS Num: 2
Transporter: TXR000050930
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammabble Liquids Petroleum Distillates, Tetrachloroethylene
Total Amt Of Waste Stream Generated in Reporting Yr 1: 751
Total Amt Of Waste Stream Generated in Reporting Yr 2: 147.84

Manifest:
Year : 2006
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 000945822JJK
Ship Date : 10/20/2006
TSD : ORD981766124
WS Num: Not reported
Transporter: TXR000050930
Ship Qty : 1528
Rpt Unit : LB
Off Mng : H020
EPA Waste Codes: D039
Waste Description: Spent solvent from Parts Washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2006
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 31104
Ship Date : 05/15/2006
TSD : ORD981766124
WS Num: Not reported
Transporter: TXR000050930
Ship Qty : 1441
Rpt Unit : LB
Off Mng : H020
EPA Waste Codes: D039

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Waste Description: Spent solvent from Parts Washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2006
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : S01160090
Ship Date : 01/05/2006
TSD : TXD077603371
WS Num: Not reported
Transporter: TXR000050930
Ship Qty : 366
Rpt Unit : LB
Off Mng : H061
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammable Liquids Petroleum Distillates, Tetrachloroethylene
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2006
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : S01182936
Ship Date : 03/10/2006
TSD : TXD077603371
WS Num: Not reported
Transporter: TXR000050930
Ship Qty : 240
Rpt Unit : LB
Off Mng : H061
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammable Liquids Petroleum Distillates, Tetrachloroethylene
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2006
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 02104
Ship Date : 07/24/2006
TSD : ORD981766124
WS Num: Not reported
Transporter: TXR000050930
Ship Qty : 1441
Rpt Unit : LB
Off Mng : H020
EPA Waste Codes: D039
Waste Description: Spent solvent from Parts Washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2006
RCRA Id : OR0000000976

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Inactive : Not reported
Status: Small quantity generator
Manifest : 000813719JJK
Ship Date : 09/12/2006
TSD : TXD077603371
WS Num: Not reported
Transporter: TXR000050930
Ship Qty : 1152
Rpt Unit : LB
Off Mng : H061
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammable Liquids Petroleum Distillates, Tetrachloroethylene
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2006
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 34103
Ship Date : 02/22/2006
TSD : ORD981766124
WS Num: Not reported
Transporter: TXR000050930
Ship Qty : 1648
Rpt Unit : LB
Off Mng : H020
EPA Waste Codes: D039
Waste Description: Spent solvent from Parts Washers
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2006
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : S01289817
Ship Date : 04/21/2006
TSD : TXD077603371
WS Num: Not reported
Transporter: TXR000050930
Ship Qty : 366
Rpt Unit : LB
Off Mng : H061
EPA Waste Codes: D001 D018 D039
Waste Description: RQ Waste Flammable Liquids Petroleum Distillates, Tetrachloroethylene
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Manifest:
Year : 2004
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 25853

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Ship Date : 01/19/2004
TSD : KYD053348108
WS Num: Not reported
Transporter: TXR000050930
Ship Qty : 768
Rpt Unit : LB
Off Mng : H061
EPA Waste Codes: D001
Waste Description: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2004
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 70868
Ship Date : 02/16/2004
TSD : UTD981552425
WS Num: Not reported
Transporter: TXR000050930
Ship Qty : 371
Rpt Unit : LB
Off Mng : H061
EPA Waste Codes: D001
Waste Description: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2004
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 06223
Ship Date : 06/18/2004
TSD : TXD077603371
WS Num: Not reported
Transporter: TXR000050930
Ship Qty : 732
Rpt Unit : LB
Off Mng : H061
EPA Waste Codes: D001
Waste Description: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2004
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 91513
Ship Date : 05/13/2004
TSD : TXD077603371
WS Num: Not reported
Transporter: TXR000050930
Ship Qty : 324
Rpt Unit : LB

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Off Mng : H061
EPA Waste Codes: D001
Waste Description: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2004
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 24772
Ship Date : 12/15/2004
TSD : TXD077603371
WS Num: Not reported
Transporter: TXR000050930
Ship Qty : 366
Rpt Unit : LB
Off Mng : H061
EPA Waste Codes: D001
Waste Description: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2004
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 81452
Ship Date : 11/19/2004
TSD : TXD077603371
WS Num: Not reported
Transporter: TXR000050930
Ship Qty : 366
Rpt Unit : LB
Off Mng : H061
EPA Waste Codes: D001
Waste Description: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2004
RCRA Id : OR0000000976
Inactive : Not reported
Status: Small quantity generator
Manifest : 67320
Ship Date : 08/13/2004
TSD : TXD077603371
WS Num: Not reported
Transporter: TXR000050930
Ship Qty : 732
Rpt Unit : LB
Off Mng : H061
EPA Waste Codes: D001
Waste Description: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

COMMERCIAL DOCUMENTATION SERVICES (Continued) **1001029825**

Year :	2004
RCRA Id :	OR0000000976
Inactive :	Not reported
Status:	Small quantity generator
Manifest :	90325
Ship Date :	09/28/2004
TSD :	TXD077603371
WS Num:	Not reported
Transporter:	TXR000050930
Ship Qty :	428
Rpt Unit :	LB
Off Mng :	H061
EPA Waste Codes:	D001
Waste Description:	Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 1:	Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2:	Not reported

ECHO:

Envid:	1001029825
Registry ID:	Not reported
DFR URL:	http://echo.epa.gov/detailed_facility_report?fid=OR000000976
Envid:	1001029825
Registry ID:	110004772336
DFR URL:	http://echo.epa.gov/detailed_facility_report?fid=110004772336

E20
SSE
1/8-1/4
0.232 mi.
1223 ft.

COMMERCIAL DOCUMENTATION SVCS INC **RCRA NonGen / NLR** **1000874200**
2603 S PACIFIC HWY **ORD000000976**
MEDFORD, OR 97501

Site 4 of 4 in cluster E

Relative:
Higher

Actual:
1427 ft.

RCRA NonGen / NLR:

Date form received by agency:	01/12/2001
Facility name:	COMMERCIAL DOCUMENTATION SVCS INC
Facility address:	2603 S PACIFIC HWY MEDFORD, OR 97501
EPA ID:	ORD000000976
Mailing address:	S PACIFIC HWY MEDFORD, OR 97501
Contact:	RON BARACKER
Contact address:	2661 S PACIFIC HWY MEDFORD, OR 97501
Contact country:	US
Contact telephone:	(503) 773-7575
Contact email:	Not reported
EPA Region:	10
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	JOHN C TOOKER
Owner/operator address:	2661 S PACIFIC HWY MEDFORD, OR 97501
Owner/operator country:	Not reported
Owner/operator telephone:	(503) 773-7575

COMMERCIAL DOCUMENTATION SVCS INC (Continued) **1000874200**

Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 01/01/1776
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D018
. Waste name: BENZENE

. Waste code: D039
. Waste name: TETRACHLOROETHYLENE

Historical Generators:
Date form received by agency: 09/13/1993
Site name: COMMERCIAL DOCUMENTATION SVCS INC
Classification: Small Quantity Generator

Violation Status: No violations found

G21 **NW PRINTED CIRCUITS (FORMER)** **ECSI** **S103842226**
SE **2655 S PACIFIC HWY.** **N/A**
1/4-1/2 **MEDFORD, OR 97501**
0.313 mi.
1652 ft. **Site 1 of 2 in cluster G**

Relative:
Higher

Actual:
1426 ft.

ECSI:
State ID Number: 1233
Brown ID: 0
Study Area: False
Region ID: 3
Legislatve ID: 0
Investigation: Suspect
FACA ID: 2915
Further Action: 260
Lat/Long (dms): 42 17 59.60 / -122 50 49.20
County Code: 15.00
Score Value: Not reported
Cerclis ID: 047630744
Township Coord.: 38.00

NW PRINTED CIRCUITS (FORMER) (Continued) **S103842226**

Township Zone: S
Range Coord: 1.00
Range Zone: W
Section Coord: 5
Qtr Section: BB
Tax Lots: 201
Size: 2.96 acres
NPL: False
Orphan: False
Updated By: GWISTAR
Update Date: 04/17/2015
Created Date: 08/28/1992
Decode For RegionID: Western Region
Decode For BrownID: Not reported
Decode For Furtheract: Low
Decode For Investstat: Suspect
Decode For Legislative: Not reported
Alias Name: Hubbards Ace Home Center

Hazardous Release:
Substance ID.: 121671
Haz Release ID: 383366
Qty Released: unknown
Date Released: unknown
Update Date: 08/28/1992
Update By: Not reported
Substance Code: 7440-47-3
Substance Name: CHROMIUM
Substance Abbrev.: Not reported
Substance Category ID: 8462
Substance Category: Inorganics
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8462
Substance Category: Inorganics
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Alias ID: 318145
Sub Alias Name: CHROMIUM, INORGANIC
Substance Alias ID: 319294
Sub Alias Name: CHROMIUM, TOTAL
Sampling Result ID: 345672
Feature Id: Not reported
Hazard Release Id: 383366
Medium: 698
Substance Abbrev.: Not reported
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 04/21/1992
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 78 to 631 ppb

NW PRINTED CIRCUITS (FORMER) (Continued) **S103842226**

Last Update By: CONV
Update Date: 09/13/1994
Decode for MediumID: Groundwater

Substance ID.: 121673
Haz Release ID: 383367
Qty Released: unknown
Date Released: unknown
Update Date: 08/28/1992
Update By: Not reported
Substance Code: 7440-50-8
Substance Name: COPPER
Substance Abbrev.: Not reported
Substance Category ID: 8464
Substance Category: Inorganics
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8464
Substance Category: Inorganics
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Alias ID: 319296
Sub Alias Name: CU
Sampling Result ID: 345673
Feature Id: Not reported
Hazard Release Id: 383367
Medium: 698
Substance Abbrev.: Not reported
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 04/21/1992
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 10 to 747 ppb
Last Update By: CONV
Update Date: 09/13/1994
Decode for MediumID: Groundwater

Substance ID.: 121639
Haz Release ID: 383368
Qty Released: unknown
Date Released: unknown
Update Date: 08/28/1992
Update By: Not reported
Substance Code: 7439-92-1
Substance Name: LEAD
Substance Abbrev.: Not reported
Substance Category ID: 8466
Substance Category: Inorganics
Category Level: Not reported
Created By: Not reported

NW PRINTED CIRCUITS (FORMER) (Continued) **S103842226**

Created Date: 12/17/2002
Substance Category ID: 8466
Substance Category: Inorganics
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Alias ID: 319256
Sub Alias Name: PB
Sampling Result ID: 345674
Feature Id: Not reported
Hazard Release Id: 383368
Medium: 698
Substance Abbrev.: Not reported
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 04/21/1992
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 17 to 59 ppb
Last Update By: CONV
Update Date: 09/13/1994
Decode for MediumID: Groundwater

Substance ID.: 121646
Haz Release ID: 383369
Qty Released: unknown
Date Released: unknown
Update Date: 08/28/1992
Update By: Not reported
Substance Code: 7440-02-0
Substance Name: NICKEL
Substance Abbrev.: Not reported
Substance Category ID: 8469
Substance Category: Inorganics
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8469
Substance Category: Inorganics
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Alias ID: 319266
Sub Alias Name: NI
Sampling Result ID: 345675
Feature Id: Not reported
Hazard Release Id: 383369
Medium: 698
Substance Abbrev.: Not reported
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: True

NW PRINTED CIRCUITS (FORMER) (Continued) **S103842226**

Sample Depth: Not reported
Start Date: 04/21/1992
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 20 to 344 ppb
Last Update By: CONV
Update Date: 09/13/1994
Decode for MediumID: Groundwater

Substance ID.: 121679
Haz Release ID: 383370
Qty Released: unknown
Date Released: unknown
Update Date: 08/28/1992
Update By: Not reported
Substance Code: 7440-66-6
Substance Name: ZINC
Substance Abbrev.: Not reported
Substance Alias ID: 319302
Sub Alias Name: ZN
Comment ID: 302834
Release Code: General Comments
Release Comments: Elevated levels of metals were detected in groundwater samples collected from borings at an adjacent property. The source has not been determined.
Decode for Relcomcd: General Comments
Comment ID: 302835
Release Code: Media Contamination Footnote
Release Comments: Samples for the above substances were from an adjacent property.
Decode for Relcomcd: Media Contamination Footnote
Sampling Result ID: 345676
Feature Id: Not reported
Hazard Release Id: 383370
Medium: 698
Substance Abbrev.: Not reported
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 04/21/1992
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 10 to 774 ppb
Last Update By: CONV
Update Date: 09/13/1994
Decode for MediumID: Groundwater

Narrative:
NARR ID: 5732325
NARR Code: Contamination
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
Decode for NarcdID: Contamination

NW PRINTED CIRCUITS (FORMER) (Continued) **S103842226**

NARR Comments: (4/10/95 KAM/SRS) This former circuits manufacturer is alleged to have dumped liquid wastes into a basement sump that discharges via a pipe to the rear lot. Samples of groundwater were collected from open trenches at an adjacent lot. Concentrations of copper and chromium were elevated. However, the method of collection is questionable. A hardware store is now located at the site. DEQ approved the paving of the rear lot for lumber storage, since no excavation would take place. Not reported

NARR ID: 5732326
NARR Code: Hazardous Substance/Waste Types
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
Decode for NarcdID: Hazardous Substance/Waste Types
NARR Comments: The former circuit-board manufacturer apparently had plating operations as part of the manufacturing process. It is assumed these operations generated wastes containing metals. No other information is available.

NARR ID: 5732327
NARR Code: Manner of Release
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
Decode for NarcdID: Manner of Release
NARR Comments: It was alleged that the circuit-board manufacturer had a drain that discharged via drain pipe to the rear lot. This allegation could not be confirmed using geophysical techniques. No other information is available.

NARR ID: 5732328
NARR Code: Remedial Action
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
Decode for NarcdID: Remedial Action
NARR Comments: (4/10/95 KAM/SRS) DEQ began a PA in July 1992 and conducted a site visit. A geophysical survey failed to locate the alleged drain pipe and revealed no areas of high conductivity that would suggest metals contamination. Due to the lack of targets in the area and no apparent contamination source, the site is recommended for further action on a low-priority basis. The only potential threat from this site is via groundwater contamination. No well users exist downgradient of the site.

NARR ID: 5732329
NARR Code: Containment Units
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
Decode for NarcdID: Containment Units
NARR Comments: Basement floor drains were connected to drain pipe which discharged

NW PRINTED CIRCUITS (FORMER) (Continued) **S103842226**

to lot behind (east) building. Wastewater and occasional spills went to floor drains.

Administrative Action:

Action ID: 9421
Region: Not reported
Complete Date: Not reported
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Environmental Protection Agency
Decode for RegionID: Not reported
Category: EPA Led Action
Action Code Flag: False
Action: Site added to CERCLIS
Further Action: Not reported
Comments: Not reported

Action ID: 9424
Region: Headquarters
Complete Date: Not reported
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Headquarters
Category: Administrative Action
Action Code Flag: False
Action: Site added to database
Further Action: Not reported
Comments: Not reported

Action ID: 9425
Region: Headquarters
Complete Date: 07/08/1992
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Headquarters
Category: Remedial Action
Action Code Flag: False
Action: SITE EVALUATION
Further Action: Not reported
Comments: Not reported

Action ID: 9496
Region: Headquarters
Complete Date: 07/08/1992
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Headquarters
Category: Remedial Action
Action Code Flag: False
Action: State Basic Preliminary Assessment recommended (PA)
Further Action: Low

NW PRINTED CIRCUITS (FORMER) (Continued) **S103842226**

Comments: A state PA was initiated in July 1992, but due to the low priority was not completed.

Action ID: 9444
Region: Not reported
Complete Date: 06/29/1984
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Environmental Protection Agency
Decode for RegionID: Not reported
Category: EPA Led Action
Action Code Flag: False
Action: No Further Remedial Action Planned under Federal program
Further Action: Not reported
Comments: Not reported

Action ID: 9457
Region: Not reported
Complete Date: 06/29/1984
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Environmental Protection Agency
Decode for RegionID: Not reported
Category: EPA Led Action
Action Code Flag: False
Action: EPA Basic Preliminary Assessment
Further Action: Not reported
Comments: Not reported

Operations:
Operation Id: 132543
Operation Status: Inactive
Common Name: NW Printed Circuits
Yrs of Operation: Early 1970s-1989
Comments: former electronics circuit board manufacturer
Updated Date: 03/23/1995
Updated By: jxh
Decode for OpstatID: Inactive
Operations SIC Id: 195654
SIC Code: 3672
Created By: Not reported
Created Date: 12/17/2002

G22 **NORTHWEST PRINTED CIRCUITS** **SEMS-ARCHIVE** **1000411050**
SE **2655 S PACIFIC HWY** **RCRA NonGen / NLR** **ORD047630744**
1/4-1/2 **MEDFORD, OR 97501** **FTTS**
0.313 mi. **HIST FTTS**
1652 ft. **Site 2 of 2 in cluster G** **FINDS**
ECHO

Relative:
Higher

Actual:
1426 ft.

SEMS-ARCHIVE:
Site ID: 1000415
EPA ID: ORD047630744
Federal Facility: N
NPL: Not on the NPL
Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information

NORTHWEST PRINTED CIRCUITS (Continued) **1000411050**

Following information was gathered from the prior CERCLIS update completed in 10/2013:

Site ID:	1000415
Federal Facility:	Not a Federal Facility
NPL Status:	Not on the NPL
Non NPL Status:	NFRAP-Site does not qualify for the NPL based on existing information

CERCLIS-NFRAP Site Alias Name(s):

Alias Name:	NORTHWEST PRINTED CIRCUIT INC
Alias Address:	Not reported OR

CERCLIS-NFRAP Assessment History:

Action:	DISCOVERY
Date Started:	/ /
Date Completed:	04/01/80
Priority Level:	Not reported
Action:	ARCHIVE SITE
Date Started:	/ /
Date Completed:	06/29/84
Priority Level:	Not reported
Action:	PRELIMINARY ASSESSMENT
Date Started:	11/01/83
Date Completed:	06/29/84
Priority Level:	NFRAP-Site does not qualify for the NPL based on existing information

RCRA NonGen / NLR:

Date form received by agency:	09/19/1987
Facility name:	NORTHWEST PRINTED CIRCUITS
Facility address:	2655 S PACIFIC HWY MEDFORD, OR 97501
EPA ID:	ORD047630744
Mailing address:	NOT IN FILE NOT IN FILE, OR
Contact:	Not reported
Contact address:	Not reported Not reported
Contact country:	US
Contact telephone:	Not reported
Contact email:	Not reported
EPA Region:	10
Land type:	Facility is not located on Indian land. Additional information is not known.
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	NORTHWEST PRINTED CIRCUITS INC.
Owner/operator address:	2655 S PACIFIC HWY OR
Owner/operator country:	Not reported
Owner/operator telephone:	(503) 779-9211
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	Not reported

NORTHWEST PRINTED CIRCUITS (Continued) **1000411050**

Owner/Op end date: Not reported

Owner/operator name: NORTHWEST PRINTED CIRCUITS INC.
Owner/operator address: 2655 S PACIFIC HWY
MEDFORD, OR 97501
Owner/operator country: Not reported
Owner/operator telephone: (503) 779-9211
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 07/03/1984
Site name: NORTHWEST PRINTED CIRCUITS
Classification: Not a generator, verified

. Waste code: D000
. Waste name: Not Defined

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: F001
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLORETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F002
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE

NORTHWEST PRINTED CIRCUITS (Continued) **1000411050**

USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F006
. Waste name: WASTEWATER TREATMENT SLUDGES FROM ELECTROPLATING OPERATIONS, EXCEPT FROM THE FOLLOWING PROCESSES: (1) SULFURIC ACID ANODIZING OF ALUMINUM; (2) TIN PLATING ON CARBON STEEL; (3) ZINC PLATING (SEGREGATED BASIS) ON CARBON STEEL; (4) ALUMINUM OR ZINC-ALUMINUM PLATING ON CARBON STEEL; (5) CLEANING/STRIPPING ASSOCIATED WITH TIN, ZINC, AND ALUMINUM PLATING ON CARBON STEEL; AND (6) CHEMICAL ETCHING AND MILLING OF ALUMINUM.

. Waste code: F007
. Waste name: SPENT CYANIDE PLATING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS.

. Waste code: F009
. Waste name: SPENT STRIPPING AND CLEANING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

Date form received by agency: 11/18/1980
Site name: NORTHWEST PRINTED CIRCUITS
Classification: Not a generator, verified

Facility Has Received Notices of Violations:

Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 05/29/1986
Date achieved compliance: 09/05/1986
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 07/22/1986
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 12/17/1985
Date achieved compliance: 12/30/1985
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/17/1985
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 05/10/1984

NORTHWEST PRINTED CIRCUITS (Continued) **1000411050**

Date achieved compliance: 05/10/1984
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/10/1984
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 05/29/1986
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 09/05/1986
Evaluation lead agency: State

Evaluation date: 12/17/1985
Evaluation: NON-FINANCIAL RECORD REVIEW
Area of violation: Generators - General
Date achieved compliance: 12/30/1985
Evaluation lead agency: State

Evaluation date: 05/10/1984
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 05/10/1984
Evaluation lead agency: State

FTTS INSP:
Inspection Number: 19910815OR033 2
Region: 10
Inspection Date: 08/15/91
Inspector: SMITH
Violation occurred: No
Investigation Type: General Product Review
Investigation Reason: Neutral Scheme, Region
Legislation Code: FIFRA
Facility Function: Marketplace

HIST FTTS INSP:
Inspection Number: 19910815OR033 2
Region: 10
Inspection Date: Not reported
Inspector: SMITH
Violation occurred: No
Investigation Type: General Product Review
Investigation Reason: Neutral Scheme, Region
Legislation Code: FIFRA
Facility Function: Marketplace

FINDS:

NORTHWEST PRINTED CIRCUITS (Continued) **1000411050**

Registry ID: 110004783137

Environmental Interest/Information System

OR-DEQ (Oregon - Department Of Environmental Quality) is a regulatory agency whose job is to protect the quality of Oregon's Environment. DEQ uses a combination of technical assistance, inspections and permitting to help public and private facilities and citizens understand and comply with state and federal environmental regulations.

NCDB (National Compliance Data Base) supports implementation of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Toxic Substances Control Act (TSCA). The system tracks inspections in regions and states with cooperative agreements, enforcement actions, and settlements.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

ECHO:

Envid:	1000411050
Registry ID:	110004783137
DFR URL:	http://echo.epa.gov/detailed_facility_report?fid=110004783137

23
NW
1/4-1/2
0.347 mi.
1833 ft.

HAYS OIL - BULK PLANT **ECSI** **S104052296**
1890 S PACIFIC HWY. **AST** **N/A**
MEDFORD, OR 97501 **HSIS**

Relative:
Lower

Actual:
1414 ft.

ECSI:

State ID Number:	2080
Brown ID:	0
Study Area:	False
Region ID:	3
Legislatve ID:	0
Investigation:	Suspect
FACA ID:	20391
Further Action:	260
Lat/Long (dms):	42 18 31.70 / -122 51 28.10
County Code:	15.00
Score Value:	Not reported
Cerclis ID:	Not reported
Township Coord.:	37.00
Township Zone:	S
Range Coord:	1.00
Range Zone:	W
Section Coord:	32
Qtr Section:	Not reported
Tax Lots:	Not reported
Size:	Not reported
NPL:	False

HAYS OIL - BULK PLANT (Continued) **S104052296**

Orphan: False
Updated By: GWISTAR
Update Date: 07/12/2007
Created Date: 07/21/1997
Decode For RegionID: Western Region
Decode For BrownID: Not reported
Decode For Furtheract: Low
Decode For Investstat: Suspect
Decode For Legislative: Not reported

Narrative:
NARR ID: 5737083
NARR Code: Site Contacts
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
Decode for NarcdID: Site Contacts
NARR Comments: Bob Hays.

Administrative Action:
Action ID: 9424
Region: Western Region
Complete Date: Not reported
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Administrative Action
Action Code Flag: False
Action: Site added to database
Further Action: Not reported
Comments: Not reported

Action ID: 9508
Region: Western Region
Complete Date: 07/21/1997
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Remedial Action
Action Code Flag: False
Action: Site Screening recommended (EV)
Further Action: Low
Comments: Not reported

Operations:
Operation Id: 133347
Operation Status: Unknown
Common Name: Hays Oil
Yrs of Operation: unknown
Comments: Not reported
Updated Date: 07/21/1997
Updated By: jmc
Decode for OpstatID: Unknown
Operations SIC Id: 196504

HAYS OIL - BULK PLANT (Continued) **S104052296**

SIC Code: 5171
Created By: Not reported
Created Date: 12/17/2002

AST:

Facility Id: 035984
Hazardous Substance: DIESEL
Reporting Quantities: 100,000-249,999
Quantity Units: GALLONS
Physical State: LIQUID
Storage 1: ABOVEGROUND TANK
Storage 2: UNDERGROUND TANK

Facility Id: 035984
Hazardous Substance: GASOLINE
Reporting Quantities: 100,000-249,999
Quantity Units: GALLONS
Physical State: LIQUID
Storage 1: ABOVEGROUND TANK
Storage 2: UNDERGROUND TANK

HSIS:

Facility Id: 035984
Chemical Is Extremely Hazardous Substance (EHS): No
Department Or Division Of Company: MEDFORD PLANT
Facility Has Written Emergency Plan: Yes
Contains 112R: No
NAICS Code 1: 424720
NAICS Desc 1: PETROLEUM & PETROLEUM PRODUCTS WHSLE (EXC
NAICS Code 2: 424710
NAICS Desc 2: PETROLEUM BULK STATIONS & TERMINALS
Manager Name: STEVE HAYS
Business Phone: 5417722053
Mailing Address: PO BOX 1220
Mailing City,St,Zip: MEDFORD, OR 97501
No. of Employees: 8
Day Phone: 5417722053
Placard: Yes
Fire Dept Code: 0224
Sprinkler System: No
Emergency Contact: MICHAEL HAYS
Emergency Procedure: OFFICE
Business Type: WHSLE BULK PLANT W/ CARDLOCK

Facility:

Facility Id: 035984
Physical State Of The Substance: 2
Physical State: LIQUID
Average Amount Possessed During The Year Code: 30
Maximum Amount Possessed During The Year Code: 40
Applicable Unit Of Measure Code: 2
Description Of The Unit Of Measure: GALLONS
Type Code: A
Description: ABOVEGROUND TANK
Type Code: B
Temperature Description: UNDERGROUND TANK
Pressure of Code: 1

HAYS OIL - BULK PLANT (Continued) **S104052296**

Pressure Description:	NORMAL PRESSURE
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	100,000-249,999
Description Of The Avg Qnty Code:	10,000-49,999
Most Hazardous Ingridient:	PETROLEUM DISTILLATES
United Nations/north America 4 Digit Class Number:	1203
Hazard Rank:	2
EHS Ingredient:	NONE LISTED ON MSDS
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Flammable and Combustible Liquid
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Chronic Health Hazard
Hazard Class 1 Of The Chemical:	3.0
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	6.4

Chemical:

United Nations/north America 4 Digit Class Number:	1203
Chemical Abstract Service Identifier Number:	8006619
Chemical Is Extremely Hazardous Substance (EHS):	No
First Hazardous Class Code For Chemical:	Flammable and Combustible Liquid
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Chronic Health Hazard
Hazard Class 1 Of The Chemical:	3.0
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	6.4
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Contains 112R:	Yes
Contains EHS:	No
Fertilizer:	No
Pesticide:	No
Contains 313:	Yes

Facility Id:	035984
Physical State Of The Substance:	2
Physical State:	LIQUID
Average Amount Possessed During The Year Code:	30
Maximum Amount Possessed During The Year Code:	40
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	A
Description:	ABOVEGROUND TANK
Type Code:	B
Temperature Description:	UNDERGROUND TANK
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE

HAYS OIL - BULK PLANT (Continued) **S104052296**

Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	100,000-249,999
Description Of The Avg Qnty Code:	10,000-49,999
Most Hazardous Ingridient:	PETROLEUM DISTILLATES
United Nations/north America 4 Digit Class Number:	1202
Hazard Rank:	2
EHS Ingredient:	NONE LISTED ON MSDS
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Flammable and Combustible Liquid
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Chronic Health Hazard
Hazard Class 1 Of The Chemical:	3.0
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	6.4

Chemical:

United Nations/north America 4 Digit Class Number:	1202
Chemical Abstract Service Identifier Number:	68476346
Chemical Is Extremely Hazardous Substance (EHS):	No
First Hazardous Class Code For Chemical:	Flammable and Combustible Liquid
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Chronic Health Hazard
Hazard Class 1 Of The Chemical:	3.0
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	6.4
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Contains 112R:	No
Contains EHS:	No
Fertilizer:	No
Pesticide:	No
Contains 313:	Yes

Facility Id:	035984
Physical State Of The Substance:	2
Physical State:	LIQUID
Average Amount Possessed During The Year Code:	20
Maximum Amount Possessed During The Year Code:	21
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	D
Description:	STEEL DRUM
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	Not reported

HAYS OIL - BULK PLANT (Continued) **S104052296**

Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	5,000-9,999
Description Of The Avg Qnty Code:	1,000-4,999
Most Hazardous Ingridient:	REFINED MINERAL OIL
United Nations/north America 4 Digit Class Number:	1270
Hazard Rank:	2
EHS Ingredient:	Not reported
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Combustible Material
Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	4.5
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported

Chemical:

United Nations/north America 4 Digit Class Number:	1270
Chemical Abstract Service Identifier Number:	64742650
Chemical Is Extremely Hazardous Substance (EHS):	Not reported
First Hazardous Class Code For Chemical:	Combustible Material
Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	4.5
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	Not reported
EPA Pesticide Registration Number:	Not reported
Contains 112R:	Not reported
Contains EHS:	Not reported
Fertilizer:	Not reported
Pesticide:	Not reported
Contains 313:	Not reported

H24 **GRANGE CO-OP TANK PLANT** **ECSI** **S110764069**
NW **11 W STEWART AVE.** **N/A**
1/2-1 **MEDFORD, OR 97501**
0.730 mi.
3853 ft. **Site 1 of 3 in cluster H**

Relative:
Lower

Actual:
1404 ft.

ECSI:

State ID Number:	5471
Brown ID:	0
Study Area:	False
Region ID:	3
Legislatve ID:	0
Investigation:	Suspect
FACA ID:	21157
Further Action:	260
Lat/Long (dms):	42 18 42.10 / -122 51 37.80
County Code:	15.00
Score Value:	Not reported
Cerclis ID:	Not reported
Township Coord.:	37.00

GRANGE CO-OP TANK PLANT (Continued) **S110764069**

Township Zone:	S
Range Coord:	2.00
Range Zone:	W
Section Coord:	36
Qtr Section:	Not reported
Tax Lots:	Not reported
Size:	Not reported
NPL:	False
Orphan:	False
Updated By:	GWISTAR
Update Date:	04/17/2015
Created Date:	01/07/2011
Decode For RegionID:	Western Region
Decode For BrownID:	Not reported
Decode For Furtheract:	Low
Decode For Investstat:	Suspect
Decode For Legislative:	Not reported

Narrative:

NARR ID:	5752702
NARR Code:	Contamination
Created By:	SSADOFS
Created Date:	01/07/2011
Updated By:	SSADOFS
Updated Date:	01/07/2011
Decode for NarcdID:	Contamination

NARR Comments: (1/7/2011 SJS/SAS)- Private incident recovery company reported that yesterday 1,000 plus deisel spill occured at tank plant in Medford Oregon. A 20,000 gallon tank experienced and overflow, cause unknown, 1,000 plus gal of deisel went onto retaining wall area around the tank. Tank business is owned by Grange Co-Op. Company removed most of the spill and area still in process of clean up.

NARR ID:	5752703
NARR Code:	Remedial Action
Created By:	SSADOFS
Created Date:	01/07/2011
Updated By:	SSADOFS
Updated Date:	01/07/2011
Decode for NarcdID:	Remedial Action

NARR Comments: (1/7/2011 SJS/SAS) Oregon Emergency Response System Report: Private incident recovery company reported that on 3/18/2008 1,000 plus deisel spill occured at tank plant in Medford Oregon. A 20,000 gallon tank experienced and overflow, cause unknown, 1,000 plus gal of deisel went onto retaining wall area around the tank. Tank business is owned by Grange Co-0p, a retail fuel company. Spill Release Report: Approximately 1700 gallons were released from a 20,000 gallon Above Ground Storage Tank (AST). The spill was the result of an over fill and the diesel product was released from an over flow valve located at the top o fthe AST. The vast majority of the spill was released into the concrete walled and lined secondary containment structure. Two sumps were used to pump free diesel product into 55-gallon drums. Approximately 2308 gallons of diesel fuel and residual stormwater were removed from the containment structure. A small amount of fuel was windblown onto gravelly soils located within an un-lined secondary containment structure. The un-lined portion of the secondary containment is immediately adjacent to the lined secondary containment structure, to the north. Approximately 33 yards

GRANGE CO-OP TANK PLANT (Continued) **S110764069**

of petroleum contaminated soil (PCS) was excavated and removed from the un-lined secondary containment structure. The recovered diesel product was picked up and properly disposed of by Oil Re-Refining Company of Medford, Oregon. The PCS was trucked to Dry Creek Landfill in Eagle Point Oregon for use as daily cover. Back hoe test pits were advanced on three sides of the containment vessel and no diesel product was observed outside of the containment structure. SMR personnel visited the site on March 20,28,31, 2008; and April 1, 2008. No sheen was observed on any local surface water and no free diesel product was observed in any of the test pits.

Administrative Action:

Action ID:	9424
Region:	Not reported
Complete Date:	01/07/2011
Rank Value:	Not reported
Cleanup Flag:	False
Created Date:	01/07/2011
Decode for AgencyID:	Department of Environmental Quality
Decode for RegionID:	Not reported
Category:	Administrative Action
Action Code Flag:	False
Action:	Site added to database
Further Action:	Not reported
Comments:	Not reported

Action ID:	9508
Region:	Western Region
Complete Date:	01/07/2011
Rank Value:	Not reported
Cleanup Flag:	False
Created Date:	01/07/2011
Decode for AgencyID:	Department of Environmental Quality
Decode for RegionID:	Western Region
Category:	Remedial Action
Action Code Flag:	False
Action:	Site Screening recommended (EV)
Further Action:	Low
Comments:	Not reported

H25 **RICHFIELD BULK PETROLEUM FACILITY - MEDFORD** **ECSI** **1006867295**
NW **15 W STEWART AVE** **FINDS** **N/A**
1/2-1 **MEDFORD, OR 97501** **ECHO**
0.732 mi.
3867 ft. **Site 2 of 3 in cluster H**

Relative:
Lower

Actual:
1404 ft.

ECSI:

State ID Number:	1760
Brown ID:	0
Study Area:	False
Region ID:	3
Legislatve ID:	0
Investigation:	Suspect
FACA ID:	40320
Further Action:	0
Lat/Long (dms):	42 18 45.40 / -122 51 39.60
County Code:	15.00
Score Value:	Not reported

RICHFIELD BULK PETROLEUM FACILITY - MEDFORD (Continued) **1006867295**

Cerclis ID: Not reported
Township Coord.: 37.00
Township Zone: S
Range Coord: 1.00
Range Zone: W
Section Coord: 31
Qtr Section: Not reported
Tax Lots: 2300
Size: Not reported
NPL: False
Orphan: False
Updated By: GWISTAR
Update Date: 04/17/2015
Created Date: 10/10/1995
Decode For RegionID: Western Region
Decode For BrownID: Not reported
Decode For Furtheract: Not reported
Decode For Investstat: Suspect
Decode For Legislative: Not reported
Alias Name: Grange Co-Op Bulk Loading Facility

Narrative:
NARR ID: 5735409
NARR Code: Contamination
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
Decode for NarcdID: Contamination
NARR Comments: DEQ's UST Section referred this site to Site Assessment when excavation of a utility trench revealed petroleum contamination in subsurface soils.

NARR ID: 5735410
NARR Code: Hazardous Substance/Waste Types
Created By: Not reported
Created Date: 12/17/2002
Updated By: SSADOFS
Updated Date: 01/07/2011
Decode for NarcdID: Hazardous Substance/Waste Types
NARR Comments: Petroleum products release from bulk storage tanks

NARR ID: 5735412
NARR Code: Remedial Action
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
Decode for NarcdID: Remedial Action
NARR Comments: (12/5/95 CPJ/SAS) Preliminary investigations conducted by ARCO included installation of 17 borings and five groundwater monitoring wells. Shallow groundwater has been impacted by a release of TPH in the diesel and gasoline range. Recommend PA to evaluate exposure pathways.

NARR ID: 5751025
NARR Code: 1922
Created By: IBALCOM

RICHFIELD BULK PETROLEUM FACILITY - MEDFORD (Continued) **1006867295**

Created Date: 12/03/2008
Updated By: SSADOFS
Updated Date: 01/07/2011
Decode for NarcdID: Current Site Summary Statement
NARR Comments: (12/5/95 CPJ/SAS) Preliminary investigations conducted by ARCO included installation of 17 borings and five groundwater monitoring wells. Shallow groundwater has been impacted by a release of TPH in the diesel and gasoline range. Recommend PA to evaluate exposure pathways.(1/7/2011 SJS/SAS) Note - Info about a spill (08-0722) was inadvertently added to this ECSI site rather than a neighboring site. This has been deleted and added to ECSI number 5471,

Administrative Action:
Action ID: 9424
Region: Western Region
Complete Date: Not reported
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Administrative Action
Action Code Flag: False
Action: Site added to database
Further Action: Not reported
Comments: Not reported

Action ID: 9425
Region: Western Region
Complete Date: 12/05/1995
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Remedial Action
Action Code Flag: False
Action: SITE EVALUATION
Further Action: 0
Comments: Not reported

Action ID: 9496
Region: Western Region
Complete Date: 12/05/1995
Rank Value: Not reported
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Remedial Action
Action Code Flag: False
Action: State Basic Preliminary Assessment recommended (PA)
Further Action: Medium
Comments: To evaluate potential impact to pathways - especially groundwater.

Action ID: 9437
Region: Western Region
Complete Date: 12/05/1995

RICHFIELD BULK PETROLEUM FACILITY - MEDFORD (Continued) **1006867295**

Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Listing Action
Action Code Flag: False
Action: Listing Review completed
Further Action: Not reported
Comments: Not reported

Action ID: 9449
Region: Western Region
Complete Date: Not reported
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Listing Action
Action Code Flag: False
Action: Insufficient information to list
Further Action: Not reported
Comments: Not reported

Operations:
Operation Id: 133089
Operation Status: Active
Common Name: Richfield Bulk Petroleum Facility
Yrs of Operation: Not reported
Comments: Not reported
Updated Date: 05/16/2002
Updated By: mme
Decode for OpstatID: Active
Operations SIC Id: 196114
SIC Code: 5171
Created By: Not reported
Created Date: 12/17/2002

FINDS:

Registry ID: 110014302227

Environmental Interest/Information System
OR-DEQ (Oregon - Department Of Environmental Quality) is a regulatory agency whose job is to protect the quality of Oregon's Environment. DEQ uses a combination of technical assistance, inspections and permitting to help public and private facilities and citizens understand and comply with state and federal environmental regulations.

ECHO:
Envid: 1006867295
Registry ID: 110014302227
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110014302227

H26 NW 1/2-1 0.748 mi. 3951 ft. | **NORTHWEST CHEMICAL INC. - MEDFORD**
18 WEST STEWART
MEDFORD, OR 97501

Site 3 of 3 in cluster H

ECSI **1004580815**
VCP **N/A**
FTTS
HIST FTTS

Relative: Lower

Actual: 1404 ft.

ECSI:

State ID Number:	2091
Brown ID:	0
Study Area:	False
Region ID:	3
Legislatve ID:	0
Investigation:	Suspect
FACA ID:	40575
Further Action:	0
Lat/Long (dms):	42 18 46.00 / -122 51 34.00
County Code:	15.00
Score Value:	Not reported
Cerclis ID:	Not reported
Township Coord.:	37.00
Township Zone:	S
Range Coord:	1.00
Range Zone:	W
Section Coord:	31
Qtr Section:	Not reported
Tax Lots:	Not reported
Size:	0.5 acre
NPL:	False
Orphan:	False
Updated By:	GWISTAR
Update Date:	02/25/2009
Created Date:	08/18/1997
Decode For RegionID:	Western Region
Decode For BrownID:	Not reported
Decode For Furtheract:	Not reported
Decode For Investstat:	Suspect
Decode For Legislative:	Not reported
Alias Name:	Southern Oregon Sales, Inc.

Hazardous Release:

Substance ID.:	121996
Haz Release ID:	382571
Qty Released:	unknown
Date Released:	unknown
Update Date:	03/22/2000
Update By:	Not reported
Substance Code:	ECD228
Substance Name:	PETROLEUM HYDROCARBONS
Substance Abbrev.:	Not reported
Substance Category ID:	8534
Substance Category:	Petroleum Related Releases for OSPIRG Report
Category Level:	Not reported
Created By:	Not reported
Created Date:	12/17/2002
Substance Category ID:	8534
Substance Category:	Petroleum Related Releases for OSPIRG Report
Category Level:	Not reported
Created By:	Not reported
Created Date:	12/17/2002
Sampling Result ID:	339433

NORTHWEST CHEMICAL INC. - MEDFORD (Continued) **1004580815**

Feature Id: Not reported
Hazard Release Id: 382571
Medium: 703
Substance Abbrev.: Not reported
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 03/01/1996
End Date: 03/01/1996
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: Not reported
Last Update By: mme
Update Date: 03/22/2000
Decode for MediumID: Soil

Substance ID.: 121993
Haz Release ID: 382572
Qty Released: unknown
Date Released: unknown
Update Date: 03/22/2000
Update By: Not reported
Substance Code: ECD220
Substance Name: PESTICIDES
Substance Abbrev.: Not reported
Sampling Result ID: 339434
Feature Id: Not reported
Hazard Release Id: 382572
Medium: 703
Substance Abbrev.: Not reported
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 03/01/1996
End Date: 03/01/1996
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: Not reported
Last Update By: mme
Update Date: 03/22/2000
Decode for MediumID: Soil

Narrative:
NARR ID: 5737128
NARR Code: Contamination
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
Decode for NarcdID: Contamination
NARR Comments: (3/20/2000 MMD/VCP) Northwest Chemical, Inc. leased approximately 0.5 acre on the Southern Oregon Sales, Inc. property from 1982 to 1997. Northwest Chemical is a wholesale supplier of fertilizers and pesticides. 1996 environmental investigations indicated the presence

NORTHWEST CHEMICAL INC. - MEDFORD (Continued) **1004580815**

of soil containing petroleum hydrocarbons, organochlorine pesticides, and metals.

NARR ID: 5737129
NARR Code: Data Sources
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
Decode for NarcdID: Data Sources
NARR Comments: ECP Files - Western Region Eugene

NARR ID: 5737130
NARR Code: Site Ownership
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
Decode for NarcdID: Site Ownership
NARR Comments: Southern Oregon Sales, Inc. - Owner

NARR ID: 5737131
NARR Code: Remedial Action
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
Decode for NarcdID: Remedial Action
NARR Comments: (3/20/2000 MMD/VCP) Contaminated soils were excavated, removed from the site, and confirmation samples were collected to determine whether contaminants remained on-site at levels of concern. In December 1998, the VCP determined that the investigation, cleanup, and waste disposal activities had been performed in accordance with acceptable strategies and procedures. An NFA letter was not written because no public comment period was provided.

NARR ID: 5751213
NARR Code: 1922
Created By: GWISTAR
Created Date: 02/25/2009
Updated By: GWISTAR
Updated Date: 02/25/2009
Decode for NarcdID: Current Site Summary Statement
NARR Comments: [Dec. 1998] DEQ has determined that investigative, cleanup, and waste-disposal activities were performed in accordance with acceptable strategies and procedures; however, DEQ did not prepare a no-further-action letter because no public comment period was provided.

Administrative Action:
Action ID: 9491
Region: Western Region
Complete Date: 12/15/1998
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region

NORTHWEST CHEMICAL INC. - MEDFORD (Continued) **1004580815**

Category: Remedial Action
Action Code Flag: False
Action: REMOVAL
Further Action: Not reported
Comments: Not reported

Action ID: 9413
Region: Western Region
Complete Date: 12/15/1998
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Remedial Action
Action Code Flag: False
Action: Closeout activities on completed project
Further Action: Not reported
Comments: No NFA issued due to lack of public comment on soil remedy.

Action ID: 9440
Region: Western Region
Complete Date: 10/01/1997
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Remedial Action
Action Code Flag: False
Action: Letter Agreement
Further Action: Not reported
Comments: Not reported

Action ID: 9442
Region: Western Region
Complete Date: 10/01/1997
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Remedial Action
Action Code Flag: False
Action: NEGOTIATIONS
Further Action: Not reported
Comments: Not reported

Action ID: 9424
Region: Western Region
Complete Date: Not reported
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Administrative Action

NORTHWEST CHEMICAL INC. - MEDFORD (Continued) **1004580815**

Action Code Flag: False
Action: Site added to database
Further Action: Not reported
Comments: Not reported

Action ID: 9519
Region: Western Region
Complete Date: 08/25/1997
Rank Value: 2
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Remedial Action
Action Code Flag: False
Action: VCS Waiting List
Further Action: Not reported
Comments: VPA

VCS:
ECS Site ID: 2091
Facility Size: 0.5 acre
Action: Closeout activities on completed project
Start Date: 12/15/1998
End Date: 12/15/1998
Facility Status: Completed
Program: VCS
Latitude: 42.3127
Longitude: -122.8593

FTTS INSP:
Inspection Number: 199512272902 1
Region: 10
Inspection Date: 12/27/95
Inspector: SIMEROTH
Violation occurred: No
Investigation Type: General Product Review
Investigation Reason: Neutral Scheme, Region
Legislation Code: FIFRA
Facility Function: Marketplace

HIST FTTS INSP:
Inspection Number: 199512272902 1
Region: 10
Inspection Date: Not reported
Inspector: SIMEROTH
Violation occurred: No
Investigation Type: General Product Review
Investigation Reason: Neutral Scheme, Region
Legislation Code: FIFRA
Facility Function: Marketplace

27
ENE
1/2-1
0.776 mi.
4096 ft.

Relative:
Higher

Actual:
1580 ft.

ROGUE VALLEY MANOR
1200 MIRA MAR AVE
MEDFORD, OR 97504

ECSI
SWF/LF
LUST
UST
SPILLS
OR HAZMAT
HSIS

1000642079
N/A

ECSI:

State ID Number:	3407
Brown ID:	0
Study Area:	False
Region ID:	3
Legislatve ID:	0
Investigation:	No Further Action
FACA ID:	5428
Further Action:	0
Lat/Long (dms):	42 18 27.00 / -122 50 19.00
County Code:	15.00
Score Value:	Not reported
Cerclis ID:	Not reported
Township Coord.:	37.00
Township Zone:	S
Range Coord:	1.00
Range Zone:	W
Section Coord:	33
Qtr Section:	Not reported
Tax Lots:	3601
Size:	Approx. 10 acres
NPL:	False
Orphan:	False
Updated By:	GWISTAR
Update Date:	04/17/2015
Created Date:	09/06/2002
Decode For RegionID:	Western Region
Decode For BrownID:	Not reported
Decode For Furtheract:	Not reported
Decode For Investstat:	No Further Action
Decode For Legislative:	Not reported
Alias Name:	KOGAP Landfill

Narrative:

NARR ID:	5746233
NARR Code:	Remedial Action
Created By:	SNICHOL
Created Date:	02/04/2005
Updated By:	SNICHOL
Updated Date:	02/04/2005
Decode for NarcdID:	Remedial Action

NARR Comments: DEQ has determined that unless additional information becomes available justifying further investigation, no further action is required at the Rogue Valley Manor Former KOGAP Landfill site under DEQs Cleanup Program. This determination is based on the facts as we understand them, including but not limited to the following:1.All but a small quantity of the original waste was removed from the landfill. The remaining waste was mixed with imported soils with the consent of DEQs Solid Waste Section.2.DEQs Solid Waste Section terminated the Solid Waste Permit in March 1995. The termination was based on removal of the waste from the old landfill and no apparent current impact to adjacent water users. The termination letter also indicated

ROGUE VALLEY MANOR (Continued) **1000642079**

that issues over hazardous constituents (i.e., chlorophenolics) at the Site were referred to ECP for follow-up.3.Contrary to a previous erroneous report, there is no evidence that hazardous materials were disposed to the landfill. The detections of phenol, 2-methylphenol, arsenic and barium are consistent with a woodwaste landfill that reportedly caught fire on several occasions and received ash from tee-pee burners. 4.Only low phenol and 2-methylphenol leachate concentrations were observed associated with landfill soils, no phenolic compounds were detected in nearby water wells, and phenol and 2-methylphenol would not likely persist in the environment. 5.No other hazardous substance spills or releases have been reported for the Site.

Administrative Action:

Action ID: 9424
Region: Western Region
Complete Date: Not reported
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Administrative Action
Action Code Flag: False
Action: Site added to database
Further Action: Not reported
Comments: Not reported

Action ID: 9443
Region: Western Region
Complete Date: 01/18/2005
Rank Value: Not reported
Cleanup Flag: False
Created Date: 02/04/2005
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Remedial Action
Action Code Flag: False
Action: NO FURTHER STATE ACTION REQUIRED
Further Action: 0
Comments: State Screen. NFA

Action ID: 9449
Region: Western Region
Complete Date: 01/18/2005
Rank Value: Not reported
Cleanup Flag: False
Created Date: 02/04/2005
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Listing Action
Action Code Flag: False
Action: Insufficient information to list
Further Action: 0
Comments: State Screen. NFA.

Action ID: 9425
Region: Western Region

ROGUE VALLEY MANOR (Continued) **1000642079**

Complete Date: 01/18/2005
Rank Value: Not reported
Cleanup Flag: False
Created Date: 02/04/2005
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Remedial Action
Action Code Flag: False
Action: SITE EVALUATION
Further Action: 0
Comments: State Screen. NFA.

Action ID: 9459
Region: Western Region
Complete Date: 01/18/2005
Rank Value: Not reported
Cleanup Flag: False
Created Date: 02/04/2005
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Remedial Action
Action Code Flag: False
Action: PRELIMINARY ASSESSMENT EQUIVALENT
Further Action: 0
Comments: State Screen. NFA.

LF:
Permit Number: 1082
Facility Id: 104302
Facility Telephone: (541) 857-7777
Facility Telephone 2: Not reported
Lat/Long: 42.3075 / -122.838
Solid Waste Class: Industrial
Solid Waste Type: Wood
Date Opened: 08/30/1976
End Date: 04/21/1994
Date Closed: 01/31/1991
Permit Status: Terminated
Organization: Rogue Valley Manor Foundation
Contact Name: Dick McLaughlin
Affil Start Date: 04/08/1993
Mailing Address: 1200 Mira Mar Ave
Mailing City: Medford
Mailing Zip: 97504-8546

LUST:
Region: Western Region
Facility ID: 15-95-0057
Cleanup Received Date: 11/09/1995
Cleanup Start Date: 11/09/1995
Cleanup Complete Date: 12/02/1996
Decode for Region: West Region

UST:
Facility ID: 10801
Facility Telephone: 541-857-7199

ROGUE VALLEY MANOR (Continued) **1000642079**

Permittee Name: Jim Van Horn
Number of Permitted Tanks: 1
Active Tanks: 1
Decommissioned Tanks: 2
Number of Tanks: 3

OR SPILLS:
Facility ID: 2009-1204
Incident Status: Archive
Material: Not reported
Quantity: 50
Unit of Measure: Gallons
Release Date: 05/31/2009
Description: Approximately 10 Gallons of oil released to vault and sump under transformer that caught fire.
Lat/Long: 42.3078 / -122.8345
Source: Electrical Equipment
Media: Non-saturated soil, rock, etc.
Responsible Company: Pacific Power Corporation
Responsible Address: 1950 Mallard Ln
Responsible City,St,Zip: Klamath Falls, OR 9762001-55

HAZMAT:
Responsble Party: Not reported
RP Company: ROGUE VALLEY MANOR
RP Address: 1200 MIRA MAR AVE
RP City,St,Zip: MEDFORD, OR 97504
Facility ID: 010378
OERS Number: Not reported
Dept Rsp: MEDFORD F&R
Narrative: Not reported
Property Loss: Not reported
Amount Released: Not reported
Service County: Not reported
Service Name: Not reported
Incident Type: Not reported
Civilian Casualty Activity: Not reported
Chemical Name: Not reported
Hazmat Area Affected: Not reported
Hazmat Area Evacuated: Not reported
Hazmat Container Type: Not reported
Hazmat Physical State Released: Not reported
Hazmat Released Into: Not reported
Hazmat Released Volume Units: Not reported
Hazmat Released Weight Units: Not reported
Hazmat Released From: Not reported
Hazmat Area Affected Measurement: Not reported
Hazmat No. of People Evacuated: Not reported
Hazmat No of Buildings Evacuated: Not reported
Incident Content Loss: Not reported
Civilian Casualty Patient Disposition: Not reported
Incident Mixed Use Property: Not reported
Location Type: Not reported
Incident Aid Given Or Received: Not reported
Incident AID Received from FDID: Not reported
Incident Aided Department FDID: Not reported

ROGUE VALLEY MANOR (Continued) **1000642079**

Person Involved Business Name:	Not reported
Person Involved First Name:	Not reported
Person Involved Last Name:	Not reported
Person Involved Type:	Not reported
Person Involved Phone Number:	Not reported
Person Involved Primary Language:	Not reported
Hazmat Evacuated Measurement:	Not reported
Hazmat Story of Release:	Not reported
Remark:	Not reported
Incident District:	MEDFORD F&R
Date Added:	01/17/2002
Unit:	Not reported
Agency Phone:	5417742300
Osfm Incident Report Number:	010378
Dept. Responding:	MEDFORD F&R
Person Making Report:	FRED LABRASSEUR
Title:	CAPTAIN
Agency:	MEDFORD F&R
Phone:	5417742300
Date Of Incident:	11/09/2001
Call Time:	10:20:00 AM
In Route:	10:20:00 AM
Arrival:	10:26:00 AM
Depart Scene:	12:00:00 AM
Back In Quarters:	12:00:00 AM
In Service:	10:35:00 AM
Dist Of Incident:	MEDFORD F&R
Were State Resources Used?:	False
Was Oers Notified?:	False
Oers Number:	Not reported
Team Number:	Not reported
Agency Report Number:	01-05302
Unit:	Not reported
Highway:	Not reported
Mile Post:	Not reported
Scene Type:	Private Land
Area Type:	Residential
Responsible Party(Ies):	Not reported
Company:	ROGUE VALLEY MANOR
Respcontact:	Not reported
Address:	1200 MIRA MAR AVE
Resp City:	MEDFORD
Resp State:	OR
Resp ZipCode:	97504
Phone:	5418577777
Resp Phone2:	Not reported
Weather:	0
Temperature:	0
Wind Speed:	0
Wind Direction:	Not reported
Were Haz Materials Released?:	True
Operation Performed:	During Delivery/Shipment
Cause:	Excavation
Vehicle And Cargo:	0
Fixed Property:	0
Total Loss:	$0.00
Hazmat Population Density:	Not reported

ROGUE VALLEY MANOR (Continued) **1000642079**

HazMat Actions Taken - Description: Not reported
Hazmat Factors Contributing To Release: Not reported
Hazmat DOT Hazard Classification: Not reported
Hazmat CAS Number: Not reported
Hazardous Materials Release: Not reported
Fire Incident Type: Not reported
Property Use: Not reported
Latitude: Not reported
Longitude: Not reported
Hazmat Disposition: Not reported

Chemical:
Chemical Info: 4442
Chemical Id: 35430
Incident Id: 010378
Chemical Name: UNKNOWN CHEMICAL
UNNA: Not reported
Amount At Risk: 0
Amount Released: 0
Amount Measured: 0
Biological: False
Radiological: False

Chemical Id: 35430
Chemical Name: UNKNOWN CHEMICAL
Hazardous Ingredient: UNKNOWN CHEMICAL
Hazardous Class 1: 9.0
Hazardous Class 2: Not reported
Hazardous Rank: 2
Case Number: Not reported
UNNA Number: Not reported
EPA Pest Reg: Not reported
EHA Chem: Not reported
PSM Chem: Not reported
CAA 112R Chem: Not reported

Method:
Method Used Id: 3634
Incident Id: 010378
Identity Method: 5

Released:
Release Behavior Id: 612
Incident Id: 010378
Behavior: 1

Narrative:
Narrative Id: 1102
Incident Id: 010378
Incident Narrative: 8124 RESPONDED TO A GAS LEAK CAUSED BY A BACKHOE AT A CONSTRUCTION SITE. AVISTA UTILITIES WAS ON SCENE PRIOR TO OUR ARRIVAL AND CONTROLLED THE LEAK WITHOUT OUR ASSISTANCE.
Incident Date: 11/9/2001

ROGUE VALLEY MANOR (Continued) **1000642079**

HSIS:

Facility Id:	106829
Chemical Is Extremely Hazardous Substance (EHS):	No
Department Or Division Of Company:	ROGUE VALLEY MANOR
Facility Has Written Emergency Plan:	No
Contains 112R:	No
NAICS Code 1:	517212
NAICS Desc 1:	CELLULAR & OTHER WIRELESS TELECOMMUNICATIO
NAICS Code 2:	000000
NAICS Desc 2:	Not reported
Manager Name:	DANIEL MEAD
Business Phone:	9086266230
Mailing Address:	20 INDEPENDENCE BLVD MC#4149
Mailing City,St,Zip:	WARREN, NJ 07059
No. of Employees:	0
Day Phone:	5034083460
Placard:	No
Fire Dept Code:	0224
Sprinkler System:	No
Emergency Contact:	JAMES JOHNSTON
Emergency Procedure:	Not reported
Business Type:	WIRELESS COMMUNICATIONS - CELL SITE

Facility:

Facility Id:	106829
Physical State Of The Substance:	1
Physical State:	SOLID
Average Amount Possessed During The Year Code:	20
Maximum Amount Possessed During The Year Code:	20
Applicable Unit Of Measure Code:	1
Description Of The Unit Of Measure:	POUNDS
Type Code:	R
Description:	OTHER
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	1,000-4,999
Description Of The Avg Qnty Code:	1,000-4,999
Most Hazardous Ingridient:	SULFURIC ACID
United Nations/north America 4 Digit Class Number:	2794
Hazard Rank:	4
EHS Ingredient:	SULFURIC ACID
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Acute Health Hazard
Second Hazardous Class Code For Chemical:	Corrosive Material
Third Hazardous Class Code For Chemical:	Chronic Health Hazard
Hazard Class 1 Of The Chemical:	6.3

ROGUE VALLEY MANOR (Continued) **1000642079**

Hazard Class 2 Of The Chemical: 8.0
Hazard Class 3 Of The Chemical: 6.4

Chemical:
United Nations/north America 4 Digit Class Number: 2794
Chemical Abstract Service Identifier Number: 7664939
Chemical Is Extremely Hazardous Substance (EHS): No
First Hazardous Class Code For Chemical: Acute Health Hazard
Second Hazardous Class Code For Chemical: Corrosive Material
Third Hazardous Class Code For Chemical: Chronic Health Hazard
Hazard Class 1 Of The Chemical: 6.3
Hazard Class 2 Of The Chemical: 8.0
Hazard Class 3 Of The Chemical: 6.4
Chemical Is A Toxic 313 Chemical: No
EPA Pesticide Registration Number: Not reported
Contains 112R: No
Contains EHS: Yes
Fertilizer: No
Pesticide: No
Contains 313: Yes

28
NNW
1/2-1
0.831 mi.
4388 ft.

KENTUCKY FRIED CHICKEN **ECSI** **1006854328**
308 E BARNETT RD **FINDS** **N/A**
MEDFORD, OR 97501 **ECHO**

Relative:
Lower

Actual:
1391 ft.

ECSI:
State ID Number: 1711
Brown ID: 0
Study Area: False
Region ID: 3
Legislatve ID: 0
Investigation: No Further Action
FACA ID: 40288
Further Action: 0
Lat/Long (dms): 42 18 55.40 / -122 51 34.60
County Code: 15.00
Score Value: Not reported
Cerclis ID: Not reported
Township Coord.: 37.00
Township Zone: S
Range Coord: 1.00
Range Zone: W
Section Coord: 31
Qtr Section: Not reported
Tax Lots: 700
Size: 0.5 ac.
NPL: False
Orphan: False
Updated By: GWISTAR
Update Date: 04/17/2015
Created Date: 06/27/1995
Decode For RegionID: Western Region
Decode For BrownID: Not reported
Decode For Furtheract: Not reported

KENTUCKY FRIED CHICKEN (Continued) **1006854328**

Decode For Investstat: No Further Action
Decode For Legislative: Not reported
Alias Name: KFC
Alias Name: Lariat Corp. - Barnett Rd.

Hazardous Release:
Substance ID.: 121983
Haz Release ID: 384922
Qty Released: unk
Date Released: 3/10/95
Update Date: 07/14/1995
Update By: Not reported
Substance Code: ECD173
Substance Name: GASOLINE
Substance Abbrev.: Not reported
Substance Category ID: 8530
Substance Category: Petroleum Related Releases for OSPIRG Report
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8530
Substance Category: Petroleum Related Releases for OSPIRG Report
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Comment ID: 303189
Release Code: Media Contamination Footnote
Release Comments: GW impacted, 2.9 mg/l.
Decode for Relcomcd: Media Contamination Footnote

Substance ID.: 121608
Haz Release ID: 384923
Qty Released: unk
Date Released: 3/10/95
Update Date: 07/14/1995
Update By: Not reported
Substance Code: 71-43-2
Substance Name: BENZENE
Substance Abbrev.: Not reported
Substance Category ID: 8502
Substance Category: Volatiles
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8502
Substance Category: Volatiles
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Alias ID: 319178
Sub Alias Name: BENZOL
Substance Alias ID: 319179
Sub Alias Name: COAL NAPTHA
Substance Alias ID: 319180
Sub Alias Name: CYCLOHEXATRIENE
Substance Alias ID: 319181
Sub Alias Name: PHENE
Substance Alias ID: 319182

KENTUCKY FRIED CHICKEN (Continued) **1006854328**

Sub Alias Name: PYROBENZOL
Comment ID: 303188
Release Code: Media Contamination Footnote
Release Comments: GW impact, 0.002 mg/l.
Decode for Relcomcd: Media Contamination Footnote

Substance ID.: 120781
Haz Release ID: 384924
Qty Released: unk
Date Released: 3/10/95
Update Date: 07/14/1995
Update By: Not reported
Substance Code: 100-41-4
Substance Name: ETHYLBENZENE
Substance Abbrev.: Not reported
Substance Category ID: 8515
Substance Category: Volatiles
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8515
Substance Category: Volatiles
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Alias ID: 316146
Sub Alias Name: ETHYLBENZOL
Substance Alias ID: 316147
Sub Alias Name: PHENYLETHANE
Comment ID: 303186
Release Code: Media Contamination Footnote
Release Comments: GW impact, 0.021 mg/l.
Decode for Relcomcd: Media Contamination Footnote

Substance ID.: 121051
Haz Release ID: 384925
Qty Released: unk
Date Released: 3/10/95
Update Date: 07/14/1995
Update By: Not reported
Substance Code: 1330-20-7
Substance Name: XYLENEs
Substance Abbrev.: Not reported
Substance Category ID: 8526
Substance Category: Volatiles
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8526
Substance Category: Volatiles
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Alias ID: 317017
Sub Alias Name: DIMETHYLBENZENEs
Substance Alias ID: 317018
Sub Alias Name: XYLOLs

KENTUCKY FRIED CHICKEN (Continued) **1006854328**

Comment ID: 303187
Release Code: Media Contamination Footnote
Release Comments: GW impact, 0.045 mg/l.
Decode for Relcomcd: Media Contamination Footnote

Narrative:
NARR ID: 5735136
NARR Code: Contamination
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
Decode for NarcdID: Contamination
NARR Comments: (6/8/95 CPJ/SAS) Site entered Voluntary Cleanup for a voluntary PA review due to a property transfer. A gasoline line leak was detected in 1981. Soil contaminated with gasoline was removed, but no confirmation samples were taken. The station was demolished in 1984, and all tanks and associated piping were removed. During a phase II investigation, five temporary monitoring wells were installed. Groundwater samples were collected and analyzed, with minor (below Cleanup levels) BTEX concentrations discovered.

NARR ID: 5735137
NARR Code: Data Sources
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
Decode for NarcdID: Data Sources
NARR Comments: Phase I and II Assessment

NARR ID: 5735138
NARR Code: Hazardous Substance/Waste Types
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
Decode for NarcdID: Hazardous Substance/Waste Types
NARR Comments: gasoline

NARR ID: 5735139
NARR Code: Manner of Release
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
Decode for NarcdID: Manner of Release
NARR Comments: Site was formerly a gas station; leaking gasoline line discovered in 1981.

NARR ID: 5735140
NARR Code: Remedial Action
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
Decode for NarcdID: Remedial Action
NARR Comments: (6/8/95 CPJ/SAS) Fuel-soaked soil excavated in 1981; tanks and other

KENTUCKY FRIED CHICKEN (Continued) **1006854328**

gas station equipment were removed in 1984. DEQ review of documentation on site investigations shows no significant impact from previous site operations. No further action is necessary.

Administrative Action:

Action ID: 9424
Region: Western Region
Complete Date: Not reported
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Administrative Action
Action Code Flag: False
Action: Site added to database
Further Action: Not reported
Comments: Not reported

Action ID: 9425
Region: Western Region
Complete Date: 06/08/1995
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Remedial Action
Action Code Flag: False
Action: SITE EVALUATION
Further Action: Not reported
Comments: State Screening

Action ID: 9459
Region: Western Region
Complete Date: 06/08/1995
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Remedial Action
Action Code Flag: False
Action: PRELIMINARY ASSESSMENT EQUIVALENT
Further Action: Not reported
Comments: Not reported

Action ID: 9443
Region: Western Region
Complete Date: 06/08/1995
Rank Value: 0
Cleanup Flag: False
Created Date: 12/17/2002
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Remedial Action
Action Code Flag: False
Action: NO FURTHER STATE ACTION REQUIRED

KENTUCKY FRIED CHICKEN (Continued) **1006854328**

Further Action: Not reported
Comments: NFA based on Voluntary PA Review.

Operations:

Operation Id: 133044
Operation Status: Active
Common Name: Kentucky Fried Chicken
Yrs of Operation: Unk
Comments: Not reported
Updated Date: 02/12/1996
Updated By: dmc
Decode for OpstatID: Active
Operations SIC Id: 195947
SIC Code: 5812
Created By: Not reported
Created Date: 12/17/2002

Operation Id: 133045
Operation Status: Inactive
Common Name: Lariat Corp.- Barnett Rd.
Yrs of Operation: 26
Comments: Former gas station, ceased operating in 1984.
Updated Date: 07/14/1995
Updated By: kna
Decode for OpstatID: Inactive
Operations SIC Id: 195948
SIC Code: 5541
Created By: Not reported
Created Date: 12/17/2002

FINDS:

Registry ID: 110014165492

Environmental Interest/Information System
OR-DEQ (Oregon - Department Of Environmental Quality) is a regulatory agency whose job is to protect the quality of Oregon's Environment. DEQ uses a combination of technical assistance, inspections and permitting to help public and private facilities and citizens understand and comply with state and federal environmental regulations.

ECHO:
Envid: 1006854328
Registry ID: 110014165492
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110014165492

29 SE 1/2-1 0.918 mi. 4847 ft. | **ROYAL-GOLDENCREST-SILVERCREST ORCHARDS**
3100 S PACIFIC HWY.
MEDFORD, OR 97501 | **ECSI** | **S116734845**
N/A

Relative: Higher

Actual: 1445 ft.

ECSI:

State ID Number:	5901
Brown ID:	0
Study Area:	False
Region ID:	3
Legislatve ID:	0
Investigation:	Suspect
FACA ID:	132096
Further Action:	260
Lat/Long (dms):	42 17 30.50 / -122 50 26.20
County Code:	15.00
Score Value:	Not reported
Cerclis ID:	Not reported
Township Coord.:	38.00
Township Zone:	S
Range Coord:	1.00
Range Zone:	W
Section Coord:	5
Qtr Section:	Not reported
Tax Lots:	Not reported
Size:	Not reported
NPL:	False
Orphan:	False
Updated By:	GWISTAR
Update Date:	08/08/2014
Created Date:	06/04/2014
Decode For RegionID:	Western Region
Decode For BrownID:	Not reported
Decode For Furtheract:	Low
Decode For Investstat:	Suspect
Decode For Legislative:	Not reported
Alias Name:	Reter Fruit
Alias Name:	Penny & Lulu Studio Florist

Narrative:

NARR ID:	5755163
NARR Code:	Contamination
Created By:	SSADOFS
Created Date:	06/04/2014
Updated By:	SSADOFS
Updated Date:	06/04/2014
Decode for NarcdID:	Contamination

NARR Comments: A work plan for the cleanup of pesticides adjacent to a mixing shed was received by DEQ. The exact location is not known, and no follow up information was provided.

Administrative Action:

Action ID:	9424
Region:	Not reported
Complete Date:	06/04/2014
Rank Value:	Not reported
Cleanup Flag:	False
Created Date:	06/04/2014
Decode for AgencyID:	Department of Environmental Quality

ROYAL-GOLDENCREST-SILVERCREST ORCHARDS (Continued) **S116734845**

Decode for RegionID: Not reported
Category: Administrative Action
Action Code Flag: False
Action: Site added to database
Further Action: Not reported
Comments: Not reported

Action ID: 9508
Region: Western Region
Complete Date: 06/04/2014
Rank Value: Not reported
Cleanup Flag: False
Created Date: 06/04/2014
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Remedial Action
Action Code Flag: False
Action: Site Screening recommended (EV)
Further Action: Low
Comments: Not reported

30
NW
1/2-1
0.923 mi.
4875 ft.

SI, CASA FLORES RESTAURANT **ECSI** **S106780224**
235 E BARNETT RD. **VCP** **N/A**
MEDFORD, OR 97501

Relative:
Lower

Actual:
1396 ft.

ECSI:
State ID Number: 4325
Brown ID: 0
Study Area: False
Region ID: 3
Legislatve ID: 0
Investigation: No Further Action
FACA ID: 85835
Further Action: 0
Lat/Long (dms): 42 18 56.20 / -122 51 42.10
County Code: 15.00
Score Value: Not reported
Cerclis ID: Not reported
Township Coord.: 37.00
Township Zone: S
Range Coord: 1.00
Range Zone: W
Section Coord: 31
Qtr Section: Not reported
Tax Lots: Not reported
Size: Not reported
NPL: False
Orphan: False
Updated By: GWISTAR
Update Date: 11/29/2012
Created Date: 01/10/2005
Decode For RegionID: Western Region
Decode For BrownID: Not reported
Decode For Furtheract: Not reported
Decode For Investstat: No Further Action
Decode For Legislative: Not reported

SI, CASA FLORES RESTAURANT (Continued) **S106780224**

Narrative:

NARR ID: 5747149
NARR Code: Site Contacts
Created By: AOBERY
Created Date: 09/02/2005
Updated By: GWISTAR
Updated Date: 09/20/2005
Decode for NarcdID: Site Contacts
NARR Comments: Mr. Gregorio Rodriguez (tenant)Si Casa Flores Restaurant1250 Biddle Rd. Suite AMedford, OR 97504Phone: 541-736-1323 541-301-6267Dawn Bove (property owner)First Commercial Reality Management744 Cardley Avenue, Suite 100Medford, OR 97504Phone: 541-772-8566

NARR ID: 5747150
NARR Code: Contamination
Created By: AOBERY
Created Date: 09/02/2005
Updated By: AOBERY
Updated Date: 09/02/2005
Decode for NarcdID: Contamination
NARR Comments: chromium

NARR ID: 5746130
NARR Code: Data Sources
Created By: MENGLIS
Created Date: 01/10/2005
Updated By: MENGLIS
Updated Date: 01/10/2005
Decode for NarcdID: Data Sources
NARR Comments: Information from HW site inspection during August 2004.

NARR ID: 5746528
NARR Code: Hazardous Substance/Waste Types
Created By: GWISTAR
Created Date: 04/18/2005
Updated By: GWISTAR
Updated Date: 04/18/2005
Decode for NarcdID: Hazardous Substance/Waste Types
NARR Comments: Chromium within a concrete-staining formulation, spilled to soil.

NARR ID: 5747151
NARR Code: Land Use (Current/Reasonably Likely)
Created By: AOBERY
Created Date: 09/02/2005
Updated By: AOBERY
Updated Date: 09/02/2005
Decode for NarcdID: Land Use (Current/Reasonably Likely)
NARR Comments: commercial

NARR ID: 5746131
NARR Code: Remedial Action
Created By: MENGLIS
Created Date: 01/10/2005
Updated By: GWISTAR
Updated Date: 03/23/2006
Decode for NarcdID: Remedial Action
NARR Comments: (1/10/05 PSR/SAS) Site is a high priority for screening. (8/16/05

SI, CASA FLORES RESTAURANT (Continued) **S106780224**

AMO/CU) Site was screened and proposed for ICP. ICP letter agreement mailed to Gregorio Rodriguez (restaurant owner) on Aug. 4, 2005.(9/2/05 AMO/CU) Determination that no further action is required. Public comment period from 10-1-05 to 11-1-05. If no comments are received, then NFA will be issued.

Administrative Action:

Action ID: 9424
Region: Not reported
Complete Date: 01/10/2005
Rank Value: Not reported
Cleanup Flag: False
Created Date: 01/10/2005
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Not reported
Category: Administrative Action
Action Code Flag: False
Action: Site added to database
Further Action: Not reported
Comments: Not reported

Action ID: 9508
Region: Western Region
Complete Date: Not reported
Rank Value: Not reported
Cleanup Flag: False
Created Date: 01/10/2005
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Remedial Action
Action Code Flag: False
Action: Site Screening recommended (EV)
Further Action: High
Comments: Not reported

Action ID: 9519
Region: Western Region
Complete Date: 08/04/2005
Rank Value: Not reported
Cleanup Flag: False
Created Date: 04/27/2005
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Remedial Action
Action Code Flag: False
Action: VCS Waiting List
Further Action: 0
Comments: ICP waiting list

Action ID: 9440
Region: Western Region
Complete Date: 08/15/2005
Rank Value: Not reported
Cleanup Flag: False
Created Date: 08/16/2005
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Remedial Action

SI, CASA FLORES RESTAURANT (Continued) **S106780224**

Action Code Flag: False
Action: Letter Agreement
Further Action: 0
Comments: mailed on August 4, 2005

Action ID: 9491
Region: 0
Complete Date: 07/28/2004
Rank Value: Not reported
Cleanup Flag: False
Created Date: 08/16/2005
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Not reported
Category: Remedial Action
Action Code Flag: False
Action: REMOVAL
Further Action: 0
Comments: Not reported

Action ID: 9433
Region: Western Region
Complete Date: 11/01/2005
Rank Value: Not reported
Cleanup Flag: False
Created Date: 08/16/2005
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Remedial Action
Action Code Flag: False
Action: INDEPENDENT CLEANUP
Further Action: 0
Comments: Not reported

Action ID: 9443
Region: Western Region
Complete Date: 11/01/2005
Rank Value: Not reported
Cleanup Flag: False
Created Date: 09/02/2005
Decode for AgencyID: Department of Environmental Quality
Decode for RegionID: Western Region
Category: Remedial Action
Action Code Flag: False
Action: NO FURTHER STATE ACTION REQUIRED
Further Action: 0
Comments: Not reported

VCS:
ECS Site ID: 4325
Facility Size: Not reported
Action: NO FURTHER STATE ACTION REQUIRED
Start Date: 09/14/2005
End Date: 11/01/2005
Facility Status: Completed
Program: ICP
Latitude: 42.31560
Longitude: -122.8617

Count: 11 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
MEDFORD	S110280806	CITY CLEANERS - MEDFORD (FORMER)	324 & 332 W 6TH ST.; 122 N IVY	97501	ECSI
MEDFORD	S105613936	SOUTH GATEWAY CENTER	BARNETT RD. & STEWART AVE.	97501	ECSI, VCP, BROWNFIELDS
MEDFORD	1006426310	KOGAP PROPERTY	GARFIELD RD EXTENSION	97501	SEMS-ARCHIVE
MEDFORD	S115409426	MEDCO / MEDFORD CORP	NORTH PACIFIC HWY		RGA LUST
MEDFORD	S115331793	BOISE CASCADE - MEDFORD	N PACIFIC HWY		RGA HWS
MEDFORD	S115409437	MEDFORD CORP	NORTH PACIFIC HWY		RGA LUST
MEDFORD	S115409425	MEDCO / MEDFORD CORP	NORTH PACIFIC HWY P.O. BOX 550		RGA LUST
MEDFORD	S115335456	MEDFORD CORP. - NORTH MEDFORD	N PACIFIC HWY		RGA HWS
MEDFORD	1000230216	MEDFORD CORP	1901 N PACIFIC HWY	97501	SEMS-ARCHIVE, RCRA NonGen / NLR
MEDFORD	S115409433	MEDFORD CORP.	NORTH PACIFIC HWY P.O. BOX 550		RGA LUST
MEDFORD	U000436740	BIG Y SHOPPING CENTER	1948 N PACIFIC HWY	97501	LUST, UST

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 10/30/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 58

Source: EPA
Telephone: N/A
Last EDR Contact: 01/26/2016
Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 10/30/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 58

Source: EPA
Telephone: N/A
Last EDR Contact: 01/26/2016
Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 10/30/2015	Source: EPA
Date Data Arrived at EDR: 11/07/2015	Telephone: N/A
Date Made Active in Reports: 01/04/2016	Last EDR Contact: 01/26/2016
Number of Days to Update: 58	Next Scheduled EDR Contact: 04/18/2016
	Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 03/26/2015	Source: Environmental Protection Agency
Date Data Arrived at EDR: 04/08/2015	Telephone: 703-603-8704
Date Made Active in Reports: 06/11/2015	Last EDR Contact: 01/06/2016
Number of Days to Update: 64	Next Scheduled EDR Contact: 04/18/2016
	Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 01/11/2016	Source: EPA
Date Data Arrived at EDR: 01/22/2016	Telephone: 800-424-9346
Date Made Active in Reports: 03/18/2016	Last EDR Contact: 02/19/2016
Number of Days to Update: 56	Next Scheduled EDR Contact: 06/06/2016
	Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 01/11/2016
Date Data Arrived at EDR: 01/22/2016
Date Made Active in Reports: 03/18/2016
Number of Days to Update: 56

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 02/19/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report
CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 06/09/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 82

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/18/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 06/09/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: (206) 553-1200
Last EDR Contact: 12/18/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/09/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: (206) 553-1200
Last EDR Contact: 12/18/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 06/09/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: (206) 553-1200
Last EDR Contact: 12/18/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/09/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: (206) 553-1200
Last EDR Contact: 12/18/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/28/2015
Date Data Arrived at EDR: 05/29/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 13

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 02/16/2016
Next Scheduled EDR Contact: 05/30/2016
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 09/10/2015
Date Data Arrived at EDR: 09/11/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 53

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/29/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 09/10/2015
Date Data Arrived at EDR: 09/11/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 53

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/29/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 06/22/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 82

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 12/29/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Annually

State- and tribal - equivalent CERCLIS

ECSI: Environmental Cleanup Site Information System
Sites that are or may be contaminated and may require cleanup.

Date of Government Version: 01/01/2016
Date Data Arrived at EDR: 01/07/2016
Date Made Active in Reports: 01/14/2016
Number of Days to Update: 7

Source: Department of Environmental Quality
Telephone: 503-229-6629
Last EDR Contact: 01/07/2016
Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Quarterly

CRL: Confirmed Release List and Inventory
All facilities with a confirmed release.

Date of Government Version: 02/01/2016
Date Data Arrived at EDR: 02/19/2016
Date Made Active in Reports: 03/15/2016
Number of Days to Update: 25

Source: Department of Environmental Quality
Telephone: 503-229-6170
Last EDR Contact: 02/19/2016
Next Scheduled EDR Contact: 05/30/2016
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Solid Waste Facilities List
Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 01/19/2016
Date Data Arrived at EDR: 01/20/2016
Date Made Active in Reports: 03/15/2016
Number of Days to Update: 55

Source: Department of Environmental Quality
Telephone: 503-229-6299
Last EDR Contact: 01/19/2016
Next Scheduled EDR Contact: 05/02/2016
Data Release Frequency: Semi-Annually

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 01/13/2016
Date Data Arrived at EDR: 02/19/2016
Date Made Active in Reports: 03/15/2016
Number of Days to Update: 25

Source: Department of Environmental Quality
Telephone: 503-229-5790
Last EDR Contact: 02/19/2016
Next Scheduled EDR Contact: 05/30/2016
Data Release Frequency: Quarterly

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/13/2015
Date Data Arrived at EDR: 10/23/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 118

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 01/08/2015
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 01/27/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 03/30/2015
Date Data Arrived at EDR: 04/28/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 55

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 01/07/2016
Date Data Arrived at EDR: 01/08/2016
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 41

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Quarterly

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 11/04/2015
Date Data Arrived at EDR: 11/13/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 52

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/27/2015
Date Data Arrived at EDR: 10/29/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 67

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 02/22/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 11/24/2015
Date Data Arrived at EDR: 12/01/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 34

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Semi-Annually

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 08/20/2015
Date Data Arrived at EDR: 10/30/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 111

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 01/08/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: Varies

UST: Underground Storage Tank Database
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 01/26/2016
Date Data Arrived at EDR: 02/19/2016
Date Made Active in Reports: 03/15/2016
Number of Days to Update: 25

Source: Department of Environmental Quality
Telephone: 503-229-5815
Last EDR Contact: 02/19/2016
Next Scheduled EDR Contact: 05/30/2016
Data Release Frequency: Quarterly

AST: Aboveground Storage Tanks
Aboveground storage tank locations reported to the Office of State Fire Marshal.

Date of Government Version: 11/25/2015
Date Data Arrived at EDR: 12/21/2015
Date Made Active in Reports: 02/01/2016
Number of Days to Update: 42

Source: Office of State Fire Marshal
Telephone: 503-378-3473
Last EDR Contact: 02/01/2016
Next Scheduled EDR Contact: 05/16/2016
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/20/2015
Date Data Arrived at EDR: 10/29/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 67

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 02/22/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 11/24/2015
Date Data Arrived at EDR: 12/01/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 34

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 11/05/2015
Date Data Arrived at EDR: 11/13/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 52

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 08/20/2015
Date Data Arrived at EDR: 10/30/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 111

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/23/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 65

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 10/13/2015
Date Data Arrived at EDR: 10/23/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 118

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 12/14/2014
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 28

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 01/27/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 01/07/2016
Date Data Arrived at EDR: 01/08/2016
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 41

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Quarterly

State and tribal institutional control / engineering control registries

ENG CONTROLS: Engineering Controls Recorded at ESCI Sites
Engineering controls are physical measures selected or approved by the Director for the purpose of preventing or minimizing exposure to hazardous substances. Engineering controls may include, but are not limited to, fencing, capping, horizontal or vertical barriers, hydraulic controls, and alternative water supplies.

Date of Government Version: 01/01/2016
Date Data Arrived at EDR: 01/07/2016
Date Made Active in Reports: 02/01/2016
Number of Days to Update: 25

Source: Department of Environmental Quality
Telephone: 503-229-5193
Last EDR Contact: 01/07/2016
Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Quarterly

INST CONTROL: Institutional Controls Recorded at ESCI Sites
An institutional control is a legal or administrative tool or action taken to reduce the potential for exposure to hazardous substances. Institutional controls may include, but are not limited to, use restrictions, environmental monitoring requirements, and site access and security measures.

Date of Government Version: 01/01/2016
Date Data Arrived at EDR: 01/07/2016
Date Made Active in Reports: 02/01/2016
Number of Days to Update: 25

Source: Department of Environmental Quality
Telephone: 503-229-5193
Last EDR Contact: 01/07/2016
Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Quarterly

State and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 12/28/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

VCS: Voluntary Cleanup Program Sites
Responsible parties have entered into an agreement with DEQ to voluntarily address contamination associated with their property.

Date of Government Version: 01/05/2016
Date Data Arrived at EDR: 01/08/2016
Date Made Active in Reports: 02/01/2016
Number of Days to Update: 24

Source: DEQ
Telephone: 503-229-5256
Last EDR Contact: 12/30/2015
Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Quarterly

State and tribal Brownfields sites

BROWNFIELDS: Brownfields Projects
Brownfields investigations and/or cleanups that have been conducted in Oregon.

Date of Government Version: 02/01/2016
Date Data Arrived at EDR: 02/19/2016
Date Made Active in Reports: 03/15/2016
Number of Days to Update: 25

Source: Department of Environmental Quality
Telephone: 503-229-6801
Last EDR Contact: 02/19/2016
Next Scheduled EDR Contact: 05/30/2016
Data Release Frequency: Semi-Annually

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 12/22/2015	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/23/2015	Telephone: 202-566-2777
Date Made Active in Reports: 02/18/2016	Last EDR Contact: 03/22/2016
Number of Days to Update: 57	Next Scheduled EDR Contact: 07/04/2016
	Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY: Recycling Facility Location Listing

A listing of recycling facility locations.

Date of Government Version: 12/01/2015	Source: Department of Environmental Quality
Date Data Arrived at EDR: 12/08/2015	Telephone: 503-229-5353
Date Made Active in Reports: 02/01/2016	Last EDR Contact: 03/02/2016
Number of Days to Update: 55	Next Scheduled EDR Contact: 06/13/2016
	Data Release Frequency: Quarterly

HIST LF: Old Closed SW Disposal Sites

A list of solid waste disposal sites that have been closed for a long while.

Date of Government Version: 04/01/2000	Source: Department of Environmental Quality
Date Data Arrived at EDR: 07/08/2003	Telephone: 503-229-5409
Date Made Active in Reports: 07/18/2003	Last EDR Contact: 07/08/2003
Number of Days to Update: 10	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/03/2007	Telephone: 703-308-8245
Date Made Active in Reports: 01/24/2008	Last EDR Contact: 02/01/2016
Number of Days to Update: 52	Next Scheduled EDR Contact: 05/16/2016
	Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009	Source: EPA, Region 9
Date Data Arrived at EDR: 05/07/2009	Telephone: 415-947-4219
Date Made Active in Reports: 09/21/2009	Last EDR Contact: 01/25/2016
Number of Days to Update: 137	Next Scheduled EDR Contact: 05/09/2016
	Data Release Frequency: No Update Planned

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/17/2015
Date Data Arrived at EDR: 12/04/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 76

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/01/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: No Update Planned

AOC MU: East Multnomah County Area

Approximate extent of TSA VOC plume February , 2002

Date of Government Version: N/A
Date Data Arrived at EDR: 10/07/2002
Date Made Active in Reports: 10/22/2002
Number of Days to Update: 15

Source: City of Portland Environmental Services
Telephone: 503-823-5310
Last EDR Contact: 03/13/2007
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

AOC COL: Columbia Slough

Columbia Slough waterway boundaries.

Date of Government Version: 08/10/2005
Date Data Arrived at EDR: 05/17/2006
Date Made Active in Reports: 06/16/2006
Number of Days to Update: 30

Source: City of Portland Environmental Services
Telephone: 503-823-5310
Last EDR Contact: 03/13/2007
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CDL 2: Clandestine Drug Lab Site Listing

A listing of clandestine drug lab site locations included in the Incident database.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 05/07/2014
Date Made Active in Reports: 05/22/2014
Number of Days to Update: 15

Source: Oregon State Police
Telephone: 503-373-1540
Last EDR Contact: 02/01/2016
Next Scheduled EDR Contact: 05/16/2016
Data Release Frequency: Varies

CDL: Uninhabitable Drug Lab Properties

The properties listed on these county pages have been declared by a law enforcement agency to be unfit for use due to meth lab and/or storage activities. The properties are considered uninhabitable until cleaned up by a state certified decontamination contractor and a certificate of fitness is issued by the Oregon Health Division.

Date of Government Version: 01/07/2016
Date Data Arrived at EDR: 02/12/2016
Date Made Active in Reports: 03/15/2016
Number of Days to Update: 32

Source: Department of Consumer & Business Services
Telephone: 503-378-4133
Last EDR Contact: 02/09/2016
Next Scheduled EDR Contact: 05/23/2016
Data Release Frequency: Varies

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/17/2015
Date Data Arrived at EDR: 12/04/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 76

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/01/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: Quarterly

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/18/2014
Date Data Arrived at EDR: 03/18/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 03/11/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/24/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/02/2015
Number of Days to Update: 68

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 12/30/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Annually

SPILLS: Spill Data

Oil and hazardous material spills reported to the Environmental Response Program.

Date of Government Version: 01/01/2016
Date Data Arrived at EDR: 01/20/2016
Date Made Active in Reports: 03/15/2016
Number of Days to Update: 55

Source: Department of Environmental Quality
Telephone: 503-229-5815
Last EDR Contact: 12/30/2015
Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Semi-Annually

HAZMAT: Hazmat/Incidents

Hazardous material incidents reported to the State Fire Marshal by emergency responders. The hazardous material may or may not have been released.

Date of Government Version: 11/17/2015
Date Data Arrived at EDR: 02/03/2016
Date Made Active in Reports: 03/15/2016
Number of Days to Update: 41

Source: State Fire Marshal's Office
Telephone: 503-373-1540
Last EDR Contact: 02/03/2016
Next Scheduled EDR Contact: 05/16/2016
Data Release Frequency: Semi-Annually

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 05/01/2006
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 06/09/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: (206) 553-1200
Last EDR Contact: 12/18/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Varies

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015
Date Data Arrived at EDR: 07/08/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 97

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 03/11/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 01/15/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 01/15/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 02/19/2016
Next Scheduled EDR Contact: 05/30/2016
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 09/01/2015
Date Data Arrived at EDR: 09/03/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 61

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 02/16/2016
Next Scheduled EDR Contact: 05/30/2016
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 02/09/2016
Next Scheduled EDR Contact: 05/23/2016
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 02/12/2016
Next Scheduled EDR Contact: 05/23/2016
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/15/2015
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 14

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 12/23/2015
Next Scheduled EDR Contact: 04/04/2016
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 02/12/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 110

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 02/24/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 11/25/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 74

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 03/08/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 08/01/2015
Date Data Arrived at EDR: 08/26/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 69

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 02/12/2016
Next Scheduled EDR Contact: 05/23/2016
Data Release Frequency: Quarterly

PADS: PCB Activity Database System
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 10/15/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 33

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 01/12/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 01/23/2015
Date Data Arrived at EDR: 02/06/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 01/08/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 02/22/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 02/22/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 06/26/2015
Date Data Arrived at EDR: 07/10/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 95

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 02/08/2016
Next Scheduled EDR Contact: 05/23/2016
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 01/13/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 03/11/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 01/29/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/07/2015
Date Data Arrived at EDR: 07/09/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 69

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 01/07/2016
Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 02/03/2016
Next Scheduled EDR Contact: 05/16/2016
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 46

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 12/23/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 02/24/2015
Date Made Active in Reports: 09/30/2015
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 02/26/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 01/15/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 11/23/2015
Date Data Arrived at EDR: 11/24/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 86

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 02/08/2016
Next Scheduled EDR Contact: 05/23/2016
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 02/22/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites
A listing of former lead smelter site locations.

Date of Government Version: 11/25/2014
Date Data Arrived at EDR: 11/26/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 01/26/2016
Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites
A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)
The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/20/2015
Date Data Arrived at EDR: 10/27/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 69

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 12/22/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data
A listing of minor source facilities.

Date of Government Version: 10/20/2015
Date Data Arrived at EDR: 10/27/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 69

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 12/22/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Annually

US MINES: Mines Master Index File
Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/18/2015
Date Data Arrived at EDR: 09/01/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 125

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 03/02/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing
This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 03/04/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 03/04/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: Varies

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 07/20/2015
Date Data Arrived at EDR: 09/09/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 55

Source: EPA
Telephone: (206) 553-1200
Last EDR Contact: 03/08/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: Quarterly

AIRS: Oregon Title V Facility Listing

A listing of Title V facility source and emissions information.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/19/2016
Date Made Active in Reports: 03/15/2016
Number of Days to Update: 25

Source: Department of Environmental Quality
Telephone: 503-229-6459
Last EDR Contact: 02/01/2016
Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Varies

COAL ASH: Coal Ash Disposal Sites Listing

A listing of coal ash disposal sites.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 09/10/2015
Date Made Active in Reports: 11/10/2015
Number of Days to Update: 61

Source: Department of Environmental Quality
Telephone: 541-298-7255
Last EDR Contact: 03/07/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: Varies

DRYCLEANERS: Drycleaning Facilities

A listing of registered drycleaning facilities in Oregon.

Date of Government Version: 11/12/2015
Date Data Arrived at EDR: 11/13/2015
Date Made Active in Reports: 12/14/2015
Number of Days to Update: 31

Source: Department of Environmental Quality
Telephone: 503-229-6783
Last EDR Contact: 02/16/2016
Next Scheduled EDR Contact: 05/16/2016
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial assurance information for hazardous waste facilities.

Date of Government Version: 11/17/2015
Date Data Arrived at EDR: 12/04/2015
Date Made Active in Reports: 02/01/2016
Number of Days to Update: 59

Source: Department of Environmental Quality
Telephone: 541-633-2011
Last EDR Contact: 02/22/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

Financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 02/23/2016
Date Data Arrived at EDR: 02/25/2016
Date Made Active in Reports: 03/15/2016
Number of Days to Update: 19

Source: Department of Environmental Quality
Telephone: 503-229-5521
Last EDR Contact: 02/22/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Varies

HSIS: Hazardous Substance Information Survey

Companies in Oregon submitting the Hazardous Substance Information Survey and either reporting or not reporting hazardous substances.

Date of Government Version: 11/25/2015
Date Data Arrived at EDR: 12/21/2015
Date Made Active in Reports: 02/01/2016
Number of Days to Update: 42

Source: State Fire Marshal's Office
Telephone: 503-373-1540
Last EDR Contact: 02/01/2016
Next Scheduled EDR Contact: 05/16/2016
Data Release Frequency: Semi-Annually

OR MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 06/16/2015
Date Made Active in Reports: 07/24/2015
Number of Days to Update: 38

Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 02/23/2016
Next Scheduled EDR Contact: 05/23/2016
Data Release Frequency: Annually

NPDES: Wastewater Permits Database

A listing of permitted wastewater facilities.

Date of Government Version: 02/09/2016
Date Data Arrived at EDR: 02/10/2016
Date Made Active in Reports: 03/15/2016
Number of Days to Update: 34

Source: Department of Environmental Quality
Telephone: 503-229-5657
Last EDR Contact: 02/08/2016
Next Scheduled EDR Contact: 05/23/2016
Data Release Frequency: Quarterly

UIC: Underground Injection Control Program Database

DEQ's Underground Injection Control Program is authorized by the Environmental Protection Agency (EPA) to regulate all underground injection in Oregon to protect groundwater resources.

Date of Government Version: 12/22/2015
Date Data Arrived at EDR: 12/28/2015
Date Made Active in Reports: 02/01/2016
Number of Days to Update: 35

Source: Department of Environmental Quality
Telephone: 503-229-5945
Last EDR Contact: 12/11/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 11/23/2015
Date Data Arrived at EDR: 11/24/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 86

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 02/24/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 09/20/2015
Date Data Arrived at EDR: 09/23/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 103

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 12/21/2015
Next Scheduled EDR Contact: 04/04/2016
Data Release Frequency: Quarterly

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List
The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Oregon.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/03/2014
Number of Days to Update: 186

Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LF: Recovered Government Archive Solid Waste Facilities List
The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Oregon.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank
The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Oregon.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/27/2013
Number of Days to Update: 179

Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 02/01/2016
Date Data Arrived at EDR: 02/03/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 48

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 02/03/2016
Next Scheduled EDR Contact: 05/16/2016
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 03/19/2015
Date Made Active in Reports: 04/07/2015
Number of Days to Update: 19

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 03/14/2016
Next Scheduled EDR Contact: 06/27/2016
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: PennWell Corporation
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data
Source: PennWell Corporation
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Child Care Listings
Source: Employment Department
Telephone: 503-947-1420

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory Data
Source: Oregon Geospatial Enterprise Office
Telephone: 503-378-2166

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

MEDFORD SITE
HIGHWAY 99
MEDFORD, OR 97501

TARGET PROPERTY COORDINATES

Latitude (North):	42.304116 - 42˚ 18' 14.82''
Longitude (West):	122.851294 - 122˚ 51' 4.66''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	512257.0
UTM Y (Meters):	4683339.5
Elevation:	1418 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	6071121 MEDFORD EAST, OR
Version Date:	2014

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

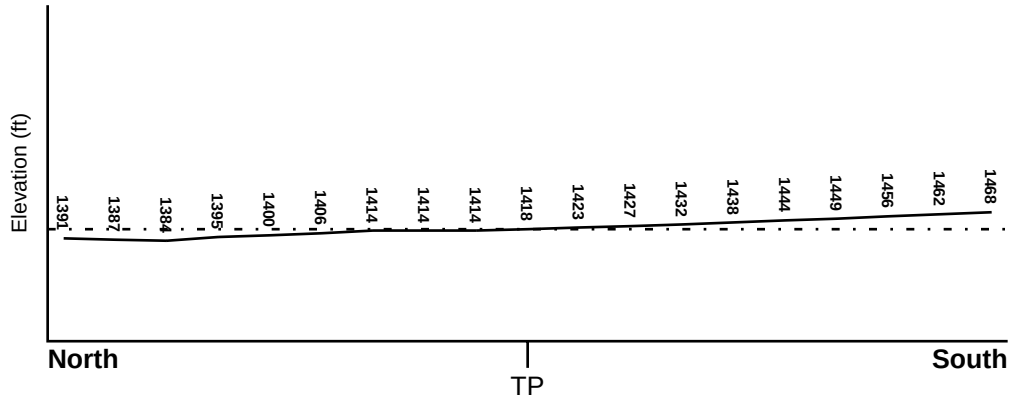
TOPOGRAPHIC INFORMATION

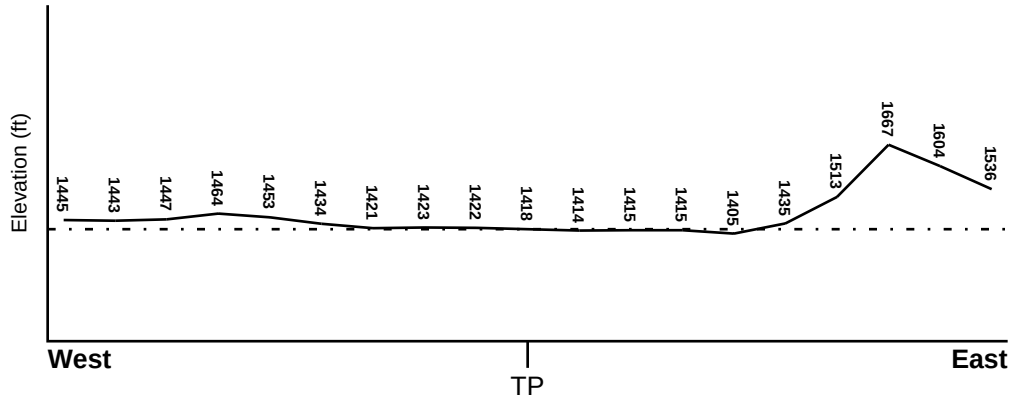
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General NNE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 1418 ft.

0 1/2 1 Miles

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
JACKSON, OR	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property:	4155890416B - FEMA Q3 Flood data
Additional Panels in search area:	4100960007B - FEMA Q3 Flood data 4100960008C - FEMA Q3 Flood data 4155890418B - FEMA Q3 Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
MEDFORD EAST	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

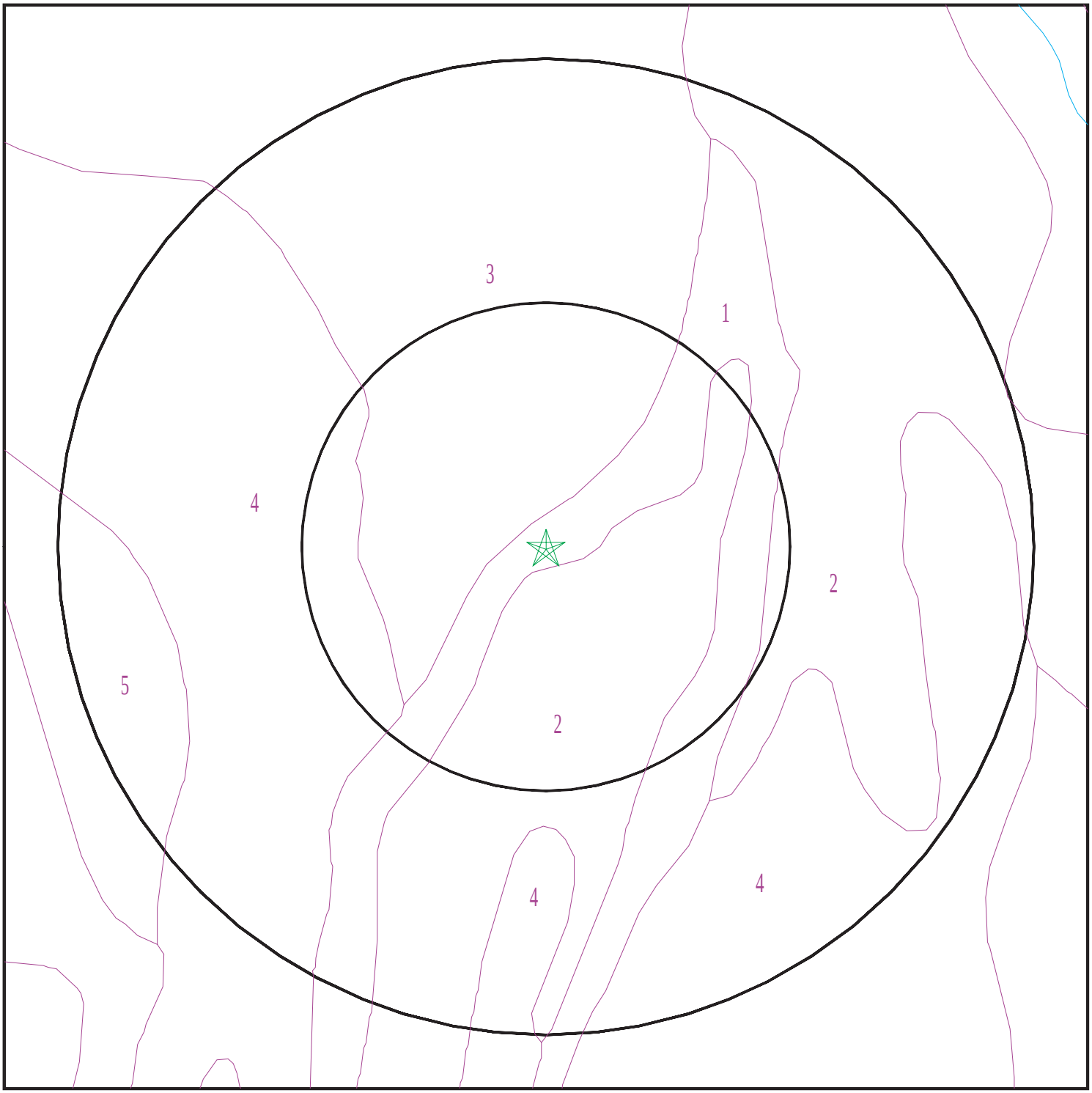
Era:	Cenozoic
System:	Tertiary
Series:	Eocene
Code:	Tec *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Continental Deposits

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 4572642.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME: Medford Site ADDRESS: Highway 99 Medford OR 97501 LAT/LONG: 42.304116 / 122.851294	CLIENT: Analytical Environmental Serv. CONTACT: Alison Middlekauff INQUIRY #: 4572642.2s DATE: March 23, 2016 10:34 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Gregory

Soil Surface Texture: silty clay loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Poorly drained

Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 15 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 6.5 Min: 6.1
2	7 inches	44 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 1.4 Min: 0.42	Max: 6.5 Min: 5.6
3	44 inches	50 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 4 Min: 1.4	Max: 6 Min: 5.6
4	50 inches	59 inches	weathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 2

Soil Component Name: Medford

Soil Surface Texture: silty clay loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 153 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 7.3 Min: 5.6
2	11 inches	22 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 7.3 Min: 5.6
3	22 inches	53 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 7.3 Min: 5.6
4	53 inches	70 inches	stratified sandy clay loam to silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 7.3 Min: 5.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 3

Soil Component Name: Agate

Soil Surface Texture: loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	5 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 5.6
2	5 inches	25 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 4 Min: 1.4	Max: 6.5 Min: 5.6
3	25 inches	29 inches	cemented material	Not reported	Not reported	Max: Min:	Max: Min:
4	29 inches	61 inches	extremely gravelly coarse sandy loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Clean gravels, Poorly Graded Gravel. COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel.	Max: 14 Min: 4	Max: 7.3 Min: 6.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 4

Soil Component Name: Coleman

Soil Surface Texture: loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 54 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 6 Min: 5.6
2	7 inches	20 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 6.5 Min: 6.1
3	20 inches	40 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 1.4 Min: 0.42	Max: 7.3 Min: 6.1
4	40 inches	64 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Clayey Gravel	Max: 4 Min: 1.4	Max: 7.3 Min: 6.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 5

Soil Component Name: Coker

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Somewhat poorly drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 31 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	33 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 0.42 Min: 0.01	Max: 7.8 Min: 6.6
2	33 inches	70 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 0.42 Min: 0.01	Max: 8.4 Min: 7.4

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 0.001 miles
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	USGS40000986138	1/8 - 1/4 Mile NNE
B5	USGS40000986097	1/2 - 1 Mile SSW
B6	USGS40000986098	1/2 - 1 Mile SSW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

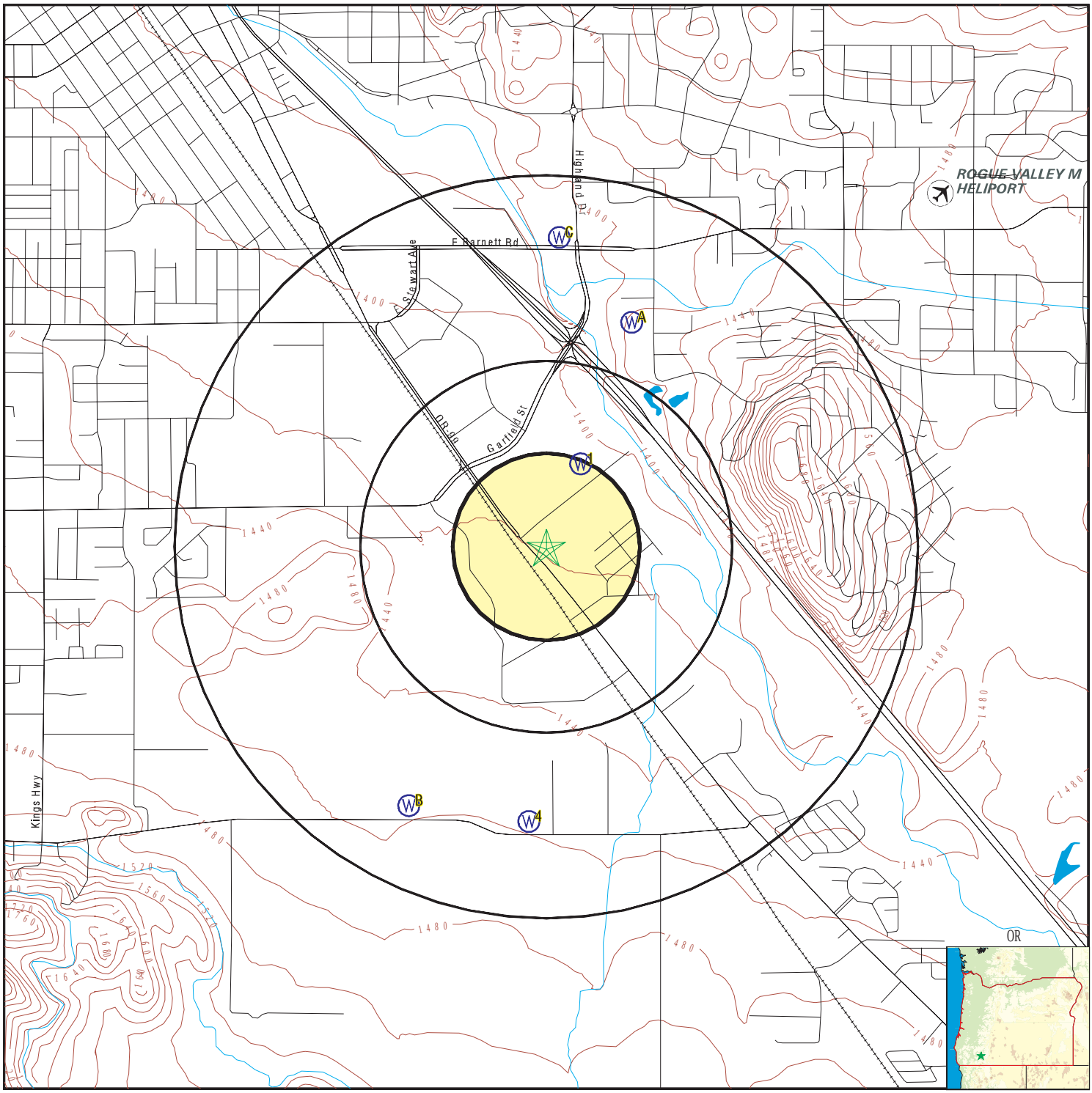
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A2	ORI500000046547	1/2 - 1 Mile NNE
A3	ORI500000046548	1/2 - 1 Mile NNE
4	ORI500000027765	1/2 - 1 Mile South
C7	ORI500000046310	1/2 - 1 Mile North
C8	ORI500000046311	1/2 - 1 Mile North
C9	ORI500000046840	1/2 - 1 Mile North
C10	ORI500000046843	1/2 - 1 Mile North

PHYSICAL SETTING SOURCE MAP - 4572642.2s



County Boundary
Major Roads
Contour Lines
Airports
Earthquake epicenter, Richter 5 or greater
Water Wells
Public Water Supply Wells
Cluster of Multiple Icons

0 1/4 1/2 1 Miles

Groundwater Flow Direction
Indeterminate Groundwater Flow at Location
Groundwater Flow Varies at Location

N

SITE NAME: Medford Site	CLIENT: Analytical Environmental Serv.
ADDRESS: Highway 99	CONTACT: Alison Middlekauff
Medford OR 97501	INQUIRY #: 4572642.2s
LAT/LONG: 42.304116 / 122.851294	DATE: March 23, 2016 10:34 pm

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Map ID Direction Distance Elevation	Database	EDR ID Number
1 **NNE** **1/8 - 1/4 Mile** **Lower**	**FED USGS**	**USGS40000986138**

Org. Identifier:	USGS-OR		
Formal name:	USGS Oregon Water Science Center		
Monloc Identifier:	USGS-421827122505401		
Monloc name:	37S/01W-32CAC		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17100308	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	42.3073493
Longitude:	-122.8494826	Sourcemap scale:	62500
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	1400.00
Vert measure units:	feet	Vertacc measure val:	020
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Other aquifers		
Formation type:	Eocene Series		
Aquifer type:	Not Reported		
Construction date:	19670722	Welldepth:	60
Welldepth units:	ft	Wellholedepth:	60
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1967-07-22	13.00	

A2 **NNE** **1/2 - 1 Mile** **Higher**	**OR WELLS**	**ORI500000046547**

Fid:	46546	Well inspe:	0
Physical l:	Not Reported	Inspection:	2008-08-06 00:00:00.000
Startcard :	199313	Wl county :	JACK
Wl nbr:	58819	Startcar00:	Not Reported
Well tag n:	Not Reported	No log:	Not Reported
Property o:	Not Reported	Inspecti00:	Not Reported
Special st:	0	Title:	Not Reported
Inspecti01:	Not Reported	Witnesses:	Not Reported
Name owner:	ROGUE VALLEY MANOR		
Street:	Not Reported	City:	Not Reported
State:	Not Reported	Zip:	Not Reported
Phone home:	Not Reported	Phone comp:	Not Reported
Gps on wel:	Not Reported	Distance t:	Not Reported
Bearing to:	Not Reported	Drilling m:	Not Reported
Use of wel:	Not Reported	Drilling00:	Not Reported
Rough log :	Not Reported	Well tag r:	Not Reported
Monitoring:	Not Reported	Monitori00:	Not Reported
Protective:	Not Reported	Well locke:	Not Reported
Consultant:	Not Reported	Water in v:	Not Reported
Seal test :	Not Reported	Samples ta:	Not Reported

Casing dia:	Not Reported	Csg above :	Not Reported
Csg gauge:	Not Reported	Borehole d:	Not Reported
Dedicated :	Not Reported	Access por:	Not Reported
Access p00:	Not Reported	Measuring :	Not Reported
Measurin00:	Not Reported	Depth belo:	Not Reported
Depth be00:	Not Reported	Tape hold:	Not Reported
Tape missi:	Not Reported	Tape cut:	Not Reported
Water leve:	Not Reported	Water le00:	Not Reported
Cascading :	Not Reported	Pump type:	Not Reported
Pump make:	Not Reported	Pump hp:	Not Reported
Flowmeter :	Not Reported	Flowmete00:	Not Reported
Flowmete01:	Not Reported	Flowmete02:	Not Reported
Associated:	Not Reported	Nbr of hou:	Not Reported
Deficiency:	Not Reported		
Inspecti02:	COULD NOT LOCATE ABANDONED WELL		
Work new:	0	Work deepe:	0
Work conve:	0	Work alter:	0
Work aband:	1	Work exist:	0
Work other:	Not Reported	Drill rota:	Not Reported
Drill ro00:	Not Reported	Drill cabl:	Not Reported
Drill ca00:	Not Reported	Drill reve:	Not Reported
Drill re00:	Not Reported	Drill auge:	Not Reported
Drill push:	Not Reported	Drill hand:	Not Reported
Drill holl:	Not Reported	Drill soni:	Not Reported
Drill othe:	Not Reported	Use domest:	Not Reported
Use irriga:	Not Reported	Use commun:	Not Reported
Use indust:	Not Reported	Use livest:	Not Reported
Use dewate:	Not Reported	Use monito:	Not Reported
Use therma:	Not Reported	Use inject:	Not Reported
Use piezom:	Not Reported	Use observ:	Not Reported
Use recove:	Not Reported	Use other:	Not Reported
Bentonite :	Not Reported	Conductivi:	Not Reported
Conducti00:	Not Reported	Measuremen:	Not Reported
Well tag00:	Not Reported	Bonded lic:	1207
Unbonded l:	Not Reported	Bonded dri:	Not Reported
Unbonded d:	Not Reported	County cod:	JACK
Tax lot:	2100	Township:	37
Township c:	S	Range:	1
Range char:	W	Sctn:	32
Qtr40:	NW	Qtr160:	NW
Latitude d:	42.31287000	Longitude :	-122.84680000
Gps horizo:	7.00000000	Year const:	Not Reported
Date const:	Not Reported	Date con00:	Not Reported
Deficienci:	U	Previous i:	0
Inspected :	TNK	Inspecte00:	126381
Wm region:	SW		
Well tag a:	Not Reported		
Well tag01:	Not Reported	Depth:	Not Reported
Static wat:	Not Reported	Status of :	Not Reported
Location r:	Not Reported	Site visit:	Not Reported
Type of lo:	W	Casing cap:	Not Reported
Pictures t:	0	Street of :	1995 DYER ST
Street o00:	1995 DYER ST		
Last updt :	2009-01-14 10:03:44.140		
Last upd00:	byrdkr	Rec creati:	2009-06-01 06:51:00.000
Rec crea00:	OWRD\migrate		
Latitude:	42.31287		
Loongitude:	-122.8468		
Site id:	ORI500000046547		

Map ID Direction Distance Elevation	Database	EDR ID Number
A3 **NNE** **1/2 - 1 Mile** **Higher**	**OR WELLS**	**ORI500000046548**

Fid:	46547	Well inspe:	0
Physical l:	Not Reported	Inspection:	2008-08-06 00:00:00.000
Startcard :	195970	Wl county :	JACK
Wl nbr:	58820	Startcar00:	Not Reported
Well tag n:	Not Reported	No log:	Not Reported
Property o:	Not Reported	Inspecti00:	Not Reported
Special st:	0	Title:	Not Reported
Inspecti01:	Not Reported	Witnesses:	Not Reported
Name owner:	ROGUE VALLEY MANOR		
Street:	Not Reported	City:	Not Reported
State:	Not Reported	Zip:	Not Reported
Phone home:	Not Reported	Phone comp:	Not Reported
Gps on wel:	Not Reported	Distance t:	Not Reported
Bearing to:	Not Reported	Drilling m:	Not Reported
Use of wel:	Not Reported	Drilling00:	Not Reported
Rough log :	Not Reported	Well tag r:	Not Reported
Monitoring:	Not Reported	Monitori00:	Not Reported
Protective:	Not Reported	Well locke:	Not Reported
Consultant:	Not Reported	Water in v:	Not Reported
Seal test :	Not Reported	Samples ta:	Not Reported
Casing dia:	Not Reported	Csg above :	Not Reported
Csg gauge:	Not Reported	Borehole d:	Not Reported
Dedicated :	Not Reported	Access por:	Not Reported
Access p00:	Not Reported	Measuring :	Not Reported
Measurin00:	Not Reported	Depth belo:	Not Reported
Depth be00:	Not Reported	Tape hold:	Not Reported
Tape missi:	Not Reported	Tape cut:	Not Reported
Water leve:	Not Reported	Water le00:	Not Reported
Cascading :	Not Reported	Pump type:	Not Reported
Pump make:	Not Reported	Pump hp:	Not Reported
Flowmeter :	Not Reported	Flowmete00:	Not Reported
Flowmete01:	Not Reported	Flowmete02:	Not Reported
Associated:	Not Reported	Nbr of hou:	Not Reported
Deficiency:	Not Reported		
Inspecti02:	COULD NOT LOCATE ABANDONED WELL.		
Work new:	0	Work deepe:	0
Work conve:	0	Work alter:	0
Work aband:	1	Work exist:	0
Work other:	Not Reported	Drill rota:	Not Reported
Drill ro00:	Not Reported	Drill cabl:	Not Reported
Drill ca00:	Not Reported	Drill reve:	Not Reported
Drill re00:	Not Reported	Drill auge:	Not Reported
Drill push:	Not Reported	Drill hand:	Not Reported
Drill holl:	Not Reported	Drill soni:	Not Reported
Drill othe:	Not Reported	Use domest:	Not Reported
Use irriga:	Not Reported	Use commun:	Not Reported
Use indust:	Not Reported	Use livest:	Not Reported
Use dewate:	Not Reported	Use monito:	Not Reported
Use therma:	Not Reported	Use inject:	Not Reported
Use piezom:	Not Reported	Use observ:	Not Reported

Use recove:	Not Reported	Use other:	Not Reported
Bentonite :	Not Reported	Conductivi:	Not Reported
Conducti00:	Not Reported	Measuremen:	Not Reported
Well tag00:	Not Reported	Bonded lic:	1207
Unbonded l:	Not Reported	Bonded dri:	Not Reported
Unbonded d:	Not Reported	County cod:	JACK
Tax lot:	2100	Township:	37
Township c:	S	Range:	1
Range char:	W	Sctn:	32
Qtr40:	NW	Qtr160:	NW
Latitude d:	42.31287000	Longitude :	-122.84680000
Gps horizo:	7.00000000	Year const:	Not Reported
Date const:	Not Reported	Date con00:	Not Reported
Deficienci:	U	Previous i:	0
Inspected :	TNK	Inspecte00:	126381
Wm region:	SW		
Well tag a:	Not Reported		
Well tag01:	Not Reported	Depth:	Not Reported
Static wat:	Not Reported	Status of :	Not Reported
Location r:	Not Reported	Site visit:	Not Reported
Type of lo:	W	Casing cap:	Not Reported
Pictures t:	0	Street of :	1995 DYER ST
Street o00:	1995 DYER ST		
Last updt :	2009-01-14 10:04:07.060		
Last upd00:	byrdkr	Rec creati:	2009-06-01 06:51:00.000
Rec crea00:	OWRD\migrate		
Latitude:	42.31287		
Loongitude:	-122.8468		
Site id:	ORI500000046548		

4
South **OR WELLS** **ORI500000027765**
1/2 - 1 Mile
Higher

Fid:	27764	Well inspe:	0
Physical l:	Not Reported	Inspection:	2002-05-01 00:00:00.000
Startcard :	143639	Wl county :	Not Reported
Wl nbr:	Not Reported	Startcar00:	Not Reported
Well tag n:	Not Reported	No log:	Not Reported
Property o:	Not Reported	Inspecti00:	Not Reported
Special st:	0	Title:	Not Reported
Inspecti01:	Not Reported	Witnesses:	Not Reported
Name owner:	SALINGER, MARY		
Street:	Not Reported	City:	Not Reported
State:	Not Reported	Zip:	Not Reported
Phone home:	Not Reported	Phone comp:	Not Reported
Gps on wel:	Not Reported	Distance t:	Not Reported
Bearing to:	Not Reported	Drilling m:	Not Reported
Use of wel:	Not Reported	Drilling00:	Not Reported
Rough log :	Not Reported	Well tag r:	Not Reported
Monitoring:	Not Reported	Monitori00:	Not Reported
Protective:	Not Reported	Well locke:	Not Reported
Consultant:	Not Reported	Water in v:	Not Reported
Seal test :	Not Reported	Samples ta:	Not Reported

Casing dia:	Not Reported	Csg above :	Not Reported
Csg gauge:	Not Reported	Borehole d:	Not Reported
Dedicated :	Not Reported	Access por:	Not Reported
Access p00:	Not Reported	Measuring :	Not Reported
Measurin00:	Not Reported	Depth belo:	Not Reported
Depth be00:	Not Reported	Tape hold:	Not Reported
Tape missi:	Not Reported	Tape cut:	Not Reported
Water leve:	Not Reported	Water le00:	Not Reported
Cascading :	Not Reported	Pump type:	Not Reported
Pump make:	Not Reported	Pump hp:	Not Reported
Flowmeter :	Not Reported	Flowmete00:	Not Reported
Flowmete01:	Not Reported	Flowmete02:	Not Reported
Associated:	Not Reported	Nbr of hou:	Not Reported
Deficiency:	Not Reported		
Inspecti02:	Not Reported		
Work new:	1	Work deepe:	0
Work conve:	0	Work alter:	0
Work aband:	0	Work exist:	0
Work other:	Not Reported	Drill rota:	Not Reported
Drill ro00:	Not Reported	Drill cabl:	Not Reported
Drill ca00:	Not Reported	Drill reve:	Not Reported
Drill re00:	Not Reported	Drill auge:	Not Reported
Drill push:	Not Reported	Drill hand:	Not Reported
Drill holl:	Not Reported	Drill soni:	Not Reported
Drill othe:	Not Reported	Use domest:	Not Reported
Use irriga:	Not Reported	Use commun:	Not Reported
Use indust:	Not Reported	Use livest:	Not Reported
Use dewate:	Not Reported	Use monito:	Not Reported
Use therma:	Not Reported	Use inject:	Not Reported
Use piezom:	Not Reported	Use observ:	Not Reported
Use recove:	Not Reported	Use other:	Not Reported
Bentonite :	Not Reported	Conductivi:	Not Reported
Conducti00:	Not Reported	Measuremen:	Not Reported
Well tag00:	56200	Bonded lic:	1478
Unbonded l:	Not Reported	Bonded dri:	Not Reported
Unbonded d:	Not Reported	County cod:	JACK
Tax lot:	5400	Township:	38
Township c:	S	Range:	1
Range char:	W	Sctn:	5
Qtr40:	Not Reported	Qtr160:	Not Reported
Latitude d:	42.29340000	Longitude :	-122.85220000
Gps horizo:	Not Reported	Year const:	2002
Date const:	Not Reported	Date con00:	Not Reported
Deficienci:	N	Previous i:	0
Inspected :	DLC	Inspecte00:	107918
Wm region:	SW		
Well tag a:	METAL BAND		
Well tag01:	Not Reported	Depth:	Not Reported
Static wat:	Not Reported	Status of :	Not Reported
Location r:	Not Reported	Site visit:	Not Reported
Type of lo:	W	Casing cap:	Not Reported
Pictures t:	0	Street of :	Not Reported
Street o00:	Not Reported		
Last updt :	2010-04-01 00:00:00.000		
Last upd00:	WRD\migrate	Rec creati:	2009-06-01 06:51:00.000
Rec crea00:	OWRD\migrate		
Latitude:	42.2934		
Loongitude:	-122.8522		
Site id:	ORI500000027765		

Map ID Direction Distance Elevation	Database	EDR ID Number
B5 **SSW** **1/2 - 1 Mile** **Higher**	**FED USGS**	**USGS40000986097**

Org. Identifier:	USGS-OR		
Formal name:	USGS Oregon Water Science Center		
Monloc Identifier:	USGS-421739122512501		
Monloc name:	38S/01W-06DAB1		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17100308	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	42.2940159
Longitude:	-122.8580937	Sourcemap scale:	62500
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	1460.00
Vert measure units:	feet	Vertacc measure val:	20
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19711101	Welldepth:	120
Welldepth units:	ft	Wellholedepth:	120
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1980-03-05	6.35	

Note: The site had been pumped recently.

B6 **SSW** **1/2 - 1 Mile** **Higher**	**FED USGS**	**USGS40000986098**

Org. Identifier:	USGS-OR		
Formal name:	USGS Oregon Water Science Center		
Monloc Identifier:	USGS-421739122512801		
Monloc name:	38S/01W-06DAB2		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17100308	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	42.2940159
Longitude:	-122.858927	Sourcemap scale:	62500
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	1462.00
Vert measure units:	feet	Vertacc measure val:	20
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	19740830	Welldepth:	66
Welldepth units:	ft	Wellholedepth:	66
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1980-03-05	2.72	

C7
North
1/2 - 1 Mile
Lower

OR WELLS **ORI500000046310**

Fid:	46309	Well inspe:	0
Physical l:	Not Reported	Inspection:	2008-06-05 00:00:00.000
Startcard :	195779	Wl county :	Not Reported
Wl nbr:	Not Reported	Startcar00:	Not Reported
Well tag n:	Not Reported	No log:	Not Reported
Property o:	Not Reported	Inspecti00:	Not Reported
Special st:	0	Title:	Not Reported
Inspecti01:	Not Reported	Witnesses:	Not Reported
Name owner:	MEDFORD MEDICAL EYE CENTER		
Street:	Not Reported	City:	Not Reported
State:	Not Reported	Zip:	Not Reported
Phone home:	Not Reported	Phone comp:	Not Reported
Gps on wel:	Not Reported	Distance t:	Not Reported
Bearing to:	Not Reported	Drilling m:	Not Reported
Use of wel:	Not Reported	Drilling00:	Not Reported
Rough log :	Not Reported	Well tag r:	Not Reported
Monitoring:	Not Reported	Monitori00:	Not Reported
Protective:	Not Reported	Well locke:	Not Reported
Consultant:	Not Reported	Water in v:	Not Reported
Seal test :	Not Reported	Samples ta:	Not Reported
Casing dia:	Not Reported	Csg above :	Not Reported
Csg gauge:	Not Reported	Borehole d:	Not Reported
Dedicated :	Not Reported	Access por:	Not Reported
Access p00:	Not Reported	Measuring :	Not Reported
Measurin00:	Not Reported	Depth belo:	Not Reported
Depth be00:	Not Reported	Tape hold:	Not Reported
Tape missi:	Not Reported	Tape cut:	Not Reported
Water leve:	Not Reported	Water le00:	Not Reported
Cascading :	Not Reported	Pump type:	Not Reported
Pump make:	Not Reported	Pump hp:	Not Reported
Flowmeter :	Not Reported	Flowmete00:	Not Reported
Flowmete01:	Not Reported	Flowmete02:	Not Reported
Associated:	Not Reported	Nbr of hou:	Not Reported
Deficiency:	Not Reported		
Inspecti02:	COULD NOT LOCATE WELL		
Work new:	0	Work deepe:	0
Work conve:	0	Work alter:	0
Work aband:	1	Work exist:	0
Work other:	Not Reported	Drill rota:	Not Reported
Drill ro00:	Not Reported	Drill cabl:	Not Reported

Drill ca00:	Not Reported	Drill reve:	Not Reported
Drill re00:	Not Reported	Drill auge:	Not Reported
Drill push:	Not Reported	Drill hand:	Not Reported
Drill holl:	Not Reported	Drill soni:	Not Reported
Drill othe:	Not Reported	Use domest:	Not Reported
Use irriga:	Not Reported	Use commun:	Not Reported
Use indust:	Not Reported	Use livest:	Not Reported
Use dewate:	Not Reported	Use monito:	Not Reported
Use therma:	Not Reported	Use inject:	Not Reported
Use piezom:	Not Reported	Use observ:	Not Reported
Use recove:	Not Reported	Use other:	Not Reported
Bentonite :	Not Reported	Conductivi:	Not Reported
Conducti00:	Not Reported	Measuremen:	Not Reported
Well tag00:	Not Reported	Bonded lic:	1661
Unbonded l:	Not Reported	Bonded dri:	Not Reported
Unbonded d:	Not Reported	County cod:	JACK
Tax lot:	4300	Township:	37
Township c:	S	Range:	1
Range char:	W	Sctn:	29
Qtr40:	SW	Qtr160:	SW
Latitude d:	42.31573000	Longitude :	-122.85087000
Gps horizo:	20.00000000	Year const:	Not Reported
Date const:	Not Reported	Date con00:	Not Reported
Deficienci:	U	Previous i:	0
Inspected :	TNK	Inspecte00:	126381
Wm region:	SW		
Well tag a:	Not Reported		
Well tag01:	Not Reported	Depth:	Not Reported
Static wat:	Not Reported	Status of :	Not Reported
Location r:	Not Reported	Site visit:	Not Reported
Type of lo:	Not Reported	Casing cap:	Not Reported
Pictures t:	0	Street of :	Not Reported
Street o00:	ACROSS FROM 1150 E BARNETT		
Last updt :	2009-01-14 10:05:44.043		
Last upd00:	byrdkr	Rec creati:	2009-06-01 06:51:00.000
Rec crea00:	OWRD\migrate		
Latitude:	42.31573		
Loongitude:	-122.85087		
Site id:	ORI500000046310		

C8
North
1/2 - 1 Mile
Lower

OR WELLS **ORI500000046311**

Fid:	46310	Well inspe:	0
Physical l:	Not Reported	Inspection:	2008-06-05 00:00:00.000
Startcard :	195778	Wl county :	Not Reported
Wl nbr:	Not Reported	Startcar00:	Not Reported
Well tag n:	Not Reported	No log:	Not Reported
Property o:	Not Reported	Inspecti00:	Not Reported
Special st:	0	Title:	Not Reported
Inspecti01:	Not Reported	Witnesses:	Not Reported
Name owner:	MEDFORD MEDICAL EYE CENTER		
Street:	Not Reported	City:	Not Reported

State:	Not Reported	Zip:	Not Reported
Phone home:	Not Reported	Phone comp:	Not Reported
Gps on wel:	Not Reported	Distance t:	Not Reported
Bearing to:	Not Reported	Drilling m:	Not Reported
Use of wel:	Not Reported	Drilling00:	Not Reported
Rough log :	Not Reported	Well tag r:	Not Reported
Monitoring:	Not Reported	Monitori00:	Not Reported
Protective:	Not Reported	Well locke:	Not Reported
Consultant:	Not Reported	Water in v:	Not Reported
Seal test :	Not Reported	Samples ta:	Not Reported
Casing dia:	Not Reported	Csg above :	Not Reported
Csg gauge:	Not Reported	Borehole d:	Not Reported
Dedicated :	Not Reported	Access por:	Not Reported
Access p00:	Not Reported	Measuring :	Not Reported
Measurin00:	Not Reported	Depth belo:	Not Reported
Depth be00:	Not Reported	Tape hold:	Not Reported
Tape missi:	Not Reported	Tape cut:	Not Reported
Water leve:	Not Reported	Water le00:	Not Reported
Cascading :	Not Reported	Pump type:	Not Reported
Pump make:	Not Reported	Pump hp:	Not Reported
Flowmeter :	Not Reported	Flowmete00:	Not Reported
Flowmete01:	Not Reported	Flowmete02:	Not Reported
Associated:	Not Reported	Nbr of hou:	Not Reported
Deficiency:	Not Reported		
Inspecti02:	COULD NOT LOCATE WELL		
Work new:	0	Work deepe:	0
Work conve:	0	Work alter:	0
Work aband:	1	Work exist:	0
Work other:	Not Reported	Drill rota:	Not Reported
Drill ro00:	Not Reported	Drill cabl:	Not Reported
Drill ca00:	Not Reported	Drill reve:	Not Reported
Drill re00:	Not Reported	Drill auge:	Not Reported
Drill push:	Not Reported	Drill hand:	Not Reported
Drill holl:	Not Reported	Drill soni:	Not Reported
Drill othe:	Not Reported	Use domest:	Not Reported
Use irriga:	Not Reported	Use commun:	Not Reported
Use indust:	Not Reported	Use livest:	Not Reported
Use dewate:	Not Reported	Use monito:	Not Reported
Use therma:	Not Reported	Use inject:	Not Reported
Use piezom:	Not Reported	Use observ:	Not Reported
Use recove:	Not Reported	Use other:	Not Reported
Bentonite :	Not Reported	Conductivi:	Not Reported
Conducti00:	Not Reported	Measuremen:	Not Reported
Well tag00:	Not Reported	Bonded lic:	1661
Unbonded l:	Not Reported	Bonded dri:	Not Reported
Unbonded d:	Not Reported	County cod:	JACK
Tax lot:	4000	Township:	37
Township c:	S	Range:	1
Range char:	W	Sctn:	29
Qtr40:	SW	Qtr160:	SW
Latitude d:	42.31573000	Longitude :	-122.85087000
Gps horizo:	20.00000000	Year const:	Not Reported
Date const:	Not Reported	Date con00:	Not Reported
Deficienci:	U	Previous i:	0
Inspected :	TNK	Inspecte00:	126381
Wm region:	SW		
Well tag a:	Not Reported		
Well tag01:	Not Reported	Depth:	Not Reported
Static wat:	Not Reported	Status of :	Not Reported
Location r:	Not Reported	Site visit:	Not Reported

Type of lo:	Not Reported	Casing cap:	Not Reported
Pictures t:	0	Street of :	Not Reported
Street o00:	ACROSS FROM 1150 E BARNETT RD		
Last updt :	2009-01-14 10:05:31.327		
Last upd00:	byrdkr	Rec creati:	2009-06-01 06:51:00.000
Rec crea00:	OWRD\migrate		
Latitude:	42.31573		
Loongitude:	-122.85087		
Site id:	ORI500000046311		

C9
North
1/2 - 1 Mile
Lower

OR WELLS **ORI500000046840**

Fid:	46839	Well inspe:	0
Physical l:	Not Reported	Inspection:	2008-08-15 00:00:00.000
Startcard :	Not Reported	Wl county :	Not Reported
Wl nbr:	Not Reported	Startcar00:	Not Reported
Well tag n:	Not Reported	No log:	Not Reported
Property o:	Not Reported	Inspecti00:	Not Reported
Special st:	0	Title:	Not Reported
Inspecti01:	Not Reported	Witnesses:	Not Reported
Name owner:	CITY OF MEDFORD PARKS AND RECREATION		
Street:	Not Reported	City:	Not Reported
State:	Not Reported	Zip:	Not Reported
Phone home:	Not Reported	Phone comp:	Not Reported
Gps on wel:	Not Reported	Distance t:	Not Reported
Bearing to:	Not Reported	Drilling m:	Not Reported
Use of wel:	Not Reported	Drilling00:	Not Reported
Rough log :	Not Reported	Well tag r:	Not Reported
Monitoring:	Not Reported	Monitori00:	Not Reported
Protective:	Not Reported	Well locke:	Not Reported
Consultant:	Not Reported	Water in v:	Not Reported
Seal test :	Not Reported	Samples ta:	Not Reported
Casing dia:	Not Reported	Csg above :	Not Reported
Csg gauge:	Not Reported	Borehole d:	Not Reported
Dedicated :	Not Reported	Access por:	Not Reported
Access p00:	Not Reported	Measuring :	Not Reported
Measurin00:	Not Reported	Depth belo:	Not Reported
Depth be00:	Not Reported	Tape hold:	Not Reported
Tape missi:	Not Reported	Tape cut:	Not Reported
Water leve:	Not Reported	Water le00:	Not Reported
Cascading :	Not Reported	Pump type:	Not Reported
Pump make:	Not Reported	Pump hp:	Not Reported
Flowmeter :	Not Reported	Flowmete00:	Not Reported
Flowmete01:	Not Reported	Flowmete02:	Not Reported
Associated:	Not Reported	Nbr of hou:	Not Reported
Deficiency:	Not Reported		
Inspecti02:	PRE INSPECTION FOR OWNER DUG WELL ABANDONMENT		
Work new:	0	Work deepe:	0
Work conve:	0	Work alter:	0
Work aband:	1	Work exist:	0
Work other:	Not Reported	Drill rota:	Not Reported
Drill ro00:	Not Reported	Drill cabl:	Not Reported

Drill ca00:	Not Reported	Drill reve:	Not Reported
Drill re00:	Not Reported	Drill auge:	Not Reported
Drill push:	Not Reported	Drill hand:	Not Reported
Drill holl:	Not Reported	Drill soni:	Not Reported
Drill othe:	Not Reported	Use domest:	Not Reported
Use irriga:	Not Reported	Use commun:	Not Reported
Use indust:	Not Reported	Use livest:	Not Reported
Use dewate:	Not Reported	Use monito:	Not Reported
Use therma:	Not Reported	Use inject:	Not Reported
Use piezom:	Not Reported	Use observ:	Not Reported
Use recove:	Not Reported	Use other:	Not Reported
Bentonite :	Not Reported	Conductivi:	Not Reported
Conducti00:	Not Reported	Measuremen:	Not Reported
Well tag00:	Not Reported	Bonded lic:	Not Reported
Unbonded l:	Not Reported	Bonded dri:	Not Reported
Unbonded d:	Not Reported	County cod:	JACK
Tax lot:	4500	Township:	37
Township c:	S	Range:	1
Range char:	W	Sctn:	29
Qtr40:	SE	Qtr160:	SW
Latitude d:	42.31663000	Longitude :	-122.85035000
Gps horizo:	7.00000000	Year const:	Not Reported
Date const:	Not Reported	Date con00:	Not Reported
Deficienci:	U	Previous i:	0
Inspected :	TNK	Inspecte00:	126381
Wm region:	SW		
Well tag a:	Not Reported		
Well tag01:	Not Reported	Depth:	21.70
Static wat:	12.50	Status of :	CMP
Location r:	Not Reported	Site visit:	Not Reported
Type of lo:	Not Reported	Casing cap:	OT
Pictures t:	1	Street of :	Not Reported
Street o00:	HIGHLAND DRIVE		
Last updt :	2008-11-04 10:10:33.640		
Last upd00:	kellytn	Rec creati:	2009-06-01 06:51:00.000
Rec crea00:	OWRD\migrate		
Latitude:	42.31663		
Loongitude:	-122.85035		
Site id:	ORI500000046840		

C10
North
1/2 - 1 Mile
Lower

OR WELLS **ORI500000046843**

Fid:	46842	Well inspe:	0
Physical l:	Not Reported	Inspection:	2008-10-28 00:00:00.000
Startcard :	Not Reported	Wl county :	Not Reported
Wl nbr:	Not Reported	Startcar00:	Not Reported
Well tag n:	Not Reported	No log:	Not Reported
Property o:	Not Reported	Inspecti00:	Not Reported
Special st:	0	Title:	Not Reported
Inspecti01:	Not Reported	Witnesses:	Not Reported
Name owner:	CITY OF MEDFORD PARKS AND RECREATION		
Street:	Not Reported	City:	Not Reported

State:	Not Reported	Zip:	Not Reported
Phone home:	Not Reported	Phone comp:	Not Reported
Gps on wel:	Not Reported	Distance t:	Not Reported
Bearing to:	Not Reported	Drilling m:	Not Reported
Use of wel:	Not Reported	Drilling00:	Not Reported
Rough log :	Not Reported	Well tag r:	Not Reported
Monitoring:	Not Reported	Monitori00:	Not Reported
Protective:	Not Reported	Well locke:	Not Reported
Consultant:	Not Reported	Water in v:	Not Reported
Seal test :	Not Reported	Samples ta:	Not Reported
Casing dia:	Not Reported	Csg above :	Not Reported
Csg gauge:	Not Reported	Borehole d:	Not Reported
Dedicated :	Not Reported	Access por:	Not Reported
Access p00:	Not Reported	Measuring :	Not Reported
Measurin00:	Not Reported	Depth belo:	Not Reported
Depth be00:	Not Reported	Tape hold:	Not Reported
Tape missi:	Not Reported	Tape cut:	Not Reported
Water leve:	Not Reported	Water le00:	Not Reported
Cascading :	Not Reported	Pump type:	Not Reported
Pump make:	Not Reported	Pump hp:	Not Reported
Flowmeter :	Not Reported	Flowmete00:	Not Reported
Flowmete01:	Not Reported	Flowmete02:	Not Reported
Associated:	Not Reported	Nbr of hou:	Not Reported
Deficiency:	Not Reported		
Inspecti02:	FILLED WITH GRAVEL TO WATERLEVEL. FILLED WITH CEMENT TO GROUND SURFACE.		
Work new:	0	Work deepe:	0
Work conve:	0	Work alter:	0
Work aband:	1	Work exist:	0
Work other:	Not Reported	Drill rota:	Not Reported
Drill ro00:	Not Reported	Drill cabl:	Not Reported
Drill ca00:	Not Reported	Drill reve:	Not Reported
Drill re00:	Not Reported	Drill auge:	Not Reported
Drill push:	Not Reported	Drill hand:	Not Reported
Drill holl:	Not Reported	Drill soni:	Not Reported
Drill othe:	Not Reported	Use domest:	Not Reported
Use irriga:	Not Reported	Use commun:	Not Reported
Use indust:	Not Reported	Use livest:	Not Reported
Use dewate:	Not Reported	Use monito:	Not Reported
Use therma:	Not Reported	Use inject:	Not Reported
Use piezom:	Not Reported	Use observ:	Not Reported
Use recove:	Not Reported	Use other:	Not Reported
Bentonite :	Not Reported	Conductivi:	Not Reported
Conducti00:	Not Reported	Measuremen:	Not Reported
Well tag00:	Not Reported	Bonded lic:	Not Reported
Unbonded l:	Not Reported	Bonded dri:	Not Reported
Unbonded d:	Not Reported	County cod:	JACK
Tax lot:	4500	Township:	37
Township c:	S	Range:	1
Range char:	W	Sctn:	29
Qtr40:	SE	Qtr160:	SW
Latitude d:	42.31663000	Longitude :	-122.85035000
Gps horizo:	7.00000000	Year const:	Not Reported
Date const:	Not Reported	Date con00:	Not Reported
Deficienci:	U	Previous i:	1
Inspected :	TNK	Inspecte00:	126381
Wm region:	SW		
Well tag a:	Not Reported		
Well tag01:	Not Reported	Depth:	21.70
Static wat:	12.50	Status of :	CMP
Location r:	Not Reported	Site visit:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Type of lo:	Not Reported	Casing cap:	Not Reported
Pictures t:	0	Street of :	Not Reported
Street o00:	HIGHLAND DRIVE		
Last updt :	2008-11-04 10:13:16.077		
Last upd00:	kellytn	Rec creati:	2009-06-01 06:51:00.000
Rec crea00:	OWRD\migrate		
Latitude:	42.31663		
Loongitude:	-122.85035		
Site id:	ORI500000046843		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: OR Radon

Radon Test Results

Zipcode	Num Tests	Maximum	Minimum	Average	# > 4 pCi/L
97501	31	5.7	0.1	1.5	3

Federal EPA Radon Zone for JACKSON County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for JACKSON COUNTY, OR

Number of sites tested: 23

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area	0.970 pCi/L	100%	0%	0%
Basement	1.880 pCi/L	78%	22%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory Data
Source: Oregon Geospatial Enterprise Office
Telephone: 503-378-2166

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Data
Source: Department of Water Resources
Telephone: 503-986-0843

OTHER STATE DATABASE INFORMATION

Oil and Gas Well Locations
Source: Department of Geology and Mineral Industries
Telephone: 971-673-1540
A listing of oil and gas well locations in the state.

RADON

State Database: OR Radon
Source: Oregon Health Services
Telephone: 503-731-4272
Radon Levels in Orgeon

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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PHOENIX SITE

Phoenix Site
North Phoenix Road
Medford, OR 97504

Inquiry Number: 4328935.2s
June 17, 2015

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

NORTH PHOENIX ROAD
MEDFORD, OR 97504

COORDINATES

Latitude (North):	42.2889000 - 42˚ 17' 20.04''
Longitude (West):	122.8174000 - 122˚ 49' 2.64''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	515054.3
UTM Y (Meters):	4681655.5
Elevation:	1543 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	42122-C7 MEDFORD EAST, OR
Most Recent Revision:	1983

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20120723
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
NORTH PHOENIX ROAD
MEDFORD, OR 97504

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	ARROWHEAD COMICE ORC	2984 N PHOENIX RD	LUST, UST	Lower	30, 0.006, ESE
A2	THE HOME DEPOT - PHO	3345 N. PHOENIX RD.	FINDS, MANIFEST	Lower	677, 0.128, South
A3	HOME DEPOT	3345 N. PHOENIX RD.	RCRA NonGen / NLR	Lower	677, 0.128, South
A4	HOME DEPOT #HD8557	3345 N. PHOENIX RD.	RCRA-SQG	Lower	677, 0.128, South
5	MEDFORD STOPPING CEN	3730 FERN VALLEY ROA	LUST, UST, SPILLS	Lower	1963, 0.372, South
6	VACANT	3875 FERN VALLEY RD	LUST, UST	Lower	2396, 0.454, SSE
7	OREGON ROOF SAVERS	3629 S PACIFIC HWY	LUST, UST	Lower	2578, 0.488, WSW
B8	GLENWOOD BUSINESS PA	117 W GLENWOOD RD	EDR MGP	Lower	3726, 0.706, West
B9	GLENWOOD BUSINESS PA	117 W GLENWOOD RD.	VCP, ECSI	Lower	3726, 0.706, West
10	ROYAL-GOLDENCREST-SI	3100 S PACIFIC HWY.	ECSI	Lower	4933, 0.934, WNW

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ..... National Priority List
Proposed NPL ..... Proposed National Priority List Sites
NPL LIENS ..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ..... National Priority List Deletions

Federal CERCLIS list

CERCLIS ..... Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY ..... Federal Facility Site Information listing

Federal CERCLIS NFRAP site List

CERC-NFRAP ..... CERCLIS No Further Remedial Action Planned

Federal RCRA CORRACTS facilities list

CORRACTS ..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ..... RCRA - Large Quantity Generators
RCRA-CESQG ..... RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS ..... Engineering Controls Sites List
US INST CONTROL ..... Sites with Institutional Controls
LUCIS ..... Land Use Control Information System

EXECUTIVE SUMMARY

Federal ERNS list

ERNS ..... Emergency Response Notification System

State- and tribal - equivalent CERCLIS

CRL ..... Confirmed Release List and Inventory

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ..... Solid Waste Facilities List

State and tribal leaking storage tank lists

INDIAN LUST ..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

AST ..... Aboveground Storage Tanks
INDIAN UST ..... Underground Storage Tanks on Indian Land
FEMA UST ..... Underground Storage Tank Listing

State and tribal institutional control / engineering control registries

ENG CONTROLS ..... Engineering Controls Recorded at ESCI Sites
INST CONTROL ..... Institutional Controls Recorded at ESCI Sites

State and tribal voluntary cleanup sites

INDIAN VCP ..... Voluntary Cleanup Priority Listing
VCP ..... Voluntary Cleanup Program Sites

State and tribal Brownfields sites

BROWNFIELDS ..... Brownfields Projects

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

ODI ..... Open Dump Inventory
DEBRIS REGION 9 ..... Torres Martinez Reservation Illegal Dump Site Locations
HIST LF ..... Old Closed SW Disposal Sites
SWRCY ..... Recycling Facility Location Listing
INDIAN ODI ..... Report on the Status of Open Dumps on Indian Lands

Local Lists of Hazardous waste / Contaminated Sites

US CDL ..... Clandestine Drug Labs

EXECUTIVE SUMMARY

AOCONCERN	Columbia Slough
CDL	Uninhabitable Drug Lab Properties
US HIST CDL	National Clandestine Laboratory Register

Local Land Records

LIENS 2	CERCLA Lien Information

Records of Emergency Release Reports

HMIRS	Hazardous Materials Information Reporting System
SPILLS	Spill Database
OR HAZMAT	Hazmat/Incidents
SPILLS 90	SPILLS 90 data from FirstSearch

Other Ascertainable Records

DOT OPS	Incident and Accident Data
DOD	Department of Defense Sites
FUDS	Formerly Used Defense Sites
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
US MINES	Mines Master Index File
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS	Section 7 Tracking Systems
ICIS	Integrated Compliance Information System
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
RADINFO	Radiation Information Database
FINDS	Facility Index System/Facility Registry System
RAATS	RCRA Administrative Action Tracking System
RMP	Risk Management Plans
UIC	Underground Injection Control Program Database
DRYCLEANERS	Drycleaning Facilities
NPDES	Wastewater Permits Database
AIRS	Oregon Title V Facility Listing
HSIS	Hazardous Substance Information Survey
INDIAN RESERV	Indian Reservations
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
COAL ASH	Coal Ash Disposal Sites Listing
Financial Assurance	Financial Assurance Information Listing
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
EPA WATCH LIST	EPA WATCH LIST
US FIN ASSUR	Financial Assurance Information
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
COAL ASH DOE	Steam-Electric Plant Operation Data
2020 COR ACTION	2020 Corrective Action Program List
PRP	Potentially Responsible Parties

EXECUTIVE SUMMARY

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR US Hist Auto Stat..... EDR Exclusive Historic Gas Stations
EDR US Hist Cleaners..... EDR Exclusive Historic Dry Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS..... Recovered Government Archive State Hazardous Waste Facilities List
RGA LF..... Recovered Government Archive Solid Waste Facilities List
RGA LUST..... Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal RCRA generators list

RCRA-SQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 03/10/2015 has revealed that there is 1 RCRA-SQG site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
HOME DEPOT #HD8557	3345 N. PHOENIX RD.	S 1/8 - 1/4 (0.128 mi.)	A4	46

EXECUTIVE SUMMARY

State- and tribal - equivalent CERCLIS

ECSI: The Environmental Cleanup Site Information System records information about sites in Oregon that may be of environmental interest. The data come from the Department of Environmental Quality.

A review of the ECSI list, as provided by EDR, and dated 04/01/2015 has revealed that there are 2 ECSI sites within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
GLENWOOD BUSINESS PA Investigation: No Further Action State ID Number: 4333	***117 W GLENWOOD RD.***	***W 1/2 - 1 (0.706 mi.)***	***B9***	***53***
ROYAL-GOLDENCREST-SI Investigation: Suspect State ID Number: 5901	3100 S PACIFIC HWY.	WNW 1/2 - 1 (0.934 mi.)	10	55

State and tribal leaking storage tank lists

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Environmental Quality's LUST Database List.

A review of the LUST list, as provided by EDR, and dated 01/06/2015 has revealed that there are 4 LUST sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
ARROWHEAD COMICE ORC Cleanup Complete: 01/25/1999 Facility ID: 15-98-0060	***2984 N PHOENIX RD***	***ESE 0 - 1/8 (0.006 mi.)***	***1***	***8***
MEDFORD STOPPING CEN Cleanup Complete: 08/18/2003 Facility ID: 15-94-0058 Facility ID: 15-03-2468 Facility ID: 15-08-1466	***3730 FERN VALLEY ROA***	***S 1/4 - 1/2 (0.372 mi.)***	***5***	***48***
VACANT Cleanup Complete: 07/15/1991 Facility ID: 15-90-0066	***3875 FERN VALLEY RD***	***SSE 1/4 - 1/2 (0.454 mi.)***	***6***	***52***
OREGON ROOF SAVERS Cleanup Complete: 03/30/1992 Facility ID: 15-92-0023	***3629 S PACIFIC HWY***	***WSW 1/4 - 1/2 (0.488 mi.)***	***7***	***52***

State and tribal registered storage tank lists

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Environmental Quality's UST List on Disk.

A review of the UST list, as provided by EDR, and dated 01/06/2015 has revealed that there is 1 UST

site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
ARROWHEAD COMICE ORC Facility ID: 11889	***2984 N PHOENIX RD***	***ESE 0 - 1/8 (0.006 mi.)***	***1***	***8***

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 03/10/2015 has revealed that there is 1 RCRA NonGen / NLR site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
HOME DEPOT	3345 N. PHOENIX RD.	S 1/8 - 1/4 (0.128 mi.)	A3	45

MANIFEST: Hazardous waste manifest information.

A review of the MANIFEST list, as provided by EDR, and dated 12/31/2013 has revealed that there is 1 MANIFEST site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
THE HOME DEPOT - PHO Status: SQG Status: Small quantity generator EPA Id: ORQ000026282	***3345 N. PHOENIX RD.***	***S 1/8 - 1/4 (0.128 mi.)***	***A2***	***8***

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

A review of the EDR MGP list, as provided by EDR, has revealed that there is 1 EDR MGP site within

approximately 1 mile of the target property.

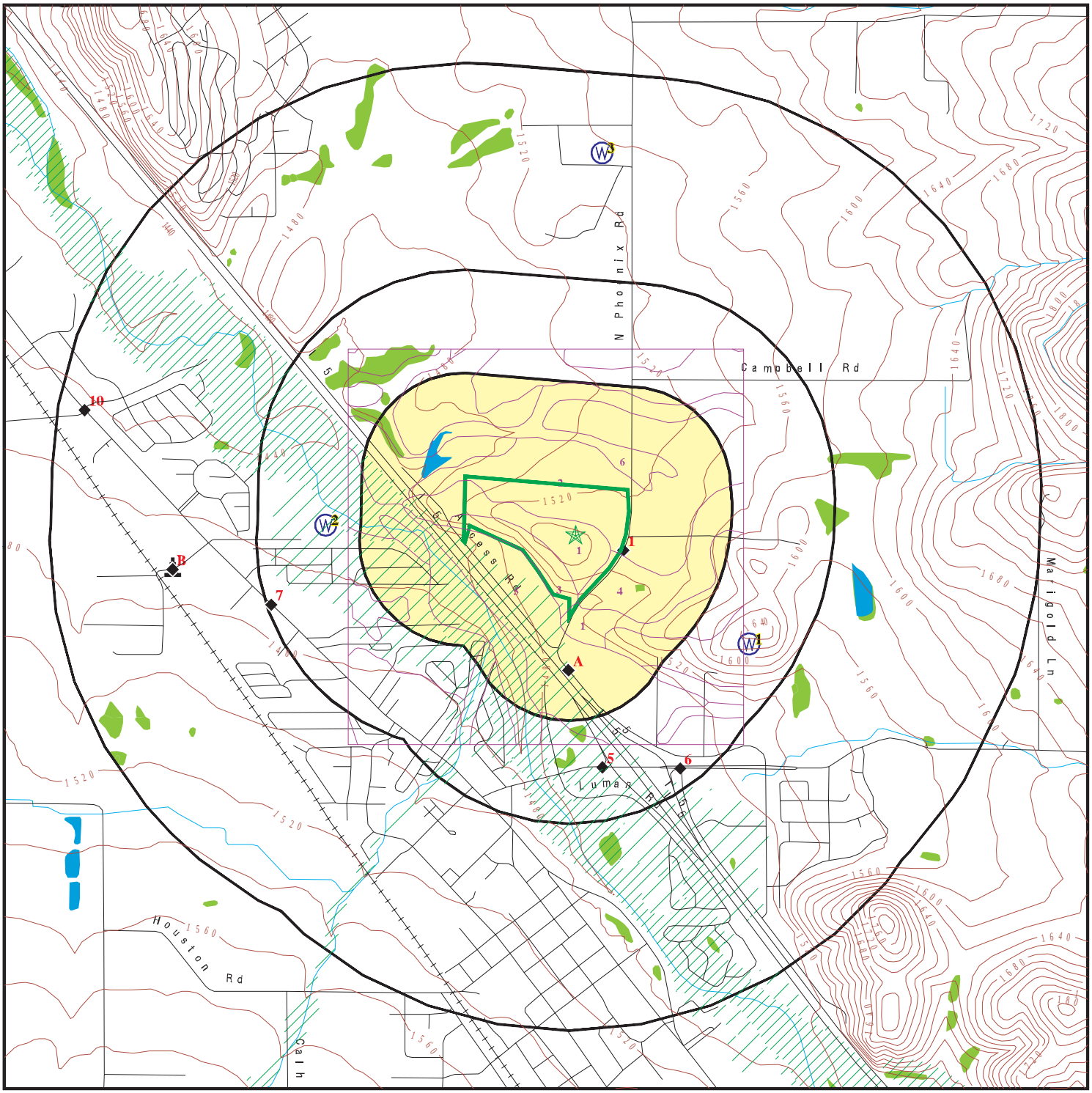
Lower Elevation	Address	Direction / Distance	Map ID	Page
GLENWOOD BUSINESS PA	117 W GLENWOOD RD	W 1/2 - 1 (0.706 mi.)	B8	53

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 3 records.

Site Name	Database(s)
PHELPS PCB SITE	CERC-NFRAP
HEATING OIL TANK	LUST
VALLEY OF ROGUE BANK	LUST

OVERVIEW MAP - 4328935.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

Indian Reservations BIA

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Areas of Concern

0 1/4 1/2 1 Miles

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Phoenix Site	CLIENT: Analytical Environmental Serv.
ADDRESS: North Phoenix Road Medford OR 97504	CONTACT: Katherine Green
LAT/LONG: 42.2889 / 122.8174	INQUIRY #: 4328935.2s DATE: June 17, 2015 1:34 pm

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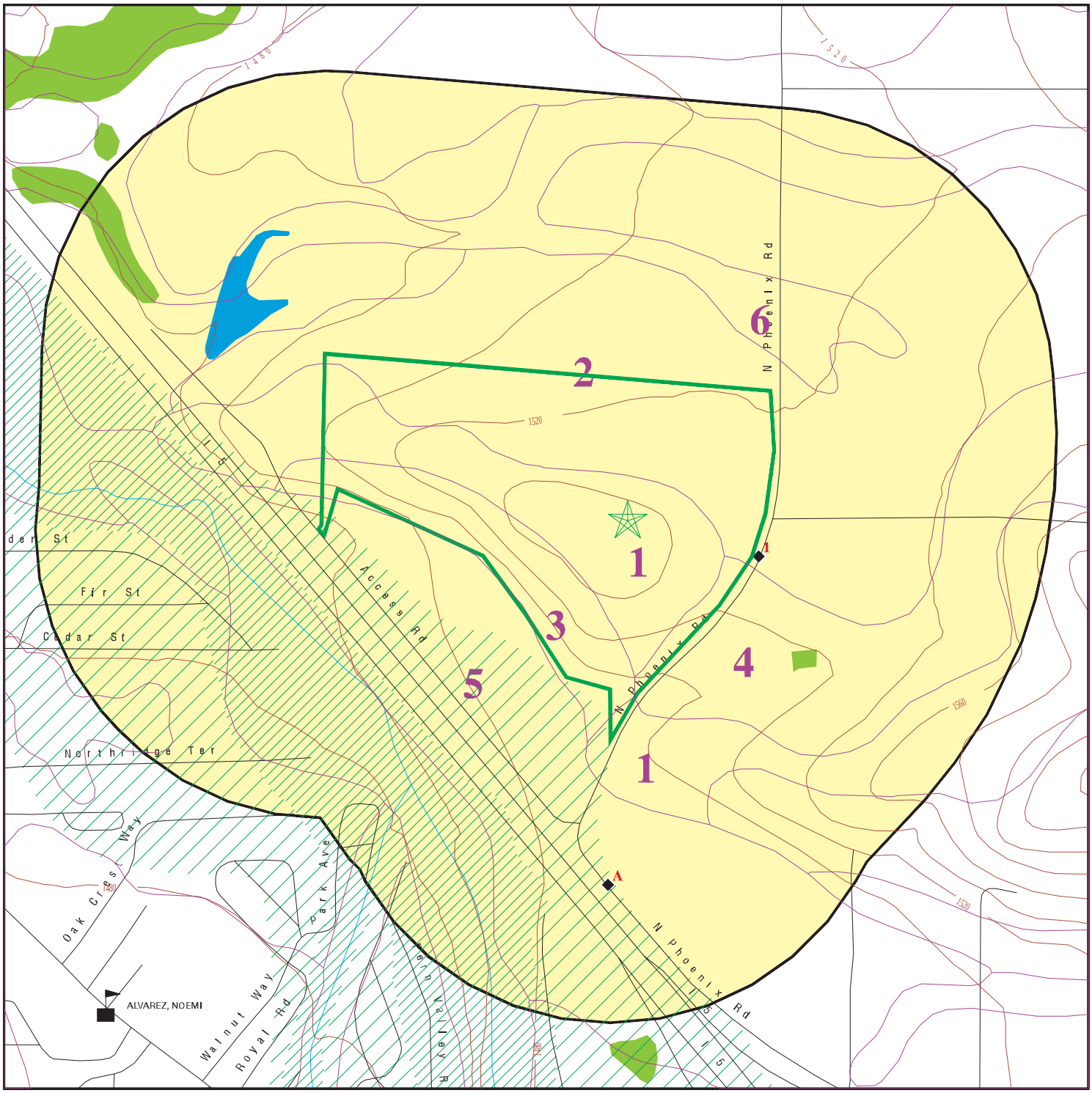
DETAIL MAP - 4328935.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

0 1/16 1/8 1/4 Miles

Indian Reservations BIA

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Phoenix Site ADDRESS: North Phoenix Road Medford OR 97504 LAT/LONG: 42.2889 / 122.8174	CLIENT: Analytical Environmental Serv. CONTACT: Katherine Green INQUIRY #: 4328935.2s DATE: June 17, 2015 1:35 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	0.001		0	NR	NR	NR	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	0.001		0	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
CERCLIS	0.500		0	0	0	NR	NR	0
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	1	NR	NR	NR	1
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
LUCIS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equivalent CERCLIS								
ECSI	1.000		0	0	0	2	NR	2
CRL	1.000		0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		1	0	3	NR	NR	4
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
UST	0.250		1	0	NR	NR	NR	1

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
FEMA UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
ENG CONTROLS	0.500		0	0	0	NR	NR	0
INST CONTROL	0.500		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
HIST LF	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL	0.001		0	NR	NR	NR	NR	0
AOCONCERN	1.000		0	0	0	0	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
US HIST CDL	0.001		0	NR	NR	NR	NR	0
Local Land Records								
LIENS 2	0.001		0	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
SPILLS	0.001		0	NR	NR	NR	NR	0
OR HAZMAT	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	1	NR	NR	NR	1
DOT OPS	0.001		0	NR	NR	NR	NR	0
DOD	1.000		0	0	0	0	NR	0
FUDS	1.000		0	0	0	0	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CONSENT	1.000		0	0	0	0	NR	0
ROD	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
MANIFEST	0.250		0	1	NR	NR	NR	1
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
AIRS	0.001		0	NR	NR	NR	NR	0
HSIS	0.001		0	NR	NR	NR	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
COAL ASH	0.500		0	0	0	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	1	NR	1
EDR US Hist Auto Stat	0.250		0	0	NR	NR	NR	0
EDR US Hist Cleaners	0.250		0	0	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA HWS	0.001		0	NR	NR	NR	NR	0
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	2	3	3	3	0	11

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1
ESE
< 1/8
0.006 mi.
30 ft.

ARROWHEAD COMICE ORCHARD
2984 N PHOENIX RD
MEDFORD, OR 97504

LUST **U003418871**
UST **N/A**

Relative:
Lower

Actual:
1527 ft.

LUST:

Region:	Western Region
Facility ID:	15-98-0060
Cleanup Received Date:	10/15/1998
Cleanup Start Date:	10/15/1998
Cleanup Complete Date:	**01/25/1999**

UST:

Facility ID:	11889
Facility Telephone:	(541) 864-3536
Permittee Name:	KEITH EMERSON, ORCHARD PRODUCTION MGR
Number of Permitted Tanks:	Not reported
Active Tanks:	Not reported
Decommissioned Tanks:	1
Number of Tanks:	1

A2
South
1/8-1/4
0.128 mi.
677 ft.

THE HOME DEPOT - PHOENIX
3345 N. PHOENIX RD.
PHOENIX, OR 97535

FINDS **1010427189**
MANIFEST **N/A**

Site 1 of 3 in cluster A

Relative:
Lower

Actual:
1491 ft.

FINDS:

Registry ID: 110031287471

Environmental Interest/Information System

OR-DEQ (Oregon - Department Of Environmental Quality) is a regulatory agency whose job is to protect the quality of Oregon's Environment. DEQ uses a combination of technical assistance, inspections and permitting to help public and private facilities and citizens understand and comply with state and federal environmental regulations.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

OR MANIFEST:

Manifest Year:	Manifest Year - 2013
EPA Id:	ORQ000026282
Inactive Status:	Not reported
Organization Name:	Not reported
Contact Name:	Chris Baker
Contact Telephone Number:	Not reported
Mailing Address:	5151 San Felipe St, Suite 1100
Mailing City/State/Zip:	Houston, TX 77056

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

Manifest:

Year :	2012
RCRA Id :	ORQ000026282
Inactive :	Not reported
Status:	Small quantity generator
Manifest :	000386553PSC
Ship Date :	10/12/2012
TSD :	WAD991281767
WS Num:	1
Transporter:	WAR000001743
Ship Qty :	Not reported
Rpt Unit :	Not reported
Off Mng :	H121
EPA Waste Codes:	D002
Waste Description:	Waste Corrosive Liquids (acidic)

Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year :	2012
RCRA Id :	ORQ000026282
Inactive :	Not reported
Status:	Small quantity generator
Manifest :	000042934DAT
Ship Date :	12/05/2012
TSD :	WAD991281767
WS Num:	1
Transporter:	WAR000001743
Ship Qty :	Not reported
Rpt Unit :	Not reported
Off Mng :	H121
EPA Waste Codes:	D002
Waste Description:	Waste Corrosive Liquids (acidic)

Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year :	2012
RCRA Id :	ORQ000026282
Inactive :	Not reported
Status:	Small quantity generator
Manifest :	000236744PSC
Ship Date :	01/05/2012
TSD :	WAD991281767
WS Num:	1
Transporter:	WAR000001743
Ship Qty :	Not reported
Rpt Unit :	Not reported
Off Mng :	H121
EPA Waste Codes:	D002
Waste Description:	Waste Corrosive Liquids (acidic)

Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year :	2012
RCRA Id :	ORQ000026282
Inactive :	Not reported
Status:	Small quantity generator
Manifest :	000319718PSC

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

Ship Date : 06/19/2012
TSD : WAD991281767
WS Num: 1
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H121
EPA Waste Codes: D002
Waste Description: Waste Corrosive Liquids (acidic)
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2012
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 000353205PSC
Ship Date : 08/16/2012
TSD : WAD991281767
WS Num: 1
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H121
EPA Waste Codes: D002
Waste Description: Waste Corrosive Liquids (acidic)
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2012
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 000386553PSC
Ship Date : 10/12/2012
TSD : WAD991281767
WS Num: 2
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: Waste Aerosols
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2012
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 000353205PSC
Ship Date : 08/16/2012
TSD : WAD991281767
WS Num: 2
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

Off Mng : H061
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: Waste Aerosols
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2012
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 000319718PSC
Ship Date : 06/19/2012
TSD : WAD991281767
WS Num: 2
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: Waste Aerosols
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2012
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 000289829PSC
Ship Date : 04/26/2012
TSD : WAD991281767
WS Num: 2
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: Waste Aerosols
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2012
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 000236744PSC
Ship Date : 01/05/2012
TSD : WAD991281767
WS Num: 2
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: Waste Aerosols
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

Year : 2012
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 000042934DAT
Ship Date : 12/05/2012
TSD : WAD991281767
WS Num: 2
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: Waste Aerosols
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2012
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 000046855DAT
Ship Date : 03/01/2012
TSD : WAD991281767
WS Num: 2
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: Waste Aerosols
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2012
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 000319718PSC
Ship Date : 06/19/2012
TSD : WAD991281767
WS Num: 3
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H121
EPA Waste Codes: D002
Waste Description: Waste Corrosive Liquids (bases)
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2012
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 000289829PSC
Ship Date : 04/26/2012

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

TSD : WAD991281767
WS Num: 3
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H121
EPA Waste Codes: D002
Waste Description: Waste Corrosive Liquids (bases)
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2012
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 000386553PSC
Ship Date : 10/12/2012
TSD : WAD991281767
WS Num: 3
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H121
EPA Waste Codes: D002
Waste Description: Waste Corrosive Liquids (bases)
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2012
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 000054167DAT
Ship Date : 08/16/2012
TSD : WAD991281767
WS Num: 3
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H121
EPA Waste Codes: D002
Waste Description: Waste Corrosive Liquids (bases)
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2012
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 000236744PSC
Ship Date : 01/05/2012
TSD : WAD991281767
WS Num: 3
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H121

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

EPA Waste Codes: D002
Waste Description: Waste Corrosive Liquids (bases)
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2012
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 000353205PSC
Ship Date : 08/16/2012
TSD : WAD991281767
WS Num: 3
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H121
EPA Waste Codes: D002
Waste Description: Waste Corrosive Liquids (bases)
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2012
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 000289829PSC
Ship Date : 04/26/2012
TSD : WAD991281767
WS Num: 4
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018
Waste Description: Waste Gasoline
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

Year : 2012
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 000319718PSC
Ship Date : 06/19/2012
TSD : WAD991281767
WS Num: 4
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018
Waste Description: Waste Gasoline
Total Amt Of Waste Stream Generated in Reporting Yr 1: Not reported
Total Amt Of Waste Stream Generated in Reporting Yr 2: Not reported

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

Click this hyperlink while viewing on your computer to access
274 additional OR_MANIFEST: record(s) in the EDR Site Report.

Manifest:

Year :	2011
RCRA Id :	ORQ000026282
Inactive :	Not reported
Status:	Small quantity generator
Manifest :	000022357DAT
Ship Date :	07/21/2011
TSD :	WAD991281767
WS Num:	1
Transporter:	WAR000001743
Ship Qty :	Not reported
Rpt Unit :	Not reported
Off Mng :	H121
EPA Waste Codes:	D002
Waste Description:	ACIDIC/CORROSIVE LOOSEPACK

Total Amt Of Waste Stream Generated in Reporting Yr 1: 18.593499999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 7.2560000000000002

Year :	2011
RCRA Id :	ORQ000026282
Inactive :	Not reported
Status:	Small quantity generator
Manifest :	000022531DAT
Ship Date :	03/31/2011
TSD :	WAD991281767
WS Num:	1
Transporter:	WAR000001743
Ship Qty :	Not reported
Rpt Unit :	Not reported
Off Mng :	H121
EPA Waste Codes:	D002
Waste Description:	ACIDIC/CORROSIVE LOOSEPACK

Total Amt Of Waste Stream Generated in Reporting Yr 1: 18.593499999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 2.2675000000000001

Year :	2011
RCRA Id :	ORQ000026282
Inactive :	Not reported
Status:	Small quantity generator
Manifest :	000022960DAT
Ship Date :	05/26/2011
TSD :	WAD991281767
WS Num:	1
Transporter:	WAR000001743
Ship Qty :	Not reported
Rpt Unit :	Not reported
Off Mng :	H121
EPA Waste Codes:	D002
Waste Description:	ACIDIC/CORROSIVE LOOSEPACK

Total Amt Of Waste Stream Generated in Reporting Yr 1: 18.593499999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 9.0700000000000003

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

Year : 2011
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 000022531DAT
Ship Date : 03/31/2011
TSD : WAD991281767
WS Num: 2
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: AEROSOLS-ACCUMULATION DRUM
Total Amt Of Waste Stream Generated in Reporting Yr 1: 87.525499999999994
Total Amt Of Waste Stream Generated in Reporting Yr 2: 24.035499999999999

Year : 2011
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 007066126JJK
Ship Date : 02/02/2011
TSD : WAD991281767
WS Num: 2
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: AEROSOLS-ACCUMULATION DRUM
Total Amt Of Waste Stream Generated in Reporting Yr 1: 87.525499999999994
Total Amt Of Waste Stream Generated in Reporting Yr 2: 9.0700000000000003

Year : 2011
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 000042238DAT
Ship Date : 11/10/2011
TSD : WAD991281767
WS Num: 2
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: AEROSOLS-ACCUMULATION DRUM
Total Amt Of Waste Stream Generated in Reporting Yr 1: 87.525499999999994
Total Amt Of Waste Stream Generated in Reporting Yr 2: 14.9655

Year : 2011
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 000022960DAT
Ship Date : 05/26/2011

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

TSD : WAD991281767
WS Num: 2
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: AEROSOLS-ACCUMULATION DRUM
Total Amt Of Waste Stream Generated in Reporting Yr 1: 87.525499999999994
Total Amt Of Waste Stream Generated in Reporting Yr 2: 10.4305

Year : 2011
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 000022357DAT
Ship Date : 07/21/2011
TSD : WAD991281767
WS Num: 2
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: AEROSOLS-ACCUMULATION DRUM
Total Amt Of Waste Stream Generated in Reporting Yr 1: 87.525499999999994
Total Amt Of Waste Stream Generated in Reporting Yr 2: 10.4305

Year : 2011
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 000040791DAT
Ship Date : 09/15/2011
TSD : WAD991281767
WS Num: 2
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: AEROSOLS-ACCUMULATION DRUM
Total Amt Of Waste Stream Generated in Reporting Yr 1: 87.525499999999994
Total Amt Of Waste Stream Generated in Reporting Yr 2: 18.593499999999999

Year : 2011
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 000042238DAT
Ship Date : 11/10/2011
TSD : WAD991281767
WS Num: 3
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H121

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

EPA Waste Codes: D002
Waste Description: ALKALINE/CORROSIVE LOOSEPACK
Total Amt Of Waste Stream Generated in Reporting Yr 1: 5.4420000000000002
Total Amt Of Waste Stream Generated in Reporting Yr 2: 3.6280000000000001

Year : 2011
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 007066126JJK
Ship Date : 02/02/2011
TSD : WAD991281767
WS Num: 3
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H121
EPA Waste Codes: D002
Waste Description: ALKALINE/CORROSIVE LOOSEPACK
Total Amt Of Waste Stream Generated in Reporting Yr 1: 5.4420000000000002
Total Amt Of Waste Stream Generated in Reporting Yr 2: 1.8140000000000001

Year : 2011
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 000040791DAT
Ship Date : 09/15/2011
TSD : WAD991281767
WS Num: 4
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H121
EPA Waste Codes: D002
Waste Description: WASTE HYPOCHLORITE SOLUTIONS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 160.0855
Total Amt Of Waste Stream Generated in Reporting Yr 2: 47.6175

Year : 2011
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 000022960DAT
Ship Date : 05/26/2011
TSD : WAD991281767
WS Num: 4
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H121
EPA Waste Codes: D002
Waste Description: WASTE HYPOCHLORITE SOLUTIONS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 160.0855
Total Amt Of Waste Stream Generated in Reporting Yr 2: 88.885999999999996

Year : 2011

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 000022531DAT
Ship Date : 03/31/2011
TSD : WAD991281767
WS Num: 4
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H121
EPA Waste Codes: D002
Waste Description: WASTE HYPOCHLORITE SOLUTIONS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 160.0855
Total Amt Of Waste Stream Generated in Reporting Yr 2: 13.605

Year : 2011
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 000022357DAT
Ship Date : 07/21/2011
TSD : WAD991281767
WS Num: 4
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H121
EPA Waste Codes: D002
Waste Description: WASTE HYPOCHLORITE SOLUTIONS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 160.0855
Total Amt Of Waste Stream Generated in Reporting Yr 2: 3.6280000000000001

Year : 2011
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 000042238DAT
Ship Date : 11/10/2011
TSD : WAD991281767
WS Num: 4
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H121
EPA Waste Codes: D002
Waste Description: WASTE HYPOCHLORITE SOLUTIONS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 160.0855
Total Amt Of Waste Stream Generated in Reporting Yr 2: 6.3490000000000002

Year : 2011
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 000022960DAT
Ship Date : 05/26/2011
TSD : WAD991281767

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

WS Num: 5
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018
Waste Description: BULK GASOLINE
Total Amt Of Waste Stream Generated in Reporting Yr 1: 59.408499999999997
Total Amt Of Waste Stream Generated in Reporting Yr 2: 35.826500000000003

Year : 2011
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 000040791DAT
Ship Date : 09/15/2011
TSD : WAD991281767
WS Num: 5
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D018
Waste Description: BULK GASOLINE
Total Amt Of Waste Stream Generated in Reporting Yr 1: 59.408499999999997
Total Amt Of Waste Stream Generated in Reporting Yr 2: 23.582000000000001

Year : 2011
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 007066126JJK
Ship Date : 02/02/2011
TSD : WAD991281767
WS Num: 6
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H010
EPA Waste Codes: D009
Waste Description: WASTE CRUSHED FLUORESCENT TUBES
Total Amt Of Waste Stream Generated in Reporting Yr 1: 8.6165000000000003
Total Amt Of Waste Stream Generated in Reporting Yr 2: 8.6165000000000003

Year : 2011
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 007066126JJK
Ship Date : 02/02/2011
TSD : WAD991281767
WS Num: 7
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D016

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

Waste Description: HAZARDOUS WASTE SOLID NOS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 98.863
Total Amt Of Waste Stream Generated in Reporting Yr 2: 39.454500000000003

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274 additional OR_MANIFEST: record(s) in the EDR Site Report.

Manifest:
Year : 2010
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 004971729JJK
Ship Date : 03/04/2010
TSD : WAD991281767
WS Num: 1
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H121
EPA Waste Codes: D002
Waste Description: ACIDIC/CORROSIVE LOOSEPACK
Total Amt Of Waste Stream Generated in Reporting Yr 1: 27.210000000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 12.698

Year : 2010
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 007067529JJK
Ship Date : 06/24/2010
TSD : WAD991281767
WS Num: 1
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H121
EPA Waste Codes: D002
Waste Description: ACIDIC/CORROSIVE LOOSEPACK
Total Amt Of Waste Stream Generated in Reporting Yr 1: 27.210000000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 1.3605

Year : 2010
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 007068004JJK
Ship Date : 08/18/2010
TSD : WAD991281767
WS Num: 1
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H121
EPA Waste Codes: D002

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

Waste Description: ACIDIC/CORROSIVE LOOSEPACK
Total Amt Of Waste Stream Generated in Reporting Yr 1: 27.210000000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 1.3605

Year : 2010
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 007068378JJK
Ship Date : 10/14/2010
TSD : WAD991281767
WS Num: 1
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H121
EPA Waste Codes: D002
Waste Description: ACIDIC/CORROSIVE LOOSEPACK
Total Amt Of Waste Stream Generated in Reporting Yr 1: 27.210000000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 11.791

Year : 2010
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 007067529JJK
Ship Date : 06/24/2010
TSD : WAD991281767
WS Num: 2
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: AEROSOLS-ACCUMULATION DRUM
Total Amt Of Waste Stream Generated in Reporting Yr 1: 116.096
Total Amt Of Waste Stream Generated in Reporting Yr 2: 26.303000000000001

Year : 2010
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 007079632JJK
Ship Date : 04/29/2010
TSD : WAD991281767
WS Num: 2
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: AEROSOLS-ACCUMULATION DRUM
Total Amt Of Waste Stream Generated in Reporting Yr 1: 116.096
Total Amt Of Waste Stream Generated in Reporting Yr 2: 11.791

Year : 2010
RCRA Id : ORQ000026282

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

Inactive : Not reported
Status: Small quantity generator
Manifest : 007068004JJK
Ship Date : 08/18/2010
TSD : WAD991281767
WS Num: 2
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: AEROSOLS-ACCUMULATION DRUM
Total Amt Of Waste Stream Generated in Reporting Yr 1: 116.096
Total Amt Of Waste Stream Generated in Reporting Yr 2: 23.582000000000001

Year : 2010
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 003526272FLE
Ship Date : 12/08/2010
TSD : WAD991281767
WS Num: 2
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: AEROSOLS-ACCUMULATION DRUM
Total Amt Of Waste Stream Generated in Reporting Yr 1: 116.096
Total Amt Of Waste Stream Generated in Reporting Yr 2: 19.047000000000001

Year : 2010
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 007068378JJK
Ship Date : 10/14/2010
TSD : WAD991281767
WS Num: 2
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: AEROSOLS-ACCUMULATION DRUM
Total Amt Of Waste Stream Generated in Reporting Yr 1: 116.096
Total Amt Of Waste Stream Generated in Reporting Yr 2: 15.419

Year : 2010
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 004971729JJK
Ship Date : 03/04/2010
TSD : WAD991281767
WS Num: 2

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: AEROSOLS-ACCUMULATION DRUM
Total Amt Of Waste Stream Generated in Reporting Yr 1: 116.096
Total Amt Of Waste Stream Generated in Reporting Yr 2: 19.954000000000001

Year : 2010
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 007079632JJK
Ship Date : 04/29/2010
TSD : WAD991281767
WS Num: 3
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H121
EPA Waste Codes: D002
Waste Description: ALKALINE/CORROSIVE LOOSEPACK
Total Amt Of Waste Stream Generated in Reporting Yr 1: 30.384499999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 2.2675000000000001

Year : 2010
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 003526272FLE
Ship Date : 12/08/2010
TSD : WAD991281767
WS Num: 3
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H121
EPA Waste Codes: D002
Waste Description: ALKALINE/CORROSIVE LOOSEPACK
Total Amt Of Waste Stream Generated in Reporting Yr 1: 30.384499999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 11.791

Year : 2010
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 004971729JJK
Ship Date : 03/04/2010
TSD : WAD991281767
WS Num: 3
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H121
EPA Waste Codes: D002
Waste Description: ALKALINE/CORROSIVE LOOSEPACK

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

Total Amt Of Waste Stream Generated in Reporting Yr 1: 30.384499999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 3.1745000000000001

Year : 2010
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 007067529JJK
Ship Date : 06/24/2010
TSD : WAD991281767
WS Num: 3
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H121
EPA Waste Codes: D002
Waste Description: ALKALINE/CORROSIVE LOOSEPACK
Total Amt Of Waste Stream Generated in Reporting Yr 1: 30.384499999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 4.5350000000000001

Year : 2010
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 007068004JJK
Ship Date : 08/18/2010
TSD : WAD991281767
WS Num: 3
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H121
EPA Waste Codes: D002
Waste Description: ALKALINE/CORROSIVE LOOSEPACK
Total Amt Of Waste Stream Generated in Reporting Yr 1: 30.384499999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 2.2675000000000001

Year : 2010
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 007068378JJK
Ship Date : 10/14/2010
TSD : WAD991281767
WS Num: 3
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H121
EPA Waste Codes: D002
Waste Description: ALKALINE/CORROSIVE LOOSEPACK
Total Amt Of Waste Stream Generated in Reporting Yr 1: 30.384499999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 6.3490000000000002

Year : 2010
RCRA Id : ORQ000026282
Inactive : Not reported

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

Status: Small quantity generator
Manifest : 007067529JJK
Ship Date : 06/24/2010
TSD : WAD991281767
WS Num: 4
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D018
Waste Description: BULK GASOLINE
Total Amt Of Waste Stream Generated in Reporting Yr 1: 24.942499999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 24.942499999999999

Year : 2010
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 007067529JJK
Ship Date : 06/24/2010
TSD : WAD991281767
WS Num: 5
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D001
Waste Description: COMPRESSED GAS CYLINDERS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 16.779499999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 6.3490000000000002

Year : 2010
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 007079632JJK
Ship Date : 04/29/2010
TSD : WAD991281767
WS Num: 5
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D001
Waste Description: COMPRESSED GAS CYLINDERS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 16.779499999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 6.3490000000000002

Year : 2010
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 003526272FLE
Ship Date : 12/08/2010
TSD : WAD991281767
WS Num: 5
Transporter: WAR000001743

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D001
Waste Description: COMPRESSED GAS CYLINDERS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 16.779499999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 4.0815000000000001

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274 additional OR_MANIFEST: record(s) in the EDR Site Report.

Manifest:
Year : 2009
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 006579120JJK
Ship Date : 12/28/2009
TSD : WAD991281767
WS Num: 8
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D035
Waste Description: WASTE FLAMMABLE LIQUIDS NOS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 393.18450000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 18.593499999999999

Year : 2009
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 004812236JJK
Ship Date : 04/30/2009
TSD : WAD991281767
WS Num: 8
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D035
Waste Description: WASTE FLAMMABLE LIQUIDS NOS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 393.18450000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 83.897499999999994

Year : 2009
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 005605311JJK
Ship Date : 10/19/2009
TSD : WAD991281767
WS Num: 11
Transporter: WAR000001743

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D016
Waste Description: WASTE TOXIC LIQUIDS NOS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 70.292500000000004
Total Amt Of Waste Stream Generated in Reporting Yr 2: 2.7210000000000001

Year : 2009
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 004205601JJK
Ship Date : 06/23/2009
TSD : WAD991281767
WS Num: 1
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H121
EPA Waste Codes: D002
Waste Description: ACIDIC/CORROSIVE LOOSEPACK
Total Amt Of Waste Stream Generated in Reporting Yr 1: 33.558999999999997
Total Amt Of Waste Stream Generated in Reporting Yr 2: 20.407499999999999

Year : 2009
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 004812236JJK
Ship Date : 04/30/2009
TSD : WAD991281767
WS Num: 3
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H121
EPA Waste Codes: D002
Waste Description: ALKALINE/CORROSIVE LOOSEPACK
Total Amt Of Waste Stream Generated in Reporting Yr 1: 397.26600000000002
Total Amt Of Waste Stream Generated in Reporting Yr 2: 34.012500000000003

Year : 2009
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 004205601JJK
Ship Date : 06/23/2009
TSD : WAD991281767
WS Num: 3
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H121
EPA Waste Codes: D002
Waste Description: ALKALINE/CORROSIVE LOOSEPACK
Total Amt Of Waste Stream Generated in Reporting Yr 1: 397.26600000000002

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

Total Amt Of Waste Stream Generated in Reporting Yr 2: 28.570499999999999

Year : 2009
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 006579120JJK
Ship Date : 12/28/2009
TSD : WAD991281767
WS Num: 2
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: AEROSOLS-ACCUMULATION DRUM
Total Amt Of Waste Stream Generated in Reporting Yr 1: 103.8515
Total Amt Of Waste Stream Generated in Reporting Yr 2: 14.512

Year : 2009
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 004965405JJK
Ship Date : 03/05/2009
TSD : WAD991281767
WS Num: 4
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D018
Waste Description: BULK GASOLINE
Total Amt Of Waste Stream Generated in Reporting Yr 1: 82.537000000000006
Total Amt Of Waste Stream Generated in Reporting Yr 2: 15.8725

Year : 2009
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 005605311JJK
Ship Date : 10/19/2009
TSD : WAD991281767
WS Num: 8
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D035
Waste Description: WASTE FLAMMABLE LIQUIDS NOS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 393.18450000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 54.420000000000002

Year : 2009
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

Manifest : 004812236JJK
Ship Date : 04/30/2009
TSD : WAD991281767
WS Num: 4
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D018
Waste Description: BULK GASOLINE
Total Amt Of Waste Stream Generated in Reporting Yr 1: 82.537000000000006
Total Amt Of Waste Stream Generated in Reporting Yr 2: 28.117000000000001

Year : 2009
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 004965405JJK
Ship Date : 03/05/2009
TSD : WAD991281767
WS Num: 6
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H010
EPA Waste Codes: D009
Waste Description: wASTE CRUSHED FLUORESCENT TUBES
Total Amt Of Waste Stream Generated in Reporting Yr 1: 8.6165000000000003
Total Amt Of Waste Stream Generated in Reporting Yr 2: 2.2675000000000001

Year : 2009
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 004205924JJK
Ship Date : 08/20/2009
TSD : WAD991281767
WS Num: 3
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H121
EPA Waste Codes: D002
Waste Description: ALKALINE/CORROSIVE LOOSEPACK
Total Amt Of Waste Stream Generated in Reporting Yr 1: 397.26600000000002
Total Amt Of Waste Stream Generated in Reporting Yr 2: 68.025000000000006

Year : 2009
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 004205601JJK
Ship Date : 06/23/2009
TSD : WAD991281767
WS Num: 2
Transporter: WAR000001743
Ship Qty : Not reported

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: AEROSOLS-ACCUMULATION DRUM
Total Amt Of Waste Stream Generated in Reporting Yr 1: 103.8515
Total Amt Of Waste Stream Generated in Reporting Yr 2: 11.791

Year : 2009
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 005605311JJK
Ship Date : 10/19/2009
TSD : WAD991281767
WS Num: 2
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: AEROSOLS-ACCUMULATION DRUM
Total Amt Of Waste Stream Generated in Reporting Yr 1: 103.8515
Total Amt Of Waste Stream Generated in Reporting Yr 2: 12.2445

Year : 2009
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 004965405JJK
Ship Date : 03/05/2009
TSD : WAD991281767
WS Num: 7
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D016
Waste Description: HAZARDOUS WASTE SOLID NOS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 104.7585
Total Amt Of Waste Stream Generated in Reporting Yr 2: 16.779499999999999

Year : 2009
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 004965405JJK
Ship Date : 03/05/2009
TSD : WAD991281767
WS Num: 11
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D016
Waste Description: WASTE TOXIC LIQUIDS NOS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 70.292500000000004
Total Amt Of Waste Stream Generated in Reporting Yr 2: 11.3375

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

Year : 2009
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 004965405JJK
Ship Date : 03/05/2009
TSD : WAD991281767
WS Num: 2
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: AEROSOLS-ACCUMULATION DRUM
Total Amt Of Waste Stream Generated in Reporting Yr 1: 103.8515
Total Amt Of Waste Stream Generated in Reporting Yr 2: 30.384499999999999

Year : 2009
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 004205601JJK
Ship Date : 06/23/2009
TSD : WAD991281767
WS Num: 6
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H010
EPA Waste Codes: D009
Waste Description: wASTE CRUSHED FLUORESCENT TUBES
Total Amt Of Waste Stream Generated in Reporting Yr 1: 8.6165000000000003
Total Amt Of Waste Stream Generated in Reporting Yr 2: 0.45350000000000001

Year : 2009
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 004812236JJK
Ship Date : 04/30/2009
TSD : WAD991281767
WS Num: 1
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H121
EPA Waste Codes: D002
Waste Description: ACIDIC/CORROSIVE LOOSEPACK
Total Amt Of Waste Stream Generated in Reporting Yr 1: 33.558999999999997
Total Amt Of Waste Stream Generated in Reporting Yr 2: 1.8140000000000001

Year : 2009
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 004205601JJK
Ship Date : 06/23/2009

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

TSD : WAD991281767
WS Num: 10
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H071
EPA Waste Codes: D001
Waste Description: WASTE OXIDIZING SOLID NOS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 3.6280000000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 2.2675000000000001

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274 additional OR_MANIFEST: record(s) in the EDR Site Report.

Manifest:
Year : 2008
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 004050089JJK
Ship Date : 06/24/2008
TSD : WAD991281767
WS Num: 4
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D001 D002
Waste Description: WASTE HYPOCHLORITE SOLUTIONS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 32.198500000000003
Total Amt Of Waste Stream Generated in Reporting Yr 2: 11.3375

Year : 2008
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 003619803JJK
Ship Date : 01/09/2008
TSD : WAD991281767
WS Num: 9
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D016
Waste Description: WASTE TOXIC SOLIDS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 71.653000000000006
Total Amt Of Waste Stream Generated in Reporting Yr 2: 2.2675000000000001

Year : 2008
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 003619803JJK
Ship Date : 01/09/2008

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

TSD : WAD991281767
WS Num: 5
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D018
Waste Description: WASTE GASOLINE
Total Amt Of Waste Stream Generated in Reporting Yr 1: 47.6175
Total Amt Of Waste Stream Generated in Reporting Yr 2: 9.0700000000000003

Year : 2008
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 003618755JJK
Ship Date : 03/05/2008
TSD : WAD991281767
WS Num: 4
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D001 D002
Waste Description: WASTE HYPOCHLORITE SOLUTIONS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 32.198500000000003
Total Amt Of Waste Stream Generated in Reporting Yr 2: 9.0700000000000003

Year : 2008
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 004050436JJK
Ship Date : 08/19/2008
TSD : WAD991281767
WS Num: 1
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: WASTE AEROSOLS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 89.339500000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 18.140000000000001

Year : 2008
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 004050089JJK
Ship Date : 06/24/2008
TSD : WAD991281767
WS Num: 9
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

EPA Waste Codes: D016
Waste Description: WASTE TOXIC SOLIDS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 71.653000000000006
Total Amt Of Waste Stream Generated in Reporting Yr 2: 27.210000000000001

Year : 2008
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 003618755JJK
Ship Date : 03/05/2008
TSD : WAD991281767
WS Num: 6
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H135
EPA Waste Codes: D002
Waste Description: WASTE CORROSIVE LIQUIDS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 122.44499999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 11.3375

Year : 2008
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 004050436JJK
Ship Date : 08/19/2008
TSD : WAD991281767
WS Num: 6
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H135
EPA Waste Codes: D002
Waste Description: WASTE CORROSIVE LIQUIDS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 244.88999999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 9.0700000000000003

Year : 2008
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 003619803JJK
Ship Date : 01/09/2008
TSD : WAD991281767
WS Num: 7
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H010
EPA Waste Codes: D009
Waste Description: CRUSHED FLUORESCENT LIGHT TUBES
Total Amt Of Waste Stream Generated in Reporting Yr 1: 24.489000000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 1.8140000000000001

Year : 2008

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 004207286JJK
Ship Date : 10/14/2008
TSD : WAD991281767
WS Num: 1
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: WASTE AEROSOLS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 89.339500000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 6.8025000000000002

Year : 2008
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 004050089JJK
Ship Date : 06/24/2008
TSD : WAD991281767
WS Num: 5
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D018
Waste Description: WASTE GASOLINE
Total Amt Of Waste Stream Generated in Reporting Yr 1: 47.6175
Total Amt Of Waste Stream Generated in Reporting Yr 2: 9.0700000000000003

Year : 2008
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 003619803JJK
Ship Date : 01/09/2008
TSD : WAD991281767
WS Num: 8
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D016
Waste Description: WASTE TOXIC LIQUIDS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 84.804500000000004
Total Amt Of Waste Stream Generated in Reporting Yr 2: 11.3375

Year : 2008
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 004050089JJK
Ship Date : 06/24/2008
TSD : WAD991281767

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

WS Num: 8
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D016
Waste Description: WASTE TOXIC LIQUIDS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 84.804500000000004
Total Amt Of Waste Stream Generated in Reporting Yr 2: 36.280000000000001

Year : 2008
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 004050089JJK
Ship Date : 06/24/2008
TSD : WAD991281767
WS Num: 1
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: WASTE AEROSOLS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 89.339500000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 34.012500000000003

Year : 2008
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 003618755JJK
Ship Date : 03/05/2008
TSD : WAD991281767
WS Num: 1
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H061
EPA Waste Codes: D001 D005 D007 D008 D035
Waste Description: WASTE AEROSOLS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 89.339500000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 18.140000000000001

Year : 2008
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 004049180JJK
Ship Date : 04/30/2008
TSD : WAD991281767
WS Num: 9
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D016

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

Waste Description: WASTE TOXIC SOLIDS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 71.653000000000006
Total Amt Of Waste Stream Generated in Reporting Yr 2: 13.1515

Year : 2008
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 004049180JJK
Ship Date : 04/30/2008
TSD : WAD991281767
WS Num: 5
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D018
Waste Description: WASTE GASOLINE
Total Amt Of Waste Stream Generated in Reporting Yr 1: 47.6175
Total Amt Of Waste Stream Generated in Reporting Yr 2: 12.2445

Year : 2008
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 004049180JJK
Ship Date : 04/30/2008
TSD : WAD991281767
WS Num: 2
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001
Waste Description: WASTE FLAMMABLE LIQUIDS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 491.59399999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 92.513999999999996

Year : 2008
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 004050436JJK
Ship Date : 08/19/2008
TSD : WAD991281767
WS Num: 5
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H050
EPA Waste Codes: D001 D018
Waste Description: WASTE GASOLINE
Total Amt Of Waste Stream Generated in Reporting Yr 1: 47.6175
Total Amt Of Waste Stream Generated in Reporting Yr 2: 9.0700000000000003

Year : 2008
RCRA Id : ORQ000026282

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

Inactive : Not reported
Status: Small quantity generator
Manifest : 004049180JJK
Ship Date : 04/30/2008
TSD : WAD991281767
WS Num: 4
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H132
EPA Waste Codes: D001 D002
Waste Description: WASTE HYPOCHLORITE SOLUTIONS
Total Amt Of Waste Stream Generated in Reporting Yr 1: 32.198500000000003
Total Amt Of Waste Stream Generated in Reporting Yr 2: 4.9885000000000002

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274 additional OR_MANIFEST: record(s) in the EDR Site Report.

Manifest:
Year : 2007
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 001691477JJK
Ship Date : 07/26/2007
TSD : WAD991281767
WS Num: 10
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H039
EPA Waste Codes: D016
Waste Description: Toxic Liquids, Organic
Total Amt Of Waste Stream Generated in Reporting Yr 1: 98.859999999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 49.890000000000001

Year : 2007
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 001691075JJK
Ship Date : 05/30/2007
TSD : WAD991281767
WS Num: 1
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001 D003
Waste Description: Aerosols
Total Amt Of Waste Stream Generated in Reporting Yr 1: 37.640000000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 12.24

Year : 2007
RCRA Id : ORQ000026282

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

Inactive : Not reported
Status: Small quantity generator
Manifest : 002965033JJK
Ship Date : 09/13/2007
TSD : WAD991281767
WS Num: 5
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D009
Waste Description: Mercury
Total Amt Of Waste Stream Generated in Reporting Yr 1: 13.609999999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 6.7999999999999998

Year : 2007
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 001691075JJK
Ship Date : 05/30/2007
TSD : WAD991281767
WS Num: 7
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001 D002
Waste Description: Oxidizing Liquid
Total Amt Of Waste Stream Generated in Reporting Yr 1: 20.41
Total Amt Of Waste Stream Generated in Reporting Yr 2: 6.7999999999999998

Year : 2007
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 001691477JJK
Ship Date : 07/26/2007
TSD : WAD991281767
WS Num: 2
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001
Waste Description: Compreseed Gas
Total Amt Of Waste Stream Generated in Reporting Yr 1: 5.4400000000000004
Total Amt Of Waste Stream Generated in Reporting Yr 2: 1.8100000000000001

Year : 2007
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 001863645JJK
Ship Date : 04/04/2007
TSD : WAD991281767
WS Num: 8

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001 D035
Waste Description: Paint Related Material
Total Amt Of Waste Stream Generated in Reporting Yr 1: 484.33999999999997
Total Amt Of Waste Stream Generated in Reporting Yr 2: 54.420000000000002

Year : 2007
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 002965449JJK
Ship Date : 11/15/2007
TSD : WAD991281767
WS Num: 10
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D016
Waste Description: Toxic Liquids, Organic
Total Amt Of Waste Stream Generated in Reporting Yr 1: 98.859999999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 3.6299999999999999

Year : 2007
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 002965033JJK
Ship Date : 09/13/2007
TSD : WAD991281767
WS Num: 1
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001 D003
Waste Description: Aerosols
Total Amt Of Waste Stream Generated in Reporting Yr 1: 37.640000000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 6.7999999999999998

Year : 2007
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 001863645JJK
Ship Date : 04/04/2007
TSD : WAD991281767
WS Num: 6
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001 D018
Waste Description: Gasoline

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

Total Amt Of Waste Stream Generated in Reporting Yr 1: 57.140000000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 11.789999999999999

Year : 2007
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 001691477JJK
Ship Date : 07/26/2007
TSD : WAD991281767
WS Num: 6
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001 D018
Waste Description: Gasoline
Total Amt Of Waste Stream Generated in Reporting Yr 1: 57.140000000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 15.869999999999999

Year : 2007
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 001691477JJK
Ship Date : 07/26/2007
TSD : WAD991281767
WS Num: 1
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001 D003
Waste Description: Aerosols
Total Amt Of Waste Stream Generated in Reporting Yr 1: 37.640000000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 4.54

Year : 2007
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 001686241JJK
Ship Date : 02/06/2007
TSD : WAD991281767
WS Num: 4
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D002
Waste Description: Corrosive Liquid, Basic, Inorganic
Total Amt Of Waste Stream Generated in Reporting Yr 1: 53.060000000000002
Total Amt Of Waste Stream Generated in Reporting Yr 2: 2.27

Year : 2007
RCRA Id : ORQ000026282
Inactive : Not reported

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

Status: Small quantity generator
Manifest : 001863645JJK
Ship Date : 04/04/2007
TSD : WAD991281767
WS Num: 7
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001 D002
Waste Description: Oxidizing Liquid
Total Amt Of Waste Stream Generated in Reporting Yr 1: 20.41
Total Amt Of Waste Stream Generated in Reporting Yr 2: 2.27

Year : 2007
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 001691477JJK
Ship Date : 07/26/2007
TSD : WAD991281767
WS Num: 8
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001 D035
Waste Description: Paint Related Material
Total Amt Of Waste Stream Generated in Reporting Yr 1: 484.33999999999997
Total Amt Of Waste Stream Generated in Reporting Yr 2: 34.009999999999998

Year : 2007
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 002965449JJK
Ship Date : 11/15/2007
TSD : WAD991281767
WS Num: 4
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D002
Waste Description: Corrosive Liquid, Basic, Inorganic
Total Amt Of Waste Stream Generated in Reporting Yr 1: 53.060000000000002
Total Amt Of Waste Stream Generated in Reporting Yr 2: 3.6299999999999999

Year : 2007
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 001863645JJK
Ship Date : 04/04/2007
TSD : WAD991281767
WS Num: 3
Transporter: WAR000001743

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D002
Waste Description: Corrosive Liqud, Acidic, Inorganic
Total Amt Of Waste Stream Generated in Reporting Yr 1: 102.04000000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 45.350000000000001

Year : 2007
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 002965033JJK
Ship Date : 09/13/2007
TSD : WAD991281767
WS Num: 6
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D001 D018
Waste Description: Gasoline
Total Amt Of Waste Stream Generated in Reporting Yr 1: 57.140000000000001
Total Amt Of Waste Stream Generated in Reporting Yr 2: 3.6299999999999999

Year : 2007
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 001691477JJK
Ship Date : 07/26/2007
TSD : WAD991281767
WS Num: 9
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D016
Waste Description: Pesticides, Solid, Toxic
Total Amt Of Waste Stream Generated in Reporting Yr 1: 74.829999999999998
Total Amt Of Waste Stream Generated in Reporting Yr 2: 20.41

Year : 2007
RCRA Id : ORQ000026282
Inactive : Not reported
Status: Small quantity generator
Manifest : 001691477JJK
Ship Date : 07/26/2007
TSD : WAD991281767
WS Num: 4
Transporter: WAR000001743
Ship Qty : Not reported
Rpt Unit : Not reported
Off Mng : H040
EPA Waste Codes: D002
Waste Description: Corrosive Liquid, Basic, Inorganic
Total Amt Of Waste Stream Generated in Reporting Yr 1: 53.060000000000002

THE HOME DEPOT - PHOENIX (Continued) **1010427189**

Total Amt Of Waste Stream Generated in Reporting Yr 2: 1.8100000000000001

Year :	2007
RCRA Id :	ORQ000026282
Inactive :	Not reported
Status:	Small quantity generator
Manifest :	001863645JJK
Ship Date :	04/04/2007
TSD :	WAD991281767
WS Num:	10
Transporter:	WAR000001743
Ship Qty :	Not reported
Rpt Unit :	Not reported
Off Mng :	H040
EPA Waste Codes:	D016
Waste Description:	Toxic Liquids, Organic

Total Amt Of Waste Stream Generated in Reporting Yr 1: 98.859999999999999
Total Amt Of Waste Stream Generated in Reporting Yr 2: 20.41

Click this hyperlink while viewing on your computer to access
274 additional OR_MANIFEST: record(s) in the EDR Site Report.

A3 **HOME DEPOT** **RCRA NonGen / NLR** **1015749135**
South **3345 N. PHOENIX RD.** **ORSTATE07872**
1/8-1/4 **PHOENIX, OR 97504**
0.128 mi.
677 ft. **Site 2 of 3 in cluster A**

Relative:
Lower

Actual:
1491 ft.

RCRA NonGen / NLR:

Date form received by agency:	03/08/2006
Facility name:	HOME DEPOT
Facility address:	3345 N. PHOENIX RD. PHOENIX, OR 97504
EPA ID:	ORSTATE07872
Contact:	Not reported
Contact address:	Not reported Not reported
Contact country:	Not reported
Contact telephone:	Not reported
Contact email:	Not reported
EPA Region:	10
Land type:	Other land type
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No

HOME DEPOT (Continued) **1015749135**

User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Violation Status: No violations found

Evaluation Action Summary:
Evaluation date: 02/18/2009
Evaluation: COMPLIANCE ASSISTANCE VISIT
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

A4 South 1/8-1/4 0.128 mi. 677 ft. | **HOME DEPOT #HD8557** | **RCRA-SQG** | **1010330087**
3345 N. PHOENIX RD. | **ORQ000026282**
PHOENIX, OR 97504

Site 3 of 3 in cluster A

Relative: Lower

Actual: 1491 ft.

RCRA-SQG:
Date form received by agency: 12/31/2014
Facility name: HOME DEPOT #HD8557
Facility address: 3345 N. PHOENIX RD.
PHOENIX, OR 97504
EPA ID: ORQ000026282
Mailing address: 5151 SAN FELIPE, STE 1000
HOUSTON, TX 77056
Contact: CHRIS BAKER
Contact address: 5151 SAN FELIPE ST, STE 1000
HOUSTON, TX 77056
Contact country: US
Contact telephone: 713-625-7015
Contact email: CHRIS.BAKER@STERICYCLE.COM
EPA Region: 10
Land type: Private
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:
Owner/operator name: HOME DEPOT USA, INC
Owner/operator address: 2455 PACES FERRY RD
ATLANTA, GA 30339
Owner/operator country: US
Owner/operator telephone: 770 433-8211
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 12/31/2014
Owner/Op end date: Not reported

Owner/operator name: HOME DEPOT USA, INC
Owner/operator address: 2455 PACES FERRY RD
ATLANTA, GA 30339

HOME DEPOT #HD8557 (Continued) **1010330087**

Owner/operator country: US
Owner/operator telephone: 770 433-8211
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 12/31/2014
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: NA
. Waste name: NA

Historical Generators:
Date form received by agency: 12/31/2013
Site name: HOME DEPOT #HD8557
Classification: Small Quantity Generator

. Waste code: NA
. Waste name: NA

Date form received by agency: 12/31/2013
Site name: HOME DEPOT #HD8557
Classification: Small Quantity Generator

. Waste code: NA
. Waste name: NA

Date form received by agency: 12/31/2012
Site name: HOME DEPOT #HD8557
Classification: Small Quantity Generator

. Waste code: NA
. Waste name: NA

Date form received by agency: 12/31/2011
Site name: HOME DEPOT #HD8557
Classification: Small Quantity Generator

. Waste code: NA
. Waste name: NA

HOME DEPOT #HD8557 (Continued) **1010330087**

Date form received by agency:12/31/2011
Site name: HOME DEPOT #HD8557
Classification: Small Quantity Generator

. Waste code: NA
. Waste name: NA

Date form received by agency:12/31/2010
Site name: HOME DEPOT #HD8557
Classification: Small Quantity Generator

. Waste code: NA
. Waste name: NA

Date form received by agency:12/31/2009
Site name: HOME DEPOT #HD8557
Classification: Small Quantity Generator

. Waste code: NA
. Waste name: NA

Date form received by agency:12/31/2008
Site name: HOME DEPOT #HD8557
Classification: Small Quantity Generator

Date form received by agency:12/31/2007
Site name: HOME DEPOT #HD8557
Classification: Small Quantity Generator

Date form received by agency:12/31/2006
Site name: HOME DEPOT #HD8557
Classification: Conditionally Exempt Small Quantity Generator

Violation Status: No violations found

Evaluation Action Summary:
Evaluation date: 10/08/2014
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 05/13/2011
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

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5 South 1/4-1/2 0.372 mi. 1963 ft.

MEDFORD STOPPING CENTER #24 **LUST** **U000436866**
3730 FERN VALLEY ROAD **UST** **N/A**
MEDFORD, OR 97504 **SPILLS**

Relative: Lower

Actual: 1486 ft.

LUST:
Region: Western Region
Facility ID: 15-94-0058
Cleanup Received Date: 11/03/1994

MEDFORD STOPPING CENTER #24 (Continued) **U000436866**

Cleanup Start Date: 01/10/1995
Cleanup Complete Date: 08/18/2003

Region: Western Region
Facility ID: 15-03-2468
Cleanup Received Date: 11/24/2003
Cleanup Start Date: 11/23/2003
Cleanup Complete Date: Not reported

Region: Western Region
Facility ID: 15-08-1466
Cleanup Received Date: 11/21/2008
Cleanup Start Date: Not reported
Cleanup Complete Date: Not reported

UST:
Facility ID: 8182
Facility Telephone: 541-535-33786
Permittee Name: Billie Martin
Number of Permitted Tanks: 9
Active Tanks: 9
Decommissioned Tanks: 9
Number of Tanks: 18

OR SPILLS:
Year: Not reported
DEQ Region: Not reported
Facility ID: 06-2087
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 20
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 08/17/2006
Description: Truck hit another truck in an apparent theft attempt. Antifreeze, oil, and brake fluid leaked from one truck estimated to be between 20-25 gallons of material.
Location: Not reported
Lat/Long: 42.280299999999997 / -122.8109
Source: Motor Vehicle - Commercial
Media: On pavement/asphalt - not direct on soil
Responsible Company: Emergency Response Training Solutions
Responsible Contact: Donna Filips
Responsible Address: 8401 Chagrin Rd
Responsible City,St,Zip: Chagrin Falls, OH 44023-4701
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: Not reported
Incident Status: Not reported
Spill Date: 11/30/1998
Material: Not reported
Quantity: 0
Unit of Measure: Not reported

MEDFORD STOPPING CENTER #24 (Continued) **U000436866**

How Occurred: Not reported
Release Date: Not reported
Description: 5 gal diesel spilled to path & footbridge- Rain moved it to pond- Fire put out boom at outfall to Newton Creek & up by bridge (+pads)
Location: Not reported
Lat/Long: Not reported
Source: Not reported
Media: Not reported
Responsible Company: Roseburg Fire Dept
Responsible Contact: Not reported
Responsible Address: Not reported
Responsible City,St,Zip: Not reported
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: 06-1969
Incident Status: Not reported
Spill Date: Not reported
Material: Diesel fuel
Quantity: 100
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 08/05/2006
Description: Semi saddle tank punctured from an accident in a truck stop parking lot. Lost 60 gallons to vast area in parking lot while driving around and about 40 gallons to catch basin in storm drain
Location: Not reported
Lat/Long: 42.280299999999997 / -122.8109
Source: Motor Vehicle - Commercial
Media: On pavement/asphalt - not direct on soil
Responsible Company: Werner Enterprises, Inc.
Responsible Contact: Hutch Hutchison
Responsible Address: PO Box 45308
Responsible City,St,Zip: Omaha, NE 68145-0308
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: 03-2607
Incident Status: Not reported
Spill Date: Not reported
Material: Diesel fuel
Quantity: 2900
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 11/23/2003
Description: Line leak detectors failed to shut down after product pipe leaked during dispensing operations. ATG indicated about 2900 gallons diesel lost.
Location: Not reported
Lat/Long: 42.280500000000004 / -122.812
Source: Bulk Petroleum Storage
Media: Not reported
Responsible Company: Petro Stopping Centers, L.P.
Responsible Contact: Travis Roberts
Responsible Address: PO Box 26808

MEDFORD STOPPING CENTER #24 (Continued) **U000436866**

Responsible City,St,Zip: El Paso, TX 79926-6808
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: 03-2607
Incident Status: Not reported
Spill Date: Not reported
Material: Diesel fuel
Quantity: 2900
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 11/23/2003
Description: Line leak detectors failed to shut down after product pipe leaked during dispensing operations. ATG indicated about 2900 gallons diesel lost.
Location: Not reported
Lat/Long: 42.280500000000004 / -122.812
Source: Bulk Petroleum Storage
Media: Coding for the PS/BC Oil Spill Database
Responsible Company: Petro Stopping Centers, L.P.
Responsible Contact: Travis Roberts
Responsible Address: PO Box 26808
Responsible City,St,Zip: El Paso, TX 79926-6808
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: 03-2607
Incident Status: Not reported
Spill Date: Not reported
Material: Diesel fuel
Quantity: 2900
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 11/23/2003
Description: Line leak detectors failed to shut down after product pipe leaked during dispensing operations. ATG indicated about 2900 gallons diesel lost.
Location: Not reported
Lat/Long: 42.280500000000004 / -122.812
Source: Bulk Petroleum Storage
Media: Non-saturated soil, rock, etc.
Responsible Company: Petro Stopping Centers, L.P.
Responsible Contact: Travis Roberts
Responsible Address: PO Box 26808
Responsible City,St,Zip: El Paso, TX 79926-6808
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: Not reported
Incident Status: Not reported
Spill Date: 11/25/1998
Material: Not reported
Quantity: 0
Unit of Measure: Not reported

MEDFORD STOPPING CENTER #24 (Continued) **U000436866**

How Occurred: Not reported
Release Date: Not reported
Description: Storm related sewage overflow- Raw sewage.
Location: Not reported
Lat/Long: Not reported
Source: Not reported
Media: Not reported
Responsible Company: City of Glide
Responsible Contact: Not reported
Responsible Address: Not reported
Responsible City,St,Zip: Not reported
Responsible Country: Not reported

6
SSE
1/4-1/2
0.454 mi.
2396 ft.

VACANT **LUST** **U000437298**
3875 FERN VALLEY RD **UST** **N/A**
PHOENIX, OR 97535

Relative:
Lower

Actual:
1488 ft.

LUST:
Region: Western Region
Facility ID: 15-90-0066
Cleanup Received Date: 06/06/1990
Cleanup Start Date: 06/06/1990
Cleanup Complete Date: 07/15/1991

UST:
Facility ID: 5137
Facility Telephone: (503)535-3372
Permittee Name: GARY HALL, LESSEE
Number of Permitted Tanks: Not reported
Active Tanks: Not reported
Decommissioned Tanks: 3
Number of Tanks: 3

7
WSW
1/4-1/2
0.488 mi.
2578 ft.

OREGON ROOF SAVERS **LUST** **U001150062**
3629 S PACIFIC HWY **UST** **N/A**
PHOENIX, OR 97535

Relative:
Lower

Actual:
1469 ft.

LUST:
Region: Western Region
Facility ID: 15-92-0023
Cleanup Received Date: 03/16/1992
Cleanup Start Date: 03/16/1992
Cleanup Complete Date: 03/30/1992

UST:
Facility ID: 10985
Facility Telephone: (503)225-2264
Permittee Name: CHUCK REARRICK
Number of Permitted Tanks: Not reported
Active Tanks: Not reported
Decommissioned Tanks: 3

OREGON ROOF SAVERS (Continued) **U001150062**

Number of Tanks: 3

B8
West
1/2-1
0.706 mi.
3726 ft.

GLENWOOD BUSINESS PARK FORMER MGP **EDR MGP** **1008408792**
117 W GLENWOOD RD **N/A**
MEDFORD, OR 97501

Site 1 of 2 in cluster B

Relative:
Lower

Actual:
1471 ft.

Manufactured Gas Plants:
Alternate Name:SOUTHERN OREGON GAS CO. No additional information available

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B9
West
1/2-1
0.706 mi.
3726 ft.

GLENWOOD BUSINESS PARK MGP (FORMER) **VCP** **S106778130**
117 W GLENWOOD RD. **ECSI** **N/A**
MEDFORD, OR 97501

Site 2 of 2 in cluster B

Relative:
Lower

Actual:
1471 ft.

VCS:

ECS Site ID:	4333
Facility Size:	Not reported
Action:	NO FURTHER STATE ACTION REQUIRED
Start Date:	12/29/2006
End Date:	12/29/2006
Program:	VCP
Latitude:	42.2878
Longitude:	-122.8358

ECSI:

State ID Number:	4333	Brown ID:	0
Study Area:	False	Region ID:	3
Legislatve ID:	0	Investigation:	No Further Action
FACA ID:	87290	Further Action:	0
Lat/Long (dms):	42 17 16.10 / -122 50 8.90	County Code:	15.00
Score Value:	Not reported	Cerclis ID:	Not reported
Township Coord.:	38.00	Township Zone:	S
Range Coord:	1.00	Range Zone:	W
Section Coord:	4	Qtr Section:	Not reported
Tax Lots:	4300	Size:	Not reported
NPL:	False	Orphan:	False
Updated By:	GWISTAR	Update Date:	12/20/2011
Alias Name:	MGP		

Narrative:

NARR ID:	5746220
NARR Code:	Hazardous Substance/Waste Types
Created By:	MENGLIS
Created Date:	02/03/2005
Updated By:	MENGLIS
Updated Date:	02/03/2005
NARR Comments:	The constituents of interest at the site include benzene (204 ppm), naphthalene (4065 ppm), and other PAHs.
NARR ID:	5746234
NARR Code:	Site Location

GLENWOOD BUSINESS PARK MGP (FORMER) (Continued) **S106778130**

Created By: GWISTAR
Created Date: 02/04/2005
Updated By: GWISTAR
Updated Date: 02/04/2005
NARR Comments: Site is actually in Phoenix, OR, but has a Medford Post-Office address.

NARR ID: 5746218
NARR Code: Remedial Action
Created By: MENGLIS
Created Date: 02/03/2005
Updated By: GWISTAR
Updated Date: 02/04/2005
NARR Comments: (2/3/05 GB/VCP) An undetermined quantity of MGP waste mixed with sawdust and soil resulting from cleanup efforts is currently stored at the site in a covered stockpile. The haz-mat determination is not complete at this time. The site will be entering DEQ's Voluntary Cleanup Program.

NARR ID: 5746219
NARR Code: Site History
Created By: MENGLIS
Created Date: 02/03/2005
Updated By: MENGLIS
Updated Date: 02/03/2005
NARR Comments: This site may be a former MGP, which was discovered in late 2004, when a concrete truck fell through the ground into an MGP waste-containing vault.

Administrative Action:

Admin ID:	729797	Action ID:	9424
Agency:	Dept Of Environmental Quality	Region:	Not reported
Start Date:	02/03/2005	Complete Date:	02/03/2005
Substance Code:	Not reported	Rank Value:	Not reported
Employee Id:	2202	Cleanup Flag:	False
Created By:	MENGLIS	Created Date:	02/03/2005
Action Code:	ENTRY	Category:	Administrative Action
Action Flag:	True	Action Code Flag:	False
Action:	Site added to database		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	729798	Action ID:	9440
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	02/03/2005	Complete Date:	12/29/2006
Substance Code:	VCP	Rank Value:	Not reported
Employee Id:	2393	Cleanup Flag:	False
Created By:	MENGLIS	Created Date:	02/03/2005
Action Code:	LTAG	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	Letter Agreement		
Further Action:	0		
Comments:	Not reported		

Admin ID:	733223	Action ID:	9443
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	12/29/2006	Complete Date:	12/29/2006
Substance Code:	VCP	Rank Value:	Not reported

GLENWOOD BUSINESS PARK MGP (FORMER) (Continued) **S106778130**

Employee Id:	2393	Cleanup Flag:	False
Created By:	GBROWN	Created Date:	12/29/2006
Action Code:	NFA	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	NO FURTHER STATE ACTION REQUIRED		
Further Action:	0		
Comments:	Not reported		

10
WNW
1/2-1
0.934 mi.
4933 ft.

ROYAL-GOLDENCREST-SILVERCREST ORCHARDS **ECSI** **S116734845**
3100 S PACIFIC HWY. **N/A**
MEDFORD, OR 97501

Relative:
Lower

Actual:
1445 ft.

ECSI:

State ID Number:	5901	Brown ID:	0
Study Area:	False	Region ID:	3
Legislatve ID:	0	Investigation:	Suspect
FACA ID:	132096	Further Action:	260
Lat/Long (dms):	42 17 30.50 / -122 50 26.20	County Code:	15.00
Score Value:	Not reported	Cerclis ID:	Not reported
Township Coord.:	38.00	Township Zone:	S
Range Coord:	1.00	Range Zone:	W
Section Coord:	5	Qtr Section:	Not reported
Tax Lots:	Not reported	Size:	Not reported
NPL:	False	Orphan:	False
Updated By:	GWISTAR	Update Date:	08/08/2014
Alias Name:	Reter Fruit		

Narrative:

NARR ID:	5755163
NARR Code:	Contamination
Created By:	SSADOFS
Created Date:	06/04/2014
Updated By:	SSADOFS
Updated Date:	06/04/2014
NARR Comments:	A work plan for the cleanup of pesticides adjacent to a mixing shed was received by DEQ. The exact location is not known, and no follow up information was provided.

Administrative Action:

Admin ID:	742007	Action ID:	9424
Agency:	Dept Of Environmental Quality	Region:	Not reported
Start Date:	06/04/2014	Complete Date:	06/04/2014
Substance Code:	Not reported	Rank Value:	Not reported
Employee Id:	2843	Cleanup Flag:	False
Created By:	SSADOFS	Created Date:	06/04/2014
Action Code:	ENTRY	Category:	Administrative Action
Action Flag:	True	Action Code Flag:	False
Action:	Site added to database		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	742008	Action ID:	9508
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	06/04/2014	Complete Date:	06/04/2014
Substance Code:	SAS	Rank Value:	Not reported
Employee Id:	2843	Cleanup Flag:	False
Created By:	SSADOFS	Created Date:	06/04/2014

ROYAL-GOLDENCREST-SILVERCREST ORCHARDS (Continued) **S116734845**

Action Code:	RSSC	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	Site Screening recommended (EV)		
Further Action:	Low		
Comments:	Not reported		

Count: 3 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
MEDFORD	1003880850	PHELPS PCB SITE	W END OF GLENWOOD WEST ROAD	97501	CERC-NFRAP
PHEONIX	S101511312	HEATING OIL TANK	215 N ROSE	97535	LUST
PHOENIX	S100499849	VALLEY OF ROGUE BANK	48TH & MAIN	97535	LUST

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/16/2014
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 32

Source: EPA
Telephone: N/A
Last EDR Contact: 04/08/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/16/2014
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 32

Source: EPA
Telephone: N/A
Last EDR Contact: 04/08/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/16/2014
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 32

Source: EPA
Telephone: N/A
Last EDR Contact: 04/08/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 02/13/2014
Number of Days to Update: 94

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 03/26/2015
Date Data Arrived at EDR: 04/08/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 04/08/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 02/13/2014
Number of Days to Update: 94

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: Environmental Protection Agency
Telephone: (206) 553-1200
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: Environmental Protection Agency
Telephone: (206) 553-1200
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: Environmental Protection Agency
Telephone: (206) 553-1200
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: Environmental Protection Agency
Telephone: (206) 553-1200
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List
A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 03/16/2015
Date Data Arrived at EDR: 03/17/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 06/01/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls
A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 03/16/2015
Date Data Arrived at EDR: 03/17/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 06/01/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Varies

LUCIS: Land Use Control Information System
LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/28/2015
Date Data Arrived at EDR: 05/29/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 13

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 05/18/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 03/30/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 63

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Annually

State- and tribal - equivalent CERCLIS

ECSI: Environmental Cleanup Site Information System
Sites that are or may be contaminated and may require cleanup.

Date of Government Version: 04/01/2015
Date Data Arrived at EDR: 04/09/2015
Date Made Active in Reports: 04/23/2015
Number of Days to Update: 14

Source: Department of Environmental Quality
Telephone: 503-229-6629
Last EDR Contact: 06/04/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Quarterly

CRL: Confirmed Release List and Inventory
All facilities with a confirmed release.

Date of Government Version: 02/17/2015
Date Data Arrived at EDR: 02/18/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 23

Source: Department of Environmental Quality
Telephone: 503-229-6170
Last EDR Contact: 05/21/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Solid Waste Facilities List

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 04/17/2015
Date Data Arrived at EDR: 04/23/2015
Date Made Active in Reports: 05/19/2015
Number of Days to Update: 26

Source: Department of Environmental Quality
Telephone: 503-229-6299
Last EDR Contact: 04/16/2015
Next Scheduled EDR Contact: 08/03/2015
Data Release Frequency: Semi-Annually

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 01/06/2015
Date Data Arrived at EDR: 02/18/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 19

Source: Department of Environmental Quality
Telephone: 503-229-5790
Last EDR Contact: 05/21/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 01/08/2015
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 01/08/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 09/23/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 65

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 02/03/2015
Date Data Arrived at EDR: 02/12/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 29

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Quarterly

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 01/28/2015
Date Data Arrived at EDR: 01/30/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 42

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Quarterly

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 01/30/2015
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 32

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 02/01/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 184

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/03/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 09/30/2014
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 10

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Semi-Annually

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 01/23/2015
Date Data Arrived at EDR: 02/10/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 31

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Varies

State and tribal registered storage tank lists

UST: Underground Storage Tank Database
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 01/06/2015
Date Data Arrived at EDR: 02/18/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 19

Source: Department of Environmental Quality
Telephone: 503-229-5815
Last EDR Contact: 05/21/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Quarterly

AST: Aboveground Storage Tanks
Aboveground storage tank locations reported to the Office of State Fire Marshal.

Date of Government Version: 03/16/2015
Date Data Arrived at EDR: 04/10/2015
Date Made Active in Reports: 04/22/2015
Number of Days to Update: 12

Source: Office of State Fire Marshal
Telephone: 503-378-3473
Last EDR Contact: 04/10/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 02/01/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 01/27/2014
Number of Days to Update: 271

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/28/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 09/30/2014
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 10

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 01/30/2015
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 36

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 01/23/2015
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 28

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/23/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 65

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 01/29/2015
Date Data Arrived at EDR: 01/30/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 42

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 12/14/2014
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 28

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 02/03/2015
Date Data Arrived at EDR: 02/12/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 29

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Quarterly

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 04/13/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

ENG CONTROLS: Engineering Controls Recorded at ESCI Sites

Engineering controls are physical measures selected or approved by the Director for the purpose of preventing or minimizing exposure to hazardous substances. Engineering controls may include, but are not limited to, fencing, capping, horizontal or vertical barriers, hydraulic controls, and alternative water supplies.

Date of Government Version: 04/01/2015
Date Data Arrived at EDR: 04/09/2015
Date Made Active in Reports: 04/23/2015
Number of Days to Update: 14

Source: Department of Environmental Quality
Telephone: 503-229-5193
Last EDR Contact: 06/04/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Quarterly

INST CONTROL: Institutional Controls Recorded at ESCI Sites

An institutional control is a legal or administrative tool or action taken to reduce the potential for exposure to hazardous substances. Institutional controls may include, but are not limited to, use restrictions, environmental monitoring requirements, and site access and security measures.

Date of Government Version: 04/01/2015
Date Data Arrived at EDR: 04/09/2015
Date Made Active in Reports: 04/23/2015
Number of Days to Update: 14

Source: Department of Environmental Quality
Telephone: 503-229-5193
Last EDR Contact: 06/04/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Quarterly

State and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 09/29/2014
Date Data Arrived at EDR: 10/01/2014
Date Made Active in Reports: 11/06/2014
Number of Days to Update: 36

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 04/02/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

VCS: Voluntary Cleanup Program Sites
Responsible parties have entered into an agreement with DEQ to voluntarily address contamination associated with their property.

Date of Government Version: 03/31/2015
Date Data Arrived at EDR: 04/14/2015
Date Made Active in Reports: 04/23/2015
Number of Days to Update: 9

Source: DEQ
Telephone: 503-229-5256
Last EDR Contact: 04/02/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Quarterly

State and tribal Brownfields sites

BROWNFIELDS: Brownfields Projects
Brownfields investigations and/or cleanups that have been conducted in Oregon.

Date of Government Version: 02/06/2015
Date Data Arrived at EDR: 02/18/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 23

Source: Department of Environmental Quality
Telephone: 503-229-6801
Last EDR Contact: 05/21/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Semi-Annually

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 03/23/2015
Date Data Arrived at EDR: 03/24/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 70

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/24/2015
Next Scheduled EDR Contact: 07/06/2015
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39
Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137
Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 04/23/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: No Update Planned

SWRCY: Recycling Facility Location Listing
A listing of recycling facility locations.

Date of Government Version: 03/03/2015
Date Data Arrived at EDR: 03/04/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 9
Source: Department of Environmental Quality
Telephone: 503-229-5353
Last EDR Contact: 06/03/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Quarterly

HIST LF: Old Closed SW Disposal Sites
A list of solid waste disposal sites that have been closed for a long while.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 07/08/2003
Date Made Active in Reports: 07/18/2003
Number of Days to Update: 10
Source: Department of Environmental Quality
Telephone: 503-229-5409
Last EDR Contact: 07/08/2003
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52
Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 05/01/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/25/2015
Date Data Arrived at EDR: 03/10/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 15
Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Quarterly

AOC COL: Columbia Slough
Columbia Slough waterway boundaries.

Date of Government Version: 08/10/2005
Date Data Arrived at EDR: 05/17/2006
Date Made Active in Reports: 06/16/2006
Number of Days to Update: 30

Source: City of Portland Environmental Services
Telephone: 503-823-5310
Last EDR Contact: 03/13/2007
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

AOC MU: East Multnomah County Area
Approximate extent of TSA VOC plume February , 2002

Date of Government Version: N/A
Date Data Arrived at EDR: 10/07/2002
Date Made Active in Reports: 10/22/2002
Number of Days to Update: 15

Source: City of Portland Environmental Services
Telephone: 503-823-5310
Last EDR Contact: 03/13/2007
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CDL 2: Clandestine Drug Lab Site Listing
A listing of clandestine drug lab site locations included in the Incident database.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 05/07/2014
Date Made Active in Reports: 05/22/2014
Number of Days to Update: 15

Source: Oregon State Police
Telephone: 503-373-1540
Last EDR Contact: 05/06/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Varies

CDL: Uninhabitable Drug Lab Properties
The properties listed on these county pages have been declared by a law enforcement agency to be unfit for use due to meth lab and/or storage activities. The properties are considered uninhabitable until cleaned up by a state certified decontamination contractor and a certificate of fitness is issued by the Oregon Health Division.

Date of Government Version: 04/21/2015
Date Data Arrived at EDR: 05/12/2015
Date Made Active in Reports: 05/19/2015
Number of Days to Update: 7

Source: Department of Consumer & Business Services
Telephone: 503-378-4133
Last EDR Contact: 05/07/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/25/2015
Date Data Arrived at EDR: 03/10/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 15

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/18/2014
Date Data Arrived at EDR: 03/18/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 03/30/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Annually

SPILLS: Spill Data
Oil and hazardous material spills reported to the Environmental Response Program.

Date of Government Version: 04/09/2015
Date Data Arrived at EDR: 04/14/2015
Date Made Active in Reports: 04/24/2015
Number of Days to Update: 10

Source: Department of Environmental Quality
Telephone: 503-229-5815
Last EDR Contact: 04/02/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Semi-Annually

HAZMAT: Hazmat/Incidents
Hazardous material incidents reported to the State Fire Marshal by emergency responders. The hazardous material may or may not have been released.

Date of Government Version: 03/02/2015
Date Data Arrived at EDR: 05/06/2015
Date Made Active in Reports: 05/19/2015
Number of Days to Update: 13

Source: State Fire Marshal's Office
Telephone: 503-373-1540
Last EDR Contact: 05/06/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Semi-Annually

SPILLS 90: SPILLS90 data from FirstSearch
Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 05/01/2006
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: Environmental Protection Agency
Telephone: (206) 553-1200
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

DOT OPS: Incident and Accident Data
Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 05/05/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Varies

DOD: Department of Defense Sites
This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 04/14/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites
The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 06/06/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 09/18/2014
Number of Days to Update: 8

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 06/12/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 46

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 03/30/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Varies

ROD: Records Of Decision
Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 11/25/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 74

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 06/12/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites
Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 05/26/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 12/30/2014
Date Data Arrived at EDR: 12/31/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 29

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 06/03/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 02/12/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 110

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 01/29/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/15/2015
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 14

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 03/27/2015
Next Scheduled EDR Contact: 07/06/2015
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 05/20/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 05/20/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 04/10/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 01/23/2015
Date Data Arrived at EDR: 02/06/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 04/09/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 10/15/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 33

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 04/17/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 03/31/2015
Date Data Arrived at EDR: 04/09/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 63

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 06/04/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 04/07/2015
Date Data Arrived at EDR: 04/09/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 04/09/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 01/18/2015
Date Data Arrived at EDR: 02/27/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 26

Source: EPA
Telephone: (206) 553-1200
Last EDR Contact: 06/10/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 02/01/2015
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 04/19/2013
Number of Days to Update: 52

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Biennially

UIC: Underground Injection Control Program Database
DEQ's Underground Injection Control Program is authorized by the Environmental Protection Agency (EPA) to regulate all underground injection in Oregon to protect groundwater resources.

Date of Government Version: 03/30/2015
Date Data Arrived at EDR: 04/01/2015
Date Made Active in Reports: 04/22/2015
Number of Days to Update: 21

Source: Department of Environmental Quality
Telephone: 503-229-5945
Last EDR Contact: 03/30/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Varies

OR MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 11/26/2014
Date Made Active in Reports: 02/02/2015
Number of Days to Update: 68

Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 05/07/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Annually

DRYCLEANERS: Drycleaning Facilities
A listing of registered drycleaning facilities in Oregon.

Date of Government Version: 05/05/2015
Date Data Arrived at EDR: 05/05/2015
Date Made Active in Reports: 05/19/2015
Number of Days to Update: 14

Source: Department of Environmental Quality
Telephone: 503-229-6783
Last EDR Contact: 05/04/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Varies

NPDES: Wastewater Permits Database
A listing of permitted wastewater facilities.

Date of Government Version: 05/07/2015
Date Data Arrived at EDR: 05/08/2015
Date Made Active in Reports: 05/19/2015
Number of Days to Update: 11

Source: Department of Environmental Quality
Telephone: 503-229-5657
Last EDR Contact: 05/06/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Quarterly

AIRS: Oregon Title V Facility Listing
A listing of Title V facility source and emissions information.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 01/16/2015
Date Made Active in Reports: 02/27/2015
Number of Days to Update: 42

Source: Department of Environmental Quality
Telephone: 503-229-6459
Last EDR Contact: 04/02/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Varies

HSIS: Hazardous Substance Information Survey
Companies in Oregon submitting the Hazardous Substance Information Survey and either reporting or not reporting hazardous substances.

Date of Government Version: 03/16/2015
Date Data Arrived at EDR: 04/10/2015
Date Made Active in Reports: 04/22/2015
Number of Days to Update: 12

Source: State Fire Marshal's Office
Telephone: 503-373-1540
Last EDR Contact: 04/10/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Semi-Annually

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 04/14/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 05/21/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Varies

COAL ASH: Coal Ash Disposal Sites Listing

A listing of coal ash disposal sites.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 12/19/2014
Date Made Active in Reports: 02/02/2015
Number of Days to Update: 45

Source: Department of Environmental Quality
Telephone: 541-298-7255
Last EDR Contact: 06/04/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial assurance information for hazardous waste facilities.

Date of Government Version: 11/21/2014
Date Data Arrived at EDR: 11/26/2014
Date Made Active in Reports: 01/15/2015
Number of Days to Update: 50

Source: Department of Environmental Quality
Telephone: 541-633-2011
Last EDR Contact: 05/26/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 05/14/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 11/25/2014
Date Data Arrived at EDR: 11/26/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 04/10/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 05/14/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Quarterly

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 04/14/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: N/A

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 05/07/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Quarterly

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 06/12/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 05/01/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 04/15/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Varies

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)
The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/16/2014
Date Data Arrived at EDR: 10/31/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 17

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 03/30/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data
A listing of minor source facilities.

Date of Government Version: 10/16/2014
Date Data Arrived at EDR: 10/31/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 17

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 03/30/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Annually

US FIN ASSUR: Financial Assurance Information
All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/09/2015
Date Data Arrived at EDR: 03/10/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 15

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 05/14/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Quarterly

Financial Assurance 2: Financial Assurance Information Listing
Financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 03/09/2015
Date Data Arrived at EDR: 03/12/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 13

Source: Department of Environmental Quality
Telephone: 503-229-5521
Last EDR Contact: 05/26/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR US Hist Auto Stat: EDR Exclusive Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Cleaners: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Oregon.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Oregon.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/03/2014
Number of Days to Update: 186

Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank
The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Oregon.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/27/2013
Number of Days to Update: 179

Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 05/01/2015
Date Data Arrived at EDR: 05/06/2015
Date Made Active in Reports: 05/20/2015
Number of Days to Update: 14

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 05/06/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 03/19/2015
Date Made Active in Reports: 04/07/2015
Number of Days to Update: 19

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 06/11/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Annually

Oil/Gas Pipelines:
Source: PennWell Corporation
Telephone: 800-823-6277
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data
Source: PennWell Corporation
Telephone: 800-823-6277
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Child Care Listings
Source: Employment Department
Telephone: 503-947-1420

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory Data
Source: Oregon Geospatial Enterprise Office
Telephone: 503-378-2166

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

PHOENIX SITE
NORTH PHOENIX ROAD
MEDFORD, OR 97504

TARGET PROPERTY COORDINATES

Latitude (North):	42.2889 - 42˚ 17' 20.04''
Longitude (West):	122.8174 - 122˚ 49' 2.64''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	515054.3
UTM Y (Meters):	4681655.5
Elevation:	1543 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	42122-C7 MEDFORD EAST, OR
Most Recent Revision:	1983

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

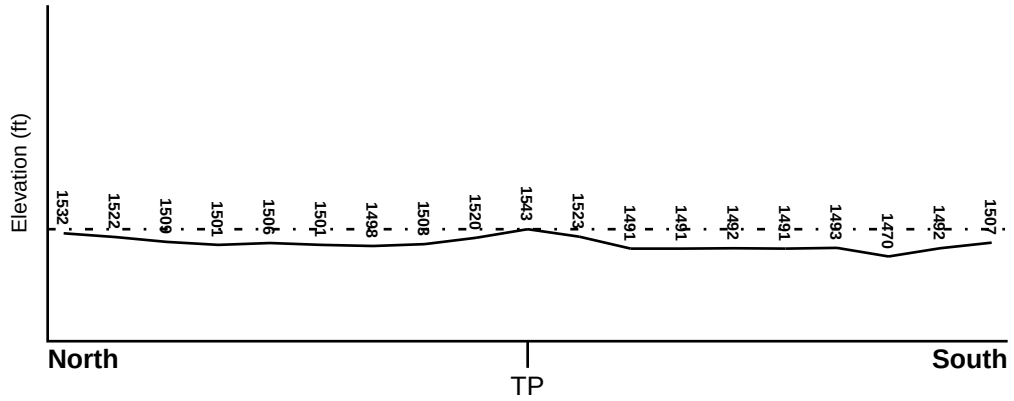
TOPOGRAPHIC INFORMATION

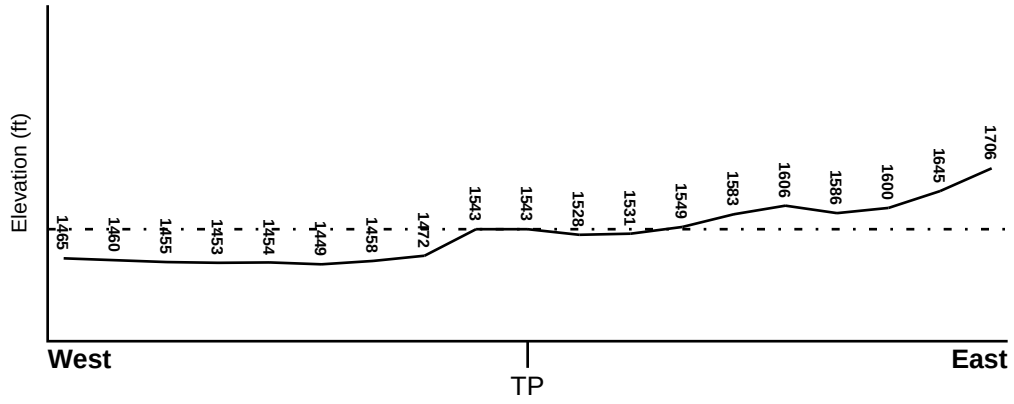
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General West

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 1543 ft.

0 1/2 1 Miles

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
JACKSON, OR	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property:	4155890419B - FEMA Q3 Flood data
Additional Panels in search area:	4155890417B - FEMA Q3 Flood data
	4155890416B - FEMA Q3 Flood data
	4155890418B - FEMA Q3 Flood data
	4100970001B - FEMA Q3 Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
MEDFORD EAST	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

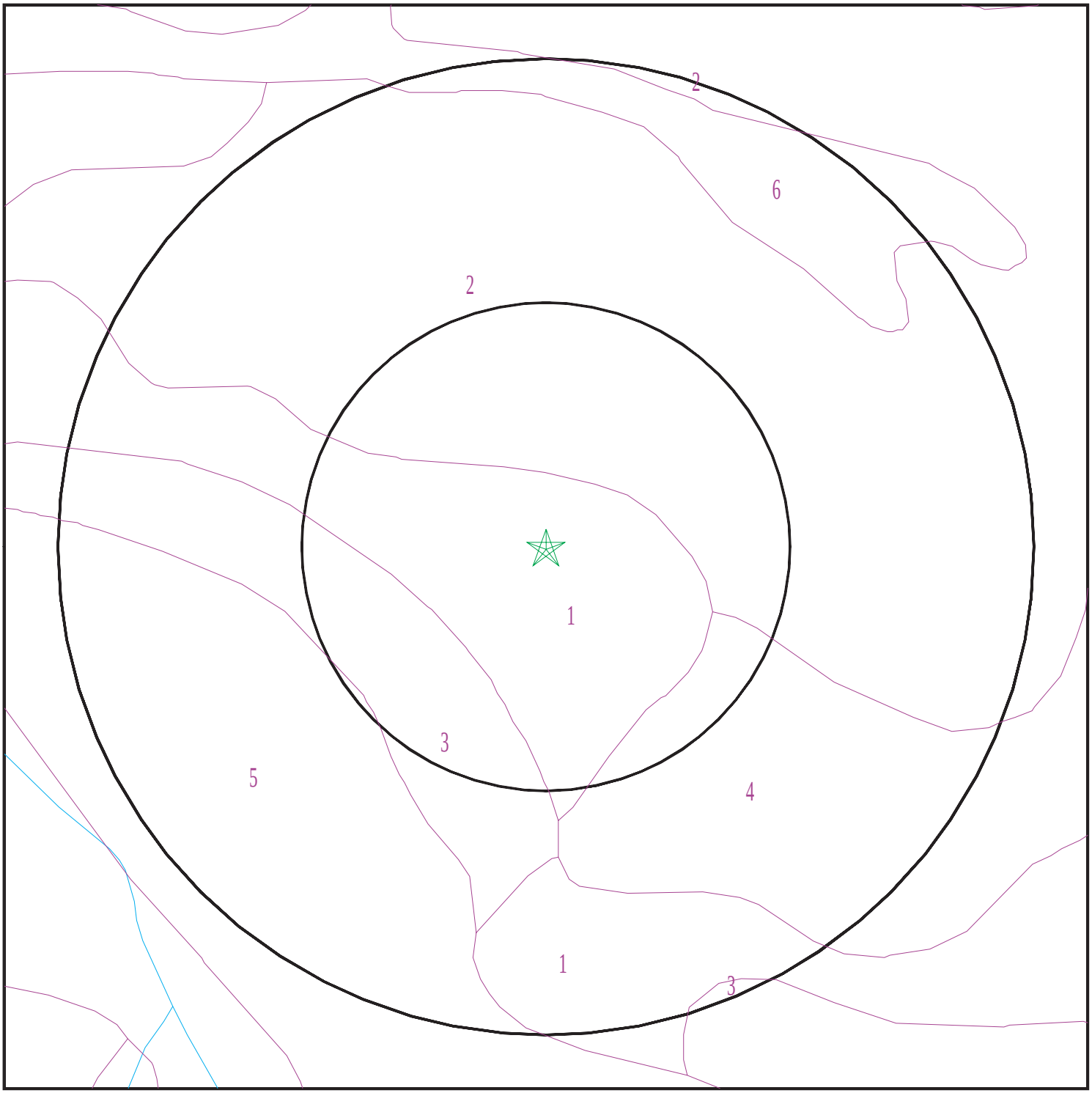
Era:	Cenozoic
System:	Tertiary
Series:	Eocene
Code:	Tec *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Continental Deposits

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 4328935.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME: Phoenix Site ADDRESS: North Phoenix Road Medford OR 97504 LAT/LONG: 42.2889 / 122.8174	CLIENT: Analytical Environmental Serv. CONTACT: Katherine Green INQUIRY #: 4328935.2s DATE: June 17, 2015 1:36 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Brader

Soil Surface Texture: loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	5 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 7.3 Min: 6.1
2	5 inches	12 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 7.3 Min: 5.6
3	12 inches	22 inches	weathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 2

Soil Component Name: Darow

Soil Surface Texture: silty clay loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 99 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 7.3 Min: 6.6
2	11 inches	31 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 1.4 Min: 0.42	Max: 6.5 Min: 6.1
3	31 inches	42 inches	weathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 3

Soil Component Name: Brader

Soil Surface Texture: loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	5 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 7.3 Min: 6.1
2	5 inches	12 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 7.3 Min: 5.6
3	12 inches	22 inches	weathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 4

Soil Component Name: Darow

Soil Surface Texture: silty clay loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 99 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 7.3 Min: 6.6

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
2	11 inches	31 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 1.4 Min: 0.42	Max: 6.5 Min: 6.1
3	31 inches	42 inches	weathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 5

Soil Component Name: Medford

Soil Surface Texture: silty clay loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 153 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 7.3 Min: 5.6
2	11 inches	22 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 7.3 Min: 5.6

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
3	22 inches	53 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 7.3 Min: 5.6
4	53 inches	70 inches	stratified sandy clay loam to silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 7.3 Min: 5.6

Soil Map ID: 6

Soil Component Name: Padigan

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Poorly drained

Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 0.42 Min: 0.01	Max: 7.8 Min: 7.4

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
2	11 inches	42 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 0.42 Min: 0.01	Max: 9 Min: 7.9
3	42 inches	59 inches	gravelly sandy clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.9

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 0.001 miles
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	USGS40000986071	1/4 - 1/2 Mile ESE
2	USGS40000986084	1/2 - 1 Mile West
3	USGS40000986124	1/2 - 1 Mile North

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

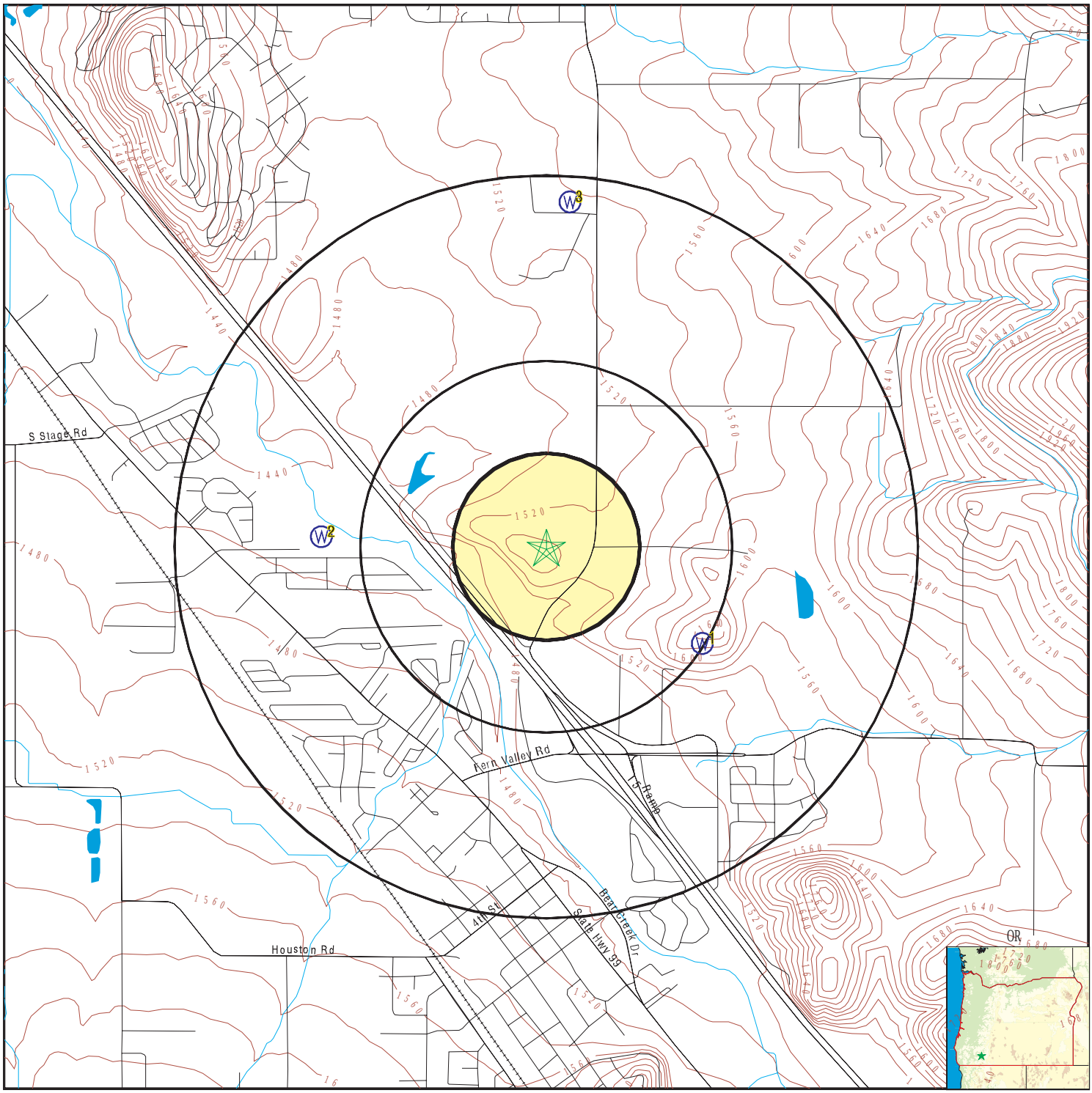
Note: PWS System location is not always the same as well location.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 4328935.2s



County Boundary
Major Roads
Contour Lines
Earthquake epicenter, Richter 5 or greater
Water Wells
Public Water Supply Wells
Cluster of Multiple Icons

Groundwater Flow Direction
Indeterminate Groundwater Flow at Location
Groundwater Flow Varies at Location

SITE NAME: Phoenix Site	CLIENT: Analytical Environmental Serv.
ADDRESS: North Phoenix Road Medford OR 97504	CONTACT: Katherine Green
LAT/LONG: 42.2889 / 122.8174	INQUIRY #: 4328935.2s DATE: June 17, 2015 1:36 pm

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Map ID Direction Distance Elevation	Database	EDR ID Number
1 **ESE** **1/4 - 1/2 Mile** **Higher**	**FED USGS**	**USGS40000986071**

Org. Identifier:	USGS-OR		
Formal name:	USGS Oregon Water Science Center		
Monloc Identifier:	USGS-421707122482901		
Monloc name:	38S/01W-10BAC1		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17100308	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	42.285128
Longitude:	-122.809203	Sourcemap scale:	62500
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	1605.00
Vert measure units:	feet	Vertacc measure val:	20
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19650811	Welldepth:	450
Welldepth units:	ft	Wellholedepth:	450
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1965-08-11	65.00	

---

2 **West** **1/2 - 1 Mile** **Lower**	**FED USGS**	**USGS40000986084**

Org. Identifier:	USGS-OR		
Formal name:	USGS Oregon Water Science Center		
Monloc Identifier:	USGS-421721122494201		
Monloc name:	38S/01W-04CDC1		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17100308	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	42.2892943
Longitude:	-122.8292038	Sourcemap scale:	62500
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	1450.00
Vert measure units:	feet	Vertacc measure val:	20
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	19750625	Welldepth:	280
Welldepth units:	ft	Wellholedepth:	280
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

3
North **FED USGS** **USGS40000986124**
1/2 - 1 Mile
Lower

Org. Identifier:	USGS-OR		
Formal name:	USGS Oregon Water Science Center		
Monloc Identifier:	USGS-421809122485401		
Monloc name:	37S/01W-33DDD1		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17100308	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	42.3023499
Longitude:	-122.816148	Sourcemap scale:	62500
Horiz Acc measure:	Unknown	Horiz Acc measure units:	Unknown
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	1530.00
Vert measure units:	feet	Vertacc measure val:	020
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	120
Welldepth units:	ft	Wellholedepth:	120
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: OR Radon

Radon Test Results

Zipcode	Num Tests	Maximum	Minimum	Average	# > 4 pCi/L
97504	60	6	0.2	1.3	3

Federal EPA Radon Zone for JACKSON County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for JACKSON COUNTY, OR

Number of sites tested: 23

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area	0.970 pCi/L	100%	0%	0%
Basement	1.880 pCi/L	78%	22%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory Data
Source: Oregon Geospatial Enterprise Office
Telephone: 503-378-2166

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Data
Source: Department of Water Resources
Telephone: 503-986-0843

OTHER STATE DATABASE INFORMATION

Oil and Gas Well Locations
Source: Department of Geology and Mineral Industries
Telephone: 971-673-1540
A listing of oil and gas well locations in the state.

RADON

State Database: OR Radon
Source: Oregon Health Services
Telephone: 503-731-4272
Radon Levels in Orgeon

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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MILL CASINO SITE

Mill Casino Site
3201 Tremont Avenue
North Bend, OR 97459

Inquiry Number: 4331748.2s
June 19, 2015

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

3201 TREMONT AVENUE
NORTH BEND, OR 97459

COORDINATES

Latitude (North):	43.3939000 - 43˚ 23' 38.04''
Longitude (West):	124.2185000 - 124˚ 13' 6.60''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	401315.6
UTM Y (Meters):	4805063.5
Elevation:	7 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	43124-D2 NORTH BEND, OR
Most Recent Revision:	1971

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20120610
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
3201 TREMONT AVENUE
NORTH BEND, OR 97459

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	SUN PLYWOOD MILL (FO	3201 TREMONT ST	RGA HWS		TP
A2	SUN PLYWOOD MILL (FO	3201 TREMONT ST.	RGA HWS		TP
A3	SUN PLYWOOD INC	3201 TREMONT ST	UST		TP
A4	SUN PLYWOOD INC	3201 TREMONT PO BOX	FINDS		TP
A5		3201 TREMONT AVE	ERNS		TP
A6	MILL CASINO & HOTEL	3201 TREMONT AVE	ICIS, FINDS		TP
A7	SUN PLYWOOD INC	3201 TREMONT PO BO	FTTS, HIST FTTS		TP
A8		3201 TREMONT AVE	OR HAZMAT		TP
A9	SUN PLYWOOD INC	3201 TREMONT PO BOX	FTTS, HIST FTTS		TP
A10	SUN PLYWOOD, INCORPO	3201 TREMONT ST	AST, SPILLS, OR HAZMAT, HSIS, ECSI		TP
B11	UNOCAL SS 3663	3140 TREMONT ST	RCRA NonGen / NLR, FINDS	Higher	84, 0.016, WSW
B12	UNOCAL 3663	3140 TREMONT ST	LUST, UST	Higher	84, 0.016, WSW
C13	WEYERHAEUSER COMPANY	3050 TREMONT ST	LUST, UST, MANIFEST, INST CONTROL, VCP, ECSI, CRL	Higher	112, 0.021, WNW
C14	MARSHFIELD MANUFACTU	3040 TREMONT ST.	ENG CONTROLS, INST CONTROL, VCP, ECSI	Higher	119, 0.023, WNW
D15	CARSON OIL CO INC	280 NEWMARK ST	AST, HSIS	Higher	297, 0.056, SW
D16	TYREEE OIL	341 NEWMARK ST	AST, SPILLS, HSIS, ECSI	Higher	398, 0.075, SW
D17	TOSCO CORP NORTH BEN	FT OF NEWMARK ST	RCRA NonGen / NLR	Higher	475, 0.090, SW
E18	TRUAX CORPORATION	3522 TREMONT	UST	Higher	495, 0.094, SSW
D19	BEDROCK CAT & CORE	410 NEWMARK ST	RCRA NonGen / NLR	Higher	512, 0.097, SW
E20		3550 TREMONT ST	EDR US Hist Auto Stat	Higher	555, 0.105, SSW
E21	RON'S OIL EXXON #2	3550 S. TREMONT ST	LUST, UST	Higher	555, 0.105, SSW
22	OREGON CHIP TERMINAL	3701 TREMONT ST	AST, HSIS	Higher	912, 0.173, SSW
F23	LASKEY-CLIFTON CORPO		US MINES	Higher	1124, 0.213, NNW
F24	LASKEY-CLIFTON CORPO		US MINES	Higher	1125, 0.213, NNW
25	HEATING OIL TANK	681 EXCHANGE ST	LUST	Higher	1156, 0.219, SW
26	CRAWFORD, JUDITH	2759 SHERIDAN AVE	FINDS, LUST	Higher	1190, 0.225, NW
G27	HEATING OIL TANK	3125 SHERMAN AVE	LUST	Higher	1223, 0.232, West
G28	NORTH BEND ROBO CAR	3080 SHERMAN AVE	UST	Higher	1253, 0.237, West
F29	MARSHFIELD MGP FORME	3040 TREMONT STREET	EDR MGP	Higher	1269, 0.240, NNW
30	HEATING OIL TANK	3959 SHERIDAN AVE	LUST	Higher	1345, 0.255, SSW
31	HEATING OIL TANK	2741 SHERMAN AVE	LUST	Higher	1466, 0.278, NW
H32	UNOCAL MARKETING TER	2395 N BAYSHORE DR.	VCP, ECSI, CRL	Higher	1499, 0.284, SSW
H33	UNOCAL BULK PLANT	2395 BAYSHORE DRIVE	LUST	Higher	1499, 0.284, SSW
H34	CHEVRON BULK PLANT -	2640 N BAYSHORE DR.	CRL, ECSI	Higher	1671, 0.316, SSW
35	HEATING OIL TANK	3838 SHERMAN AVE	LUST	Higher	1726, 0.327, SW
36	HEATING OIL TANK	2273 BAYSHORE	LUST	Higher	2042, 0.387, SSW
37	K-KWEL WHARF DEVELOP	2375 TREMONT ST.	LUST, VCP, ECSI	Higher	2335, 0.442, NNW
38	NORTH BEND PIPELINE	WASHINGTON & HARBOR	ECSI	Higher	3736, 0.708, North
39	CHAMBERS FUEL OIL IN	400 CALIFORNIA ST	FINDS, BROWNFIELDS, ECSI	Lower	4495, 0.851, North

MAPPED SITES SUMMARY

Target Property Address:
3201 TREMONT AVENUE
NORTH BEND, OR 97459

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
40	PELICAN AUTO SERVICE	1900 SHERMAN AVE	LUST, UST, INST CONTROL, ECSI	Higher	4808, 0.911, NNW
41	BLM PARKING LOT COOS	1460 N BAYSHORE DR.	SPILLS, ECSI	Higher	4983, 0.944, South

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 8 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
SUN PLYWOOD MILL (FO 3201 TREMONT ST NORTH BEND, OR	RGA HWS	N/A
SUN PLYWOOD MILL (FO 3201 TREMONT ST. NORTH BEND, OR	RGA HWS	N/A
SUN PLYWOOD INC 3201 TREMONT ST NORTH BEND, OR 97459	UST Facility ID: 7880	N/A
SUN PLYWOOD INC 3201 TREMONT PO BOX NORTH BEND, OR 97459	FINDS Registry ID:: 110015259619	N/A
3201 TREMONT AVE 3201 TREMONT AVE NORTH BEND, OR 97459	ERNS EDR ID:: 964731	N/A
MILL CASINO & HOTEL 3201 TREMONT AVE NORTH BEND, OR 97459	ICIS FRS ID:: 110001659517 FINDS Registry ID:: 110001659517	N/A
SUN PLYWOOD INC 3201 TREMONT PO BO NORTH BEND, OR 97459	FTTS Docket Number:: 10-97-0116-TSCA Close Date:: / / HIST FTTS Close Date:: / / Docket Number:: 10-97-0116-TSCA	N/A
3201 TREMONT AVE 3201 TREMONT AVE COOS BAY, OR 97420	OR HAZMAT Facility Id: 12-1293	N/A
SUN PLYWOOD INC 3201 TREMONT PO BOX NORTH BEND, OR 97459	FTTS HIST FTTS	N/A

EXECUTIVE SUMMARY

SUN PLYWOOD, INCORPO
3201 TREMONT ST
NORTH BEND, OR 97459

AST
Facility Id: 067009

SPILLS
Facility ID: 09-2167
Facility ID: 04-0152
Facility ID: 07-0416

OR HAZMAT
Facility Id: HM15-12-0040

HSIS
Facility Id: 067009
Facility Id: 117895

ECSI
State ID Number: 1644
Investigation: Suspect

N/A

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ..... National Priority List
Proposed NPL ..... Proposed National Priority List Sites
NPL LIENS ..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ..... National Priority List Deletions

Federal CERCLIS list

CERCLIS ..... Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY ..... Federal Facility Site Information listing

Federal CERCLIS NFRAP site List

CERC-NFRAP ..... CERCLIS No Further Remedial Action Planned

Federal RCRA CORRACTS facilities list

CORRACTS ..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG..... RCRA - Large Quantity Generators
RCRA-SQG..... RCRA - Small Quantity Generators
RCRA-CESQG..... RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS..... Engineering Controls Sites List
US INST CONTROL..... Sites with Institutional Controls
LUCIS..... Land Use Control Information System

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Solid Waste Facilities List

State and tribal leaking storage tank lists

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

INDIAN UST..... Underground Storage Tanks on Indian Land
FEMA UST..... Underground Storage Tank Listing

State and tribal voluntary cleanup sites

INDIAN VCP..... Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS..... Brownfields Projects

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

ODI..... Open Dump Inventory
DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations
HIST LF..... Old Closed SW Disposal Sites
SWRCY..... Recycling Facility Location Listing
INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands

Local Lists of Hazardous waste / Contaminated Sites

US CDL..... Clandestine Drug Labs
AOCONCERN..... Columbia Slough
CDL..... Uninhabitable Drug Lab Properties
US HIST CDL..... National Clandestine Laboratory Register

EXECUTIVE SUMMARY

Local Land Records

LIENS 2 ..... CERCLA Lien Information

Records of Emergency Release Reports

HMIRS ..... Hazardous Materials Information Reporting System
SPILLS 90 ..... SPILLS 90 data from FirstSearch

Other Ascertainable Records

DOT OPS ..... Incident and Accident Data
DOD ..... Department of Defense Sites
FUDS ..... Formerly Used Defense Sites
CONSENT ..... Superfund (CERCLA) Consent Decrees
ROD ..... Records Of Decision
UMTRA ..... Uranium Mill Tailings Sites
TRIS ..... Toxic Chemical Release Inventory System
TSCA ..... Toxic Substances Control Act
SSTS ..... Section 7 Tracking Systems
PADS ..... PCB Activity Database System
MLTS ..... Material Licensing Tracking System
RADINFO ..... Radiation Information Database
RAATS ..... RCRA Administrative Action Tracking System
RMP ..... Risk Management Plans
UIC ..... Underground Injection Control Program Database
DRYCLEANERS ..... Drycleaning Facilities
NPDES ..... Wastewater Permits Database
AIRS ..... Oregon Title V Facility Listing
INDIAN RESERV ..... Indian Reservations
SCRD DRYCLEANERS ..... State Coalition for Remediation of Drycleaners Listing
COAL ASH ..... Coal Ash Disposal Sites Listing
Financial Assurance ..... Financial Assurance Information Listing
LEAD SMELTERS ..... Lead Smelter Sites
US AIRS ..... Aerometric Information Retrieval System Facility Subsystem
EPA WATCH LIST ..... EPA WATCH LIST
US FIN ASSUR ..... Financial Assurance Information
COAL ASH EPA ..... Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER ..... PCB Transformer Registration Database
COAL ASH DOE ..... Steam-Electric Plant Operation Data
2020 COR ACTION ..... 2020 Corrective Action Program List
PRP ..... Potentially Responsible Parties

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR US Hist Cleaners ..... EDR Exclusive Historic Dry Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF ..... Recovered Government Archive Solid Waste Facilities List

EXECUTIVE SUMMARY

RGA LUST---------- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

State- and tribal - equivalent CERCLIS

ECSI: The Environmental Cleanup Site Information System records information about sites in Oregon that may be of environmental interest. The data come from the Department of Environmental Quality.

A review of the ECSI list, as provided by EDR, and dated 04/01/2015 has revealed that there are 10 ECSI sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
WEYERHAEUSER COMPANY State ID Number: 527 Investigation: Listed on the CRL/Inventory	***3050 TREMONT ST***	***WNW 0 - 1/8 (0.021 mi.)***	***C13***	***46***
MARSHFIELD MANUFACTU State ID Number: 4074 Investigation: Listed on the CRL/Inventory	***3040 TREMONT ST.***	***WNW 0 - 1/8 (0.023 mi.)***	***C14***	***55***
TYREEE OIL State ID Number: 605 Investigation: Suspect	***341 NEWMARK ST***	***SW 0 - 1/8 (0.075 mi.)***	***D16***	***67***
UNOCAL MARKETING TER State ID Number: 288 Investigation: Listed on the CRL/Inventory	***2395 N BAYSHORE DR.***	***SSW 1/4 - 1/2 (0.284 mi.)***	***H32***	***98***
CHEVRON BULK PLANT - State ID Number: 542 Investigation: Listed on the CRL/Inventory	***2640 N BAYSHORE DR.***	***SSW 1/4 - 1/2 (0.316 mi.)***	***H34***	***106***
K-KWEL WHARF DEVELOP State ID Number: 4802 Investigation: No Further Action	***2375 TREMONT ST.***	***NNW 1/4 - 1/2 (0.442 mi.)***	***37***	***116***
NORTH BEND PIPELINE State ID Number: 4375 Investigation: Suspect	WASHINGTON & HARBOR	N 1/2 - 1 (0.708 mi.)	38	120
PELICAN AUTO SERVICE State ID Number: 1822 Investigation: No Further Action	***1900 SHERMAN AVE***	***NNW 1/2 - 1 (0.911 mi.)***	***40***	***131***
BLM PARKING LOT COOS State ID Number: 1945 Investigation: No Further Action	***1460 N BAYSHORE DR.***	***S 1/2 - 1 (0.944 mi.)***	***41***	***139***

EXECUTIVE SUMMARY

Lower Elevation	Address	Direction / Distance	Map ID	Page
CHAMBERS FUEL OIL IN State ID Number: 22 Investigation: No Further Action	***400 CALIFORNIA ST***	***N 1/2 - 1 (0.851 mi.)***	***39***	***121***

CRL: Sites that are or may be contaminated and may require cleanup.

A review of the CRL list, as provided by EDR, and dated 02/17/2015 has revealed that there are 3 CRL sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
WEYERHAEUSER COMPANY Facility Status: No Further Action (Conditional) Facility Id: 527	***3050 TREMONT ST***	***WNW 0 - 1/8 (0.021 mi.)***	***C13***	***46***
UNOCAL MARKETING TER Facility Status: No Further Action (Conditional) Facility Id: 288	***2395 N BAYSHORE DR.***	***SSW 1/4 - 1/2 (0.284 mi.)***	***H32***	***98***
CHEVRON BULK PLANT - Facility Status: REMEDIAL ACTION Facility Id: 542	***2640 N BAYSHORE DR.***	***SSW 1/4 - 1/2 (0.316 mi.)***	***H34***	***106***

State and tribal leaking storage tank lists

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Environmental Quality's LUST Database List.

A review of the LUST list, as provided by EDR, and dated 01/06/2015 has revealed that there are 12 LUST sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
UNOCAL 3663 Facility ID: 06-90-0041 Cleanup Complete: 01/10/2001	***3140 TREMONT ST***	***WSW 0 - 1/8 (0.016 mi.)***	***B12***	***45***
WEYERHAEUSER COMPANY Facility ID: 06-94-0049 Cleanup Complete: 09/16/2003	***3050 TREMONT ST***	***WNW 0 - 1/8 (0.021 mi.)***	***C13***	***46***
RON'S OIL EXXON #2 Facility ID: 06-12-0304	***3550 S. TREMONT ST***	***SSW 0 - 1/8 (0.105 mi.)***	***E21***	***83***
HEATING OIL TANK Facility ID: 06-14-0150 Cleanup Complete: 03/11/2014	681 EXCHANGE ST	SW 1/8 - 1/4 (0.219 mi.)	25	96
CRAWFORD, JUDITH Facility ID: 06-02-5756 Cleanup Complete: 05/09/2002	***2759 SHERIDAN AVE***	***NW 1/8 - 1/4 (0.225 mi.)***	***26***	***96***
HEATING OIL TANK Facility ID: 06-02-0202 Cleanup Complete: 07/29/2003	3125 SHERMAN AVE	W 1/8 - 1/4 (0.232 mi.)	G27	96

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
HEATING OIL TANK Facility ID: 06-02-1399 Cleanup Complete: 01/07/2003	3959 SHERIDAN AVE	SSW 1/4 - 1/2 (0.255 mi.)	30	97
HEATING OIL TANK Facility ID: 06-08-1063 Cleanup Complete: 11/05/2008	2741 SHERMAN AVE	NW 1/4 - 1/2 (0.278 mi.)	31	97
UNOCAL BULK PLANT Facility ID: 06-91-0117	2395 BAYSHORE DRIVE	SSW 1/4 - 1/2 (0.284 mi.)	H33	105
HEATING OIL TANK Facility ID: 06-06-1504 Cleanup Complete: 12/05/2006	3838 SHERMAN AVE	SW 1/4 - 1/2 (0.327 mi.)	35	115
HEATING OIL TANK Facility ID: 06-07-0900 Cleanup Complete: 12/15/2009	2273 BAYSHORE	SSW 1/4 - 1/2 (0.387 mi.)	36	115
K-KWEL WHARF DEVELOP Facility ID: 06-06-1367 Cleanup Complete: 09/06/2007	***2375 TREMONT ST.***	***NNW 1/4 - 1/2 (0.442 mi.)***	***37***	***116***

State and tribal registered storage tank lists

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Environmental Quality's UST List on Disk.

A review of the UST list, as provided by EDR, and dated 01/06/2015 has revealed that there are 5 UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
UNOCAL 3663 Facility ID: 949	***3140 TREMONT ST***	***WSW 0 - 1/8 (0.016 mi.)***	***B12***	***45***
WEYERHAEUSER COMPANY Facility ID: 8233	***3050 TREMONT ST***	***WNW 0 - 1/8 (0.021 mi.)***	***C13***	***46***
TRUAX CORPORATION Facility ID: 6939	3522 TREMONT	SSW 0 - 1/8 (0.094 mi.)	E18	81
RON'S OIL EXXON #2 Facility ID: 4011	***3550 S. TREMONT ST***	***SSW 0 - 1/8 (0.105 mi.)***	***E21***	***83***
NORTH BEND ROBO CAR Facility ID: 5572	3080 SHERMAN AVE	W 1/8 - 1/4 (0.237 mi.)	G28	97

AST: The Aboveground Storage Tank database contains registered ASTs. The data comes from the list of ASTs reported to the Office of State Fire Marshal.

A review of the AST list, as provided by EDR, and dated 03/16/2015 has revealed that there are 3 AST sites within approximately 0.25 miles of the target property.

EXECUTIVE SUMMARY

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CARSON OIL CO INC Facility Id: 035876	***280 NEWMARK ST***	***SW 0 - 1/8 (0.056 mi.)***	***D15***	***63***
TYREEE OIL Facility Id: 087271	***341 NEWMARK ST***	***SW 0 - 1/8 (0.075 mi.)***	***D16***	***67***
OREGON CHIP TERMINAL Facility Id: 007619	***3701 TREMONT ST***	***SSW 1/8 - 1/4 (0.173 mi.)***	***22***	***83***

State and tribal institutional control / engineering control registries

ENG CONTROLS: Engineering controls are physical measures selected or approved by the Director for the purpose of preventing or minimizing exposure to hazardous substances.Engineering controls may include, but are not limited to, fencing, capping, horizontal or vertical barriers, hydraulic controls, and alternative water supplies.

A review of the ENG CONTROLS list, as provided by EDR, and dated 04/01/2015 has revealed that there is 1 ENG CONTROLS site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
MARSHFIELD MANUFACTU Site Id: 4074	***3040 TREMONT ST.***	***WNW 0 - 1/8 (0.023 mi.)***	***C14***	***55***

INST CONTROL: Sites with Engineering or Institutional Controls.

A review of the INST CONTROL list, as provided by EDR, and dated 04/01/2015 has revealed that there are 2 INST CONTROL sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
WEYERHAEUSER COMPANY Site Id: 527	***3050 TREMONT ST***	***WNW 0 - 1/8 (0.021 mi.)***	***C13***	***46***
MARSHFIELD MANUFACTU Site Id: 4074	***3040 TREMONT ST.***	***WNW 0 - 1/8 (0.023 mi.)***	***C14***	***55***

State and tribal voluntary cleanup sites

VCP: Responsible parties have entered into an agreement with DEQ to voluntarily address contamination associated with their property.

A review of the VCP list, as provided by EDR, and dated 03/31/2015 has revealed that there are 4 VCP sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
WEYERHAEUSER COMPANY ECS Site ID: 527	***3050 TREMONT ST***	***WNW 0 - 1/8 (0.021 mi.)***	***C13***	***46***
MARSHFIELD MANUFACTU ECS Site ID: 4074	***3040 TREMONT ST.***	***WNW 0 - 1/8 (0.023 mi.)***	***C14***	***55***

EXECUTIVE SUMMARY

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
UNOCAL MARKETING TER	***2395 N BAYSHORE DR.***	***SSW 1/4 - 1/2 (0.284 mi.)***	***H32***	***98***
ECS Site ID: 288				
K-KWEL WHARF DEVELOP	***2375 TREMONT ST.***	***NNW 1/4 - 1/2 (0.442 mi.)***	***37***	***116***
ECS Site ID: 4802				

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 03/10/2015 has revealed that there are 3 RCRA NonGen / NLR sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
UNOCAL SS 3663	***3140 TREMONT ST***	***WSW 0 - 1/8 (0.016 mi.)***	***B11***	***44***
TOSCO CORP NORTH BEN	FT OF NEWMARK ST	SW 0 - 1/8 (0.090 mi.)	D17	80
BEDROCK CAT & CORE	410 NEWMARK ST	SW 0 - 1/8 (0.097 mi.)	D19	82

US MINES: Mines Master Index File. The source of this database is the Dept. of Labor, Mine Safety and Health Administration.

A review of the US MINES list, as provided by EDR, and dated 12/30/2014 has revealed that there are 2 US MINES sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
LASKEY-CLIFTON CORPO		NNW 1/8 - 1/4 (0.213 mi.)	F23	85
LASKEY-CLIFTON CORPO		NNW 1/8 - 1/4 (0.213 mi.)	F24	90

MANIFEST: Hazardous waste manifest information.

A review of the MANIFEST list, as provided by EDR, and dated 12/31/2013 has revealed that there is 1 MANIFEST site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
WEYERHAEUSER COMPANY	***3050 TREMONT ST***	***WNW 0 - 1/8 (0.021 mi.)***	***C13***	***46***
EPA Id: ORD009047523				
Status: CEG				

EXECUTIVE SUMMARY

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

A review of the EDR MGP list, as provided by EDR, has revealed that there is 1 EDR MGP site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
MARSHFIELD MGP FORME	3040 TREMONT STREET	NNW 1/8 - 1/4 (0.240 mi.)	F29	97

EDR US Hist Auto Stat: EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

A review of the EDR US Hist Auto Stat list, as provided by EDR, has revealed that there is 1 EDR US Hist Auto Stat site within approximately 0.25 miles of the target property.

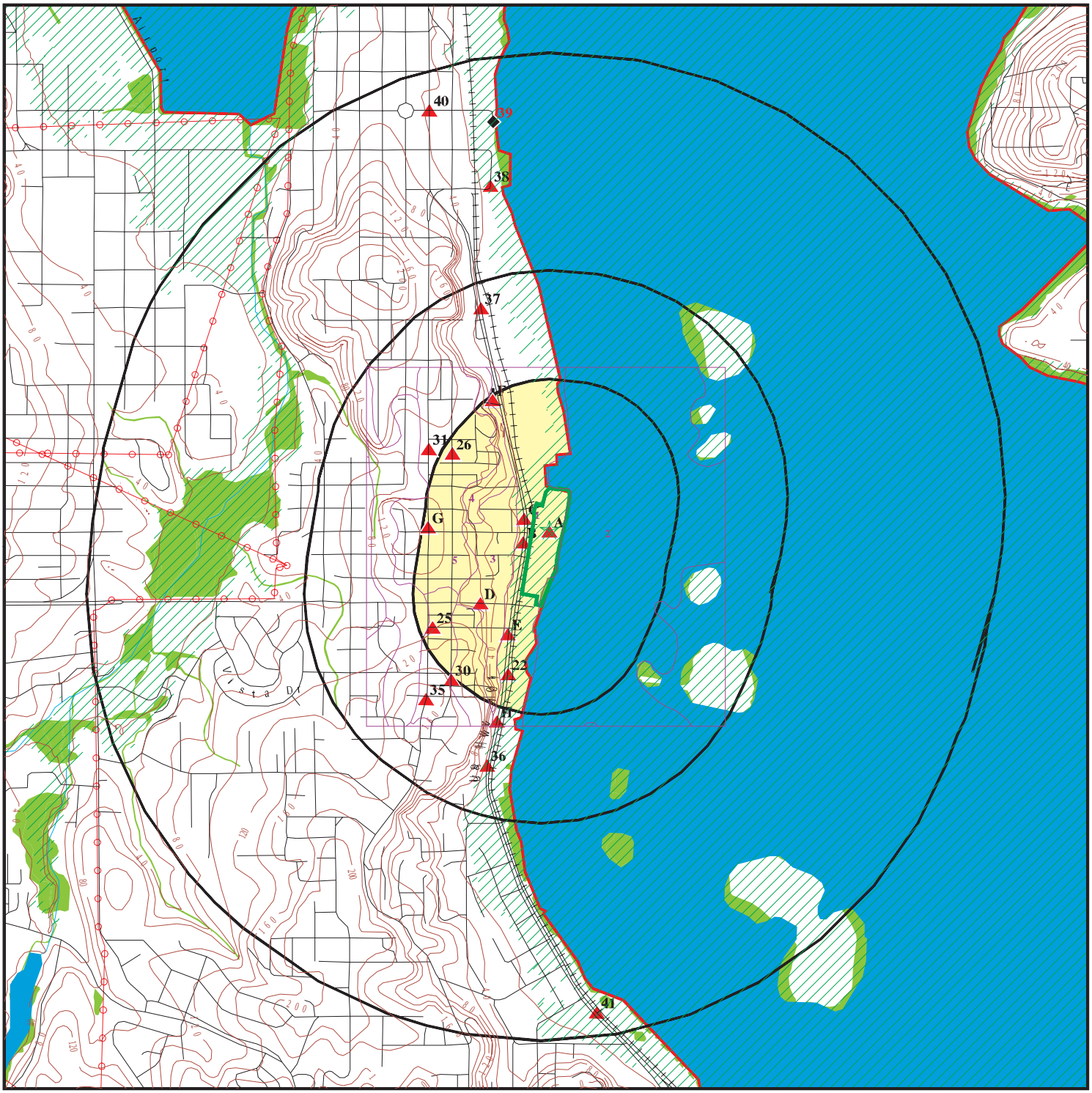
Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
Not reported	3550 TREMONT ST	SSW 0 - 1/8 (0.105 mi.)	E20	82

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 4 records.

Site Name	Database(s)
D. B. WESTERN, INC.	NPDES, HSIS, ECSI
CHARLESTON SANITARY DISTRICT - PS	LUST, UST
HEATING OIL TANK	LUST
MARSHFIELD ELECTRIC LIGHT AND GAS	EDR MGP

OVERVIEW MAP - 4331748.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites

0 1/4 1/2 1 Miles

- Indian Reservations BIA
- County Boundary
- Power transmission lines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Mill Casino Site ADDRESS: 3201 Tremont Avenue North Bend OR 97459 LAT/LONG: 43.3939 / 124.2185	CLIENT: Analytical Environmental Serv. CONTACT: Katherine Green INQUIRY #: 4331748.2s DATE: June 19, 2015 4:23 pm

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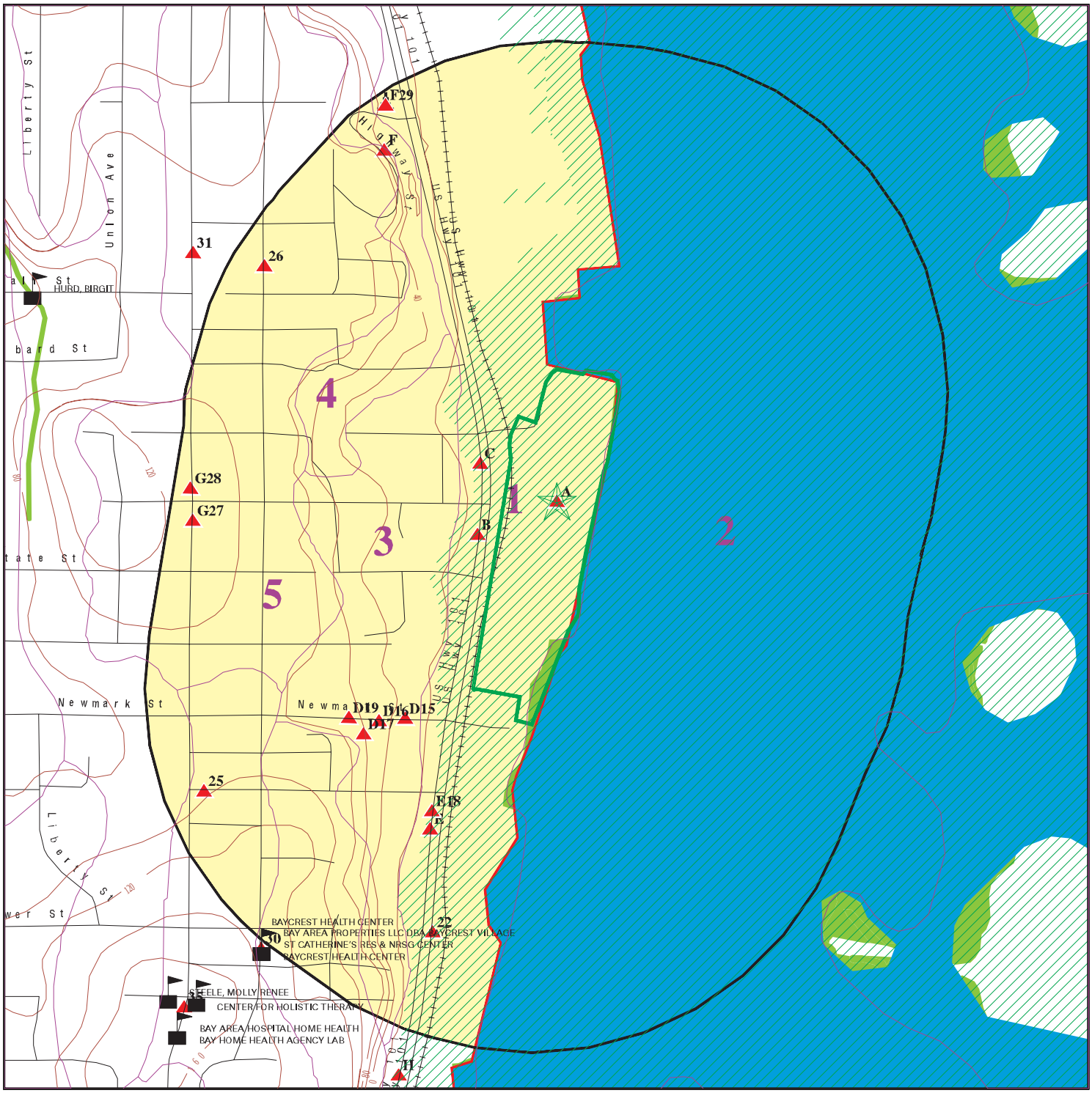
DETAIL MAP - 4331748.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

0 1/16 1/8 1/4 Miles

Indian Reservations BIA

County Boundary

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Mill Casino Site	CLIENT: Analytical Environmental Serv.
ADDRESS: 3201 Tremont Avenue North Bend OR 97459	CONTACT: Katherine Green INQUIRY #: 4331748.2s
LAT/LONG: 43.3939 / 124.2185	DATE: June 19, 2015 4:25 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	0.001		0	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
CERCLIS	0.500		0	0	0	NR	NR	0
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
LUCIS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001	1	0	NR	NR	NR	NR	1
State- and tribal - equivalent CERCLIS								
ECSI	1.000	1	3	0	3	4	NR	11
CRL	1.000		1	0	2	0	NR	3
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		3	3	6	NR	NR	12
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
UST	0.250	1	4	1	NR	NR	NR	6

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
AST	0.250	1	2	1	NR	NR	NR	4
INDIAN UST	0.250		0	0	NR	NR	NR	0
FEMA UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
ENG CONTROLS	0.500		1	0	0	NR	NR	1
INST CONTROL	0.500		2	0	0	NR	NR	2
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		2	0	2	NR	NR	4
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
HIST LF	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL	0.001		0	NR	NR	NR	NR	0
AOCONCERN	1.000		0	0	0	0	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
US HIST CDL	0.001		0	NR	NR	NR	NR	0
Local Land Records								
LIENS 2	0.001		0	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
SPILLS	0.001	1	0	NR	NR	NR	NR	1
OR HAZMAT	0.001	2	0	NR	NR	NR	NR	2
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		3	0	NR	NR	NR	3
DOT OPS	0.001		0	NR	NR	NR	NR	0
DOD	1.000		0	0	0	0	NR	0
FUDS	1.000		0	0	0	0	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CONSENT	1.000		0	0	0	0	NR	0
ROD	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
US MINES	0.250		0	2	NR	NR	NR	2
TRIS	0.001		0	NR	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
FTTS	0.001	2	0	NR	NR	NR	NR	2
HIST FTTS	0.001	2	0	NR	NR	NR	NR	2
SSTS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001	1	0	NR	NR	NR	NR	1
PADS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
FINDS	0.001	2	0	NR	NR	NR	NR	2
RAATS	0.001		0	NR	NR	NR	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
MANIFEST	0.250		1	0	NR	NR	NR	1
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
AIRS	0.001		0	NR	NR	NR	NR	0
HSIS	0.001	1	0	NR	NR	NR	NR	1
INDIAN RESERV	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
COAL ASH	0.500		0	0	0	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	1	0	0	NR	1
EDR US Hist Auto Stat	0.250		1	0	NR	NR	NR	1
EDR US Hist Cleaners	0.250		0	0	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA HWS	0.001	2	0	NR	NR	NR	NR	2
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		17	23	8	13	4	0	65

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1
Target
Property

SUN PLYWOOD MILL (FORMER)
3201 TREMONT ST
NORTH BEND, OR

RGA HWS **S115338310**
N/A

Site 1 of 10 in cluster A

Actual:
7 ft.

RGA HWS:

2005	SUN PLYWOOD MILL (FORMER)	3201 TREMONT ST
2004	SUN PLYWOOD MILL (FORMER)	3201 TREMONT ST
2003	SUN PLYWOOD MILL (FORMER)	3201 TREMONT ST
2002	SUN PLYWOOD MILL (FORMER)	3201 TREMONT ST
2001	SUN PLYWOOD MILL (FORMER)	3201 TREMONT ST
2000	SUN PLYWOOD MILL (FORMER)	3201 TREMONT ST
1999	SUN PLYWOOD MILL (FORMER)	3201 TREMONT ST
1998	SUN PLYWOOD MILL (FORMER)	3201 TREMONT ST
1997	SUN PLYWOOD MILL (FORMER)	3201 TREMONT ST
1996	SUN PLYWOOD MILL (FORMER)	3201 TREMONT ST
1995	SUN PLYWOOD MILL (FORMER)	3201 TREMONT ST

A2
Target
Property

SUN PLYWOOD MILL (FORMER)
3201 TREMONT ST.
NORTH BEND, OR

RGA HWS **S115338309**
N/A

Site 2 of 10 in cluster A

Actual:
7 ft.

RGA HWS:

2012	SUN PLYWOOD MILL (FORMER)	3201 TREMONT ST.
2011	SUN PLYWOOD MILL (FORMER)	3201 TREMONT ST.
2010	SUN PLYWOOD MILL (FORMER)	3201 TREMONT ST.
2009	SUN PLYWOOD MILL (FORMER)	3201 TREMONT ST.
2008	SUN PLYWOOD MILL (FORMER)	3201 TREMONT ST.
2007	SUN PLYWOOD MILL (FORMER)	3201 TREMONT ST.
2006	SUN PLYWOOD MILL (FORMER)	3201 TREMONT ST.

A3 Target Property | **SUN PLYWOOD INC**
3201 TREMONT ST
NORTH BEND, OR 97459 | **UST** | **U004015922**
N/A

Site 3 of 10 in cluster A

Actual: 7 ft.

UST:

Facility ID:	7880
Facility Telephone:	(503)756-3141
Permittee Name:	DON TRAX, PLANT SUPERINTENDENT
Number of Permitted Tanks:	Not reported
Active Tanks:	Not reported
Decommissioned Tanks:	1
Number of Tanks:	1

A4 Target Property | **SUN PLYWOOD INC**
3201 TREMONT PO BOX 527
NORTH BEND, OR 97459 | **FINDS** | **1007051097**
N/A

Site 4 of 10 in cluster A

Actual: 7 ft.

FINDS:

Registry ID: 110015259619

Environmental Interest/Information System

OR-DEQ (Oregon - Department Of Environmental Quality) is a regulatory agency whose job is to protect the quality of Oregon's Environment. DEQ uses a combination of technical assistance, inspections and permitting to help public and private facilities and citizens understand and comply with state and federal environmental regulations.

NCDB (National Compliance Data Base) supports implementation of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Toxic Substances Control Act (TSCA). The system tracks inspections in regions and states with cooperative agreements, enforcement actions, and settlements.

A5 Target Property | **3201 TREMONT AVE**
NORTH BEND, OR 97459 | **ERNS** | **2011964731**
N/A

Site 5 of 10 in cluster A

Actual: 7 ft.

Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.

A6 Target Property | **MILL CASINO & HOTEL THE**
3201 TREMONT AVE
NORTH BEND, OR 97459 | **ICIS** | **1004580813**
FINDS | **N/A**

Site 6 of 10 in cluster A

Actual: 7 ft.

ICIS:

Enforcement Action ID:	10-1997-0116
FRS ID:	110001659517
Program ID:	FRS 110001659517
Action Name:	SUN PLYWOOD, INC.
Full Address:	3201 TREMONT AVE NORTH BEND OR 97459-3062
State:	Oregon
Facility Name:	MILL CASINO & HOTEL THE
Facility Address:	3201 TREMONT AVE NORTH BEND, OR 97459-3062
Enforcement Action Type:	TSCA 16 Action For Penalty
Facility County:	COOS
EPA Region #:	10

Program ID:	FRS 110001659517
Facility Name:	MILL CASINO & HOTEL THE
Address:	3201 TREMONT AVE
Tribal Indicator:	N
Fed Facility:	Not reported
NAIC Code:	Not reported
SIC Code:	2436

FINDS:

Registry ID: 110001659517

Environmental Interest/Information System

ICIS (Integrated Compliance Information System) is the Integrated Compliance Information System and provides a database that, when complete, will contain integrated Enforcement and Compliance information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain Enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions. This information is maintained in ICIS by EPA in the Regional offices and it Headquarters. A future release of ICIS will replace the Permit Compliance System (PCS) which supports the NPDES and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities occurring in the Region that support Compliance and Enforcement programs. These include; Incident Tracking, Compliance Assistance, and Compliance Monitoring.

A7 Target Property | **SUN PLYWOOD INC**
3201 TREMONT PO BOX 527
NORTH BEND, OR 97459

FTTS **1009524475**
HIST FTTS **N/A**

Site 7 of 10 in cluster A

Actual: 7 ft.

FTTS:

Case Number:	Not reported
Docket Number:	10-97-0116-TSCA
Complaint Issue Date:	07/31/97
Abatement Amount:	0.0000
Proposed Penalty:	72000.0000
Final Assessment:	19550.0000
Final Order Date:	12/01/97
Close Date:	/ /
Violations(s):	Failure to Notify EPA of PCB Waste Activ

HIST FTTS:

Case Number:	Not reported
Docket Number:	10-97-0116-TSCA
Complaint Issue Date:	07/31/1997
Abatement Amount:	0.0000
Proposed Penalty:	72000.0000
Final Assessment:	19550.0000
Final Order Date:	12/01/1997
Close Date:	/ /
Violations(s):	Failure to Notify EPA of PCB Waste Activ

A8 Target Property | **3201 TREMONT AVE**
COOS BAY, OR 97420

OR HAZMAT **S112058796**
N/A

Site 8 of 10 in cluster A

Actual: 7 ft.

HAZMAT:

Responsble Party:	Not reported
RP Company:	Not reported
RP Address:	Not reported
RP City,St,Zip:	Not reported
Facility ID:	12-1293
OERS Number:	Not reported
Dept Rsp:	Not reported
Narrative:	Not reported
Property Loss:	Not reported
Amount Released:	Not reported
Service County:	Not reported
Service Name:	COOS BAY F&R
Incident Type:	Not reported
Civilian Casualty Activity:	Not reported
Chemical Name:	Not reported
Hazmat Area Affected:	Not reported
Hazmat Area Evacuated:	Not reported
Hazmat Container Type:	Not reported
Hazmat Physical State Released:	Not reported
Hazmat Released Into:	Not reported
Hazmat Released Volume Units:	Not reported
Hazmat Released Weight Units:	Not reported

(Continued) **S112058796**

Hazmat Released From:	Not reported
Hazmat Area Affected Measurement:	Not reported
Hazmat No. of People Evacuated:	Not reported
Hazmat No of Buildings Evacuated:	Not reported
Incident Content Loss:	Not reported
Civilian Casualty Patient Disposition:	Not reported
Remark:	Not reported
Incident District:	Not reported
Date Added:	Not reported
Unit:	Not reported
Agency Phone:	Not reported
Osfm Incident Report Number:	Not reported
Dept. Responding:	Not reported
Person Making Report:	Not reported
Title:	Not reported
Agency:	Not reported
Phone:	Not reported
Date Of Incident:	07/16/2012
Call Time:	Not reported
In Route:	Not reported
Arrival:	Not reported
Depart Scene:	Not reported
Back In Quarters:	Not reported
In Service:	Not reported
Dist Of Incident:	Not reported
Were State Resources Used?:	Not reported
Was Oers Notified?:	Not reported
Oers Number:	Not reported
Team Number:	Not reported
Agency Report Number:	Not reported
Unit:	Not reported
Highway:	Not reported
Mile Post:	Not reported
Scene Type:	Not reported
Area Type:	Not reported
Responsible Party(Ies):	Not reported
Company:	Not reported
Respcontact:	Not reported
Address:	Not reported
Resp City:	Not reported
Resp State:	Not reported
Resp ZipCode:	Not reported
Phone:	Not reported
Resp Phone2:	Not reported
Weather:	Not reported
Temperature:	Not reported
Wind Speed:	Not reported
Wind Direction:	Not reported
Were Haz Materials Released?:	Not reported
Operation Performed:	Not reported
Cause:	Not reported
Vehicle And Cargo:	Not reported
Fixed Property:	Not reported
Total Loss:	Not reported
Hazmat Population Density:	Not reported
HazMat Actions Taken - Description:	Not reported
Hazmat Factors Contributing To Release:	Not reported

(Continued) **S112058796**

Hazmat DOT Hazard Classification: Not reported
Hazmat CAS Number: Not reported
Hazardous Materials Release: Not reported
Fire Incident Type: Not reported
Property Use: Not reported
Latitude: Not reported
Longitude: Not reported
Hazmat Disposition: Not reported

A9 Target Property | **SUN PLYWOOD INC**
3201 TREMONT PO BOX 527
NORTH BEND, OR 97459

FTTS **1007295492**
HIST FTTS **N/A**

Site 9 of 10 in cluster A

Actual: 7 ft.

FTTS INSP:
Inspection Number: 199609240819 1
Region: 10
Inspection Date: 09/24/96
Inspector: LONG
Violation occurred: Yes
Investigation Type: Section 6 PCB Federal Conducted
Investigation Reason: Neutral Scheme, Region
Legislation Code: TSCA
Facility Function: User

HIST FTTS INSP:
Inspection Number: 199609240819 1
Region: 10
Inspection Date: Not reported
Inspector: LONG
Violation occurred: Yes
Investigation Type: Section 6 PCB Federal Conducted
Investigation Reason: Neutral Scheme, Region
Legislation Code: TSCA
Facility Function: User

A10 Target Property | **SUN PLYWOOD, INCORPORATED**
3201 TREMONT ST
NORTH BEND, OR 97459

AST **S108573229**
SPILLS **N/A**
OR HAZMAT
HSIS
ECSI

Site 10 of 10 in cluster A

Actual: 7 ft.

AST:
Facility Id: 067009
Hazardous Substance: DIESEL FUEL
Reporting Quantities: 5,000-9,999
Quantity Units: GALLONS
Physical State: LIQUID
Storage 1: ABOVEGROUND TANK

OR SPILLS:
Year: Not reported

SUN PLYWOOD, INCORPORATED (Continued) **S108573229**

DEQ Region: Not reported
Facility ID: 09-2167
Incident Status: Not reported
Spill Date: Not reported
Material: Diesel fuel
Quantity: 3
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 09/23/2009
Description: Carson Oil reporting spill of up to 3 gallons of diesel during a fuel transfer. The line had pressure on it when the operator disconnected it. The fuel sprayed out as a mist and coated the driver and the back of the truck cab. Little to no impacts noted to the harbor. Absorbents used to scrub the dock and truck cab.
Location: Not reported
Lat/Long: 43.393500000000003 / -124.2195
Source: Motor Vehicle - Tank Truck
Media: On pavement/asphalt - not direct on soil
Responsible Company: Carson Oil Company Inc.
Responsible Contact: Chris Davis
Responsible Address: 280 Newmark St
Responsible City,St,Zip: North Bend, OR 97459-2981
Responsible Country: COOS

Year: Not reported
DEQ Region: Not reported
Facility ID: 09-2167
Incident Status: Not reported
Spill Date: Not reported
Material: Diesel fuel
Quantity: 3
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 09/23/2009
Description: Carson Oil reporting spill of up to 3 gallons of diesel during a fuel transfer. The line had pressure on it when the operator disconnected it. The fuel sprayed out as a mist and coated the driver and the back of the truck cab. Little to no impacts noted to the harbor. Absorbents used to scrub the dock and truck cab.
Location: Not reported
Lat/Long: 43.393500000000003 / -124.2195
Source: Motor Vehicle - Tank Truck
Media: Not reported
Responsible Company: Carson Oil Company Inc.
Responsible Contact: Chris Davis
Responsible Address: 280 Newmark St
Responsible City,St,Zip: North Bend, OR 97459-2981
Responsible Country: COOS

Year: Not reported
DEQ Region: Not reported
Facility ID: 04-0152
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 4
Unit of Measure: Gallons

SUN PLYWOOD, INCORPORATED (Continued) **S108573229**

How Occurred: Not reported
Release Date: 01/18/2004
Description: A customer of the casino drove over the curb and damaged the fuel tank of their van. Contacted the Hotel, confirmed they did not have gasoline in the bay. Discussed the incident and the reporting rules. There is a catch basin where the gas has been collected and they have sorbents placed in the drains. FSE is due to arrive midday.
Location: Not reported
Lat/Long: 43.3927 / -124.2191
Source: Motor Vehicle - Private
Media: Suspected, unknown, or no discharge
Responsible Company: Not reported
Responsible Contact: Not reported
Responsible Address: Not reported
Responsible City,St,Zip: Not reported
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: 04-0152
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 4
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/18/2004
Description: A customer of the casino drove over the curb and damaged the fuel tank of their van. Contacted the Hotel, confirmed they did not have gasoline in the bay. Discussed the incident and the reporting rules. There is a catch basin where the gas has been collected and they have sorbents placed in the drains. FSE is due to arrive midday.
Location: Not reported
Lat/Long: 43.392699999999998 / -124.2191
Source: Motor Vehicle - Private
Media: Not reported
Responsible Company: Not reported
Responsible Contact: Not reported
Responsible Address: Not reported
Responsible City,St,Zip: Not reported
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: 04-0152
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 4
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/18/2004
Description: A customer of the casino drove over the curb and damaged the fuel tank of their van. Contacted the Hotel, confirmed they did not have gasoline in the bay. Discussed the incident and the reporting rules. There is a catch basin where the gas has been collected and they have sorbents placed in the drains. FSE is due to arrive midday.

SUN PLYWOOD, INCORPORATED (Continued) **S108573229**

Location: Not reported
Lat/Long: 43.3927 / -124.2191
Source: Motor Vehicle - Private
Media: Suspected, unknown, or no discharge
Responsible Company: Not reported
Responsible Contact: Not reported
Responsible Address: Not reported
Responsible City,St,Zip: Not reported
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: 04-0152
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 4
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/18/2004
Description: A customer of the casino drove over the curb and damaged the fuel tank of their van. Contacted the Hotel, confirmed they did not have gasoline in the bay. Discussed the incident and the reporting rules. There is a catch basin where the gas has been collected and they have sorbents placed in the drains. FSE is due to arrive midday.
Location: Not reported
Lat/Long: 43.3927 / -124.2191
Source: Motor Vehicle - Private
Media: On pavement/asphalt - not direct on soil
Responsible Company: Not reported
Responsible Contact: Not reported
Responsible Address: Not reported
Responsible City,St,Zip: Not reported
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: 04-0152
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 4
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/18/2004
Description: A customer of the casino drove over the curb and damaged the fuel tank of their van. Contacted the Hotel, confirmed they did not have gasoline in the bay. Discussed the incident and the reporting rules. There is a catch basin where the gas has been collected and they have sorbents placed in the drains. FSE is due to arrive midday.
Location: Not reported
Lat/Long: 43.3927 / -124.2191
Source: Motor Vehicle - Private
Media: Coding for the PS/BC Oil Spill Database
Responsible Company: Not reported
Responsible Contact: Not reported
Responsible Address: Not reported

SUN PLYWOOD, INCORPORATED (Continued) **S108573229**

Responsible City,St,Zip: Not reported
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: 04-0152
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 4
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/18/2004
Description: A customer of the casino drove over the curb and damaged the fuel tank of their van. Contacted the Hotel, confirmed they did not have gasoline in the bay. Discussed the incident and the reporting rules. There is a catch basin where the gas has been collected and they have sorbents placed in the drains. FSE is due to arrive midday.
Location: Not reported
Lat/Long: 43.3927 / -124.2191
Source: Motor Vehicle - Private
Media: Not reported
Responsible Company: Not reported
Responsible Contact: Not reported
Responsible Address: Not reported
Responsible City,St,Zip: Not reported
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: 04-0152
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 4
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/18/2004
Description: A customer of the casino drove over the curb and damaged the fuel tank of their van. Contacted the Hotel, confirmed they did not have gasoline in the bay. Discussed the incident and the reporting rules. There is a catch basin where the gas has been collected and they have sorbents placed in the drains. FSE is due to arrive midday.
Location: Not reported
Lat/Long: 43.3927 / -124.2191
Source: Motor Vehicle - Private
Media: Not reported
Responsible Company: Not reported
Responsible Contact: Not reported
Responsible Address: Not reported
Responsible City,St,Zip: Not reported
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: 07-0416
Incident Status: Not reported

SUN PLYWOOD, INCORPORATED (Continued) **S108573229**

Spill Date: Not reported
Material: Not reported
Quantity: 1
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 02/24/2007
Description: Sheen reported in the parking lot of the Mill Casino construction site, originating from creosote-soaked pilings. A 20'x50' sheen was noted in the hotel parking lot, and a storm drain was impacted. The casino is on Coos Bay.
Location: Not reported
Lat/Long: 43.393500000000003 / -124.2195
Source: Construction Site
Media: Suspected, unknown, or no discharge
Responsible Company: Mill Casino
Responsible Contact: Nathan Starr
Responsible Address: 3201 Tremont St
Responsible City,St,Zip: North Bend, OR 97459-3062
Responsible Country: COOS

Year: Not reported
DEQ Region: Not reported
Facility ID: 07-0416
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 1
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 02/24/2007
Description: Sheen reported in the parking lot of the Mill Casino construction site, originating from creosote-soaked pilings. A 20'x50' sheen was noted in the hotel parking lot, and a storm drain was impacted. The casino is on Coos Bay.
Location: Not reported
Lat/Long: 43.393500000000003 / -124.2195
Source: Construction Site
Media: On pavement/asphalt - not direct on soil
Responsible Company: Mill Casino
Responsible Contact: Nathan Starr
Responsible Address: 3201 Tremont St
Responsible City,St,Zip: North Bend, OR 97459-3062
Responsible Country: COOS

Year: Not reported
DEQ Region: Not reported
Facility ID: 07-0416
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 1
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 02/24/2007
Description: Sheen reported in the parking lot of the Mill Casino construction site, originating from creosote-soaked pilings. A 20'x50' sheen was noted in the hotel parking lot, and a storm drain was impacted. The

SUN PLYWOOD, INCORPORATED (Continued) **S108573229**

casino is on Coos Bay.
Location: Not reported
Lat/Long: 43.393500000000003 / -124.2195
Source: Construction Site
Media: Not reported
Responsible Company: Mill Casino
Responsible Contact: Nathan Starr
Responsible Address: 3201 Tremont St
Responsible City,St,Zip: North Bend, OR 97459-3062
Responsible Country: COOS

Year: Not reported
DEQ Region: Not reported
Facility ID: 04-0152
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 4
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/18/2004
Description: A customer of the casino drove over the curb and damaged the fuel tank of their van. Contacted the Hotel, confirmed they did not have gasoline in the bay. Discussed the incident and the reporting rules. There is a catch basin where the gas has been collected and they have sorbents placed in the drains. FSE is due to arrive midday.
Location: Not reported
Lat/Long: 43.392699999999998 / -124.2191
Source: Motor Vehicle - Private
Media: Suspected, unknown, or no discharge
Responsible Company: Not reported
Responsible Contact: Not reported
Responsible Address: Not reported
Responsible City,St,Zip: Not reported
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: 04-0152
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 4
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/18/2004
Description: A customer of the casino drove over the curb and damaged the fuel tank of their van. Contacted the Hotel, confirmed they did not have gasoline in the bay. Discussed the incident and the reporting rules. There is a catch basin where the gas has been collected and they have sorbents placed in the drains. FSE is due to arrive midday.
Location: Not reported
Lat/Long: 43.392699999999998 / -124.2191
Source: Motor Vehicle - Private
Media: On pavement/asphalt - not direct on soil
Responsible Company: Not reported
Responsible Contact: Not reported

SUN PLYWOOD, INCORPORATED (Continued) **S108573229**

Responsible Address: Not reported
Responsible City,St,Zip: Not reported
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: 04-0152
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 4
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/18/2004
Description: A customer of the casino drove over the curb and damaged the fuel tank of their van. Contacted the Hotel, confirmed they did not have gasoline in the bay. Discussed the incident and the reporting rules. There is a catch basin where the gas has been collected and they have sorbents placed in the drains. FSE is due to arrive midday.
Location: Not reported
Lat/Long: 43.392699999999998 / -124.2191
Source: Motor Vehicle - Private
Media: Coding for the PS/BC Oil Spill Database
Responsible Company: Not reported
Responsible Contact: Not reported
Responsible Address: Not reported
Responsible City,St,Zip: Not reported
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: 04-0152
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 4
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/18/2004
Description: A customer of the casino drove over the curb and damaged the fuel tank of their van. Contacted the Hotel, confirmed they did not have gasoline in the bay. Discussed the incident and the reporting rules. There is a catch basin where the gas has been collected and they have sorbents placed in the drains. FSE is due to arrive midday.
Location: Not reported
Lat/Long: 43.392699999999998 / -124.2191
Source: Motor Vehicle - Private
Media: Not reported
Responsible Company: Not reported
Responsible Contact: Not reported
Responsible Address: Not reported
Responsible City,St,Zip: Not reported
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: 07-0416

SUN PLYWOOD, INCORPORATED (Continued) **S108573229**

Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 1
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 02/24/2007
Description: Sheen reported in the parking lot of the Mill Casino construction site, originating from creosote-soaked pilings. A 20'x50' sheen was noted in the hotel parking lot, and a storm drain was impacted. The casino is on Coos Bay.
Location: Not reported
Lat/Long: 43.393500000000003 / -124.2195
Source: Construction Site
Media: Suspected, unknown, or no discharge
Responsible Company: Mill Casino
Responsible Contact: Nathan Starr
Responsible Address: 3201 Tremont St
Responsible City,St,Zip: North Bend, OR 97459-3062
Responsible Country: COOS

Year: Not reported
DEQ Region: Not reported
Facility ID: 07-0416
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 1
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 02/24/2007
Description: Sheen reported in the parking lot of the Mill Casino construction site, originating from creosote-soaked pilings. A 20'x50' sheen was noted in the hotel parking lot, and a storm drain was impacted. The casino is on Coos Bay.
Location: Not reported
Lat/Long: 43.393500000000003 / -124.2195
Source: Construction Site
Media: On pavement/asphalt - not direct on soil
Responsible Company: Mill Casino
Responsible Contact: Nathan Starr
Responsible Address: 3201 Tremont St
Responsible City,St,Zip: North Bend, OR 97459-3062
Responsible Country: COOS

Year: Not reported
DEQ Region: Not reported
Facility ID: 07-0416
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 1
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 02/24/2007
Description: Sheen reported in the parking lot of the Mill Casino construction site, originating from creosote-soaked pilings. A 20'x50' sheen was

SUN PLYWOOD, INCORPORATED (Continued) **S108573229**

noted in the hotel parking lot, and a storm drain was impacted. The casino is on Coos Bay.
Location: Not reported
Lat/Long: 43.393500000000003 / -124.2195
Source: Construction Site
Media: Not reported
Responsible Company: Mill Casino
Responsible Contact: Nathan Starr
Responsible Address: 3201 Tremont St
Responsible City,St,Zip: North Bend, OR 97459-3062
Responsible Country: COOS

Year: Not reported
DEQ Region: Not reported
Facility ID: 04-0152
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 4
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/18/2004
Description: A customer of the casino drove over the curb and damaged the fuel tank of their van. Contacted the Hotel, confirmed they did not have gasoline in the bay. Discussed the incident and the reporting rules. There is a catch basin where the gas has been collected and they have sorbents placed in the drains. FSE is due to arrive midday.
Location: Not reported
Lat/Long: 43.3927 / -124.2191
Source: Motor Vehicle - Private
Media: Suspected, unknown, or no discharge
Responsible Company: Not reported
Responsible Contact: Not reported
Responsible Address: Not reported
Responsible City,St,Zip: Not reported
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: 04-0152
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 4
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/18/2004
Description: A customer of the casino drove over the curb and damaged the fuel tank of their van. Contacted the Hotel, confirmed they did not have gasoline in the bay. Discussed the incident and the reporting rules. There is a catch basin where the gas has been collected and they have sorbents placed in the drains. FSE is due to arrive midday.
Location: Not reported
Lat/Long: 43.3927 / -124.2191
Source: Motor Vehicle - Private
Media: On pavement/asphalt - not direct on soil
Responsible Company: Not reported

SUN PLYWOOD, INCORPORATED (Continued) **S108573229**

Responsible Contact: Not reported
Responsible Address: Not reported
Responsible City,St,Zip: Not reported
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: 04-0152
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 4
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/18/2004
Description: A customer of the casino drove over the curb and damaged the fuel tank of their van. Contacted the Hotel, confirmed they did not have gasoline in the bay. Discussed the incident and the reporting rules. There is a catch basin where the gas has been collected and they have sorbents placed in the drains. FSE is due to arrive midday.
Location: Not reported
Lat/Long: 43.3927 / -124.2191
Source: Motor Vehicle - Private
Media: Coding for the PS/BC Oil Spill Database
Responsible Company: Not reported
Responsible Contact: Not reported
Responsible Address: Not reported
Responsible City,St,Zip: Not reported
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: 04-0152
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 4
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/18/2004
Description: A customer of the casino drove over the curb and damaged the fuel tank of their van. Contacted the Hotel, confirmed they did not have gasoline in the bay. Discussed the incident and the reporting rules. There is a catch basin where the gas has been collected and they have sorbents placed in the drains. FSE is due to arrive midday.
Location: Not reported
Lat/Long: 43.3927 / -124.2191
Source: Motor Vehicle - Private
Media: Not reported
Responsible Company: Not reported
Responsible Contact: Not reported
Responsible Address: Not reported
Responsible City,St,Zip: Not reported
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported

SUN PLYWOOD, INCORPORATED (Continued) **S108573229**

Facility ID: 07-0416
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 1
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 02/24/2007
Description: Sheen reported in the parking lot of the Mill Casino construction site, originating from creosote-soaked pilings. A 20'x50' sheen was noted in the hotel parking lot, and a storm drain was impacted. The casino is on Coos Bay.
Location: Not reported
Lat/Long: 43.3935 / -124.2195
Source: Construction Site
Media: Suspected, unknown, or no discharge
Responsible Company: Mill Casino
Responsible Contact: Nathan Starr
Responsible Address: 3201 Tremont St
Responsible City,St,Zip: North Bend, OR 97459-3062
Responsible Country: COOS

Year: Not reported
DEQ Region: Not reported
Facility ID: 07-0416
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 1
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 02/24/2007
Description: Sheen reported in the parking lot of the Mill Casino construction site, originating from creosote-soaked pilings. A 20'x50' sheen was noted in the hotel parking lot, and a storm drain was impacted. The casino is on Coos Bay.
Location: Not reported
Lat/Long: 43.3935 / -124.2195
Source: Construction Site
Media: On pavement/asphalt - not direct on soil
Responsible Company: Mill Casino
Responsible Contact: Nathan Starr
Responsible Address: 3201 Tremont St
Responsible City,St,Zip: North Bend, OR 97459-3062
Responsible Country: COOS

Year: Not reported
DEQ Region: Not reported
Facility ID: 07-0416
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 1
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 02/24/2007
Description: Sheen reported in the parking lot of the Mill Casino construction

SUN PLYWOOD, INCORPORATED (Continued) **S108573229**

site, originating from creosote-soaked pilings. A 20'x50' sheen was noted in the hotel parking lot, and a storm drain was impacted. The casino is on Coos Bay.
Location: Not reported
Lat/Long: 43.3935 / -124.2195
Source: Construction Site
Media: Not reported
Responsible Company: Mill Casino
Responsible Contact: Nathan Starr
Responsible Address: 3201 Tremont St
Responsible City,St,Zip: North Bend, OR 97459-3062
Responsible Country: COOS

Year: Not reported
DEQ Region: Not reported
Facility ID: 07-0416
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 1
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 02/24/2007
Description: Sheen reported in the parking lot of the Mill Casino construction site, originating from creosote-soaked pilings. A 20'x50' sheen was noted in the hotel parking lot, and a storm drain was impacted. The casino is on Coos Bay.
Location: Not reported
Lat/Long: 43.393500000000003 / -124.2195
Source: Construction Site
Media: Suspected, unknown, or no discharge
Responsible Company: Mill Casino
Responsible Contact: Nathan Starr
Responsible Address: 3201 Tremont St
Responsible City,St,Zip: North Bend, OR 97459-3062
Responsible Country: COOS

Year: Not reported
DEQ Region: Not reported
Facility ID: 07-0416
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 1
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 02/24/2007
Description: Sheen reported in the parking lot of the Mill Casino construction site, originating from creosote-soaked pilings. A 20'x50' sheen was noted in the hotel parking lot, and a storm drain was impacted. The casino is on Coos Bay.
Location: Not reported
Lat/Long: 43.393500000000003 / -124.2195
Source: Construction Site
Media: On pavement/asphalt - not direct on soil
Responsible Company: Mill Casino
Responsible Contact: Nathan Starr

SUN PLYWOOD, INCORPORATED (Continued) **S108573229**

Responsible Address: 3201 Tremont St
Responsible City,St,Zip: North Bend, OR 97459-3062
Responsible Country: COOS

Year: Not reported
DEQ Region: Not reported
Facility ID: 07-0416
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 1
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 02/24/2007
Description: Sheen reported in the parking lot of the Mill Casino construction site, originating from creosote-soaked pilings. A 20'x50' sheen was noted in the hotel parking lot, and a storm drain was impacted. The casino is on Coos Bay.
Location: Not reported
Lat/Long: 43.393500000000003 / -124.2195
Source: Construction Site
Media: Not reported
Responsible Company: Mill Casino
Responsible Contact: Nathan Starr
Responsible Address: 3201 Tremont St
Responsible City,St,Zip: North Bend, OR 97459-3062
Responsible Country: COOS

Year: Not reported
DEQ Region: Not reported
Facility ID: 04-0152
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 4
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/18/2004
Description: A customer of the casino drove over the curb and damaged the fuel tank of their van. Contacted the Hotel, confirmed they did not have gasoline in the bay. Discussed the incident and the reporting rules. There is a catch basin where the gas has been collected and they have sorbents placed in the drains. FSE is due to arrive midday.
Location: Not reported
Lat/Long: 43.392699999999998 / -124.2191
Source: Motor Vehicle - Private
Media: Suspected, unknown, or no discharge
Responsible Company: Not reported
Responsible Contact: Not reported
Responsible Address: Not reported
Responsible City,St,Zip: Not reported
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: 04-0152
Incident Status: Not reported

SUN PLYWOOD, INCORPORATED (Continued) **S108573229**

Spill Date: Not reported
Material: Not reported
Quantity: 4
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/18/2004
Description: A customer of the casino drove over the curb and damaged the fuel tank of their van. Contacted the Hotel, confirmed they did not have gasoline in the bay. Discussed the incident and the reporting rules. There is a catch basin where the gas has been collected and they have sorbents placed in the drains. FSE is due to arrive midday.
Location: Not reported
Lat/Long: 43.392699999999998 / -124.2191
Source: Motor Vehicle - Private
Media: On pavement/asphalt - not direct on soil
Responsible Company: Not reported
Responsible Contact: Not reported
Responsible Address: Not reported
Responsible City,St,Zip: Not reported
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: 04-0152
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 4
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/18/2004
Description: A customer of the casino drove over the curb and damaged the fuel tank of their van. Contacted the Hotel, confirmed they did not have gasoline in the bay. Discussed the incident and the reporting rules. There is a catch basin where the gas has been collected and they have sorbents placed in the drains. FSE is due to arrive midday.
Location: Not reported
Lat/Long: 43.392699999999998 / -124.2191
Source: Motor Vehicle - Private
Media: Coding for the PS/BC Oil Spill Database
Responsible Company: Not reported
Responsible Contact: Not reported
Responsible Address: Not reported
Responsible City,St,Zip: Not reported
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: 07-0416
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 1
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 02/24/2007
Description: Sheen reported in the parking lot of the Mill Casino construction

SUN PLYWOOD, INCORPORATED (Continued) **S108573229**

site, originating from creosote-soaked pilings. A 20'x50' sheen was noted in the hotel parking lot, and a storm drain was impacted. The casino is on Coos Bay.
Location: Not reported
Lat/Long: 43.3935 / -124.2195
Source: Construction Site
Media: Suspected, unknown, or no discharge
Responsible Company: Mill Casino
Responsible Contact: Nathan Starr
Responsible Address: 3201 Tremont St
Responsible City,St,Zip: North Bend, OR 97459-3062
Responsible Country: COOS

Year: Not reported
DEQ Region: Not reported
Facility ID: 07-0416
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 1
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 02/24/2007
Description: Sheen reported in the parking lot of the Mill Casino construction site, originating from creosote-soaked pilings. A 20'x50' sheen was noted in the hotel parking lot, and a storm drain was impacted. The casino is on Coos Bay.
Location: Not reported
Lat/Long: 43.3935 / -124.2195
Source: Construction Site
Media: On pavement/asphalt - not direct on soil
Responsible Company: Mill Casino
Responsible Contact: Nathan Starr
Responsible Address: 3201 Tremont St
Responsible City,St,Zip: North Bend, OR 97459-3062
Responsible Country: COOS

Year: Not reported
DEQ Region: Not reported
Facility ID: 07-0416
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 1
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 02/24/2007
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Location: Not reported
Lat/Long: 43.3935 / -124.2195
Source: Construction Site
Media: Not reported
Responsible Company: Mill Casino
Responsible Contact: Nathan Starr

SUN PLYWOOD, INCORPORATED (Continued) **S108573229**

Responsible Address: 3201 Tremont St
Responsible City,St,Zip: North Bend, OR 97459-3062
Responsible Country: COOS

Year: Not reported
DEQ Region: Not reported
Facility ID: 04-0152
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 4
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/18/2004
Description: A customer of the casino drove over the curb and damaged the fuel tank of their van. Contacted the Hotel, confirmed they did not have gasoline in the bay. Discussed the incident and the reporting rules. There is a catch basin where the gas has been collected and they have sorbents placed in the drains. FSE is due to arrive midday.
Location: Not reported
Lat/Long: 43.3927 / -124.2191
Source: Motor Vehicle - Private
Media: Suspected, unknown, or no discharge
Responsible Company: Not reported
Responsible Contact: Not reported
Responsible Address: Not reported
Responsible City,St,Zip: Not reported
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: 04-0152
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 4
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/18/2004
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Location: Not reported
Lat/Long: 43.3927 / -124.2191
Source: Motor Vehicle - Private
Media: On pavement/asphalt - not direct on soil
Responsible Company: Not reported
Responsible Contact: Not reported
Responsible Address: Not reported
Responsible City,St,Zip: Not reported
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: 04-0152

SUN PLYWOOD, INCORPORATED (Continued) **S108573229**

Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 4
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/18/2004
Description: A customer of the casino drove over the curb and damaged the fuel tank of their van. Contacted the Hotel, confirmed they did not have gasoline in the bay. Discussed the incident and the reporting rules. There is a catch basin where the gas has been collected and they have sorbents placed in the drains. FSE is due to arrive midday.
Location: Not reported
Lat/Long: 43.3927 / -124.2191
Source: Motor Vehicle - Private
Media: Coding for the PS/BC Oil Spill Database
Responsible Company: Not reported
Responsible Contact: Not reported
Responsible Address: Not reported
Responsible City,St,Zip: Not reported
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: 04-0152
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 4
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/18/2004
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Location: Not reported
Lat/Long: 43.3927 / -124.2191
Source: Motor Vehicle - Private
Media: Not reported
Responsible Company: Not reported
Responsible Contact: Not reported
Responsible Address: Not reported
Responsible City,St,Zip: Not reported
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: 04-0152
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 4
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/18/2004

SUN PLYWOOD, INCORPORATED (Continued) **S108573229**

Description: A customer of the casino drove over the curb and damaged the fuel tank of their van. Contacted the Hotel, confirmed they did not have gasoline in the bay. Discussed the incident and the reporting rules. There is a catch basin where the gas has been collected and they have sorbents placed in the drains. FSE is due to arrive midday.
Location: Not reported
Lat/Long: 43.3927 / -124.2191
Source: Motor Vehicle - Private
Media: On pavement/asphalt - not direct on soil
Responsible Company: Not reported
Responsible Contact: Not reported
Responsible Address: Not reported
Responsible City,St,Zip: Not reported
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: 04-0152
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 4
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/18/2004
Description: A customer of the casino drove over the curb and damaged the fuel tank of their van. Contacted the Hotel, confirmed they did not have gasoline in the bay. Discussed the incident and the reporting rules. There is a catch basin where the gas has been collected and they have sorbents placed in the drains. FSE is due to arrive midday.
Location: Not reported
Lat/Long: 43.3927 / -124.2191
Source: Motor Vehicle - Private
Media: Coding for the PS/BC Oil Spill Database
Responsible Company: Not reported
Responsible Contact: Not reported
Responsible Address: Not reported
Responsible City,St,Zip: Not reported
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: 07-0416
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 1
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 02/24/2007
Description: Sheen reported in the parking lot of the Mill Casino construction site, originating from creosote-soaked pilings. A 20’x50’ sheen was noted in the hotel parking lot, and a storm drain was impacted. The casino is on Coos Bay.
Location: Not reported
Lat/Long: 43.3935 / -124.2195
Source: Construction Site

SUN PLYWOOD, INCORPORATED (Continued) **S108573229**

Media: Suspected, unknown, or no discharge
Responsible Company: Mill Casino
Responsible Contact: Nathan Starr
Responsible Address: 3201 Tremont St
Responsible City,St,Zip: North Bend, OR 97459-3062
Responsible Country: COOS

Year: Not reported
DEQ Region: Not reported
Facility ID: 07-0416
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 1
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 02/24/2007
Description: Sheen reported in the parking lot of the Mill Casino construction site, originating from creosote-soaked pilings. A 20'x50' sheen was noted in the hotel parking lot, and a storm drain was impacted. The casino is on Coos Bay.
Location: Not reported
Lat/Long: 43.3935 / -124.2195
Source: Construction Site
Media: On pavement/asphalt - not direct on soil
Responsible Company: Mill Casino
Responsible Contact: Nathan Starr
Responsible Address: 3201 Tremont St
Responsible City,St,Zip: North Bend, OR 97459-3062
Responsible Country: COOS

Year: Not reported
DEQ Region: Not reported
Facility ID: 07-0416
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 1
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 02/24/2007
Description: Sheen reported in the parking lot of the Mill Casino construction site, originating from creosote-soaked pilings. A 20'x50' sheen was noted in the hotel parking lot, and a storm drain was impacted. The casino is on Coos Bay.
Location: Not reported
Lat/Long: 43.3935 / -124.2195
Source: Construction Site
Media: Not reported
Responsible Company: Mill Casino
Responsible Contact: Nathan Starr
Responsible Address: 3201 Tremont St
Responsible City,St,Zip: North Bend, OR 97459-3062
Responsible Country: COOS

Year: Not reported
DEQ Region: Not reported

SUN PLYWOOD, INCORPORATED (Continued) **S108573229**

Facility ID: 04-0152
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 4
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/18/2004
Description: A customer of the casino drove over the curb and damaged the fuel tank of their van. Contacted the Hotel, confirmed they did not have gasoline in the bay. Discussed the incident and the reporting rules. There is a catch basin where the gas has been collected and they have sorbents placed in the drains. FSE is due to arrive midday.
Location: Not reported
Lat/Long: 43.392699999999998 / -124.2191
Source: Motor Vehicle - Private
Media: Suspected, unknown, or no discharge
Responsible Company: Not reported
Responsible Contact: Not reported
Responsible Address: Not reported
Responsible City,St,Zip: Not reported
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: 04-0152
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 4
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/18/2004
Description: A customer of the casino drove over the curb and damaged the fuel tank of their van. Contacted the Hotel, confirmed they did not have gasoline in the bay. Discussed the incident and the reporting rules. There is a catch basin where the gas has been collected and they have sorbents placed in the drains. FSE is due to arrive midday.
Location: Not reported
Lat/Long: 43.392699999999998 / -124.2191
Source: Motor Vehicle - Private
Media: On pavement/asphalt - not direct on soil
Responsible Company: Not reported
Responsible Contact: Not reported
Responsible Address: Not reported
Responsible City,St,Zip: Not reported
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: 04-0152
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 4
Unit of Measure: Gallons
How Occurred: Not reported

SUN PLYWOOD, INCORPORATED (Continued) **S108573229**

Release Date: 01/18/2004
Description: A customer of the casino drove over the curb and damaged the fuel tank of their van. Contacted the Hotel, confirmed they did not have gasoline in the bay. Discussed the incident and the reporting rules. There is a catch basin where the gas has been collected and they have sorbents placed in the drains. FSE is due to arrive midday.
Location: Not reported
Lat/Long: 43.392699999999998 / -124.2191
Source: Motor Vehicle - Private
Media: Coding for the PS/BC Oil Spill Database
Responsible Company: Not reported
Responsible Contact: Not reported
Responsible Address: Not reported
Responsible City,St,Zip: Not reported
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: 04-0152
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 4
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/18/2004
Description: A customer of the casino drove over the curb and damaged the fuel tank of their van. Contacted the Hotel, confirmed they did not have gasoline in the bay. Discussed the incident and the reporting rules. There is a catch basin where the gas has been collected and they have sorbents placed in the drains. FSE is due to arrive midday.
Location: Not reported
Lat/Long: 43.392699999999998 / -124.2191
Source: Motor Vehicle - Private
Media: Not reported
Responsible Company: Not reported
Responsible Contact: Not reported
Responsible Address: Not reported
Responsible City,St,Zip: Not reported
Responsible Country: Not reported

Year: Not reported
DEQ Region: Not reported
Facility ID: 07-0416
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 1
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 02/24/2007
Description: Sheen reported in the parking lot of the Mill Casino construction site, originating from creosote-soaked pilings. A 20’x50’ sheen was noted in the hotel parking lot, and a storm drain was impacted. The casino is on Coos Bay.
Location: Not reported
Lat/Long: 43.3935 / -124.2195

SUN PLYWOOD, INCORPORATED (Continued) **S108573229**

Source: Construction Site
Media: Suspected, unknown, or no discharge
Responsible Company: Mill Casino
Responsible Contact: Nathan Starr
Responsible Address: 3201 Tremont St
Responsible City,St,Zip: North Bend, OR 97459-3062
Responsible Country: COOS

Year: Not reported
DEQ Region: Not reported
Facility ID: 07-0416
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 1
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 02/24/2007
Description: Sheen reported in the parking lot of the Mill Casino construction site, originating from creosote-soaked pilings. A 20'x50' sheen was noted in the hotel parking lot, and a storm drain was impacted. The casino is on Coos Bay.
Location: Not reported
Lat/Long: 43.3935 / -124.2195
Source: Construction Site
Media: On pavement/asphalt - not direct on soil
Responsible Company: Mill Casino
Responsible Contact: Nathan Starr
Responsible Address: 3201 Tremont St
Responsible City,St,Zip: North Bend, OR 97459-3062
Responsible Country: COOS

Year: Not reported
DEQ Region: Not reported
Facility ID: 07-0416
Incident Status: Not reported
Spill Date: Not reported
Material: Not reported
Quantity: 1
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 02/24/2007
Description: Sheen reported in the parking lot of the Mill Casino construction site, originating from creosote-soaked pilings. A 20'x50' sheen was noted in the hotel parking lot, and a storm drain was impacted. The casino is on Coos Bay.
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Lat/Long: 43.3935 / -124.2195
Source: Construction Site
Media: Not reported
Responsible Company: Mill Casino
Responsible Contact: Nathan Starr
Responsible Address: 3201 Tremont St
Responsible City,St,Zip: North Bend, OR 97459-3062
Responsible Country: COOS

SUN PLYWOOD, INCORPORATED (Continued) **S108573229**

HAZMAT:

Responsble Party:	Not reported
RP Company:	Not reported
RP Address:	Not reported
RP City,St,Zip:	Not reported
Facility ID:	HM15-12-0040
OERS Number:	Not reported
Dept Rsp:	Not reported
Narrative:	Not reported
Property Loss:	1000
Amount Released:	70
Service County:	Not reported
Service Name:	Hazmat Team 15
Incident Type:	Not reported
Civilian Casualty Activity:	Not reported
Chemical Name:	Diesel
Hazmat Area Affected:	Square feet
Hazmat Area Evacuated:	Blocks
Hazmat Container Type:	Vehicle fuel tank and associated piping
Hazmat Physical State Released:	Liquid
Hazmat Released Into:	Ground
Hazmat Released Volume Units:	Gallons
Hazmat Released Weight Units:	Not reported
Hazmat Released From:	Outside of structure
Hazmat Area Affected Measurement:	30
Hazmat No. of People Evacuated:	0
Hazmat No of Buildings Evacuated:	Not reported
Incident Content Loss:	200
Civilian Casualty Patient Disposition:	Not reported
Remark:	Not reported
Incident District:	Not reported
Date Added:	Not reported
Unit:	Not reported
Agency Phone:	Not reported
Osfm Incident Report Number:	Not reported
Dept. Responding:	Not reported
Person Making Report:	Not reported
Title:	Not reported
Agency:	Not reported
Phone:	Not reported
Date Of Incident:	07/16/2012
Call Time:	Not reported
In Route:	Not reported
Arrival:	Not reported
Depart Scene:	Not reported
Back In Quarters:	Not reported
In Service:	Not reported
Dist Of Incident:	Not reported
Were State Resources Used?:	Not reported
Was Oers Notified?:	Not reported
Oers Number:	Not reported
Team Number:	Not reported
Agency Report Number:	Not reported
Unit:	Not reported
Highway:	Not reported
Mile Post:	Not reported
Scene Type:	Not reported

SUN PLYWOOD, INCORPORATED (Continued) **S108573229**

Area Type:	Not reported
Responsible Party(Ies):	Not reported
Company:	Not reported
Respcontact:	Not reported
Address:	Not reported
Resp City:	Not reported
Resp State:	Not reported
Resp ZipCode:	Not reported
Phone:	Not reported
Resp Phone2:	Not reported
Weather:	Not reported
Temperature:	Not reported
Wind Speed:	Not reported
Wind Direction:	Not reported
Were Haz Materials Released?:	Not reported
Operation Performed:	Not reported
Cause:	Unintentional release
Vehicle And Cargo:	Not reported
Fixed Property:	Not reported
Total Loss:	Not reported
Hazmat Population Density:	Not reported
HazMat Actions Taken - Description:	Not reported
Hazmat Factors Contributing To Release:	Not reported
Hazmat DOT Hazard Classification:	Not reported
Hazmat CAS Number:	Not reported
Hazardous Materials Release:	Not reported
Fire Incident Type:	Not reported
Property Use:	Not reported
Latitude:	Not reported
Longitude:	Not reported
Hazmat Disposition:	Not reported

HSIS:

Facility Id:	117895
Chemical Is Extremely Hazardous Substance (EHS):	No
Department Or Division Of Company:	MILL CASINO 102054
Facility Has Written Emergency Plan:	No
Contains 112R:	No
NAICS Code 1:	517212
NAICS Desc 1:	CELLULAR & OTHER WIRELESS TELECOMMUNICATIO
NAICS Code 2:	000000
NAICS Desc 2:	Not reported
Manager Name:	RANDALL STEPHENSON
Business Phone:	4255801548
Mailing Address:	308 S AKARD ST RM 1708
Mailing City,St,Zip:	DALLAS, TX 75202
No. of Employees:	0
Day Phone:	5038803008
Placard:	Yes
Fire Dept Code:	0262
Sprinkler System:	No
Emergency Contact:	BRENDA LEFEBVRE
Emergency Procedure:	Not reported
Business Type:	WIRELESS TELECOMMUNICATIONS - CELL SITE

Facility:

Facility Id:	117895

SUN PLYWOOD, INCORPORATED (Continued) **S108573229**

Physical State Of The Substance:	1
Physical State:	SOLID
Average Amount Possessed During The Year Code:	20
Maximum Amount Possessed During The Year Code:	20
Applicable Unit Of Measure Code:	1
Description Of The Unit Of Measure:	POUNDS
Type Code:	R
Description:	OTHER
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	1,000-4,999
Description Of The Avg Qnty Code:	1,000-4,999
Most Hazardous Ingridient:	SULFURIC ACID
United Nations/north America 4 Digit Class Number:	2794
Hazard Rank:	4
EHS Ingredient:	SULFURIC ACID
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Acute Health Hazard
Second Hazardous Class Code For Chemical:	Corrosive Material
Third Hazardous Class Code For Chemical:	Chronic Health Hazard
Hazard Class 1 Of The Chemical:	6.3
Hazard Class 2 Of The Chemical:	8.0
Hazard Class 3 Of The Chemical:	6.4

Chemical:

United Nations/north America 4 Digit Class Number:	2794
Chemical Abstract Service Identifier Number:	7664939
Chemical Is Extremely Hazardous Substance (EHS):	No
First Hazardous Class Code For Chemical:	Acute Health Hazard
Second Hazardous Class Code For Chemical:	Corrosive Material
Third Hazardous Class Code For Chemical:	Chronic Health Hazard
Hazard Class 1 Of The Chemical:	6.3
Hazard Class 2 Of The Chemical:	8.0
Hazard Class 3 Of The Chemical:	6.4
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Contains 112R:	No
Contains EHS:	Yes
Fertilizer:	No
Pesticide:	No
Contains 313:	Yes

Facility Id:	067009
Chemical Is Extremely Hazardous Substance (EHS):	No
Department Or Division Of Company:	Not reported

SUN PLYWOOD, INCORPORATED (Continued) **S108573229**

Facility Has Written Emergency Plan:	Yes
Contains 112R:	No
NAICS Code 1:	721120
NAICS Desc 1:	CASINO HOTELS
NAICS Code 2:	000000
NAICS Desc 2:	Not reported
Manager Name:	RICHARD RUDDER
Business Phone:	5417568800
Mailing Address:	3201 TREMONT ST
Mailing City,St,Zip:	NORTH BEND, OR 97459
No. of Employees:	481
Day Phone:	5417568800
Placard:	Yes
Fire Dept Code:	0262
Sprinkler System:	Yes
Emergency Contact:	RICHARD RUDDER
Emergency Procedure:	SECURITY-HR-FACILITIES-EACH INDIVIDUAL DEPT
Business Type:	CASINO & HOTEL

Facility:

Facility Id:	067009
Physical State Of The Substance:	2
Physical State:	LIQUID
Average Amount Possessed During The Year Code:	21
Maximum Amount Possessed During The Year Code:	21
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	A
Description:	ABOVEGROUND TANK
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	5,000-9,999
Description Of The Avg Qnty Code:	5,000-9,999
Most Hazardous Ingridient:	PETROLEUM MID-DISTILLATES
United Nations/north America 4 Digit Class Number:	1993
Hazard Rank:	2
EHS Ingredient:	NONE LISTED ON MSDS
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Flammable and Combustible Liquid
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	3.0
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	Not reported

Chemical:

United Nations/north America 4 Digit Class Number:	1993

SUN PLYWOOD, INCORPORATED (Continued) **S108573229**

Chemical Abstract Service Identifier Number:	68476346
Chemical Is Extremely Hazardous Substance (EHS):	No
First Hazardous Class Code For Chemical:	Flammable and Combustible Liquid
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	3.0
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Contains 112R:	No
Contains EHS:	No
Fertilizer:	No
Pesticide:	No
Contains 313:	No

ECSI:

State ID Number:	1644	Brown ID:	0
Study Area:	False	Region ID:	3
Legislatve ID:	0	Investigation:	Suspect
FACA ID:	5906	Further Action:	260
Lat/Long (dms):	43 23 34.00 / -124 13 9.00	County Code:	6.00
Score Value:	Not reported	Cerclis ID:	Not reported
Township Coord.:	25.00	Township Zone:	S
Range Coord:	13.00	Range Zone:	W
Section Coord:	22	Qtr Section:	SW
Tax Lots:	Not reported	Size:	11.5 acres
NPL:	False	Orphan:	False
Updated By:	GWISTAR	Update Date:	08/15/2006

Narrative:

NARR ID: 5734694
NARR Code: Contamination
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
NARR Comments: (KNA 1/18/95) This site came to the attention of SAS via several letters to DEQ's director raising environmental concerns at the Sun Plywood facility. Western Region SAS staff reviewed documentation on the site and performed a brief walk-through of the site on January 5, 1995. The mill ceased operation in 1990 and is currently being considered as a potential site for redevelopment as a casino. The majority of the mill equipment is sold and the building is mostly empty. The site is currently being leased to CEDCO, the proposed developers of the property.

NARR ID: 5734695
NARR Code: Data Sources
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
NARR Comments: Level One Site Assessment for Sun Plywood, 1/27/93, by EMC; Level II Sampling & Analysis, Old Joe Ney-Sun Plywood, 2/7/94, by EMC;

SUN PLYWOOD, INCORPORATED (Continued) **S108573229**

Untitled summary of investigations, including South Lot Investigation, 12/13/94, by EMC.

NARR ID: 5748492
NARR Code: General Site Description
Created By: GWISTAR
Created Date: 08/15/2006
Updated By: GWISTAR
Updated Date: 08/15/2006
NARR Comments: The site lies between Hwy 101 on the west and Coos Bay on the east, and is bounded on the north and south by commercial and industrial properties, with Davis Oil Co. on the south and Weyerhaeuser on the north. There is one main building on the site which housed the majority of the mill's operation. Also on the site are a Pacific Power & Light electrical substation on the north end of the property, and two smaller buildings, the oil house and the storage warehouse, on the south end of the property. There is paving over the north end of the site and on a driveway that runs from the south end of the building around towards the west, where it ties into the road. The balance of the site is gravel or dirt. The topography of the site is generally level, with a slight slope towards the east. A portion of the plant is built on a wood-plank floor that extends out over the bay. Numerous grates, which daylight out to the bay below, are set into the floor in this area. A railroad spur serves the property, and the tracks run most of the length of the building. The tracks are located just inside the west wall of the main building and exit the building near the northwest corner. A loading dock parallels the tracks inside the building. Other features of the mill included two large press pits located near the north end of the building. The pits are approximately 40-50 feet long and 25-30 feet deep.

NARR ID: 5734696
NARR Code: Hazardous Substance/Waste Types
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
NARR Comments: Possible release of petroleum products, including hydraulic fluid, lubricating oils, diesel; possible release of methylene chloride.

NARR ID: 5734697
NARR Code: Manner of Release
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
NARR Comments: Releases likely to have occurred due to operating practices.

NARR ID: 5734698
NARR Code: Site Ownership
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
NARR Comments: (1/24/95 KNA) Site ownership is in transition from Sun Plywood to the U.S. government, to be held in trust for the Coquille Tribe as tribal lands.

SUN PLYWOOD, INCORPORATED (Continued) **S108573229**

NARR ID: 5734699
NARR Code: Pathways Other Hazards
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
NARR Comments: Shallow seasonal groundwater (7-9 feet); site is located adjacent to and over Coos Bay.

NARR ID: 5734700
NARR Code: Remedial Action
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
NARR Comments: (1/24/95 KNA) The current owner has verbally indicated an interest in further investigation at the site to address issues raised in site screening. Site is low priority for further DEQ investigation based on lack of potential human receptors. Low priority XPA has been recommended.

NARR ID: 5748491
NARR Code: Site History
Created By: GWISTAR
Created Date: 08/15/2006
Updated By: GWISTAR
Updated Date: 08/15/2006
NARR Comments: (1/18/95 KNA/SAS) Site history is somewhat sketchy, but based on the environmental assessment performed by Environmental Management Consultants (EMC) and conversations with Sun Plywood staff, it appears that the site has been operated for industrial use since the 1940s, and was apparently owned or operated by Weyerhaeuser previous to the Sun Plywood operation. The previous use of the site was as a sawmill. Until 1987, there was a steam plant powerhouse located to the east and adjacent to the electrical substation. This structure was demolished and removed in 1987.The current building was constructed in 1963 and was specifically designed for the plywood mill. The mill ceased operation in June 1990.

Administrative Action:

Admin ID:	711010	Action ID:	9459
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	11/28/1994	Complete Date:	01/18/1995
Substance Code:	SAS	Rank Value:	0
Employee Id:	179	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	PAE	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False

Action: PRELIMINARY ASSESSMENT EQUIVALENT
Further Action: Not reported
Comments: PAE based on SAS review of site assessment work completed by site owners and site visit by SAS staff on January 5, 1995.

Admin ID:	717160	Action ID:	9424
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	01/13/1995	Complete Date:	Not reported
Substance Code:	SAS	Rank Value:	0
Employee Id:	179	Cleanup Flag:	False

SUN PLYWOOD, INCORPORATED (Continued) **S108573229**

Created By:	Not reported	Created Date:	12/17/2002
Action Code:	ENTRY	Category:	Administrative Action
Action Flag:	True	Action Code Flag:	False
Action:	Site added to database		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	717161	Action ID:	9425
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	11/28/1994	Complete Date:	01/18/1995
Substance Code:	SAS	Rank Value:	0
Employee Id:	179	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	EV	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	SITE EVALUATION		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	717162	Action ID:	9437
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	01/18/1995	Complete Date:	01/18/1995
Substance Code:	SAS	Rank Value:	0
Employee Id:	179	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	LRC	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Listing Review completed		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	717163	Action ID:	9449
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	01/18/1995	Complete Date:	Not reported
Substance Code:	SAS	Rank Value:	0
Employee Id:	179	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	NSFL	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Insufficient information to list		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	717395	Action ID:	9510
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	01/18/1995	Complete Date:	01/18/1995
Substance Code:	SAS	Rank Value:	0
Employee Id:	179	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RXPA	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	State Expanded Preliminary Assessment recommended (XPA)		
Further Action:	Low		
Comments:	Recommend further investigation of issues identified in Strategy Recommendation.		

Operations:
Operation Id: 132976

SUN PLYWOOD, INCORPORATED (Continued) **S108573229**

Operation Status:	Inactive
Common Name:	Sun Plywood Mill
Yrs of Operation:	1963-1990 (27 years)
Comments:	Not reported
Updated Date:	02/09/1996
Operations SIC Id:	195896
SIC Code:	2436
Created By:	Not reported
Created Date:	12/17/2002

B11 **UNOCAL SS 3663** **RCRA NonGen / NLR** **1000167516**
WSW **3140 TREMONT ST** **FINDS** **ORD987176500**
< 1/8 **NORTH BEND, OR 97459**
0.016 mi.
84 ft. **Site 1 of 2 in cluster B**

Relative:
Higher

Actual:
18 ft.

RCRA NonGen / NLR:

Date form received by agency:	07/23/1990
Facility name:	UNOCAL SS 3663
Facility address:	3140 TREMONT ST NORTH BEND, OR 97459
EPA ID:	ORD987176500
Mailing address:	PO BOX 76 SEATTLE, WA 98111
Contact:	Not reported
Contact address:	Not reported Not reported
Contact country:	US
Contact telephone:	Not reported
Contact email:	Not reported
EPA Region:	10
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	GRANT NEILSON
Owner/operator address:	PO BOX 76 SEATTLE, WA 98111
Owner/operator country:	Not reported
Owner/operator telephone:	(206) 443-7548
Legal status:	Other
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No

UNOCAL SS 3663 (Continued) **1000167516**

Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 07/23/1990
Site name: UNOCAL SS 3663
Classification: Not a generator, verified

Violation Status: No violations found

FINDS:

Registry ID: 110004798247

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

B12 **UNOCAL 3663** **LUST** **U004015923**
WSW **3140 TREMONT ST** **UST** **N/A**
< 1/8 **NORTH BEND, OR 97459**
0.016 mi.
84 ft. **Site 2 of 2 in cluster B**

Relative:
Higher

Actual:
18 ft.

LUST:
Region: Western Region
Facility ID: 06-90-0041
Cleanup Received Date: 03/12/1990
Cleanup Start Date: 03/12/1990
Cleanup Complete Date: 01/10/2001

UST:
Facility ID: 949
Facility Telephone: (503)756-7633
Permittee Name: ALVIN WARRICK, DEALER
Number of Permitted Tanks: Not reported
Active Tanks: Not reported
Decommissioned Tanks: 5
Number of Tanks: 5

C13	**WEYERHAEUSER COMPANY**	**LUST**	**1000214992**
WNW	**3050 TREMONT ST**	**UST**	**N/A**
< 1/8	**NORTH BEND, OR 97459**	**MANIFEST**	
0.021 mi.		**INST CONTROL**	
112 ft.	**Site 1 of 2 in cluster C**	**VCP**	
		ECSI	
Relative:		**CRL**	
Higher			
Actual:			
17 ft.			

LUST:

Region:	Western Region
Facility ID:	06-94-0049
Cleanup Received Date:	08/31/1994
Cleanup Start Date:	09/14/1994
Cleanup Complete Date:	**09/16/2003**

UST:

Facility ID:	8233
Facility Telephone:	(503)756-5121
Permittee Name:	JIM STEVENS, ENVIRONMENTAL COORDINATOR
Number of Permitted Tanks:	Not reported
Active Tanks:	Not reported
Decommissioned Tanks:	5
Number of Tanks:	5

OR MANIFEST:

Manifest Year:	Manifest Year - 2006
EPA Id:	ORD009047523
Inactive Status:	2006-12-31 00:00:00
Organization Name:	Not reported
Contact Name:	Jennifer Hale
Contact Telephone Number:	253 924-3746
Mailing Address:	PO Box 9777 EC2-2C1
Mailing City/State/Zip:	Federal Way, WA 98063-9777

OR INSTUTIONAL CONTROL:

Site Control Sequence #:	563
Site Id:	527
Control Sequence #:	3
Begin Date:	05/18/2009
End Date:	Not reported
Frequency Of Review:	60
Last Reviewed By:	Bill Mason
Last Review Date:	Not reported
Last Updated By:	WMASON
Last Updated Date:	08/04/2009
Group Sequence #:	2
Control Code:	EES
Control Description:	Easement Equitable Servitude
FK Type Code:	1
Group Code:	PR
Group Description:	Proprietary
Type Code:	I
Type Description:	Institutional
Comments:	A small volume of pentachlorophenol contamination, located in soils about 8 feet below ground surface and capped with asphalt, has been

WEYERHAEUSER COMPANY (Continued) **1000214992**

left in place. An Easement and Equitable Servitude for the site requires that the cap remain intact, and current and future land owners follow a soil management plan in the unlikely event of those soils are disturbed by development activities.

VCS:

ECS Site ID:	527
Facility Size:	53.4 acres
Action:	No Further Action (Conditional)
Start Date:	07/14/2009
End Date:	07/14/2009
Program:	VCP
Latitude:	43.4
Longitude:	-124.2201

ECSI:

State ID Number:	527	Brown ID:	0
Study Area:	False	Region ID:	3
Legislatve ID:	0	Investigation:	Listed on the CRL/Inventory
FACA ID:	9167	Further Action:	0
Lat/Long (dms):	43 24 .00 / -124 13 12.40	County Code:	6.00
Score Value:	Not reported	Cerclis ID:	Not reported
Township Coord.:	25.00	Township Zone:	S
Range Coord:	13.00	Range Zone:	W
Section Coord:	15	Qtr Section:	Not reported
Tax Lots:	100	Size:	53.4 acres
NPL:	False	Orphan:	False
Updated By:	GWISTAR	Update Date:	09/01/2009
Alias Name:	Casino Mill		
Alias Name:	Weyerhaeuser Export Services		

Hazardous Release:

Substance ID.:	121839
Haz Release ID:	383909
Qty Released:	Not reported
Date Released:	3/24/84
Update Date:	04/10/1988
Update By:	Not reported
Substance Code:	87-86-5
Substance Name:	PENTACHLOROPHENOL
Substance Abbrev.:	Not reported
Substance Category ID:	8495
Substance Category:	Semi-volatiles
Category Level:	Not reported
Created By:	Not reported
Created Date:	12/17/2002
Substance Category ID:	8495
Substance Category:	Semi-volatiles
Category Level:	Not reported
Created By:	Not reported
Created Date:	12/17/2002
Substance Alias ID:	317688
Sub Alias Name:	CHLOROPHEN
Substance Alias ID:	317689
Sub Alias Name:	PCP
Substance Alias ID:	317690
Sub Alias Name:	PENCHLOROL

WEYERHAEUSER COMPANY (Continued) **1000214992**

Substance Alias ID: 317691
Sub Alias Name: PHENOL,PENTCHLORO-
Comment ID: 304099
Release Code: Data Sources
Release Comments: DEQ-CBBO-HW Source file
Sampling Result ID: 342102
Feature Id: Not reported
Hazard Release Id: 383909
Medium: 698
Substance Abbrev.: Not reported
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: True
Sample Depth: Not reported
Start Date: 12/14/1995
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 15 ppm (only detected in one well immediately downgradient of source (MW-6)).
Last Update By: gmw
Update Date: 10/21/1997

Substance ID.: 120973
Haz Release ID: 383910
Qty Released: 1000 gals NP-1 containing active didecyl dimethyl ammonium chloride
Date Released: 3/31/87
Update Date: 09/04/1996
Update By: Not reported
Substance Code: 12125-02-9
Substance Name: AMMONIUM CHLORIDE
Substance Abbrev.: Not reported
Comment ID: 304098
Release Code: Data Sources
Release Comments: DEQ-CBBO-WQ Source files
Sampling Result ID: 346300
Feature Id: Not reported
Hazard Release Id: 383910
Medium: 703
Substance Abbrev.: Not reported
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: False
Sample Depth: Not reported
Start Date: Not reported
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: Not reported
Last Update By: CONV
Update Date: 09/13/1994

Substance ID.: 121885
Haz Release ID: 378748
Qty Released: 1000 gals NP-1 containing carrier solvent ethanol

WEYERHAEUSER COMPANY (Continued) **1000214992**

Date Released: 3/31/87
Update Date: 09/04/1996
Update By: Not reported
Substance Code: 925-93-9
Substance Name: ETHANOL
Substance Abbrev.: Not reported
Comment ID: 304100
Release Code: Data Sources
Release Comments: DEQ-CBBO-WQ Source files
Sampling Result ID: 346301
Feature Id: Not reported
Hazard Release Id: 378748
Medium: 703
Substance Abbrev.: Not reported
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: False
Sample Depth: Not reported
Start Date: Not reported
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: Not reported
Last Update By: CONV
Update Date: 09/13/1994

Narrative:
NARR ID: 5728949
NARR Code: Contamination
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
NARR Comments: Pentachlorophenol spill on March 24, 1984. There was also an approx. 1000-gal spill of NP-1 anti-sapstain in March 1987.

NARR ID: 5748865
NARR Code: Data Sources
Created By: MENGLIS
Created Date: 12/28/2006
Updated By: WMASON
Updated Date: 09/18/2008
NARR Comments: - Data Summary Report, Proposed Recreational Vehicle Park Parcel, Former Weyerhaeuser North Bend Export Facility, North Bend, Oregon; - Ash Creek Associates, June 6, 2005 CH2M HILL, 2005a, Pentachlorophenol Investigation ReportWeyerhaeuser Export Services Site, North Bend Oregon. February 7, 2005.- _____, 2005b, 2005 Pentachlorophenol Delineation and Excavation Support Study: Weyerhaeuser Export Services Site, North Bend Oregon. December 27, 2005.- HartCrowser, 2004, Environmental Site Assessment Weyerhaeuser North Bend Export Facility. February 20, 2004.Johnson, R.L., P.J. Gehring, R.J. Kociba, and B.A. Schwetz, 1973, - Shaw Environmental, Inc., 2003, Weyerhaeuser Export Services site focused due diligence site assessment, 3050 Tremont Street, North Bend, Oregon: Project 843178, April 2, 2003.- URS Consultants Inc., 1993, Memorandum Site Inspection Prioritization Report for the Weyerhaeusers Export Services Facility, Coos Bay, Oregon. August 27, 1993.

WEYERHAEUSER COMPANY (Continued) **1000214992**

NARR ID: 5728950
NARR Code: Hazardous Substance/Waste Types
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
NARR Comments: Pentachlorophenol, petroleum, PCBs, ammonium chloride, ethanol

NARR ID: 5728951
NARR Code: Manner of Release
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
NARR Comments: Past practices associated with wood treating operation and green chain.

NARR ID: 5748866
NARR Code: Site Ownership
Created By: MENGLIS
Created Date: 12/28/2006
Updated By: MENGLIS
Updated Date: 12/28/2006
NARR Comments: Weyerhaeuser Company owned the property from 1950 until 2004. The property is currently owned by the Coquille Economic Development Corporation (CEDCO).

NARR ID: 5728952
NARR Code: Remedial Action
Created By: Not reported
Created Date: 12/17/2002
Updated By: WMASON
Updated Date: 08/04/2009
NARR Comments: Responsible Party Cleanup. The spill in 3/87 has post cleanup sample analysis. (2/2/93 JG/SWR) RP claims the dip tank was removed and cleanup done after 1990. SWR will follow up. (2/9/05 GJW/ICP) Soil and groundwater investigation, primarily for PCP contamination, is ongoing. DEQ determined that the site was an impacted property per the Oregon contaminated aquifer policy for contamination that has migrated from a nearby former MGP site (PM is Steve Nichols in Roseburg).(12/28/06 MME/ICP) DEQ determined that development of the southern portion of the property as an RV park will not pose an unacceptable human health risk. Weyerhaeuser is currently working with DEQ on a feasiblity study to address the remainder of the site. (7/09 WRM/VCP) DEQ evaluated two alternatives for cleaning up the remaining PCP contamination, which is located about 8 feet below ground surface under an RV park and is capped with asphalt. In January 2009, DEQ selected leaving the contamination in place, but required that the cap remain intact, and that a plan be developed to guide future developers on how to manage the soils in the unlikely event that the soils were ever disturbed. The plan was developed and is referenced in a deed restriction on the property that will apply to the current owner and any future owner of the property. DEQ issued a conditional no further action letter on 7/14/2009.

NARR ID: 5748867
NARR Code: Site History

WEYERHAEUSER COMPANY (Continued) **1000214992**

Created By: MENGLIS
Created Date: 12/28/2006
Updated By: WMASON
Updated Date: 05/14/2007
NARR Comments: The site was historically developed for use as a lumberyard in the 1880s. Since then, it has been used for sawmill/timber related uses.Weyerhaeuser developed the property in 1950 for lumber export services operations. Weyerhaeuser operation included a sawmill, a planer building, a green sort building, a green chain, a machine shop, a paint shop, and a powerhouse. Finished wood products were treated with pentachlorophenol in the green sort building area prior to being packaged and exported. (4/19/2007 WRM) Home Depot is currently planning to lease the northernmost portion of the site in order to build a home-improvement center. As a result, that portion of the site is being evaluated under a separate, fast-track evaluation of residual site contamination under DEQ's Independent Cleanup Pathway. Results of that evaluation are detailed under ECSI Site # 4802.

NARR ID: 5750949
NARR Code: 1922
Created By: WMASON
Created Date: 10/31/2008
Updated By: WMASON
Updated Date: 08/04/2009
NARR Comments: In January 2009, DEQ selected a remedy for the property that leaves a small amount of pentachlorophenol contamination in place under a soil and asphalt cap. A deed restriction requires that the cap remain intact, and a soil management plan is in place to guide future developers on how to manage the soils in the unlikely event that the soils were ever disturbed. The plan is referenced in the property's deed restriction that will apply to the current owner and any future owner of the property.

Copies of the deed restriction and the soil management plan can be found below.

Site Control:
Site Control #: 563
Control Number: 3
Begin Date: 05/18/2009
End Date: Not reported
Frequency Of Review: 60
Last Reviewed By: Bill Mason
Last Reviewed Date: Not reported
Last Update By: WMASON
Last Updated Date: 08/04/2009
Site Comment: A small volume of pentachlorophenol contamination, located in soils about 8 feet below ground surface and capped with asphalt, has been left in place. An Easement and Equitable Servitude for the site requires that the cap remain intact, and current and future land owners follow a soil management plan in the unlikely event of those soils are disturbed by development activities.

Administrative Action:

Admin ID:	710278	Action ID:	9465
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	08/22/1997	Complete Date:	08/22/1997
Substance Code:	SAS	Rank Value:	0
Employee Id:	566	Cleanup Flag:	False

WEYERHAEUSER COMPANY (Continued) **1000214992**

Created By:	Not reported	Created Date:	12/17/2002
Action Code:	PRC	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Facility proposed for Confirmed Release List		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	710486	Action ID:	9451
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	09/29/1997	Complete Date:	09/29/1997
Substance Code:	SAS	Rank Value:	0
Employee Id:	730	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	OOCL	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Owner/operator comments received on listing notification		
Further Action:	Not reported		
Comments:	Comments received from Roger Hunt, Operations Manager.		

Admin ID:	710565	Action ID:	9448
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	09/30/1997	Complete Date:	10/21/1997
Substance Code:	SAS	Rank Value:	0
Employee Id:	566	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	NRC	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Review for final listing		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	710566	Action ID:	9488
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	10/21/1997	Complete Date:	10/21/1997
Substance Code:	SAS	Rank Value:	0
Employee Id:	566	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RLSC	Category:	Listing Action
Action Flag:	False	Action Code Flag:	False
Action:	Listing on Confirmed Release List recommended		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	710969	Action ID:	9438
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	11/14/1997	Complete Date:	11/14/1997
Substance Code:	SAS	Rank Value:	0
Employee Id:	730	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	LSC	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Facility placed on Confirmed Release List		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	712506	Action ID:	9425
Agency:	Dept Of Environmental Quality	Region:	Western Region

WEYERHAEUSER COMPANY (Continued) **1000214992**

Start Date:	04/01/1996	Complete Date:	04/09/1996
Substance Code:	SAS	Rank Value:	0
Employee Id:	566	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	EV	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	SITE EVALUATION		
Further Action:	Not reported		
Comments:	Federal Screening		

Admin ID:	712552	Action ID:	9459
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	04/01/1996	Complete Date:	04/09/1996
Substance Code:	SAS	Rank Value:	0
Employee Id:	566	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	PAE	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	PRELIMINARY ASSESSMENT EQUIVALENT		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	713075	Action ID:	9437
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	04/08/1996	Complete Date:	04/09/1996
Substance Code:	SAS	Rank Value:	0
Employee Id:	566	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	LRC	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Listing Review completed		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	713076	Action ID:	9498
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	04/09/1996	Complete Date:	04/09/1996
Substance Code:	SAS	Rank Value:	0
Employee Id:	566	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RPLC	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Proposal for Confirmed Release List recommended		
Further Action:	Not reported		
Comments:	Confirmed release supported by analytical data supplied by RP.		

Admin ID:	713077	Action ID:	9510
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	04/09/1996	Complete Date:	04/09/1996
Substance Code:	SAS	Rank Value:	0
Employee Id:	566	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RXPA	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	State Expanded Preliminary Assessment recommended (XPA)		
Further Action:	Medium		
Comments:	Not reported		

WEYERHAEUSER COMPANY (Continued) **1000214992**

Admin ID:	718363	Action ID:	9424
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	10/04/1988	Complete Date:	Not reported
Substance Code:	SAS	Rank Value:	0
Employee Id:	26	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	ENTRY	Category:	Administrative Action
Action Flag:	True	Action Code Flag:	False
Action:	Site added to database		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	720438	Action ID:	9508
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	02/11/1994	Complete Date:	02/11/1994
Substance Code:	SAS	Rank Value:	0
Employee Id:	293	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RSSC	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	Site Screening recommended (EV)		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	723989	Action ID:	9445
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	11/30/1988	Complete Date:	Not reported
Substance Code:	SAS	Rank Value:	0
Employee Id:	Not reported	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	NOTIF	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Responsible party notified re 11/88 Inventory listing		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	727486	Action ID:	9433
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	10/22/2003	Complete Date:	01/20/2009
Substance Code:	ICP	Rank Value:	Not reported
Employee Id:	510	Cleanup Flag:	False
Created By:	MENGLIS	Created Date:	10/22/2003
Action Code:	IC	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	INDEPENDENT CLEANUP		
Further Action:	0		
Comments:	Not reported		

Admin ID:	735879	Action ID:	9494
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	10/31/2008	Complete Date:	01/20/2009
Substance Code:	ICP	Rank Value:	Not reported
Employee Id:	510	Cleanup Flag:	True
Created By:	WMASON	Created Date:	10/31/2008
Action Code:	ROD	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	RECORD OF DECISION		

WEYERHAEUSER COMPANY (Continued) **1000214992**

Further Action: Low
Comments: Not reported

Admin ID:	736095	Action ID:	9434
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	01/20/2009	Complete Date:	Not reported
Substance Code:	ICP	Rank Value:	Not reported
Employee Id:	510	Cleanup Flag:	True
Created By:	WMASON	Created Date:	01/20/2009
Action Code:	ICON	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	Institutional Control		
Further Action:	0		
Comments:	E&ES with soil management plan		

Admin ID:	736771	Action ID:	9411
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	07/14/2009	Complete Date:	07/14/2009
Substance Code:	VCP	Rank Value:	Not reported
Employee Id:	510	Cleanup Flag:	True
Created By:	WMASON	Created Date:	08/04/2009
Action Code:	CNFA	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	No Further Action (Conditional)		
Further Action:	0		
Comments:	Not reported		

Operations:

Operation Id:	131840
Operation Status:	Active
Common Name:	Weyerhaeuser - Tremont ST
Yrs of Operation:	Not reported
Comments:	wood products
Updated Date:	03/23/1995
Operations SIC Id:	195154
SIC Code:	2421
Created By:	Not reported
Created Date:	12/17/2002

CRL:

Facility ID:	527
Location ID:	9167
Status Code:	LIS
Facility Status:	No Further Action (Conditional)
Lat/Long:	43.4 / -124.2201

C14 **MARSHFIELD MANUFACTURED GAS PLANT (FORMER)** **ENG CONTROLS** **S106880452**
WNW **3040 TREMONT ST.** **INST CONTROL** **N/A**
< 1/8 **NORTH BEND, OR 97459** **VCP**
0.023 mi. **ECSI**
119 ft. **Site 2 of 2 in cluster C**

Relative: Higher

Actual: 17 ft.

OR ENG CONTROL:

Site Control Sequence #:	697
Site Id:	4074
Control Sequence #:	37
Begin Date:	09/11/2011
End Date:	Not reported

MARSHFIELD MANUFACTURED GAS PLANT (FORMER) (Continued) **S106880452**

Frequency Of Review:	60
Last Reviewed By:	Bill Mason
Last Review Date:	04/25/2013
Last Updated By:	WMASON
Last Updated Date:	04/25/2013
Group Sequence #:	9
Control Code:	CPNE
Control Description:	Cap, non-engineered
FK Type Code:	2
Group Code:	SB
Group Description:	Surface Barriers
Type Code:	E
Type Description:	Engineering
Comments:	Not reported

OR INSTUTIONAL CONTROL:

Site Control Sequence #:	696
Site Id:	4074
Control Sequence #:	3
Begin Date:	09/04/2012
End Date:	Not reported
Frequency Of Review:	60
Last Reviewed By:	Bill Mason
Last Review Date:	04/25/2013
Last Updated By:	WMASON
Last Updated Date:	04/25/2013
Group Sequence #:	2
Control Code:	EES
Control Description:	Easement Equitable Servitude
FK Type Code:	1
Group Code:	PR
Group Description:	Proprietary
Type Code:	I
Type Description:	Institutional
Comments:	Not reported

VCS:

ECS Site ID:	4074
Facility Size:	Not reported
Action:	No Further Action (Conditional)
Start Date:	05/17/2013
End Date:	05/17/2013
Program:	VCP
Latitude:	43.3943
Longitude:	-124.2195

ECSI:

State ID Number:	4074	Brown ID:	0
Study Area:	False	Region ID:	3
Legislatve ID:	0	Investigation:	Listed on the CRL/Inventory
FACA ID:	82329	Further Action:	0
Lat/Long (dms):	43 23 39.50 / -124 13 10.20	County Code:	6.00
Score Value:	Not reported	Cerclis ID:	Not reported
Township Coord.:	25.00	Township Zone:	S
Range Coord:	13.00	Range Zone:	W
Section Coord:	15	Qtr Section:	DA

MARSHFIELD MANUFACTURED GAS PLANT (FORMER) (Continued) **S106880452**

Tax Lots:	ODOT R/W, 5500	Size:	Not reported
NPL:	False	Orphan:	False
Updated By:	GWISTAR	Update Date:	08/23/2013
Alias Name:	MGP		
Alias Name:	Mountain States Power MGP		

Narrative:

NARR ID: 5744778
NARR Code: Contamination
Created By: MENGLIS
Created Date: 04/06/2004
Updated By: WMASON
Updated Date: 04/25/2013
NARR Comments: Contamination was discovered in the 1970s, during construction of a Shaving Bin storage facility at the Weyerhaeuser Export Services property. During construction of the Shaving Bin, a tar-like substance was observed.

NARR ID: 5754629
NARR Code: General Site Description
Created By: WMASON
Created Date: 04/25/2013
Updated By: WMASON
Updated Date: 04/25/2013
NARR Comments: The site is relatively flat. It is situated at the base of a hill that rises approximately 60 feet up to residential properties. Commercial buildings (e.g., restaurants) are located north of the site. Most of the Site currently lies beneath U.S. Highway 101 and railroad tracks that run along the east side of Highway 101. The State of Oregon property to the west of U.S. Highway 101 is undeveloped and covered with dense vegetation. The State of Oregon propertyimmediately east of the highway is unpaved along the railroad tracks and covered with compacted gravel and asphalt pavement immediately east of the railroad tracks. The current and reasonably likely future land use for the majority of the Site (and to the north and south of the Site) will remain state highway and rail service; the State or Oregon property to the west will remain undeveloped due to steep, unstable slopes that characterize the area. The property to the east of the Site is currently owned by CEDCO.

NARR ID: 5744777
NARR Code: Hazardous Substance/Waste Types
Created By: MENGLIS
Created Date: 04/06/2004
Updated By: SNICHOL
Updated Date: 06/17/2005
NARR Comments: Waste materials associated with MGPs include tars, lamp black (i.e., soot) and spent oxide wastes. Contaminants of concern (COCs) associated with these wastes include PAHs (polynuclear aromatic hydrocarbons), benzene, metals and cyanide. Other than tars being sold as a byproduct, no information is available on how MGP wastes at the Site were managed and/or disposed. Because of its low environmental persistence, potential cyanide contamination associated with the Site would naturally attenuate primarily through leaching, evaporation and biodegradation (Eisler 1991 & Towill et al. 1978).

NARR ID: 5754630
NARR Code: Manner of Release

MARSHFIELD MANUFACTURED GAS PLANT (FORMER) (Continued) **S106880452**

Created By: WMASON
Created Date: 04/25/2013
Updated By: WMASON
Updated Date: 04/25/2013
NARR Comments:Unknown, but likely was released from the 7,000-gallon tar well.

NARR ID: 5754631
NARR Code: Pathways Other Hazards
Created By: WMASON
Created Date: 04/25/2013
Updated By: WMASON
Updated Date: 04/25/2013
NARR Comments:Direct contact with contaminated soil and tar.

NARR ID: 5746748
NARR Code: Remedial Action
Created By: SNICHOL
Created Date: 06/17/2005
Updated By: WMASON
Updated Date: 04/25/2013
NARR Comments:(8-10-2010 WRM) DEQ has approved a series of measures to address residual contamination present at the former Marshfield Manufactured Gas Plant (MGP) in a formal Record of Decision. The proposed cleanup actions include focused excavation and off-site disposal of up to 2 feet below ground surface contaminated soil west of Highway 101; engineering controls (e.g., capping) to contain contaminated soils that remain on-site on the west and east sides of Highway 101; and institutional controls in the form of deed restrictions and soil and groundwater management plans to mitigate future exposure to contaminated soil or groundwater.

These actions were completed in the summer of 2011 to DEQ's satisfaction. No further remedial action is warranted at the site.

NARR ID: 5754632
NARR Code: Health Threats
Created By: WMASON
Created Date: 04/25/2013
Updated By: WMASON
Updated Date: 04/25/2013
NARR Comments:There are no current health threats now that the remedial activities outlined in the 2010 Record of Decision have been completed.

NARR ID: 5744779
NARR Code: Site History
Created By: MENGLIS
Created Date: 04/06/2004
Updated By: WMASON
Updated Date: 04/25/2013
NARR Comments:Based on overlapped images of a 1939 aerial photograph and a 1967 aerial photograph, the former MGP plant facilities were located on what is now U.S. Highway 101 right-of-way, as well as on what is now Tax Lot 100 of map no. 25-13-15 located just east U.S. Highway 101 and Tax Lot 5500 of map no. 25-13-15DA located just west of U.S. Highway 101. Tax Lot 100 includes the railroad tracks lying immediately east of U.S. Highway 101.Tax Lot 5500 and the U.S. Highway 101 right-of-way are owned by the Oregon Department of Transportation. Tax Lot 100 is currently owned by the Coquille

MARSHFIELD MANUFACTURED GAS PLANT (FORMER) (Continued) **S106880452**

Economic Development Corporation (CEDCO). CEDCO acquired the property from WeyCo in March 2004. Another property, previously connected by ownership to the former MGP is Tax Lot 5502 of map no. 25-13-15DA located immediately north of Tax Lot 5500. There were no known MGP facilities associated with this property. This property is currently owned by Nick and Deanne Workhoven of Coos Bay, Oregon. The former MGP was initially owned and operated by the Coos Bay Gas & Electric Company. In 1910, the former MGP was conveyed to the Northern Idaho and Montana Power Company. In December 1917, the former MGP was purchased by the Mountain States Power Company. The Northern Idaho and Montana Power Company and the Mountain States Power Company are PacifiCorp predecessor companies. Mountain States operated the plant until June 1929, when the Coos Bay Gas Company acquired the property. The Coos Bay Gas Company was owned by Union Utilities, Inc. and was affiliated with the Northwest Cities Gas Company. In October 1929, the Northwest Cities Gas Company was acquired by the Lone Star Gas Corporation. In December 1934, Lone Star sold the Coos Bay Gas Company to B.S. Pedersen. Pedersen was then president of the Coos Bay Gas Company. Pedersen operated the plant until April 1, 1938 when all operations were discontinued. The property transferred hands two more times before being purchased by the State Highway Commission (predecessor to ODOT) in November 1941. In January 1948, the State Highway Commission sold a portion of the property located east of the east line of the relocated U.S. Highway 101 (aka. Tremont Street) to WeyCo. The former plant facilities included a gas house with an attached boiler room, a compressor house, a two-story storehouse, a 25,000-cubic foot gas holder, a 5000-cubic foot gas holder, a 20,0000-gallon water tank, a 7000-gallon tar well, a 10,000-gallon oil tank, and a 5000-gallon oil tank.

NARR ID: 5752278
NARR Code: 1922
Created By: WMASON
Created Date: 06/29/2010
Updated By: WMASON
Updated Date: 04/25/2013
NARR Comments: The former Marshfield Manufactured Gas Plant produced oil gas by thermally cracking crude oil. Records indicate the plant produced approximately 14 million cubic feet of oil gas per year during the 1920s. The former Marshfield MGP Site covers approximately one acre and is located at 3040 Tremont Street (U.S. Highway 101) in North Bend, Oregon. The site is located on property owned by the State of Oregon and is mostly covered by U.S. Highway 101 and railroad tracks that run along the east side of the highway. The remainder of the site is located west of U.S. Highway 101 on an undeveloped portion of the State of Oregon property and operated by ODOT. The site is adjacent to the Casino Mill property owned by the Coquille Indian Tribe.

In 2010, DEQ approved a series of measures to address residual contamination (waste tar) present at the former gas plant. The cleanup actions included focused excavation and off-site disposal of up to 2 feet below ground surface contaminated soil west of Highway 101; engineering controls (e.g., capping) to contain contaminated soils that remain on-site on the west and east sides of Highway 101; and institutional controls in the form of deed restrictions and soil and groundwater management plans to mitigate future exposure to contaminated soil or groundwater. These actions were completed in the summer of 2011 to DEQ’s satisfaction.No further

MARSHFIELD MANUFACTURED GAS PLANT (FORMER) (Continued) **S106880452**

remedial action is warranted at the site.

Site Control:

Site Control #:	696
Control Number:	3
Begin Date:	09/04/2012
End Date:	Not reported
Frequency Of Review:	60
Last Reviewed By:	Bill Mason
Last Reviewed Date:	04/25/2013
Last Update By:	WMASON
Last Updated Date:	04/25/2013
Site Comment:	Not reported

Site Control #:	697
Control Number:	37
Begin Date:	09/11/2011
End Date:	Not reported
Frequency Of Review:	60
Last Reviewed By:	Bill Mason
Last Reviewed Date:	04/25/2013
Last Update By:	WMASON
Last Updated Date:	04/25/2013
Site Comment:	Not reported

Administrative Action:

Admin ID:	728060	Action ID:	9424
Agency:	Dept Of Environmental Quality	Region:	Not reported
Start Date:	03/03/2004	Complete Date:	03/03/2004
Substance Code:	Not reported	Rank Value:	Not reported
Employee Id:	2202	Cleanup Flag:	False
Created By:	MENGLIS	Created Date:	03/03/2004
Action Code:	ENTRY	Category:	Administrative Action
Action Flag:	True	Action Code Flag:	False
Action:	Site added to database		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	728061	Action ID:	9508
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	03/03/2004	Complete Date:	03/03/2004
Substance Code:	SAS	Rank Value:	Not reported
Employee Id:	632	Cleanup Flag:	False
Created By:	MENGLIS	Created Date:	03/03/2004
Action Code:	RSSC	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	Site Screening recommended (EV)		
Further Action:	High		
Comments:	Not reported		

Admin ID:	729726	Action ID:	9425
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	06/09/2005	Complete Date:	06/16/2005
Substance Code:	SAS	Rank Value:	Not reported
Employee Id:	566	Cleanup Flag:	False
Created By:	MENGLIS	Created Date:	01/25/2005
Action Code:	EV	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False

MARSHFIELD MANUFACTURED GAS PLANT (FORMER) (Continued) **S106880452**

Action: SITE EVALUATION
Further Action: 0
Comments: Medium Priority for SI. Federal Screen.

Admin ID:	730482	Action ID:	9498
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	06/16/2005	Complete Date:	06/16/2005
Substance Code:	SAS	Rank Value:	Not reported
Employee Id:	566	Cleanup Flag:	False
Created By:	SNICHOL	Created Date:	06/17/2005
Action Code:	RPLC	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False

Action: Proposal for Confirmed Release List recommended
Further Action: 0
Comments: Based on analytical data.

Admin ID:	730483	Action ID:	9506
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	06/16/2005	Complete Date:	06/16/2005
Substance Code:	SAS	Rank Value:	Not reported
Employee Id:	566	Cleanup Flag:	False
Created By:	SNICHOL	Created Date:	06/17/2005
Action Code:	RSI	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False

Action: Site Investigation recommended (SI)
Further Action: Medium
Comments: Medium priority for SI.

Admin ID:	730484	Action ID:	9459
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	06/09/2005	Complete Date:	06/16/2005
Substance Code:	SAS	Rank Value:	Not reported
Employee Id:	566	Cleanup Flag:	False
Created By:	SNICHOL	Created Date:	06/17/2005
Action Code:	PAE	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False

Action: PRELIMINARY ASSESSMENT EQUIVALENT
Further Action: 0
Comments: Medium priority SI.

Admin ID:	735546	Action ID:	9440
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	07/22/2008	Complete Date:	Not reported
Substance Code:	VCP	Rank Value:	Not reported
Employee Id:	510	Cleanup Flag:	False
Created By:	WMASON	Created Date:	07/22/2008
Action Code:	LTAG	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False

Action: Letter Agreement
Further Action: 0
Comments: Not reported

Admin ID:	738100	Action ID:	9494
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	08/05/2010	Complete Date:	08/05/2010
Substance Code:	VCP	Rank Value:	Not reported
Employee Id:	510	Cleanup Flag:	True

MARSHFIELD MANUFACTURED GAS PLANT (FORMER) (Continued) **S106880452**

Created By:	WMASON	Created Date:	11/04/2010
Action Code:	ROD	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	RECORD OF DECISION		
Further Action:	0		
Comments:	Not reported		

Admin ID:	741045	Action ID:	9469
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	08/05/2010	Complete Date:	04/25/2013
Substance Code:	VCP	Rank Value:	Not reported
Employee Id:	510	Cleanup Flag:	False
Created By:	WMASON	Created Date:	04/25/2013
Action Code:	RA	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	REMEDIAL ACTION		
Further Action:	Low		
Comments:	Not reported		

Admin ID:	741046	Action ID:	9434
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	09/04/2012	Complete Date:	09/04/2012
Substance Code:	VCP	Rank Value:	Not reported
Employee Id:	510	Cleanup Flag:	False
Created By:	WMASON	Created Date:	04/25/2013
Action Code:	ICON	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	Institutional Control		
Further Action:	Low		
Comments:	Not reported		

Admin ID:	741047	Action ID:	9422
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	08/05/2010	Complete Date:	09/11/2011
Substance Code:	VCP	Rank Value:	Not reported
Employee Id:	510	Cleanup Flag:	False
Created By:	WMASON	Created Date:	04/25/2013
Action Code:	ECON	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	Engineering Control		
Further Action:	Low		
Comments:	Not reported		

Admin ID:	741084	Action ID:	9439
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	05/17/2013	Complete Date:	05/17/2013
Substance Code:	VCP	Rank Value:	Not reported
Employee Id:	510	Cleanup Flag:	True
Created By:	WMASON	Created Date:	05/17/2013
Action Code:	LSI	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Facility placed on Inventory		
Further Action:	Low		
Comments:	Not reported		

Admin ID:	741270	Action ID:	9411
Agency:	Dept Of Environmental Quality	Region:	Western Region

MARSHFIELD MANUFACTURED GAS PLANT (FORMER) (Continued) **S106880452**

Start Date:	05/17/2013	Complete Date:	05/17/2013
Substance Code:	VCP	Rank Value:	Not reported
Employee Id:	510	Cleanup Flag:	True
Created By:	WMASON	Created Date:	07/09/2013
Action Code:	CNFA	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	No Further Action (Conditional)		
Further Action:	0		
Comments:	Not reported		

D15 **CARSON OIL CO INC** **AST** **S104047626**
SW **280 NEWMARK ST** **HSIS** **N/A**
< 1/8 **NORTH BEND, OR 97459**
0.056 mi.
297 ft. **Site 1 of 4 in cluster D**

Relative:
Higher

Actual:
28 ft.

AST:

Facility Id:	035876
Hazardous Substance:	GASOLINE CLEAR
Reporting Quantities:	5,000-9,999
Quantity Units:	GALLONS
Physical State:	LIQUID
Storage 1:	ABOVEGROUND TANK

Facility Id:	035876
Hazardous Substance:	DIESEL
Reporting Quantities:	50,000-99,999
Quantity Units:	GALLONS
Physical State:	LIQUID
Storage 1:	ABOVEGROUND TANK

HSIS:

Facility Id:	035876
Chemical Is Extremely Hazardous Substance (EHS):	No
Department Or Division Of Company:	CARSON-DAVIS OIL
Facility Has Written Emergency Plan:	Yes
Contains 112R:	No
NAICS Code 1:	424710
NAICS Desc 1:	PETROLEUM BULK STATIONS & TERMINALS
NAICS Code 2:	000000
NAICS Desc 2:	Not reported
Manager Name:	LANCE WOODBURY
Business Phone:	5417563426
Mailing Address:	PO BOX 6030
Mailing City,St,Zip:	PORTLAND, OR 97228
No. of Employees:	8
Day Phone:	5417563426
Placard:	No
Fire Dept Code:	0262
Sprinkler System:	No
Emergency Contact:	CHRIS DAVIS
Emergency Procedure:	OFFICE
Business Type:	PETROLEUM WHSLE & RETAIL BULK STATION

Facility:

Facility Id:	035876
Physical State Of The Substance:	2
Physical State:	LIQUID

CARSON OIL CO INC (Continued) **S104047626**

Average Amount Possessed During The Year Code:	30
Maximum Amount Possessed During The Year Code:	31
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	A
Description:	ABOVEGROUND TANK
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	50,000-99,999
Description Of The Avg Qnty Code:	10,000-49,999
Most Hazardous Ingridient:	PETROLEUM DISTILLATES
United Nations/north America 4 Digit Class Number:	1202
Hazard Rank:	2
EHS Ingredient:	NONE LISTED ON MSDS
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Flammable and Combustible Liquid
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Chronic Health Hazard
Hazard Class 1 Of The Chemical:	3.0
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	6.4

Chemical:

United Nations/north America 4 Digit Class Number:	1202
Chemical Abstract Service Identifier Number:	68476346
Chemical Is Extremely Hazardous Substance (EHS):	No
First Hazardous Class Code For Chemical:	Flammable and Combustible Liquid
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Chronic Health Hazard
Hazard Class 1 Of The Chemical:	3.0
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	6.4
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Contains 112R:	No
Contains EHS:	No
Fertilizer:	No
Pesticide:	No
Contains 313:	Yes

Facility Id:	035876
Physical State Of The Substance:	2
Physical State:	LIQUID
Average Amount Possessed During The Year Code:	21
Maximum Amount Possessed During The Year Code:	30
Applicable Unit Of Measure Code:	2

CARSON OIL CO INC (Continued) **S104047626**

Description Of The Unit Of Measure:	GALLONS
Type Code:	D
Description:	STEEL DRUM
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	10,000-49,999
Description Of The Avg Qnty Code:	5,000-9,999
Most Hazardous Ingridient:	PETROLEUM DISTILLATE, ALIPHATIC
United Nations/north America 4 Digit Class Number:	1223
Hazard Rank:	2
EHS Ingredient:	Not reported
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Flammable and Combustible Liquid
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	3.0
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	Not reported

Chemical:

United Nations/north America 4 Digit Class Number:	1223
Chemical Abstract Service Identifier Number:	64742478
Chemical Is Extremely Hazardous Substance (EHS):	No
First Hazardous Class Code For Chemical:	Flammable and Combustible Liquid
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	3.0
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Contains 112R:	No
Contains EHS:	No
Fertilizer:	No
Pesticide:	No
Contains 313:	Yes

Facility Id:	035876
Physical State Of The Substance:	2
Physical State:	LIQUID
Average Amount Possessed During The Year Code:	20
Maximum Amount Possessed During The Year Code:	20
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	N
Description:	PLASTIC BOTTLE, JUG, BUCKET

CARSON OIL CO INC (Continued) **S104047626**

Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	1,000-4,999
Description Of The Avg Qnty Code:	1,000-4,999
Most Hazardous Ingridient:	PETROLEUM HYDROCARBONS
United Nations/north America 4 Digit Class Number:	0000
Hazard Rank:	2
EHS Ingredient:	Not reported
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Combustible Material
Second Hazardous Class Code For Chemical:	Chronic Health Hazard
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	4.5
Hazard Class 2 Of The Chemical:	6.4
Hazard Class 3 Of The Chemical:	Not reported

Chemical:

United Nations/north America 4 Digit Class Number:	0000
Chemical Abstract Service Identifier Number:	64742547
Chemical Is Extremely Hazardous Substance (EHS):	Not reported
First Hazardous Class Code For Chemical:	Combustible Material
Second Hazardous Class Code For Chemical:	Chronic Health Hazard
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	4.5
Hazard Class 2 Of The Chemical:	6.4
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	Not reported
EPA Pesticide Registration Number:	Not reported
Contains 112R:	Not reported
Contains EHS:	Not reported
Fertilizer:	No
Pesticide:	No
Contains 313:	Not reported

Facility Id:	035876
Physical State Of The Substance:	2
Physical State:	LIQUID
Average Amount Possessed During The Year Code:	20
Maximum Amount Possessed During The Year Code:	21
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	A
Description:	ABOVEGROUND TANK
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1

CARSON OIL CO INC (Continued) **S104047626**

Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	5,000-9,999
Description Of The Avg Qnty Code:	1,000-4,999
Most Hazardous Ingridient:	GASOLINE NATURAL, LOW BOILING NAPHTHA
United Nations/north America 4 Digit Class Number:	1203
Hazard Rank:	2
EHS Ingredient:	Not reported
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Flammable and Combustible Liquid
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Chronic Health Hazard
Hazard Class 1 Of The Chemical:	3.0
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	6.4

Chemical:

United Nations/north America 4 Digit Class Number:	1203
Chemical Abstract Service Identifier Number:	8006619
Chemical Is Extremely Hazardous Substance (EHS):	No
First Hazardous Class Code For Chemical:	Flammable and Combustible Liquid
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Chronic Health Hazard
Hazard Class 1 Of The Chemical:	3.0
Hazard Class 2 Of The Chemical:	6.3
Hazard Class 3 Of The Chemical:	6.4
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Contains 112R:	Yes
Contains EHS:	No
Fertilizer:	No
Pesticide:	No
Contains 313:	Yes

D16 **TYREEE OIL** **AST** **S108987710**
SW **341 NEWMARK ST** **SPILLS** **N/A**
< 1/8 **NORTH BEND, OR 97459** **HSIS**
0.075 mi. **ECSI**
398 ft. **Site 2 of 4 in cluster D**

Relative:
Higher

Actual:
48 ft.

AST:

Facility Id:	087271
Hazardous Substance:	GASOLINE
Reporting Quantities:	5,000-9,999
Quantity Units:	GALLONS
Physical State:	LIQUID
Storage 1:	ABOVEGROUND TANK
Storage 2:	STEEL DRUM

TYREEE OIL (Continued) **S108987710**

Facility Id: 087271
Hazardous Substance: DIESEL FUEL
Reporting Quantities: 500,000-749,999
Quantity Units: GALLONS
Physical State: LIQUID
Storage 1: ABOVEGROUND TANK

OR SPILLS:
Year: Not reported
DEQ Region: Not reported
Facility ID: 08-0047
Incident Status: Not reported
Spill Date: Not reported
Material: Diesel fuel
Quantity: 10
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/04/2008
Description: Overfill to deck and over side due to new sight gage failing to operate correctly, engineer overfilled.
Location: Not reported
Lat/Long: 43.391399999999997 / -124.22029999999999
Source: Vessel - Tug
Media: Coding for the PS/BC Oil Spill Database
Responsible Company: Tyree Oil
Responsible Contact: Bob Jophnston
Responsible Address: 341 Newmark St
Responsible City,St,Zip: North Bend, OR 97459-2931
Responsible Country: COOS

Year: Not reported
DEQ Region: Not reported
Facility ID: 08-0047
Incident Status: Not reported
Spill Date: Not reported
Material: Diesel fuel
Quantity: 10
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/04/2008
Description: Overfill to deck and over side due to new sight gage failing to operate correctly, engineer overfilled.
Location: Not reported
Lat/Long: 43.3914 / -124.2203
Source: Vessel - Tug
Media: Coding for the PS/BC Oil Spill Database
Responsible Company: Tyree Oil
Responsible Contact: Bob Jophnston
Responsible Address: 341 Newmark St
Responsible City,St,Zip: North Bend, OR 97459-2931
Responsible Country: COOS

Year: Not reported
DEQ Region: Not reported
Facility ID: 08-0047
Incident Status: Not reported
Spill Date: Not reported

TYREEE OIL (Continued) **S108987710**

Material: Diesel fuel
Quantity: 10
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/04/2008
Description: Overfill to deck and over side due to new sight gage failing to operate correctly, engineer overfilled.
Location: Not reported
Lat/Long: 43.391399999999997 / -124.22029999999999
Source: Vessel - Tug
Media: Coding for the PS/BC Oil Spill Database
Responsible Company: Tyree Oil
Responsible Contact: Bob Jophnston
Responsible Address: 341 Newmark St
Responsible City,St,Zip: North Bend, OR 97459-2931
Responsible Country: COOS

Year: Not reported
DEQ Region: Not reported
Facility ID: 08-0047
Incident Status: Not reported
Spill Date: Not reported
Material: Diesel fuel
Quantity: 10
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/04/2008
Description: Overfill to deck and over side due to new sight gage failing to operate correctly, engineer overfilled.
Location: Not reported
Lat/Long: 43.3914 / -124.2203
Source: Vessel - Tug
Media: Coding for the PS/BC Oil Spill Database
Responsible Company: Tyree Oil
Responsible Contact: Bob Jophnston
Responsible Address: 341 Newmark St
Responsible City,St,Zip: North Bend, OR 97459-2931
Responsible Country: COOS

Year: Not reported
DEQ Region: Not reported
Facility ID: 08-0047
Incident Status: Not reported
Spill Date: Not reported
Material: Diesel fuel
Quantity: 10
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/04/2008
Description: Overfill to deck and over side due to new sight gage failing to operate correctly, engineer overfilled.
Location: Not reported
Lat/Long: 43.3914 / -124.2203
Source: Vessel - Tug
Media: Coding for the PS/BC Oil Spill Database
Responsible Company: Tyree Oil
Responsible Contact: Bob Jophnston

TYREEE OIL (Continued) **S108987710**

Responsible Address: 341 Newmark St
Responsible City,St,Zip: North Bend, OR 97459-2931
Responsible Country: COOS

Year: Not reported
DEQ Region: Not reported
Facility ID: 08-0047
Incident Status: Not reported
Spill Date: Not reported
Material: Diesel fuel
Quantity: 10
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/04/2008
Description: Overfill to deck and over side due to new sight gage failing to operate correctly, engineer overfilled.
Location: Not reported
Lat/Long: 43.391399999999997 / -124.22029999999999
Source: Vessel - Tug
Media: Coding for the PS/BC Oil Spill Database
Responsible Company: Tyree Oil
Responsible Contact: Bob Jophnston
Responsible Address: 341 Newmark St
Responsible City,St,Zip: North Bend, OR 97459-2931
Responsible Country: COOS

Year: Not reported
DEQ Region: Not reported
Facility ID: 08-0047
Incident Status: Not reported
Spill Date: Not reported
Material: Diesel fuel
Quantity: 10
Unit of Measure: Gallons
How Occurred: Not reported
Release Date: 01/04/2008
Description: Overfill to deck and over side due to new sight gage failing to operate correctly, engineer overfilled.
Location: Not reported
Lat/Long: 43.3914 / -124.2203
Source: Vessel - Tug
Media: Coding for the PS/BC Oil Spill Database
Responsible Company: Tyree Oil
Responsible Contact: Bob Jophnston
Responsible Address: 341 Newmark St
Responsible City,St,Zip: North Bend, OR 97459-2931
Responsible Country: COOS

Year: Not reported
DEQ Region: Not reported
Facility ID: 2013-1576
Incident Status: Closed
Spill Date: Not reported
Material: Oil - Diesel
Quantity: 50
Unit of Measure: Gallon
How Occurred: Not reported

TYREEE OIL (Continued) **S108987710**

Release Date: 08/06/2013
Description: Tyree Oil was refueling a Sea-Link tug when they noted fuel running out of the starboard side and into Coos Bay. They shut-off the fuel and alerted the tug operators. Absorbents had been placed in the scuppers prior to fueling but some of the fuel made its way to the bay. An estimated 50 gallons was spilled to the deck with about 20 gallons making it to the bay. Absorbent booms were used to mop up what they could off the water. Buckets were used to capture some of the fuel running over the sides. The rest was considered unrecoverable. Coos Bay Co-Op and USCG were notified. Coos Bay Co-Op was on-scene and assisted with cleanup.
Location: Not reported
Lat/Long: 43.391873 / -124-220656
Source: Vessel - Tug
Media: Marine Water
Responsible Company: Not reported
Responsible Contact: Not reported
Responsible Address: Not reported
Responsible City,St,Zip: Not reported
Responsible Country: Not reported

HSIS:
Facility Id: 087271
Chemical Is Extremely Hazardous Substance (EHS): No
Department Or Division Of Company: NORTH BEND TERMINAL
Facility Has Written Emergency Plan: Yes
Contains 112R: No
NAICS Code 1: 424710
NAICS Desc 1: PETROLEUM BULK STATIONS & TERMINALS
NAICS Code 2: 424720
NAICS Desc 2: PETROLEUM & PETROLEUM PRODUCTS WHSLE (EXC
Manager Name: RONALD TYREE
Business Phone: 5417569776
Mailing Address: PO BOX 2706
Mailing City,St,Zip: EUGENE, OR 97402
No. of Employees: 5
Day Phone: 5417569776
Placard: Yes
Fire Dept Code: 0262
Sprinkler System: No
Emergency Contact: BOB JOHNSTON
Emergency Procedure: MGR OFC
Business Type: WHSE & OFFICE FOR PETROLEUM BULK TERMINAL

Facility:
Facility Id: 087271
Physical State Of The Substance: 2
Physical State: LIQUID
Average Amount Possessed During The Year Code: 11
Maximum Amount Possessed During The Year Code: 20
Applicable Unit Of Measure Code: 2
Description Of The Unit Of Measure: GALLONS
Type Code: N
Description: PLASTIC BOTTLE, JUG, BUCKET
Type Code: D
Temperature Description: STEEL DRUM
Pressure of Code: 1

TYREEE OIL (Continued) **S108987710**

Pressure Description:	NORMAL PRESSURE
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	1,000-4,999
Description Of The Avg Qnty Code:	500-999
Most Hazardous Ingridient:	LUBRICANT BASE OIL
United Nations/north America 4 Digit Class Number:	0000
Hazard Rank:	2
EHS Ingredient:	Not reported
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Combustible Material
Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	4.5
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported

Chemical:

United Nations/north America 4 Digit Class Number:	0000
Chemical Abstract Service Identifier Number:	00000000
Chemical Is Extremely Hazardous Substance (EHS):	No
First Hazardous Class Code For Chemical:	Combustible Material
Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	4.5
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Contains 112R:	No
Contains EHS:	No
Fertilizer:	No
Pesticide:	No
Contains 313:	No

Facility Id:	087271
Physical State Of The Substance:	2
Physical State:	LIQUID
Average Amount Possessed During The Year Code:	20
Maximum Amount Possessed During The Year Code:	21
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	D
Description:	STEEL DRUM
Type Code:	N
Temperature Description:	PLASTIC BOTTLE, JUG, BUCKET
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE

TYREEE OIL (Continued) **S108987710**

Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	5,000-9,999
Description Of The Avg Qnty Code:	1,000-4,999
Most Hazardous Ingridient:	BASE LUBRICATING OILS
United Nations/north America 4 Digit Class Number:	1270
Hazard Rank:	2
EHS Ingredient:	NONE LISTED ON MSDS
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Combustible Material
Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	4.5
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported

Chemical:

United Nations/north America 4 Digit Class Number:	1270
Chemical Abstract Service Identifier Number:	64742547
Chemical Is Extremely Hazardous Substance (EHS):	No
First Hazardous Class Code For Chemical:	Combustible Material
Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	4.5
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Contains 112R:	No
Contains EHS:	No
Fertilizer:	No
Pesticide:	No
Contains 313:	No

Facility Id:	087271
Physical State Of The Substance:	1
Physical State:	SOLID
Average Amount Possessed During The Year Code:	20
Maximum Amount Possessed During The Year Code:	20
Applicable Unit Of Measure Code:	1
Description Of The Unit Of Measure:	POUNDS
Type Code:	D
Description:	STEEL DRUM
Type Code:	E
Temperature Description:	PLASTIC OR NON-METALLIC DRUM
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	NORMAL TEMPERATURE

TYREEE OIL (Continued) **S108987710**

Temperature of The Hazardous Substance Code:	4
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	1,000-4,999
Description Of The Avg Qnty Code:	1,000-4,999
Most Hazardous Ingridient:	SEVERELY REFINED PETROLEUM DISTILLATE
United Nations/north America 4 Digit Class Number:	1268
Hazard Rank:	2
EHS Ingredient:	Not reported
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Combustible Material
Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	4.5
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported

Chemical:

United Nations/north America 4 Digit Class Number:	1268
Chemical Abstract Service Identifier Number:	64742525
Chemical Is Extremely Hazardous Substance (EHS):	Not reported
First Hazardous Class Code For Chemical:	Combustible Material
Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	4.5
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	Not reported
EPA Pesticide Registration Number:	Not reported
Contains 112R:	Not reported
Contains EHS:	Not reported
Fertilizer:	Not reported
Pesticide:	Not reported
Contains 313:	Not reported

Facility Id:	087271
Physical State Of The Substance:	2
Physical State:	LIQUID
Average Amount Possessed During The Year Code:	10
Maximum Amount Possessed During The Year Code:	11
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	D
Description:	STEEL DRUM
Type Code:	N
Temperature Description:	PLASTIC BOTTLE, JUG, BUCKET
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False

TYREEE OIL (Continued) **S108987710**

Description Of The Max Qnty Code:	500-999
Description Of The Avg Qnty Code:	200-499
Most Hazardous Ingridient:	HIGHLY REFINED MINERAL OIL (C15-C50)
United Nations/north America 4 Digit Class Number:	0000
Hazard Rank:	2
EHS Ingredient:	Not reported
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Combustible Material
Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	4.5
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported

Chemical:

United Nations/north America 4 Digit Class Number:	0000
Chemical Abstract Service Identifier Number:	000000
Chemical Is Extremely Hazardous Substance (EHS):	No
First Hazardous Class Code For Chemical:	Combustible Material
Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	4.5
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	No
EPA Pesticide Registration Number:	Not reported
Contains 112R:	No
Contains EHS:	No
Fertilizer:	No
Pesticide:	No
Contains 313:	No

Facility Id:	087271
Physical State Of The Substance:	2
Physical State:	LIQUID
Average Amount Possessed During The Year Code:	20
Maximum Amount Possessed During The Year Code:	21
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	N
Description:	PLASTIC BOTTLE, JUG, BUCKET
Type Code:	D
Temperature Description:	STEEL DRUM
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	5,000-9,999
Description Of The Avg Qnty Code:	1,000-4,999
Most Hazardous Ingridient:	PETROLEUM HYDROCARBON

TYREEE OIL (Continued) **S108987710**

United Nations/north America 4 Digit Class Number:	1270
Hazard Rank:	2
EHS Ingredient:	Not reported
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Combustible Material
Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	4.5
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported

Chemical:

United Nations/north America 4 Digit Class Number:	1270
Chemical Abstract Service Identifier Number:	64742547
Chemical Is Extremely Hazardous Substance (EHS):	Not reported
First Hazardous Class Code For Chemical:	Combustible Material
Second Hazardous Class Code For Chemical:	Not reported
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	4.5
Hazard Class 2 Of The Chemical:	Not reported
Hazard Class 3 Of The Chemical:	Not reported
Chemical Is A Toxic 313 Chemical:	Not reported
EPA Pesticide Registration Number:	Not reported
Contains 112R:	Not reported
Contains EHS:	Not reported
Fertilizer:	Not reported
Pesticide:	Not reported
Contains 313:	Not reported

ECSI:

State ID Number:	605	Brown ID:	0
Study Area:	False	Region ID:	3
Legislatve ID:	0	Investigation:	Suspect
FACA ID:	9163	Further Action:	260
Lat/Long (dms):	43 23 29.00 / -124 13 13.80	County Code:	6.00
Score Value:	Not reported	Cerclis ID:	Not reported
Township Coord.:	25.00	Township Zone:	S
Range Coord:	13.00	Range Zone:	W
Section Coord:	22	Qtr Section:	Not reported
Tax Lots:	200	Size:	1.6 acres
NPL:	False	Orphan:	False
Updated By:	GWISTAR	Update Date:	10/15/2007

Hazardous Release:

Substance ID.:	121981
Haz Release ID:	385023
Qty Released:	1000-1200 gallons
Date Released:	4-26-88
Update Date:	10/24/1988
Update By:	Not reported
Substance Code:	ECD168
Substance Name:	BUNKER - FUEL OIL
Substance Abbrev.:	Not reported
Substance Category ID:	8527
Substance Category:	Petroleum Related Releases for OSPIRG Report

TYREEE OIL (Continued) **S108987710**

Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8527
Substance Category: Petroleum Related Releases for OSPIRG Report
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Comment ID: 304228
Release Code: Data Sources
Release Comments: Coos Bay Spill file
Sampling Result ID: 346879
Feature Id: Not reported
Hazard Release Id: 385023
Medium: 703
Substance Abbrev.: Not reported
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: False
Sample Depth: Not reported
Start Date: Not reported
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: Unknown
Last Update By: CONV
Update Date: 09/13/1994

Narrative:
NARR ID: 5729408
NARR Code: Contamination
Created By: Not reported
Created Date: 12/17/2002
Updated By: GWISTAR
Updated Date: 03/01/2005
NARR Comments: (12/21/2004 SAN) On April 26, 1988, approximately 1,200 gallons of bunker oil were released from an unattended valve on an above-ground storage tank (AST). The bunker oil was contained within a concrete slab and an open ditch. Oily residues were removed from the concrete slab using a steam power washer and a vacuum truck. The cleanup was reportedly completed on April 27, 1988. Wastes generated during the cleanup, including petroleum contaminated soils and wastewater, were disposed of at the Beaver Hill Disposal Facility.On May 5, 1988, the Western Fuel Oil Company submitted a letter report to DEQs Coos Bay Office describing the incident and cleanup measures taken. DEQs Coos Bay Office documented the containment and cleanup actions taken in response to the release and did not require any further actions.In July 1993, Pacific Northern Geoscience performed a soil assessment of the Site to establish a pre-lease baseline for Newport Petroleum. Thirteen near-surface soil samples were collected at approximately 2 feet below ground surface (bgs) and analyzed for total petroleum hydrocarbons (TPH) as diesel and gasoline, as well as for polynuclear aromatic hydrocarbons (PAHs). The results showed that TPH concentrations in soil ranged up to 230 mg/kg gasoline and 8,500 mg/kg diesel. In July 1993, only two sample locations exceeded DEQs TPH Risk-Based Concentrations (RBCs) for residential soils, including WF-8 and WF-10 for diesel and gasoline, respectively. The relevant

TYREEE OIL (Continued) **S108987710**

TPH RBCs are 140 mg/kg gasoline (vapor intrusion into buildings), 26 mg/kg gasoline (leaching to groundwater), 3,900 mg/kg diesel (direct contact), and 2,800 mg/kg diesel (leaching to groundwater).

NARR ID: 5729409
NARR Code: Data Sources
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
NARR Comments: DEQ Spill report form

NARR ID: 5729410
NARR Code: Hazardous Substance/Waste Types
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
NARR Comments: Petroleum (Bunker fuel).

NARR ID: 5746055
NARR Code: Pathways Other Hazards
Created By: SNICHOL
Created Date: 12/20/2004
Updated By: GWISTAR
Updated Date: 03/01/2005
NARR Comments: (12/20/2004 SAN) Surface Water: Impacts via the surface water pathway are not anticipated because sediment sample results showed only low contaminant concentrations.Groundwater: There are no on-site wells. The City of North Bend, including the Site and areas immediately surrounding it, are served by a public water system drawing from Pony Creek Reservoir. Pony Creek Reservoir has no hydraulic connection to the Site. Based on the availability and use of a public water system in the area, it appears reasonably likely that groundwater is not and will not be used near the Site. Groundwater at the Site likely discharges to Coos Bay. Based on some exceedences of the TPH RBCs for leaching to groundwater it is possible there is some groundwater contamination at the Site.Direct Contact/Soil Ingestion: Average petroleum constituent concentrations in site soils fall below applicable soil screening levels for residential (unrestricted use) properties. However, there are a few areas of the Site where TPH concentrations exceed applicable screening levels. Also, the available soil data is from a depth of 2 feet; contaminant concentrations at the surface, if any, are not known. Based on existing data, impacts via the direct contact/soil ingestion pathway appear to be limited, but surface soil data is needed to fully evaluate this pathway.Air: Limited areas of the Site may represent a threat via vaporization to indoor air based on comparison to screening levels. Impacts due to contaminated dust generation are uncertain since there is no surface soil data. Subsurface soil data indicates impacts from dust would be limited.

NARR ID: 5729411
NARR Code: Remedial Action
Created By: Not reported
Created Date: 12/17/2002
Updated By: GWISTAR

TYREEE OIL (Continued) **S108987710**

Updated Date: 03/01/2005
NARR Comments: (12/20/2004 SAN) SAS recommends XPA (including, but not necessarily limited to, evaluating potential surface soil and groundwater contamination, land use and beneficial water use determinations, and a risk screening or assessment). Further state action is a low priority.

Administrative Action:

Admin ID:	718446	Action ID:	9424
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	10/24/1988	Complete Date:	Not reported
Substance Code:	SAS	Rank Value:	0
Employee Id:	1804	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	ENTRY	Category:	Administrative Action
Action Flag:	True	Action Code Flag:	False
Action:	Site added to database		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	722115	Action ID:	9508
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	02/11/1994	Complete Date:	02/11/1994
Substance Code:	SAS	Rank Value:	0
Employee Id:	293	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RSSC	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	Site Screening recommended (EV)		
Further Action:	Low		
Comments:	Not reported		

Admin ID:	728883	Action ID:	9425
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	12/02/2004	Complete Date:	12/09/2004
Substance Code:	SAS	Rank Value:	Not reported
Employee Id:	566	Cleanup Flag:	False
Created By:	MENGLIS	Created Date:	08/12/2004
Action Code:	EV	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	SITE EVALUATION		
Further Action:	Low		
Comments:	Low priority for XPA.		

Admin ID:	729539	Action ID:	9449
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	12/09/2004	Complete Date:	12/09/2004
Substance Code:	SAS	Rank Value:	Not reported
Employee Id:	566	Cleanup Flag:	False
Created By:	SNICHOL	Created Date:	12/21/2004
Action Code:	NSFL	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Insufficient information to list		
Further Action:	0		
Comments:	Not reported		

Admin ID:	729540	Action ID:	9510
Agency:	Dept Of Environmental Quality	Region:	Western Region

TYREEE OIL (Continued) **S108987710**

Start Date:	12/09/2004	Complete Date:	12/09/2004
Substance Code:	SAS	Rank Value:	Not reported
Employee Id:	566	Cleanup Flag:	False
Created By:	SNICHOL	Created Date:	12/21/2004
Action Code:	RXPA	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	State Expanded Preliminary Assessment recommended (XPA)		
Further Action:	Low		
Comments:	Low priority for XPA.		

Admin ID:	729541	Action ID:	9459
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	12/09/2004	Complete Date:	12/09/2004
Substance Code:	SAS	Rank Value:	Not reported
Employee Id:	566	Cleanup Flag:	False
Created By:	SNICHOL	Created Date:	12/21/2004
Action Code:	PAE	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	PRELIMINARY ASSESSMENT EQUIVALENT		
Further Action:	Low		
Comments:	Low priority for XPA.		

Operations:

Operation Id:	131915
Operation Status:	Unknown
Common Name:	Western Fuel Oil Co.
Yrs of Operation:	Not reported
Comments:	Bulk oil terminal
Updated Date:	03/23/1995

D17 **TOSCO CORP NORTH BEND TERMINAL** **RCRA NonGen / NLR** **1000175664**
SW **FT OF NEWMARK ST** **ORD991281429**
< 1/8 **COOS BAY, OR 97420**
0.090 mi.
475 ft. **Site 3 of 4 in cluster D**

Relative:
Higher

Actual:
61 ft.

RCRA NonGen / NLR:

Date form received by agency:	08/18/1980
Facility name:	TOSCO CORP NORTH BEND TERMINAL
Facility address:	FT OF NEWMARK ST COOS BAY, OR 97420
EPA ID:	ORD991281429
Mailing address:	SANTA MONICA BLVD LOS ANGELES, CA 90067
Contact:	K RASMUSSEN
Contact address:	10100 SANTA MONICA BLVD LOS ANGELES, CA 90067
Contact country:	US
Contact telephone:	(213) 552-7000
Contact email:	Not reported
EPA Region:	10
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	OREGON COAST TOWING COMPANY
Owner/operator address:	Not reported Not reported

TOSCO CORP NORTH BEND TERMINAL (Continued) **1000175664**

Owner/operator country: Not reported
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D000
. Waste name: Not Defined

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D003
. Waste name: REACTIVE WASTE

. Waste code: K052
. Waste name: TANK BOTTOMS (LEADED) FROM THE PETROLEUM REFINING INDUSTRY.

Violation Status: No violations found

E18 **TRUAX CORPORATION** **UST** **U000436194**
SSW **3522 TREMONT** **N/A**
< 1/8 **NORTH BEND, OR 97459**
0.094 mi.
495 ft. **Site 1 of 3 in cluster E**

Relative:
Higher

Actual:
17 ft.

UST:
Facility ID: 6939
Facility Telephone: (503) 758-1500
Permittee Name: JOHN W TRUAX, PRESIDENT
Number of Permitted Tanks: Not reported
Active Tanks: Not reported
Decommissioned Tanks: 4
Number of Tanks: 4

D19 SW < 1/8 0.097 mi. 512 ft. | **BEDROCK CAT & CORE**
410 NEWMARK ST
NORTH BEND, OR 97459 | **RCRA NonGen / NLR** | **1015749518**
ORSTATE09170

Site 4 of 4 in cluster D

Relative: Higher

Actual: 68 ft.

RCRA NonGen / NLR:

Date form received by agency:	07/03/2012
Facility name:	BEDROCK CAT & CORE
Facility address:	410 NEWMARK ST NORTH BEND, OR 97459-2934
EPA ID:	ORSTATE09170
Contact:	Not reported
Contact address:	Not reported Not reported
Contact country:	Not reported
Contact telephone:	Not reported
Contact email:	Not reported
EPA Region:	10
Land type:	Other land type
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

Violation Status: No violations found

Evaluation Action Summary:

Evaluation date:	07/02/2012
Evaluation:	COMPLIANCE ASSISTANCE VISIT
Area of violation:	Not reported
Date achieved compliance:	Not reported
Evaluation lead agency:	State

E20 SSW < 1/8 0.105 mi. 555 ft. | **3550 TREMONT ST**
NORTH BEND, OR 97459 | **EDR US Hist Auto Stat** | **1015445949**
N/A

Site 2 of 3 in cluster E

Relative: Higher

Actual: 16 ft.

EDR Historical Auto Stations:

Name:	RONS OIL COMPANY STATION NO 2
Year:	1999
Address:	3550 TREMONT ST

(Continued) **1015445949**

Name: RONS OIL EXXON
Year: 2004
Address: 3550 TREMONT ST

Name: RONS OIL EXXON
Year: 2006
Address: 3550 TREMONT ST

Name: RONS OIL EXXON
Year: 2007
Address: 3550 TREMONT ST

Name: RONS OIL EXXON
Year: 2008
Address: 3550 TREMONT ST

Name: RONS OIL EXXON
Year: 2009
Address: 3550 TREMONT ST

E21
SSW
< 1/8
0.105 mi.
555 ft.

RON'S OIL EXXON #2 — **LUST** **U004015920**
3550 S. TREMONT ST — **UST** **N/A**
NORTH BEND, OR 97459

Site 3 of 3 in cluster E

Relative:
Higher

Actual:
16 ft.

LUST:
Region: Western Region
Facility ID: 06-12-0304
Cleanup Received Date: 03/06/2012
Cleanup Start Date: Not reported
Cleanup Complete Date: Not reported

UST:
Facility ID: 4011
Facility Telephone: (541) 347-4421
Permittee Name: Stacy Windley (trained operator)
Number of Permitted Tanks: 3
Active Tanks: 3
Decommissioned Tanks: 4
Number of Tanks: 7

22
SSW
1/8-1/4
0.173 mi.
912 ft.

OREGON CHIP TERMINAL INC — **AST** **S111253023**
3701 TREMONT ST — **HSIS** **N/A**
NORTH BEND, OR 97459

Relative:
Higher

Actual:
11 ft.

AST:
Facility Id: 007619
Hazardous Substance: DIESEL FUEL
Reporting Quantities: 1,000-4,999
Quantity Units: GALLONS
Physical State: LIQUID
Storage 1: ABOVEGROUND TANK

OREGON CHIP TERMINAL INC (Continued) **S111253023**

HSIS:

Facility Id:	007619
Chemical Is Extremely Hazardous Substance (EHS):	No
Department Or Division Of Company:	Not reported
Facility Has Written Emergency Plan:	Yes
Contains 112R:	No
NAICS Code 1:	488320
NAICS Desc 1:	MARINE CARGO HANDLING
NAICS Code 2:	000000
NAICS Desc 2:	Not reported
Manager Name:	EIJI ISHIGURO
Business Phone:	5417560468
Mailing Address:	PO BOX 687
Mailing City,St,Zip:	NORTH BEND, OR 97459
No. of Employees:	5
Day Phone:	5417560468
Placard:	Yes
Fire Dept Code:	0262
Sprinkler System:	Yes
Emergency Contact:	SPENCER HANDEL
Emergency Procedure:	MAIN DOORS
Business Type:	WOOD CHIPS EXPORTER

Facility:

Facility Id:	007619
Physical State Of The Substance:	2
Physical State:	LIQUID
Average Amount Possessed During The Year Code:	20
Maximum Amount Possessed During The Year Code:	20
Applicable Unit Of Measure Code:	2
Description Of The Unit Of Measure:	GALLONS
Type Code:	A
Description:	ABOVEGROUND TANK
Type Code:	Not reported
Temperature Description:	Not reported
Pressure of Code:	1
Pressure Description:	NORMAL PRESSURE
Pressure of Code:	Not reported
Pressure Description:	Not reported
Temperature Description:	NORMAL TEMPERATURE
Temperature of The Hazardous Substance Code:	4
Temperature Description:	Not reported
Temperature of The Hazardous Substance Code:	Not reported
Days Hazardous Substance On Site During Year:	365
Is The Substance Protected A Trade Secret:	False
Description Of The Max Qnty Code:	1,000-4,999
Description Of The Avg Qnty Code:	1,000-4,999
Most Hazardous Ingridient:	PETROLEUM MID-DISTILLATES
United Nations/north America 4 Digit Class Number:	1993
Hazard Rank:	2
EHS Ingredient:	NONE LISTED ON MSDS
Substance Pure:	False
Substance Mix:	True
First Hazardous Class Code For Chemical:	Flammable and Combustible Liquid
Second Hazardous Class Code For Chemical:	Acute Health Hazard
Third Hazardous Class Code For Chemical:	Not reported
Hazard Class 1 Of The Chemical:	3.0

OREGON CHIP TERMINAL INC (Continued) **S111253023**

Hazard Class 2 Of The Chemical: 6.3
Hazard Class 3 Of The Chemical: Not reported

Chemical:
United Nations/north America 4 Digit Class Number: 1993
Chemical Abstract Service Identifier Number: 68476346
Chemical Is Extremely Hazardous Substance (EHS): No
First Hazardous Class Code For Chemical: Flammable and Combustible Liquid
Second Hazardous Class Code For Chemical: Acute Health Hazard
Third Hazardous Class Code For Chemical: Not reported
Hazard Class 1 Of The Chemical: 3.0
Hazard Class 2 Of The Chemical: 6.3
Hazard Class 3 Of The Chemical: Not reported
Chemical Is A Toxic 313 Chemical: No
EPA Pesticide Registration Number: Not reported
Contains 112R: No
Contains EHS: No
Fertilizer: No
Pesticide: No
Contains 313: No

F23
NNW
1/8-1/4
0.213 mi.
1124 ft.

Relative:
Higher

Actual:
41 ft.

LASKEY-CLIFTON CORPORATION **US MINES** **1011210221**
N/A

COOS (County), OR

Site 1 of 3 in cluster F

US MINES:
Mine ID: 3503654
SIC code(s): 142900 000000 000000 000000 000000 000000
Entity name: LC-200
Company: LASKEY-CLIFTON CORPORATION
Status: 2
Status date: 20061025
Operation Class: non-Coal Mining
Number of shops: 0
Number of plants: 0
Latitude: 42 57 37
Longitude: 124 11 52

Violations Details:
Violation Number: 8604970
Date Issued: 08/21/2012
Mine Status: Intermittent
Status Date: 10/25/2006
Action Type: 104(a)
Date Abated: 08/21/2012
Citation/Order: Citation
Sig and Sub Designation: N
Proposed Penalty: 100.00
Paid Penalty: 100.00
Assessment Status code: Closed
Assess. Case Status code: Proposed
Assessment Amount: 100.00
Year: 2012

LASKEY-CLIFTON CORPORATION (Continued) **1011210221**

Violation Number: 8604971
Date Issued: 08/21/2012
Mine Status: Intermittent
Status Date: 10/25/2006
Action Type: 104(g)(1)
Date Abated: 08/22/2012
Citation/Order: Order
Sig and Sub Designation: Y
Proposed Penalty: 372.00
Paid Penalty: 372.00
Assessment Status code: Closed
Assess. Case Status code: Proposed
Assessment Amount: 372.00
Year: 2012

Violation Number: 8604972
Date Issued: 08/21/2012
Mine Status: Intermittent
Status Date: 10/25/2006
Action Type: 104(a)
Date Abated: 08/22/2012
Citation/Order: Citation
Sig and Sub Designation: N
Proposed Penalty: 100.00
Paid Penalty: 100.00
Assessment Status code: Closed
Assess. Case Status code: Proposed
Assessment Amount: 100.00
Year: 2012

Violation Number: 8604975
Date Issued: 08/21/2012
Mine Status: Intermittent
Status Date: 10/25/2006
Action Type: 104(a)
Date Abated: 08/22/2012
Citation/Order: Citation
Sig and Sub Designation: Y
Proposed Penalty: 243.00
Paid Penalty: 243.00
Assessment Status code: Closed
Assess. Case Status code: Proposed
Assessment Amount: 243.00
Year: 2012

Violation Number: 8604974
Date Issued: 08/21/2012
Mine Status: Intermittent
Status Date: 10/25/2006
Action Type: 104(a)
Date Abated: 08/30/2012
Citation/Order: Citation
Sig and Sub Designation: Y
Proposed Penalty: 108.00
Paid Penalty: 108.00
Assessment Status code: Closed
Assess. Case Status code: Proposed

LASKEY-CLIFTON CORPORATION (Continued) **1011210221**

Assessment Amount: 108.00
Year: 2012

Violation Number: 8604973
Date Issued: 08/21/2012
Mine Status: Intermittent
Status Date: 10/25/2006
Action Type: 104(a)
Date Abated: 08/30/2012
Citation/Order: Citation
Sig and Sub Designation: Y
Proposed Penalty: 150.00
Paid Penalty: 150.00
Assessment Status code: Closed
Assess. Case Status code: Proposed
Assessment Amount: 150.00
Year: 2012

Violation Number: 8790039
Date Issued: 07/14/2014
Mine Status: Intermittent
Status Date: 10/25/2006
Action Type: 104(a)
Date Abated: 07/15/2014
Citation/Order: Citation
Sig and Sub Designation: N
Proposed Penalty: 162.00
Paid Penalty: 162.00
Assessment Status code: Closed
Assess. Case Status code: Proposed
Assessment Amount: 162.00
Year: 2014

Violation Number: 8790038
Date Issued: 07/14/2014
Mine Status: Intermittent
Status Date: 10/25/2006
Action Type: 104(a)
Date Abated: 07/15/2014
Citation/Order: Citation
Sig and Sub Designation: Y
Proposed Penalty: 100.00
Paid Penalty: 100.00
Assessment Status code: Closed
Assess. Case Status code: Proposed
Assessment Amount: 100.00
Year: 2014

Violation Number: 8790036
Date Issued: 07/14/2014
Mine Status: Intermittent
Status Date: 10/25/2006
Action Type: 104(a)
Date Abated: 07/15/2014
Citation/Order: Citation
Sig and Sub Designation: Y
Proposed Penalty: 243.00

LASKEY-CLIFTON CORPORATION (Continued) **1011210221**

Paid Penalty: 243.00
Assessment Status code: Closed
Assess. Case Status code: Proposed
Assessment Amount: 243.00
Year: 2014

Violation Number: 8790037
Date Issued: 07/14/2014
Mine Status: Intermittent
Status Date: 10/25/2006
Action Type: 104(a)
Date Abated: 07/15/2014
Citation/Order: Citation
Sig and Sub Designation: N
Proposed Penalty: 100.00
Paid Penalty: 100.00
Assessment Status code: Closed
Assess. Case Status code: Proposed
Assessment Amount: 100.00
Year: 2014

Violation Number: 6430161
Date Issued: 02/12/2008
Mine Status: Intermittent
Status Date: 10/25/2006
Action Type: 104(a)
Date Abated: 02/12/2008
Citation/Order: Citation
Sig and Sub Designation: N
Proposed Penalty: 100.00
Paid Penalty: 100.00
Assessment Status code: Closed
Assess. Case Status code: Proposed
Assessment Amount: 100.00
Year: 2008

Violation Number: 6430160
Date Issued: 02/12/2008
Mine Status: Intermittent
Status Date: 10/25/2006
Action Type: 104(a)
Date Abated: 02/13/2008
Citation/Order: Citation
Sig and Sub Designation: N
Proposed Penalty: 100.00
Paid Penalty: 100.00
Assessment Status code: Closed
Assess. Case Status code: Proposed
Assessment Amount: 100.00
Year: 2008

Violation Number: 6430159
Date Issued: 02/12/2008
Mine Status: Intermittent
Status Date: 10/25/2006
Action Type: 104(a)
Date Abated: 02/12/2008

LASKEY-CLIFTON CORPORATION (Continued) **1011210221**

Citation/Order: Citation
Sig and Sub Designation: N
Proposed Penalty: 100.00
Paid Penalty: 100.00
Assessment Status code: Closed
Assess. Case Status code: Proposed
Assessment Amount: 100.00
Year: 2008

Violation Number: 8559522
Date Issued: 01/25/2011
Mine Status: Intermittent
Status Date: 10/25/2006
Action Type: 104(a)
Date Abated: 01/25/2011
Citation/Order: Citation
Sig and Sub Designation: N
Proposed Penalty: 100.00
Paid Penalty: 100.00
Assessment Status code: Closed
Assess. Case Status code: Proposed
Assessment Amount: 100.00
Year: 2011

Violation Number: 8604323
Date Issued: 01/16/2013
Mine Status: Intermittent
Status Date: 10/25/2006
Action Type: 104(a)
Date Abated: 04/23/2013
Citation/Order: Citation
Sig and Sub Designation: N
Proposed Penalty: 100.00
Paid Penalty: 100.00
Assessment Status code: Closed
Assess. Case Status code: Proposed
Assessment Amount: 100.00
Year: 2013

Violation Number: 6383539
Date Issued: 01/13/2010
Mine Status: Intermittent
Status Date: 10/25/2006
Action Type: 104(a)
Date Abated: 01/14/2010
Citation/Order: Citation
Sig and Sub Designation: N
Proposed Penalty: 100.00
Paid Penalty: 100.00
Assessment Status code: Closed
Assess. Case Status code: Proposed
Assessment Amount: 100.00
Year: 2010

Violation Number: 6383538
Date Issued: 01/13/2010
Mine Status: Intermittent

LASKEY-CLIFTON CORPORATION (Continued) **1011210221**

Status Date:	10/25/2006
Action Type:	104(a)
Date Abated:	01/14/2010
Citation/Order:	Citation
Sig and Sub Designation:	N
Proposed Penalty:	100.00
Paid Penalty:	100.00
Assessment Status code:	Closed
Assess. Case Status code:	Proposed
Assessment Amount:	100.00
Year:	2010

F24
NNW
1/8-1/4
0.213 mi.
1125 ft.

Relative:
Higher

Actual:
41 ft.

LASKEY-CLIFTON CORPORATION **US MINES** **1016500630**
N/A

COOS (County), OR

Site 2 of 3 in cluster F

US MINES:

Mine ID:	3503529
SIC code(s):	142900 000000 000000 000000 000000 000000
Entity name:	LC-300
Company:	LASKEY-CLIFTON CORPORATION
Status:	2
Status date:	20080320
Operation Class:	non-Coal Mining
Number of shops:	0
Number of plants:	0
Latitude:	43 17 17
Longitude:	124 13 59

Violations Details:

Violation Number:	6346412
Date Issued:	12/10/2002
Mine Status:	Intermittent
Status Date:	03/20/2008
Action Type:	104(a)
Date Abated:	Not reported
Citation/Order:	Citation
Sig and Sub Designation:	N
Proposed Penalty:	Not reported
Paid Penalty:	Not reported
Assessment Status code:	Not reported
Assess. Case Status code:	Not reported
Assessment Amount:	Not reported
Year:	2002

Violation Number:	6362333
Date Issued:	11/02/2004
Mine Status:	Intermittent
Status Date:	03/20/2008
Action Type:	104(d)(1)
Date Abated:	11/03/2004
Citation/Order:	Order
Sig and Sub Designation:	Y
Proposed Penalty:	1,000.00
Paid Penalty:	800.00

LASKEY-CLIFTON CORPORATION (Continued) **1016500630**

Assessment Status code: Closed
Assess. Case Status code: Proposed
Assessment Amount: 800.00
Year: 2004

Violation Number: 6362332-00004074A
Date Issued: 11/02/2004
Mine Status: Intermittent
Status Date: 03/20/2008
Action Type: 104(d)(1)
Date Abated: 11/03/2004
Citation/Order: Citation
Sig and Sub Designation: Y
Proposed Penalty: 500.00
Paid Penalty: 400.00
Assessment Status code: Closed
Assess. Case Status code: Proposed
Assessment Amount: 400.00
Year: 2004

Violation Number: 6362332
Date Issued: 11/02/2004
Mine Status: Intermittent
Status Date: 03/20/2008
Action Type: 104(d)(1)
Date Abated: 11/03/2004
Citation/Order: Citation
Sig and Sub Designation: Y
Proposed Penalty: 1,000.00
Paid Penalty: 800.00
Assessment Status code: Closed
Assess. Case Status code: Proposed
Assessment Amount: 800.00
Year: 2004

Violation Number: 6362331
Date Issued: 11/02/2004
Mine Status: Intermittent
Status Date: 03/20/2008
Action Type: 107(a)
Date Abated: 11/02/2004
Citation/Order: Order
Sig and Sub Designation: Not reported
Proposed Penalty: Not reported
Paid Penalty: Not reported
Assessment Status code: Not reported
Assess. Case Status code: Not reported
Assessment Amount: Not reported
Year: 2004

Violation Number: 6362333-00004074A
Date Issued: 11/02/2004
Mine Status: Intermittent
Status Date: 03/20/2008
Action Type: 104(d)(1)
Date Abated: 11/03/2004
Citation/Order: Order

LASKEY-CLIFTON CORPORATION (Continued) **1016500630**

Sig and Sub Designation: Y
Proposed Penalty: 500.00
Paid Penalty: 400.00
Assessment Status code: Closed
Assess. Case Status code: Proposed
Assessment Amount: 400.00
Year: 2004

Violation Number: 6362334
Date Issued: 11/02/2004
Mine Status: Intermittent
Status Date: 03/20/2008
Action Type: 104(a)
Date Abated: 11/03/2004
Citation/Order: Citation
Sig and Sub Designation: N
Proposed Penalty: 60.00
Paid Penalty: 60.00
Assessment Status code: Closed
Assess. Case Status code: Proposed
Assessment Amount: 60.00
Year: 2004

Violation Number: 6383235
Date Issued: 10/18/2005
Mine Status: Intermittent
Status Date: 03/20/2008
Action Type: 104(a)
Date Abated: 11/14/2005
Citation/Order: Citation
Sig and Sub Designation: N
Proposed Penalty: 324.00
Paid Penalty: 300.00
Assessment Status code: Closed
Assess. Case Status code: Proposed
Assessment Amount: 300.00
Year: 2005

Violation Number: 6383241
Date Issued: 10/18/2005
Mine Status: Intermittent
Status Date: 03/20/2008
Action Type: 104(a)
Date Abated: 11/15/2005
Citation/Order: Citation
Sig and Sub Designation: N
Proposed Penalty: 324.00
Paid Penalty: 300.00
Assessment Status code: Closed
Assess. Case Status code: Proposed
Assessment Amount: 300.00
Year: 2005

Violation Number: 6383240
Date Issued: 10/18/2005
Mine Status: Intermittent
Status Date: 03/20/2008

LASKEY-CLIFTON CORPORATION (Continued) **1016500630**

Action Type:	104(a)
Date Abated:	11/14/2005
Citation/Order:	Citation
Sig and Sub Designation:	N
Proposed Penalty:	247.00
Paid Penalty:	200.00
Assessment Status code:	Closed
Assess. Case Status code:	Proposed
Assessment Amount:	200.00
Year:	2005

Violation Number:	6383239
Date Issued:	10/18/2005
Mine Status:	Intermittent
Status Date:	03/20/2008
Action Type:	104(a)
Date Abated:	04/11/2006
Citation/Order:	Citation
Sig and Sub Designation:	N
Proposed Penalty:	440.00
Paid Penalty:	297.20
Assessment Status code:	Closed
Assess. Case Status code:	Proposed
Assessment Amount:	297.20
Year:	2005

Violation Number:	6383238
Date Issued:	10/18/2005
Mine Status:	Intermittent
Status Date:	03/20/2008
Action Type:	104(a)
Date Abated:	10/18/2005
Citation/Order:	Citation
Sig and Sub Designation:	Y
Proposed Penalty:	723.00
Paid Penalty:	650.00
Assessment Status code:	Closed
Assess. Case Status code:	Proposed
Assessment Amount:	650.00
Year:	2005

Violation Number:	6383237
Date Issued:	10/18/2005
Mine Status:	Intermittent
Status Date:	03/20/2008
Action Type:	104(b)
Date Abated:	10/18/2005
Citation/Order:	Order
Sig and Sub Designation:	Not reported
Proposed Penalty:	Not reported
Paid Penalty:	Not reported
Assessment Status code:	Not reported
Assess. Case Status code:	Not reported
Assessment Amount:	Not reported
Year:	2005

Violation Number:	6383236

LASKEY-CLIFTON CORPORATION (Continued) **1016500630**

Date Issued:	10/18/2005
Mine Status:	Intermittent
Status Date:	03/20/2008
Action Type:	104(a)
Date Abated:	04/11/2006
Citation/Order:	Citation
Sig and Sub Designation:	Y
Proposed Penalty:	723.00
Paid Penalty:	433.80
Assessment Status code:	Closed
Assess. Case Status code:	Proposed
Assessment Amount:	433.80
Year:	2005

Violation Number:	6383234
Date Issued:	10/18/2005
Mine Status:	Intermittent
Status Date:	03/20/2008
Action Type:	104(a)
Date Abated:	10/19/2005
Citation/Order:	Citation
Sig and Sub Designation:	N
Proposed Penalty:	440.00
Paid Penalty:	0.00
Assessment Status code:	Closed
Assess. Case Status code:	Vacated
Assessment Amount:	0.00
Year:	2005

Violation Number:	6383233
Date Issued:	10/18/2005
Mine Status:	Intermittent
Status Date:	03/20/2008
Action Type:	104(a)
Date Abated:	11/14/2005
Citation/Order:	Citation
Sig and Sub Designation:	N
Proposed Penalty:	324.00
Paid Penalty:	300.00
Assessment Status code:	Closed
Assess. Case Status code:	Proposed
Assessment Amount:	300.00
Year:	2005

Violation Number:	6383232
Date Issued:	10/18/2005
Mine Status:	Intermittent
Status Date:	03/20/2008
Action Type:	104(a)
Date Abated:	10/19/2005
Citation/Order:	Citation
Sig and Sub Designation:	Y
Proposed Penalty:	723.00
Paid Penalty:	650.00
Assessment Status code:	Closed
Assess. Case Status code:	Proposed
Assessment Amount:	650.00

LASKEY-CLIFTON CORPORATION (Continued) **1016500630**

Year:	2005

Violation Number:	6383231
Date Issued:	10/18/2005
Mine Status:	Intermittent
Status Date:	03/20/2008
Action Type:	104(a)
Date Abated:	11/14/2005
Citation/Order:	Citation
Sig and Sub Designation:	N
Proposed Penalty:	324.00
Paid Penalty:	100.00
Assessment Status code:	Closed
Assess. Case Status code:	Proposed
Assessment Amount:	100.00
Year:	2005

Violation Number:	6383230
Date Issued:	10/18/2005
Mine Status:	Intermittent
Status Date:	03/20/2008
Action Type:	104(a)
Date Abated:	11/14/2005
Citation/Order:	Citation
Sig and Sub Designation:	N
Proposed Penalty:	324.00
Paid Penalty:	243.00
Assessment Status code:	Closed
Assess. Case Status code:	Proposed
Assessment Amount:	243.00
Year:	2005

Violation Number:	6383229
Date Issued:	10/18/2005
Mine Status:	Intermittent
Status Date:	03/20/2008
Action Type:	104(a)
Date Abated:	10/19/2005
Citation/Order:	Citation
Sig and Sub Designation:	Y
Proposed Penalty:	723.00
Paid Penalty:	650.00
Assessment Status code:	Closed
Assess. Case Status code:	Proposed
Assessment Amount:	650.00
Year:	2005

LASKEY-CLIFTON CORPORATION (Continued) **1016500630**

Click this hyperlink while viewing on your computer to access
106 additional US_MINES: record(s) in the EDR Site Report.

25
SW
1/8-1/4
0.219 mi.
1156 ft.

HEATING OIL TANK
681 EXCHANGE ST
NORTH BEND, OR 97459

LUST **S116561494**
N/A

Relative:
Higher

Actual:
98 ft.

LUST:

Region:	Western Region
Facility ID:	06-14-0150
Cleanup Received Date:	02/19/2014
Cleanup Start Date:	Not reported
Cleanup Complete Date:	**03/11/2014**

26
NW
1/8-1/4
0.225 mi.
1190 ft.

CRAWFORD, JUDITH
2759 SHERIDAN AVE
NORTH BEND, OR 97459

FINDS **1006866278**
LUST **N/A**

Relative:
Higher

Actual:
94 ft.

FINDS:

Registry ID: 110014291952

Environmental Interest/Information System
OR-DEQ (Oregon - Department Of Environmental Quality) is a regulatory agency whose job is to protect the quality of Oregon's Environment. DEQ uses a combination of technical assistance, inspections and permitting to help public and private facilities and citizens understand and comply with state and federal environmental regulations.

LUST:

Region:	Western Region
Facility ID:	06-02-5756
Cleanup Received Date:	04/26/2002
Cleanup Start Date:	04/19/2002
Cleanup Complete Date:	**05/09/2002**

G27
West
1/8-1/4
0.232 mi.
1223 ft.

HEATING OIL TANK
3125 SHERMAN AVE
NORTH BEND, OR 97459

Site 1 of 2 in cluster G

LUST **S105556105**
N/A

Relative:
Higher

Actual:
113 ft.

LUST:

Region:	Western Region
Facility ID:	06-02-0202
Cleanup Received Date:	06/20/2002
Cleanup Start Date:	06/19/2002
Cleanup Complete Date:	**07/29/2003**

G28
West
1/8-1/4
0.237 mi.
1253 ft.

NORTH BEND ROBO CAR WASH — **UST** — **U000436179**
3080 SHERMAN AVE — **N/A**
NORTH BEND, OR 97459

Site 2 of 2 in cluster G

Relative:
Higher

Actual:
113 ft.

UST:

Facility ID:	5572
Facility Telephone:	(503) 756-7536
Permittee Name:	IRA A MOE
Number of Permitted Tanks:	Not reported
Active Tanks:	Not reported
Decommissioned Tanks:	2
Number of Tanks:	2

F29
NNW
1/8-1/4
0.240 mi.
1269 ft.

MARSHFIELD MGP FORMER — **EDR MGP** — **1008408793**
3040 TREMONT STREET — **N/A**
NORTH BEND, OR 97459

Site 3 of 3 in cluster F

Relative:
Higher

Actual:
28 ft.

Manufactured Gas Plants:

Alternate Name:MOUNTAIN STATES POWER MGP; NORTHERN STATES POWER. No additional information available

---

30
SSW
1/4-1/2
0.255 mi.
1345 ft.

HEATING OIL TANK — **LUST** — **S105710903**
3959 SHERIDAN AVE — **N/A**
NORTH BEND, OR 97459

Relative:
Higher

Actual:
135 ft.

LUST:

Region:	Western Region
Facility ID:	06-02-1399
Cleanup Received Date:	11/22/2002
Cleanup Start Date:	11/20/2002
Cleanup Complete Date:	**01/07/2003**

31
NW
1/4-1/2
0.278 mi.
1466 ft.

HEATING OIL TANK — **LUST** — **S109346880**
2741 SHERMAN AVE — **N/A**
NORTH BEND, OR 97459

Relative:
Higher

Actual:
91 ft.

LUST:

Region:	Western Region
Facility ID:	06-08-1063
Cleanup Received Date:	08/19/2008
Cleanup Start Date:	Not reported
Cleanup Complete Date:	**11/05/2008**

H32 SSW 1/4-1/2 0.284 mi. 1499 ft. | **UNOCAL MARKETING TERMINAL**
2395 N BAYSHORE DR.
COOS BAY, OR 97420 | **VCP ECSI CRL** | **S103841585 N/A**

Site 1 of 3 in cluster H

Relative: Higher

Actual: 16 ft.

VCS:

ECS Site ID:	288
Facility Size:	1.2 acres
Action:	No Further Action (Conditional)
Start Date:	10/22/2010
End Date:	10/22/2010
Program:	ICP
Latitude:	43.385
Longitude:	-124.2218

ECSI:

State ID Number:	288	Brown ID:	0
Study Area:	False	Region ID:	3
Legislatve ID:	0	Investigation:	Listed on the CRL/Inventory
FACA ID:	1262	Further Action:	0
Lat/Long (dms):	43 23 6.00 / -124 13 18.50	County Code:	6.00
Score Value:	Not reported	Cerclis ID:	Not reported
Township Coord.:	25.00	Township Zone:	S
Range Coord:	13.00	Range Zone:	W
Section Coord:	22	Qtr Section:	DA
Tax Lots:	300, 500, 2300	Size:	1.2 acres
NPL:	False	Orphan:	False
Updated By:	BTHOMS	Update Date:	11/04/2013
Alias Name:	Former Unocal Bulk Plant #0954		
Alias Name:	Former Unocal Terminal #0124		
Alias Name:	Former Unocal - Coos Bay		

Hazardous Release:

Substance ID.:	121981
Haz Release ID:	383074
Qty Released:	unknown
Date Released:	past practices 1951 - 1981
Update Date:	05/25/1988
Update By:	Not reported
Substance Code:	ECD168
Substance Name:	BUNKER - FUEL OIL
Substance Abbrev.:	Not reported
Substance Category ID:	8527
Substance Category:	Petroleum Related Releases for OSPIRG Report
Category Level:	Not reported
Created By:	Not reported
Created Date:	12/17/2002
Substance Category ID:	8527
Substance Category:	Petroleum Related Releases for OSPIRG Report
Category Level:	Not reported
Created By:	Not reported
Created Date:	12/17/2002
Comment ID:	303809
Release Code:	Media Contamination Footnote
Release Comments:	Subsurface Contamination Study by Geo Engineers 3-1-88
Sampling Result ID:	346174
Feature Id:	Not reported
Hazard Release Id:	383074

UNOCAL MARKETING TERMINAL (Continued) **S103841585**

Medium: 698
Substance Abbrev.: Not reported
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: False
Sample Depth: Not reported
Start Date: Not reported
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 96-120 ppm
Last Update By: CONV
Update Date: 09/13/1994
Sampling Result ID: 346175
Feature Id: Not reported
Hazard Release Id: 383074
Medium: 700
Substance Abbrev.: Not reported
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: False
Sample Depth: Not reported
Start Date: Not reported
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 27,000ppm stockpile
Last Update By: CONV
Update Date: 09/13/1994
Sampling Result ID: 346176
Feature Id: Not reported
Hazard Release Id: 383074
Medium: 703
Substance Abbrev.: Not reported
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: False
Sample Depth: Not reported
Start Date: Not reported
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 22-320 ppm
Last Update By: CONV
Update Date: 09/13/1994

Substance ID.: 121996
Haz Release ID: 384936
Qty Released: unknown
Date Released: past practices
Update Date: 07/20/1995
Update By: Not reported
Substance Code: ECD228
Substance Name: PETROLEUM HYDROCARBONS

UNOCAL MARKETING TERMINAL (Continued) **S103841585**

Substance Abbrev.: Not reported
Substance Category ID: 8534
Substance Category: Petroleum Related Releases for OSPIRG Report
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8534
Substance Category: Petroleum Related Releases for OSPIRG Report
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002

Narrative:

NARR ID: 5729805
NARR Code: Contamination
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
NARR Comments: Minor losses of bunker oil occurred during transfer operations several times during 30-yr period. After each loss, contaminated soil from spill area was removed from yard and stockpiled. Soil and groundwater samples indicated presence of total petroleum hydrocarbon contamination in native soils beneath stockpile and in groundwater. (SAN) Contamination also discovered on wharf area portion of site. Miscellaneous releases over operating history.

NARR ID: 5729806
NARR Code: Data Sources
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
NARR Comments: LUST file; spill file; Coos Bay office lab results; Subsurface Contamination Study by GeoEngineers (3/1/88).

NARR ID: 5729807
NARR Code: Hazardous Substance/Waste Types
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
NARR Comments: Petroleum hydrocarbons.

NARR ID: 5729808
NARR Code: Site Location
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
NARR Comments: Along US Hwy 101. Main terminal west of highway and wharf area east of highway on Coos Bay waterfront.

NARR ID: 5729809
NARR Code: Remedial Action
Created By: Not reported
Created Date: 12/17/2002
Updated By: BTHOMS

UNOCAL MARKETING TERMINAL (Continued) **S103841585**

Updated Date: 06/12/2007
NARR Comments: GeoEngineers proposed excavating and removing stockpiled soils and underlying native soils that were visibly contaminated with oil and/or had an odor (3/1/88). Estimated approximately 500 cubic yards contaminated soil at site. Geo Engineers proposed to aerate soil at ESI land treatment facility in Beaverhill, then mix it with asphalt road base. (10/27/05 GB/ICP) VCP ITP received 10/18/05 and this site has been placed on the VCP waiting list.Site entered VCP in March 2006. Began additional site assessment activities (soil and groundwater assessment), deconstructed tanks and steel, removed shallow PCS, maintained extraction system.Contractor completed ICP pathway final report on June 12, 2007. To be reviewed by DEQ.

NARR ID: 5729810
NARR Code: Health Threats
Created By: Not reported
Created Date: 12/17/2002
Updated By: IBALCOM
Updated Date: 07/29/2008
NARR Comments: Contaminants leaching from the site via groundwater may be impacting waters of the Coos Bay Estuary. Bay sediments may also be impacted. Potential direct contact exposures associated with areas of impacted soils are a concern primarily for facility workers.

NARR ID: 5750701
NARR Code: 1922
Created By: IBALCOM
Created Date: 07/29/2008
Updated By: GWISTAR
Updated Date: 10/08/2009
NARR Comments: [July 09] Site entered VCP in March 2006. Began additional site assessment activities (soil and groundwater assessment), deconstructed tanks and steel, removed shallow petroleum-contaminated soil, maintained extraction system.Contractor completed ICP pathway final report in September 2007); report under review by DEQ. Responsible party for site is proposing no further action for Area 1 (west of Hwy 101).

Administrative Action:

Admin ID:	700361	Action ID:	9498
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	04/24/1995	Complete Date:	04/24/1995
Substance Code:	SAS	Rank Value:	0
Employee Id:	566	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RPLC	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False

Action: Proposal for Confirmed Release List recommended
Further Action: Not reported
Comments: Laboratory data indicating petroleum contamination above background.

Admin ID:	702138	Action ID:	9465
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	08/20/2001	Complete Date:	08/20/2001
Substance Code:	SAS	Rank Value:	0
Employee Id:	730	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	PRC	Category:	Listing Action

UNOCAL MARKETING TERMINAL (Continued) **S103841585**

Action Flag:	True	Action Code Flag:	False
Action:	Facility proposed for Confirmed Release List		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	702139	Action ID:	9467
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	08/20/2001	Complete Date:	08/20/2001
Substance Code:	SAS	Rank Value:	0
Employee Id:	730	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	PRI	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Facility proposed for Inventory		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	703061	Action ID:	9438
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	01/10/2002	Complete Date:	01/10/2002
Substance Code:	SAS	Rank Value:	0
Employee Id:	730	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	LSC	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Facility placed on Confirmed Release List		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	703062	Action ID:	9439
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	01/10/2002	Complete Date:	01/10/2002
Substance Code:	SAS	Rank Value:	0
Employee Id:	730	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	LSI	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Facility placed on Inventory		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	715113	Action ID:	9499
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	04/24/1995	Complete Date:	04/24/1995
Substance Code:	SAS	Rank Value:	0
Employee Id:	566	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RPLI	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Proposal for Inventory recommended		
Further Action:	Not reported		
Comments:	Laboratory data indicating petroleum contamination above background.		

Admin ID:	715299	Action ID:	9510
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	04/24/1995	Complete Date:	04/24/1995
Substance Code:	SAS	Rank Value:	0

UNOCAL MARKETING TERMINAL (Continued) **S103841585**

Employee Id:	566	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RXPA	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	State Expanded Preliminary Assessment recommended (XPA)		
Further Action:	Medium		
Comments:	Not reported		

Admin ID:	715399	Action ID:	9437
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	04/24/1995	Complete Date:	04/24/1995
Substance Code:	SAS	Rank Value:	0
Employee Id:	566	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	LRC	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Listing Review completed		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	717421	Action ID:	9425
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	04/18/1995	Complete Date:	04/24/1995
Substance Code:	SAS	Rank Value:	0
Employee Id:	566	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	EV	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	SITE EVALUATION		
Further Action:	Not reported		
Comments:	State Screening		

Admin ID:	717422	Action ID:	9459
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	04/18/1995	Complete Date:	04/24/1995
Substance Code:	SAS	Rank Value:	0
Employee Id:	566	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	PAE	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	PRELIMINARY ASSESSMENT EQUIVALENT		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	718091	Action ID:	9424
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	05/25/1988	Complete Date:	Not reported
Substance Code:	SAS	Rank Value:	0
Employee Id:	304	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	ENTRY	Category:	Administrative Action
Action Flag:	True	Action Code Flag:	False
Action:	Site added to database		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	722129	Action ID:	9508

UNOCAL MARKETING TERMINAL (Continued) **S103841585**

Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	02/11/1994	Complete Date:	02/11/1994
Substance Code:	SAS	Rank Value:	0
Employee Id:	293	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RSSC	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	Site Screening recommended (EV)		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	731255	Action ID:	9519
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	10/27/2005	Complete Date:	03/01/2006
Substance Code:	VCP	Rank Value:	Not reported
Employee Id:	2033	Cleanup Flag:	False
Created By:	MENGLIS	Created Date:	11/02/2005
Action Code:	VWL	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	VCS Waiting List		
Further Action:	0		
Comments:	ITP received 10/18/05		

Admin ID:	732214	Action ID:	9484
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	03/01/2006	Complete Date:	Not reported
Substance Code:	VCS	Rank Value:	Not reported
Employee Id:	2033	Cleanup Flag:	False
Created By:	BTHOMS	Created Date:	04/13/2006
Action Code:	RI	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	REMEDIAL INVESTIGATION		
Further Action:	0		
Comments:	Not reported		

Admin ID:	736742	Action ID:	9433
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	06/01/2008	Complete Date:	Not reported
Substance Code:	ICP	Rank Value:	Not reported
Employee Id:	2033	Cleanup Flag:	False
Created By:	IBALCOM	Created Date:	07/29/2009
Action Code:	IC	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	INDEPENDENT CLEANUP		
Further Action:	0		
Comments:	Not reported		

Admin ID:	741977	Action ID:	9411
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	10/22/2010	Complete Date:	10/22/2010
Substance Code:	ICP	Rank Value:	Not reported
Employee Id:	2033	Cleanup Flag:	False
Created By:	BTHOMS	Created Date:	05/12/2014
Action Code:	CNFA	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	No Further Action (Conditional)		
Further Action:	0		

UNOCAL MARKETING TERMINAL (Continued) **S103841585**

Comments: Conditional NFA for Area 1, Tax Lot 400, 500, and 3200

Admin ID:	741978	Action ID:	9463
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	05/12/2014	Complete Date:	05/12/2014
Substance Code:	ICP	Rank Value:	Not reported
Employee Id:	2033	Cleanup Flag:	False
Created By:	BTHOMS	Created Date:	05/12/2014
Action Code:	PNFA	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	Partial No Further Action		
Further Action:	0		
Comments:	NFA of Upland Portion of Area 2, tax lot 300 and Hwy. 101 Right of Way		

Operations:

Operation Id:	131713
Operation Status:	Active
Common Name:	Unocal Marketing Terminal
Yrs of Operation:	1951 - 1981 handled bunker grade oil
Comments:	Unknown
Updated Date:	09/13/1994
Operations SIC Id:	195355
SIC Code:	4491
Created By:	Not reported
Created Date:	12/17/2002
Operations SIC Id:	195356
SIC Code:	5171
Created By:	Not reported
Created Date:	12/17/2002

CRL:

Facility ID:	288
Location ID:	1262
Status Code:	LIS
Facility Status:	No Further Action (Conditional)
Lat/Long:	43.385 / -124.2218

H33 **UNOCAL BULK PLANT** **LUST** **S100499185**
SSW **2395 BAYSHORE DRIVE** **N/A**
1/4-1/2 **COOS BAY, OR 97420**
0.284 mi.
1499 ft. **Site 2 of 3 in cluster H**

Relative:
Higher

Actual:
16 ft.

LUST:

Region:	Western Region
Facility ID:	06-91-0117
Cleanup Received Date:	12/27/1991
Cleanup Start Date:	04/24/1995
Cleanup Complete Date:	**Not reported**

H34 SSW 1/4-1/2 0.316 mi. 1671 ft. | **CHEVRON BULK PLANT - COOS BAY (FORMER)** | **CRL** | **S102534771**
2640 N BAYSHORE DR. | **ECSI** | **N/A**
COOS BAY, OR 97420

Site 3 of 3 in cluster H

Relative: Higher

Actual: 44 ft.

CRL:

Facility ID:	542
Location ID:	4912
Status Code:	LIS
Facility Status:	REMEDIAL ACTION
Lat/Long:	43.3859 / -124.221

ECSI:

State ID Number:	542	Brown ID:	0
Study Area:	False	Region ID:	3
Legislatve ID:	831	Investigation:	Listed on the CRL/Inventory
FACA ID:	4912	Further Action:	0
Lat/Long (dms):	43 23 9.20 / -124 13 15.60	County Code:	6.00
Score Value:	Not reported	Cerclis ID:	Not reported
Township Coord.:	25.00	Township Zone:	S
Range Coord:	13.00	Range Zone:	W
Section Coord:	22	Qtr Section:	Not reported
Tax Lots:	200	Size:	1.8 acres
NPL:	False	Orphan:	False
Updated By:	GWISTAR	Update Date:	12/24/2013
Alias Name:	Chevron Coos Bay Bulk Storage Facility		
Alias Name:	East Tank Field		

Hazardous Release:

Substance ID.:	121983
Haz Release ID:	383901
Qty Released:	unknown
Date Released:	unknown
Update Date:	04/10/1988
Update By:	Not reported
Substance Code:	ECD173
Substance Name:	GASOLINE
Substance Abbrev.:	Not reported
Substance Category ID:	8530
Substance Category:	Petroleum Related Releases for OSPIRG Report
Category Level:	Not reported
Created By:	Not reported
Created Date:	12/17/2002
Substance Category ID:	8530
Substance Category:	Petroleum Related Releases for OSPIRG Report
Category Level:	Not reported
Created By:	Not reported
Created Date:	12/17/2002
Comment ID:	304124
Release Code:	Data Sources
Release Comments:	Coos Bay Office IW Source File.
Sampling Result ID:	346790
Feature Id:	Not reported
Hazard Release Id:	383901
Medium:	698
Substance Abbrev.:	Not reported
Unit Code:	Not reported
Observation:	False

CHEVRON BULK PLANT - COOS BAY (FORMER) (Continued) **S102534771**

Owner Operator: False
Lab Data: False
Sample Depth: Not reported
Start Date: Not reported
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 36 ppm
Last Update By: CONV
Update Date: 09/13/1994

Substance ID.: 121989
Haz Release ID: 384972
Qty Released: unknown
Date Released: unknown
Update Date: 04/10/1988
Update By: Not reported
Substance Code: ECD200
Substance Name: OIL OR FUEL RELATED COMPOUNDS
Substance Abbrev.: Not reported
Substance Category ID: 8532
Substance Category: Petroleum Related Releases for OSPIRG Report
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8532
Substance Category: Petroleum Related Releases for OSPIRG Report
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Comment ID: 304125
Release Code: Data Sources
Release Comments: Coos Bay Office IW Source File.
Sampling Result ID: 346313
Feature Id: Not reported
Hazard Release Id: 384972
Medium: 698
Substance Abbrev.: Not reported
Unit Code: Not reported
Observation: False
Owner Operator: False
Lab Data: False
Sample Depth: Not reported
Start Date: Not reported
End Date: Not reported
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 270 ppm
Last Update By: CONV
Update Date: 09/13/1994

Narrative:
NARR ID: 5726783
NARR Code: Contamination
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002

CHEVRON BULK PLANT - COOS BAY (FORMER) (Continued) **S102534771**

NARR Comments:(11/10/97 PSR/SRS) A bulk-fuel plant operated at the site next to Coos Bay from the 1920s to 1980. Diesel fuel and gasoline were found in soil and groundwater under the facility. Chevron removed free product from groundwater in an independent action in 1981. TPH-G and TPH-D are present at the site in soils at up to 40,000 mg/kg. Groundwater cannot be used at the site because of the woodwaste fill, salinity, and low yield. Sediment contamination was detected at the bulkhead along the shoreline of Coos Bay. BTEX and PAHs have been detected in soils and sediments at the site.

NARR ID: 5726784
NARR Code: Data Sources
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
NARR Comments:1) Chevron USA Inspection reports (Coos Bay Office). 2) Correspondence FROM owner and/or operator (Coos Bay Office). 3) DEQ memos (Coos Bay Office). 4) RI/FS Reports (Eugene Office). 5) DEQ Record of Decision (Eugene Office).

NARR ID: 5726785
NARR Code: Hazardous Substance/Waste Types
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
NARR Comments:petroleum, diesel, gasoline, TPH, BTEX, PAHs

NARR ID: 5726786
NARR Code: Project Type
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
NARR Comments:Voluntary Cleanup transfer from UST program under department order.

NARR ID: 5726787
NARR Code: Remedial Action
Created By: Not reported
Created Date: 12/17/2002
Updated By: GBROWN
Updated Date: 02/16/2005
NARR Comments:(11/10/97 PSR/SRS) The site was divided into three units to expedite cleanup of on-site soils while allowing additional investigation and remedial alternative development for sediments. The Staff Report for Unit 1 (on-site soil and groundwater) was completed in April 1996, with the public comment period extending from May 1 through June 1, 1996. The Record of Decision for Unit 1 was completed in July 1996. Chevron conducted a pilot study to evaluate biosparging as a remedial alternative to treat groundwater and prevent discharge of contamination to Coos Bay. (7/6/98 PSR) Pilot study has been completed; based on its results, Chevron will propose biosparging to treat contaminated soil and groundwater. (10/20/98 BET) Bio-sparging and funnel and gate containment of groundwater was proposed for the final remedy. The public comment period was completed at the end of 10/98. (1/4/00 PSR) The bio-sparging & funnel & gate treatment system

CHEVRON BULK PLANT - COOS BAY (FORMER) (Continued) **S102534771**

was installed in 1999 and is operational. (6/27/00 PSR) Chevron is planning to conduct an FS for off-site soil and groundwater (Unit 2) in fall 2000. (12/20/00 PSR) Chevron completed fieldwork for the off-site (Unit 2) area in Fall 2000. The report on this work is currently being reviewed by DEQ. (12/26/01 CAW) A report of shellfish consumption risk has also been submitted to DEQ and is currently being reviewed by DEQ. (5/6/03 CAW) New soil and groundwater data was collected for off-site (Unit 2). A revised remedial investigation report for Unit 2 has been submitted and is pending DEQ review. New sediment and shellfish data was collected in March 2003 from areas adjacent to the property and Unit 2.(2/15/05 GCB) Chevron is working on finalizing the Risk Assessment for Unit 2, which may require sampling pore water in bay sediments on Unit 3. In December of 04, a newly active seep, located on Unit 3 downgradient of the Sause Bros. warehouse, produced a light intermittant sheen on bay waters near the shore, prompting Chevron to deploy booms.

NARR ID: 5726788
NARR Code: Residual Risk Assessment
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
NARR Comments: Revised risk assessment showed viable exposure pathways had associated risks with a HI<1.0, or <10-6. FS alternatives focus on cleanup of contaminated soil and sediment with TPH and constituents that may impact water quality or aquatic life. Mixed diesel and gasoline contamination were delineated in the East Tank yard, with soil concentrations up to 45,000 mg/kg. The revised endangerment assessment documented the incomplete pathway for groundwater as a source of drinking water, based on yield and water quality. The FS was conducted to evaluate cleanup options for protection of aquatic life and surface water quality from soil and sediment contamination, and was approved by DEQ in August 1995.

Administrative Action:

Admin ID:	704116	Action ID:	9409
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	05/01/1994	Complete Date:	05/01/1994
Substance Code:	VCS	Rank Value:	0
Employee Id:	632	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	BENE	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	Beneficial Water Use Assessment		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	704117	Action ID:	9436
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	05/01/1994	Complete Date:	05/01/1994
Substance Code:	VCS	Rank Value:	0
Employee Id:	632	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	LANU	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	Land-Use Assessment		
Further Action:	Not reported		

CHEVRON BULK PLANT - COOS BAY (FORMER) (Continued) **S102534771**

Comments: Not reported

Admin ID:	704118	Action ID:	9423
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	05/01/1994	Complete Date:	05/01/1994
Substance Code:	VCS	Rank Value:	0
Employee Id:	632	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	ECORA	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	Ecological Risk Assessment		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	705397	Action ID:	9473
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	09/01/1998	Complete Date:	08/30/1999
Substance Code:	SRS	Rank Value:	0
Employee Id:	632	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RD	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	REMEDIAL DESIGN		
Further Action:	Not reported		
Comments:	Unit 1		

Admin ID:	706407	Action ID:	9469
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	09/01/1999	Complete Date:	Not reported
Substance Code:	SRS	Rank Value:	0
Employee Id:	2393	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RA	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	REMEDIAL ACTION		
Further Action:	0		
Comments:	Operable Unit 1		

Admin ID:	708252	Action ID:	9477
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	12/15/1988	Complete Date:	05/06/1994
Substance Code:	LUS	Rank Value:	0
Employee Id:	680	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	REFL	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	Refer to LUST Program		
Further Action:	Not reported		
Comments:	(LUST log #06-88-0024)		

Admin ID:	708253	Action ID:	9425
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	05/02/1994	Complete Date:	05/06/1994
Substance Code:	SAS	Rank Value:	0
Employee Id:	680	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	EV	Category:	Remedial Action

CHEVRON BULK PLANT - COOS BAY (FORMER) (Continued) **S102534771**

Action Flag:	True	Action Code Flag:	False
Action:	SITE EVALUATION		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	708254	Action ID:	9437
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	05/04/1994	Complete Date:	05/04/1994
Substance Code:	SAS	Rank Value:	0
Employee Id:	680	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	LRC	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Listing Review completed		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	708255	Action ID:	9449
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	05/05/1994	Complete Date:	10/27/1997
Substance Code:	SAS	Rank Value:	0
Employee Id:	680	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	NSFL	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Insufficient information to list		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	708256	Action ID:	9502
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	05/06/1994	Complete Date:	05/06/1994
Substance Code:	SAS	Rank Value:	0
Employee Id:	680	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RRI	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	Remedial Investigation recommended (RI)		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	708257	Action ID:	9429
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	01/30/1995	Complete Date:	Not reported
Substance Code:	VCS	Rank Value:	0
Employee Id:	632	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	FS	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	FEASIBILITY STUDY		
Further Action:	Not reported		
Comments:	Operable Unit 1: RI/FS completed; Operable Unit 2: RI/FS completed; Operable Unit 3: RI/FS active. OU1=on-site soil/groundwater, OU2=off-site soil/groundwater, OU3=sediments.		

Admin ID:	708258	Action ID:	9437
Agency:	Dept Of Environmental Quality	Region:	Western Region

CHEVRON BULK PLANT - COOS BAY (FORMER) (Continued) **S102534771**

Start Date:	10/27/1997	Complete Date:	10/27/1997
Substance Code:	SRS	Rank Value:	0
Employee Id:	632	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	LRC	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Listing Review completed		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	709135	Action ID:	9439
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	01/20/1998	Complete Date:	01/20/1998
Substance Code:	SAS	Rank Value:	0
Employee Id:	730	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	LSI	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Facility placed on Inventory		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	709136	Action ID:	9438
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	01/20/1998	Complete Date:	01/20/1998
Substance Code:	SAS	Rank Value:	0
Employee Id:	730	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	LSC	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Facility placed on Confirmed Release List		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	710823	Action ID:	9498
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	10/28/1997	Complete Date:	10/28/1997
Substance Code:	SRS	Rank Value:	0
Employee Id:	632	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RPLC	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Proposal for Confirmed Release List recommended		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	710824	Action ID:	9499
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	10/28/1997	Complete Date:	10/28/1997
Substance Code:	SRS	Rank Value:	0
Employee Id:	632	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RPLI	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Proposal for Inventory recommended		
Further Action:	Not reported		
Comments:	Not reported		

CHEVRON BULK PLANT - COOS BAY (FORMER) (Continued) **S102534771**

Admin ID:	710876	Action ID:	9494
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	01/04/1996	Complete Date:	07/08/1996
Substance Code:	SRS	Rank Value:	0
Employee Id:	632	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	ROD	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	RECORD OF DECISION		
Further Action:	Not reported		
Comments:	Operable Unit 1: on-site soil/groundwater		

Admin ID:	710967	Action ID:	9465
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	11/19/1997	Complete Date:	11/19/1997
Substance Code:	SRS	Rank Value:	0
Employee Id:	632	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	PRC	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Facility proposed for Confirmed Release List		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	710968	Action ID:	9467
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	11/19/1997	Complete Date:	11/19/1997
Substance Code:	SRS	Rank Value:	0
Employee Id:	632	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	PRI	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Facility proposed for Inventory		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	711104	Action ID:	9412
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	08/22/1991	Complete Date:	09/21/1991
Substance Code:	LUS	Rank Value:	0
Employee Id:	680	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	CNOR	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	Consent Order		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	712009	Action ID:	9486
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	06/01/1994	Complete Date:	11/01/1994
Substance Code:	VCS	Rank Value:	0
Employee Id:	632	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RISK	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	RISK ASSESSMENT		

CHEVRON BULK PLANT - COOS BAY (FORMER) (Continued) **S102534771**

Further Action: Not reported
Comments: Baseline Endangerment Assessment

Admin ID:	712844	Action ID:	9494
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	07/08/1996	Complete Date:	Not reported
Substance Code:	SRS	Rank Value:	0
Employee Id:	632	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	ROD	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False

Action: RECORD OF DECISION
Further Action: Not reported
Comments: Operable Unit 1: ROD completed 7/8/96; Operable Unit 2: ROD active; Operable Unit 3: ROD not yet initiated. OU1=on-site soil/groundwater; OU2=off-site soil/groundwater; OU3=sediments.

Admin ID:	714400	Action ID:	9459
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	05/09/1994	Complete Date:	05/09/1994
Substance Code:	VCS	Rank Value:	0
Employee Id:	632	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	PAE	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False

Action: PRELIMINARY ASSESSMENT EQUIVALENT
Further Action: Not reported
Comments: Not reported

Admin ID:	718359	Action ID:	9424
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	10/04/1988	Complete Date:	Not reported
Substance Code:	SAS	Rank Value:	0
Employee Id:	1804	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	ENTRY	Category:	Administrative Action
Action Flag:	True	Action Code Flag:	False

Action: Site added to database
Further Action: Not reported
Comments: Not reported

Admin ID:	721051	Action ID:	9484
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	05/09/1994	Complete Date:	Not reported
Substance Code:	VCS	Rank Value:	0
Employee Id:	2398	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RI	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False

Action: REMEDIAL INVESTIGATION
Further Action: 0
Comments: Operable Unit 1: RI/FS completed; Operable Unit 2: RI/FS completed; Operable Unit 3: RI/FS active. OU1=on-site soil/groundwater, OU2=off-site soil/groundwater, OU3=sediments.

Admin ID:	722412	Action ID:	9519
Agency:	Dept Of Environmental Quality	Region:	Headquarters

CHEVRON BULK PLANT - COOS BAY (FORMER) (Continued) **S102534771**

Start Date:	11/18/1991	Complete Date:	11/08/1993
Substance Code:	VCS	Rank Value:	0
Employee Id:	631	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	VWL	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	VCS Waiting List		
Further Action:	Not reported		
Comments:	Removed from the WL; active LUST site.		

Operations:

Operation Id:	131854
Operation Status:	Inactive
Common Name:	Chevron Bulk Plant
Yrs of Operation:	1920s to 1980
Comments:	Petroleum bulk loading facility.
Updated Date:	05/06/2003
Operations SIC Id:	195747
SIC Code:	5171
Created By:	Not reported
Created Date:	12/17/2002

35
SW
1/4-1/2
0.327 mi.
1726 ft.

HEATING OIL TANK **LUST** **S108246811**
3838 SHERMAN AVE **N/A**
NORTH BEND, OR 97459

Relative:
Higher

Actual:
168 ft.

LUST:

Region:	Western Region
Facility ID:	06-06-1504
Cleanup Received Date:	08/17/2006
Cleanup Start Date:	08/18/2006
Cleanup Complete Date:	**12/05/2006**

36
SSW
1/4-1/2
0.387 mi.
2042 ft.

HEATING OIL TANK **LUST** **S108571999**
2273 BAYSHORE **N/A**
COOS BAY, OR 97420

Relative:
Higher

Actual:
18 ft.

LUST:

Region:	Western Region
Facility ID:	06-07-0900
Cleanup Received Date:	06/21/2007
Cleanup Start Date:	Not reported
Cleanup Complete Date:	**12/15/2009**

37 NNW 1/4-1/2 0.442 mi. 2335 ft. | **K-KWEL WHARF DEVELOPMENT**
2375 TREMONT ST.
NORTH BEND, OR 97459 | **LUST VCP ECSI** | **S108246795 N/A**

Relative: Higher

Actual: 19 ft.

LUST:

Region:	Western Region
Facility ID:	06-06-1367
Cleanup Received Date:	07/26/2006
Cleanup Start Date:	07/26/2006
Cleanup Complete Date:	**09/06/2007**

VCS:

ECS Site ID:	4802
Facility Size:	10+ acres
Action:	NO FURTHER STATE ACTION REQUIRED
Start Date:	05/15/2007
End Date:	05/15/2007
Program:	VCP
Latitude:	43.4039
Longitude:	-124.2208

ECSI:

State ID Number:	4802	Brown ID:	0
Study Area:	False	Region ID:	3
Legislatve ID:	831	Investigation:	No Further Action
FACA ID:	101995	Further Action:	0
Lat/Long (dms):	43 24 14.00 / -124 13 14.90	County Code:	6.00
Score Value:	Not reported	Cerclis ID:	Not reported
Township Coord.:	25.00	Township Zone:	S
Range Coord:	13.00	Range Zone:	W
Section Coord:	15	Qtr Section:	Not reported
Tax Lots:	Northern portion TL#100	Size:	10+ acres
NPL:	False	Orphan:	False
Updated By:	GWISTAR	Update Date:	05/16/2007
Alias Name:	Weyerhaeuser North Bend Export Services (northern)		
Alias Name:	Ko-Kwel Wharf Development		

Narrative:

NARR ID:	5749265
NARR Code:	Contamination
Created By:	WMASON
Created Date:	05/14/2007
Updated By:	WMASON
Updated Date:	05/14/2007
NARR Comments:	Polycyclic aromatic hydrocarbons, trace metals, and other diesel and heavy-oil range petroleum hydrocarbons.

NARR ID:	5749263
NARR Code:	Data Sources
Created By:	WMASON
Created Date:	05/14/2007
Updated By:	WMASON
Updated Date:	05/14/2007
NARR Comments:	Voluntary Cleanup Pathway Final Report, Proposed Home Depot Lease Parcel, K(-Kwel Wharf Development Project, prepared by Geo-Logic, Inc. for the Coquille Economic Development Corporation, May 14, 2007.

K-KWEL WHARF DEVELOPMENT (Continued) **S108246795**

NARR ID: 5749264
NARR Code: General Site Description
Created By: WMASON
Created Date: 05/14/2007
Updated By: WMASON
Updated Date: 05/15/2007
NARR Comments: The subject property is located east of Highway 101 at 2375 Tremont Street in North Bend. Central Oregon & Pacific Railroad adjoins the west boundary of the subject site, and Coos Bay forms the eastern boundary of the site. The elevation of the site ranges from about 10 to 20 feet above mean sea level, and the site slopes gently toward the bay.

NARR ID: 5749198
NARR Code: Hazardous Substance/Waste Types
Created By: MCLAIR
Created Date: 04/19/2007
Updated By: MCLAIR
Updated Date: 04/19/2007
NARR Comments: Known chemicals and compounds consist of mostly petroleum hydrocarbons in the gasoline, diesel, and lube oil range. Also, detections of Semi-Volatiles and Volatiles are present in soil and groundwater.

NARR ID: 5749266
NARR Code: Land Use (Current/Reasonably Likely)
Created By: WMASON
Created Date: 05/14/2007
Updated By: WMASON
Updated Date: 05/14/2007
NARR Comments: Commercial/Industrial

NARR ID: 5749267
NARR Code: Manner of Release
Created By: WMASON
Created Date: 05/14/2007
Updated By: WMASON
Updated Date: 05/14/2007
NARR Comments: Site contamination is likely related to incidental releases of petroleum products over the 100+ years the site has been in industrial use.

NARR ID: 5749268
NARR Code: Pathways Other Hazards
Created By: WMASON
Created Date: 05/14/2007
Updated By: WMASON
Updated Date: 05/14/2007
NARR Comments: Potential exposure pathways evaluated in the site risk assessment included occupational (indoor), construction, and excavation worker exposures to site soils and groundwater. The risk assessment concluded that workers will not be exposed to site contaminants at unsafe levels.

NARR ID: 5749197
NARR Code: Remedial Action
Created By: MCLAIR

K-KWEL WHARF DEVELOPMENT (Continued) **S108246795**

Created Date: 04/19/2007
Updated By: WMASON
Updated Date: 05/15/2007
NARR Comments:(4/19/07 MPC/ICP) Independent Cleanup Program (ICP) Intent to Participate form, and a signed Independent Cleanup Agreement Letter received 4/19/07. (5/14/2007 WRM) Final report received on May 14, 2007. The report summarizes the results of four separate site investigations in which over 250 soil, groundwater, and sediment samples were collected. The report also includes a comparison of all site contaminant concentrations to relevant DEQ risk-based screening standards. The report concludes that all identified contaminants are below DEQ's levels of concern, and therefore no remedial actions, engineering controls, or institutional controls are necessary to protect human health or the environment.(5/15/2007 WRM) DEQ concludes that based on the information presented to date, the K(-Kwel Wharf Development Project site is currently protective of public health and the environment and requires no further action under the Oregon Environmental Cleanup Law, ORS 465.200 et seq., unless new or previously undisclosed information becomes available.

NARR ID: 5749269
NARR Code: Health Threats
Created By: WMASON
Created Date: 05/14/2007
Updated By: WMASON
Updated Date: 05/14/2007
NARR Comments:DEQ has concluded that based on the information presented in the Final Report, the K(-Kwel Wharf Development Project site is currently protective of public health and the environment.

NARR ID: 5749199
NARR Code: Site History
Created By: MCLAIR
Created Date: 04/19/2007
Updated By: WMASON
Updated Date: 05/14/2007
NARR Comments:Subject site is known as the northern portion of the former Weyerhaeuser North Bend Export facility. This site has been industrial use for the past approximately 100 years. Weyerhaeuser ceased operations in approximately 1995.The K(-Kwel Wharf Development Project site refers to the northern portion of the larger site described in ECSI #527 (Weyerhaeuser - Tremont St site, also known as the former Weyerhaeuser North Bend Export Services site). As of May 2007, this portion of the site is being proposed for lease to Home Depot, and therefore required a separate treatment from the rest of the facility. The remainder of the site outside of the K(-Kwel Wharf Development will continue to be addressed under ECSI # 527.

NARR ID: 5749891
NARR Code: 1922
Created By: WMASON
Created Date: 11/23/2007
Updated By: WMASON
Updated Date: 11/23/2007
NARR Comments:The K(-Kwel Wharf Development Project site refers to the northern portion of the larger site described in ECSI #527 (Weyerhaeuser - Tremont St site, also known as the former Weyerhaeuser North Bend

K-KWEL WHARF DEVELOPMENT (Continued) **S108246795**

Export Services site). As of May 2007, this portion of the site is being proposed for lease to Home Depot, and therefore required a separate treatment from the rest of the facility.

A final report for the site summarizes the results of four separate site investigations in which over 250 soil, groundwater, and sediment samples were collected. The report also includes a comparison of all site contaminant concentrations to relevant DEQ risk-based screening standards. The report concludes that all identified contaminants are below DEQ's levels of concern, and therefore DEQ has concluded that no remedial actions, engineering controls, or institutional controls are necessary to protect human health or the environment.

Administrative Action:

Admin ID:	733793	Action ID:	9424
Agency:	Dept Of Environmental Quality	Region:	Not reported
Start Date:	04/19/2007	Complete Date:	04/19/2007
Substance Code:	Not reported	Rank Value:	Not reported
Employee Id:	2801	Cleanup Flag:	False
Created By:	MCLAIR	Created Date:	04/19/2007
Action Code:	ENTRY	Category:	Administrative Action
Action Flag:	True	Action Code Flag:	False
Action:	Site added to database		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	733794	Action ID:	9435
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	04/19/2007	Complete Date:	05/14/2007
Substance Code:	ICP	Rank Value:	Not reported
Employee Id:	510	Cleanup Flag:	False
Created By:	MCLAIR	Created Date:	04/19/2007
Action Code:	ICP	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	Independent Cleanup Program		
Further Action:	0		
Comments:	4/19/07 - signed ITP & Agreement received.		

Admin ID:	733919	Action ID:	9443
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	05/15/2007	Complete Date:	05/15/2007
Substance Code:	VCP	Rank Value:	Not reported
Employee Id:	510	Cleanup Flag:	True
Created By:	WMASON	Created Date:	05/15/2007
Action Code:	NFA	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	NO FURTHER STATE ACTION REQUIRED		
Further Action:	0		
Comments:	Northern portion of Tax Lot 100		

38 North 1/2-1 0.708 mi. 3736 ft. | **NORTH BEND PIPELINE**
WASHINGTON & HARBOR BLVD.
NORTH BEND, OR 97459 | **ECSI** | **S106980941**
N/A

Relative: Higher

Actual: 11 ft.

ECSI:

State ID Number:	4375	Brown ID:	0
Study Area:	False	Region ID:	3
Legislatve ID:	0	Investigation:	Suspect
FACA ID:	87954	Further Action:	260
Lat/Long (dms):	43 24 19.10 / -124 13 16.70	County Code:	6.00
Score Value:	Not reported	Cerclis ID:	Not reported
Township Coord.:	25.00	Township Zone:	S
Range Coord:	13.00	Range Zone:	W
Section Coord:	15	Qtr Section:	Not reported
Tax Lots:	Not reported	Size:	Not reported
NPL:	False	Orphan:	False
Updated By:	GWISTAR	Update Date:	09/13/2006

Narrative:

NARR ID: 5746478
NARR Code: Contamination
Created By: MENGLIS
Created Date: 04/05/2005
Updated By: MENGLIS
Updated Date: 04/05/2005
NARR Comments: Release occurred on September 8, 2003 while North Bend Public Works was digging a ditch for a sewer pipeline and punctured the pipe.

NARR ID: 5746477
NARR Code: Hazardous Substance/Waste Types
Created By: MENGLIS
Created Date: 04/05/2005
Updated By: MENGLIS
Updated Date: 04/05/2005
NARR Comments: Bunker C Oil

NARR ID: 5746476
NARR Code: Remedial Action
Created By: MENGLIS
Created Date: 04/05/2005
Updated By: MENGLIS
Updated Date: 04/05/2005
NARR Comments: Site referred to site assessment from spills (OERS 03-1997).

Administrative Action:

Admin ID:	730120	Action ID:	9424
Agency:	Dept Of Environmental Quality	Region:	Not reported
Start Date:	04/05/2005	Complete Date:	04/05/2005
Substance Code:	Not reported	Rank Value:	Not reported
Employee Id:	2202	Cleanup Flag:	False
Created By:	MENGLIS	Created Date:	04/05/2005
Action Code:	ENTRY	Category:	Administrative Action
Action Flag:	True	Action Code Flag:	False
Action:	Site added to database		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	730121	Action ID:	9508

NORTH BEND PIPELINE (Continued) **S106980941**

Agency:	Dept Of Environmental Quality	Region:	0
Start Date:	04/05/2005	Complete Date:	04/05/2005
Substance Code:	SAS	Rank Value:	Not reported
Employee Id:	632	Cleanup Flag:	False
Created By:	MENGLIS	Created Date:	04/05/2005
Action Code:	RSSC	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	Site Screening recommended (EV)		
Further Action:	Low		
Comments:	Not reported		

39
North
1/2-1
0.851 mi.
4495 ft.

Relative:
Lower

Actual:
4 ft.

CHAMBERS FUEL OIL INC. **FINDS** **1006854670**
400 CALIFORNIA ST **BROWNFIELDS** **N/A**
NORTH BEND, OR 97459 **ECSI**

FINDS:

Registry ID: 110014169210

Environmental Interest/Information System
OR-DEQ (Oregon - Department Of Environmental Quality) is a regulatory agency whose job is to protect the quality of Oregon's Environment. DEQ uses a combination of technical assistance, inspections and permitting to help public and private facilities and citizens understand and comply with state and federal environmental regulations.

OR BROWNFIELDS:

Geolocation Id:	40106
Status:	NO FURTHER STATE ACTION REQUIRED
Lat/Long:	43.408 / -124.221

ECSI:

State ID Number:	22	Brown ID:	Brownfield Site - DEQ Funding Assistance
Study Area:	False	Region ID:	3
Legislatve ID:	838	Investigation:	No Further Action
FACA ID:	40106	Further Action:	0
Lat/Long (dms):	43 24 29.00 / -124 13 17.00	County Code:	6.00
Score Value:	Not reported	Cerclis ID:	Not reported
Township Coord.:	25.00	Township Zone:	S
Range Coord:	13.00	Range Zone:	W
Section Coord:	15	Qtr Section:	AA
Tax Lots:	200, 201	Size:	1.3 acres
NPL:	False	Orphan:	False
Updated By:	GWISTAR	Update Date:	11/30/2006

Hazardous Release:

Substance ID.:	122008
Haz Release ID:	380533
Qty Released:	unknown
Date Released:	unknown
Update Date:	01/08/1996
Update By:	Not reported
Substance Code:	ECD266

CHAMBERS FUEL OIL INC. (Continued) **1006854670**

Substance Name:	TOTAL HYDROCARBONS (AS DIESEL)
Substance Abbrev.:	Not reported
Substance Category ID:	8539
Substance Category:	Petroleum Related Releases for OSPIRG Report
Category Level:	Not reported
Created By:	Not reported
Created Date:	12/17/2002
Substance Category ID:	8539
Substance Category:	Petroleum Related Releases for OSPIRG Report
Category Level:	Not reported
Created By:	Not reported
Created Date:	12/17/2002
Sampling Result ID:	342243
Feature Id:	Not reported
Hazard Release Id:	380533
Medium:	703
Substance Abbrev.:	Not reported
Unit Code:	Not reported
Observation:	False
Owner Operator:	False
Lab Data:	True
Sample Depth:	Not reported
Start Date:	02/02/1994
End Date:	02/02/1994
Min Concentration:	Not reported
Max Concentration:	Not reported
Sample Comment:	26 to 87,000 ppm
Last Update By:	kpd
Update Date:	10/21/1996
Sampling Result ID:	342244
Feature Id:	Not reported
Hazard Release Id:	380533
Medium:	703
Substance Abbrev.:	Not reported
Unit Code:	Not reported
Observation:	False
Owner Operator:	False
Lab Data:	True
Sample Depth:	Not reported
Start Date:	05/18/1995
End Date:	05/18/1995
Min Concentration:	Not reported
Max Concentration:	Not reported
Sample Comment:	68 to 27,000 ppm
Last Update By:	kpd
Update Date:	10/21/1996
Sampling Result ID:	342245
Feature Id:	Not reported
Hazard Release Id:	380533
Medium:	698
Substance Abbrev.:	Not reported
Unit Code:	Not reported
Observation:	False
Owner Operator:	False
Lab Data:	True
Sample Depth:	Not reported
Start Date:	09/19/1995

CHAMBERS FUEL OIL INC. (Continued) **1006854670**

End Date: 09/19/1995
Min Concentration: Not reported
Max Concentration: Not reported
Sample Comment: 89 to 5,200 ppm
Last Update By: kpd
Update Date: 10/21/1996

Narrative:
NARR ID: 5730744
NARR Code: Contamination
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
NARR Comments: (3/24/1999 JPM/SRS) The site operated as a heating oil storage and distribution facility from 1954 to 1988. At the end of facility operation in 1988, DEQ's Southwest Region office required Chambers to empty its tanks and remove on-site asbestos. Coos County assumed ownership in 1990 due to tax default. DEQ's Site Assessment program completed a Preliminary Assessment (PA) at the site in 1991, and concluded that further investigation was required. Robert Chambers applied to the Voluntary Cleanup program in March 1993, but was financially unable to conduct an investigation, and the site was referred to Site Response in November 1993. (Chambers Fuel Oil was declared an Orphan in October 1994). DEQ conducted a Site Investigation and Removal Assessment in early 1994 that confirmed oil contamination in the soil and groundwater. A security fence was installed around the site in June 1994, and DEQ removed some drums from the site in November 1994.

NARR ID: 5730745
NARR Code: Hazardous Substance/Waste Types
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
NARR Comments: heating oil

NARR ID: 5725883
NARR Code: Manner of Release
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
NARR Comments: Leaking tanks; past practices. Time of release: prior to February 1988.

NARR ID: 5730336
NARR Code: Site Ownership
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
NARR Comments: The site is within an Urban Renewal area established by the City of North Bend in 1994. The city purchased the site from Coos County, which acquired the site through foreclosure.

NARR ID: 5730337

CHAMBERS FUEL OIL INC. (Continued) **1006854670**

NARR Code: Pathways Other Hazards
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
NARR Comments: The site is located adjacent to Coos Bay. Groundwater is two to four feet below the surface. Groundwater flow is to the east and southeast into Coos Bay.

NARR ID: 5730338
NARR Code: Remedial Action
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
NARR Comments: (3/24/1999 JPM/SRS) In the spring of 1995, DEQ conducted removals of on-site tanks, piping, and other structures, along with drums, asbestos, and some contaminated soil (see ECSI #1656). A Phase II Site Investigation began in May 1995 to determine the extent of soil and groundwater contamination at the site and the potential for the contamination to discharge to Coos Bay. The SI also examined potential removal and/or remedial measures. The final SI report was submitted in November 1995. DEQ conducted additional soil and groundwater sampling in the contaminant source area in November 1996. Sampling results indicated that the source area was not as large as originally thought. DEQ conducted a second removal in September and October 1997. Over 3,000 tons of contaminated soil were excavated and transported off-site for treatment by low temperature thermal desorption. Over 80,000 gallons of contaminated groundwater was extracted and treated on-site by oil/water separation and filtration. Excavated areas were backfilled with clean sand and regraded. A human health and ecological risk assessment, to evaluate the risks posed by residual contamination at the site, was completed in October 1998. The risk assessment indicated that risks posed by residual contamination at the site were acceptable. No further cleanup is required. The City of North Bend, which now owns the site, is planning to pave the site and use it as a parking lot for a nearby public boat ramp.

Administrative Action:

Admin ID:	703926	Action ID:	9423
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	05/06/1998	Complete Date:	10/31/1998
Substance Code:	SRS	Rank Value:	0
Employee Id:	1912	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	ECORA	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	Ecological Risk Assessment		
Further Action:	Not reported		
Comments:	Level I Scoping.		

Admin ID:	706986	Action ID:	9443
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	03/24/1999	Complete Date:	03/24/1999
Substance Code:	SRS	Rank Value:	0
Employee Id:	1912	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002

CHAMBERS FUEL OIL INC. (Continued) **1006854670**

Action Code:	NFA	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	NO FURTHER STATE ACTION REQUIRED		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	706987	Action ID:	9417
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	03/25/1999	Complete Date:	03/25/1999
Substance Code:	SAS	Rank Value:	0
Employee Id:	730	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	DLC	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Facility delisted from Confirmed Release List		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	706988	Action ID:	9418
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	03/25/1999	Complete Date:	03/25/1999
Substance Code:	SAS	Rank Value:	0
Employee Id:	730	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	DLI	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Facility delisted from Inventory List		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	708957	Action ID:	9486
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	05/06/1998	Complete Date:	10/31/1998
Substance Code:	SRS	Rank Value:	0
Employee Id:	1912	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RISK	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	RISK ASSESSMENT		
Further Action:	Not reported		
Comments:	Human Health Baseline.		

Admin ID:	708958	Action ID:	9511
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	01/03/1994	Complete Date:	02/15/1994
Substance Code:	SRS	Rank Value:	0
Employee Id:	459	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	SI	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	SITE INVESTIGATION		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	708959	Action ID:	9492
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	02/15/1994	Complete Date:	03/31/1994

CHAMBERS FUEL OIL INC. (Continued) **1006854670**

Substance Code:	SRS	Rank Value:	0
Employee Id:	459	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RMA	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	REMOVAL ASSESSMENT		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	708960	Action ID:	9491
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	06/15/1994	Complete Date:	06/15/1994
Substance Code:	SRS	Rank Value:	0
Employee Id:	459	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RM	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	REMOVAL		
Further Action:	Not reported		
Comments:	Installation of security fence.		

Admin ID:	708961	Action ID:	9491
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	11/15/1994	Complete Date:	11/15/1994
Substance Code:	SRS	Rank Value:	0
Employee Id:	459	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RM	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	REMOVAL		
Further Action:	Not reported		
Comments:	Partial removal of drums.		

Admin ID:	710802	Action ID:	9464
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	01/03/1996	Complete Date:	12/13/1996
Substance Code:	CPD	Rank Value:	0
Employee Id:	463	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	PPA	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	Prospective Purchaser Agreement		
Further Action:	0		
Comments:	PPA #96-10. City of North Bend Urban Renewal Agency.		

Admin ID:	710803	Action ID:	9491
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	09/10/1997	Complete Date:	10/10/1997
Substance Code:	SRS	Rank Value:	0
Employee Id:	1912	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RM	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	REMOVAL		
Further Action:	Not reported		
Comments:	Excavation/extraction of contaminated soil and groundwater.		

CHAMBERS FUEL OIL INC. (Continued) **1006854670**

Admin ID:	712993	Action ID:	9498
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	04/02/1991	Complete Date:	04/02/1991
Substance Code:	SAS	Rank Value:	0
Employee Id:	466	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RPLC	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Proposal for Confirmed Release List recommended		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	712994	Action ID:	9499
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	04/02/1991	Complete Date:	04/02/1991
Substance Code:	SAS	Rank Value:	0
Employee Id:	466	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RPLI	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Proposal for Inventory recommended		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	712995	Action ID:	9426
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	02/24/1992	Complete Date:	02/25/1992
Substance Code:	SAS	Rank Value:	0
Employee Id:	466	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	EV2	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	SITE PRIORITY EVALUATION FOR FURTHER ACTION		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	712996	Action ID:	9448
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	04/01/1994	Complete Date:	04/04/1994
Substance Code:	SRS	Rank Value:	0
Employee Id:	459	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	NRC	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Review for final listing		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	712997	Action ID:	9488
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	04/04/1994	Complete Date:	04/04/1994
Substance Code:	SRS	Rank Value:	0
Employee Id:	459	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RLSC	Category:	Listing Action
Action Flag:	False	Action Code Flag:	False
Action:	Listing on Confirmed Release List recommended		

CHAMBERS FUEL OIL INC. (Continued) **1006854670**

Further Action: Not reported
Comments: Not reported

Admin ID:	712998	Action ID:	9489
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	04/04/1994	Complete Date:	04/04/1994
Substance Code:	SRS	Rank Value:	0
Employee Id:	459	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RLSI	Category:	Listing Action
Action Flag:	False	Action Code Flag:	False
Action:	Listing on Inventory recommended		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	713975	Action ID:	9491
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	04/25/1995	Complete Date:	05/12/1995
Substance Code:	SRS	Rank Value:	0
Employee Id:	547	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RM	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	REMOVAL		
Further Action:	Not reported		
Comments:	Removal of tanks, piping, and other on-site structures.		

Admin ID:	713976	Action ID:	9511
Agency:	Dept Of Environmental Quality	Region:	Northwestern Region
Start Date:	05/15/1995	Complete Date:	11/24/1995
Substance Code:	SRS	Rank Value:	0
Employee Id:	459	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	SI	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	SITE INVESTIGATION		
Further Action:	Not reported		
Comments:	Phase II		

Admin ID:	714277	Action ID:	9453
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	10/10/1994	Complete Date:	03/24/1999
Substance Code:	SRS	Rank Value:	0
Employee Id:	1912	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	ORP	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	ORPHAN SITE		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	715693	Action ID:	9424
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	06/18/1988	Complete Date:	Not reported
Substance Code:	SAS	Rank Value:	0
Employee Id:	304	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002

CHAMBERS FUEL OIL INC. (Continued) **1006854670**

Action Code:	ENTRY	Category:	Administrative Action
Action Flag:	True	Action Code Flag:	False
Action:	Site added to database		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	715694	Action ID:	9425
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	01/28/1991	Complete Date:	01/28/1991
Substance Code:	SAS	Rank Value:	0
Employee Id:	466	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	EV	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	SITE EVALUATION		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	715695	Action ID:	9496
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	01/28/1991	Complete Date:	01/28/1991
Substance Code:	SAS	Rank Value:	0
Employee Id:	466	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RPA	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	State Basic Preliminary Assessment recommended (PA)		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	715696	Action ID:	9456
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	01/29/1991	Complete Date:	04/19/1991
Substance Code:	SAS	Rank Value:	0
Employee Id:	466	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	PA	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	BASIC PRELIMINARY ASSESSEMENT		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	715697	Action ID:	9437
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	04/01/1991	Complete Date:	04/01/1991
Substance Code:	SAS	Rank Value:	0
Employee Id:	466	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	LRC	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Listing Review completed		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	715698	Action ID:	9503
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	02/25/1992	Complete Date:	02/25/1992

CHAMBERS FUEL OIL INC. (Continued) **1006854670**

Substance Code:	SAS	Rank Value:	0
Employee Id:	466	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RRIFS	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	Remedial Investigation/Feasibility Study recommended		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	715699	Action ID:	9465
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	02/10/1994	Complete Date:	02/10/1994
Substance Code:	SRS	Rank Value:	0
Employee Id:	459	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	PRC	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Facility proposed for Confirmed Release List		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	715700	Action ID:	9467
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	02/10/1994	Complete Date:	02/10/1994
Substance Code:	SRS	Rank Value:	0
Employee Id:	459	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	PRI	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Facility proposed for Inventory		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	715701	Action ID:	9451
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	02/17/1994	Complete Date:	02/17/1994
Substance Code:	SAS	Rank Value:	0
Employee Id:	293	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	OOCL	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Owner/operator comments received on listing notification		
Further Action:	Not reported		
Comments:	(2/14/94 ltr from Coos County)		

Admin ID:	715702	Action ID:	9438
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	04/05/1994	Complete Date:	04/05/1994
Substance Code:	SAS	Rank Value:	0
Employee Id:	649	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	LSC	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Facility placed on Confirmed Release List		
Further Action:	Not reported		
Comments:	Not reported		

CHAMBERS FUEL OIL INC. (Continued) **1006854670**

Admin ID:	715703	Action ID:	9439
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	04/05/1994	Complete Date:	04/05/1994
Substance Code:	SAS	Rank Value:	0
Employee Id:	649	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	LSI	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Facility placed on Inventory		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	715704	Action ID:	9519
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	03/16/1993	Complete Date:	10/29/1993
Substance Code:	VCS	Rank Value:	0
Employee Id:	631	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	VWL	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	VCS Waiting List		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	715705	Action ID:	9442
Agency:	Dept Of Environmental Quality	Region:	Headquarters
Start Date:	11/20/1993	Complete Date:	10/10/1994
Substance Code:	SRS	Rank Value:	0
Employee Id:	459	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	NEG	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	NEGOTIATIONS		
Further Action:	Not reported		
Comments:	Not reported		

Operations:

Operation Id:	131423
Operation Status:	Inactive
Common Name:	Chambers Fuel Oil Inc.
Yrs of Operation:	1954 to 1988.
Comments:	Heating oil storage and distribution.
Updated Date:	08/01/1996
Operations SIC Id:	196779
SIC Code:	5172
Created By:	Not reported
Created Date:	12/17/2002

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40 NNW 1/2-1 0.911 mi. 4808 ft. | **PELICAN AUTO SERVICE**
1900 SHERMAN AVE
NORTH BEND, OR 97459

LUST **U000436177**
UST **N/A**
INST CONTROL
ECSI

Relative: Higher

Actual: 37 ft.

LUST:

Region:	Western Region
Facility ID:	06-93-0070
Cleanup Received Date:	08/11/1993

PELICAN AUTO SERVICE (Continued) **U000436177**

Cleanup Start Date: 08/10/1993
Cleanup Complete Date: 11/28/2012

UST:

Facility ID:	4004
Facility Telephone:	(503) 997-2660
Permittee Name:	H E MAXWELL, OWNER
Number of Permitted Tanks:	Not reported
Active Tanks:	Not reported
Decommissioned Tanks:	4
Number of Tanks:	4

OR INSTUTIONAL CONTROL:

Site Control Sequence #:	686
Site Id:	1822
Control Sequence #:	5
Begin Date:	12/03/2012
End Date:	Not reported
Frequency Of Review:	60
Last Reviewed By:	E. Clough, DEQ
Last Review Date:	12/03/2012
Last Updated By:	GWISTAR
Last Updated Date:	12/17/2012
Group Sequence #:	2
Control Code:	USL
Control Description:	Use Restriction Land
FK Type Code:	1
Group Code:	PR
Group Description:	Proprietary
Type Code:	I
Type Description:	Institutional
Comments:	Occupational/commercial development only, and not in areas of contamination; no residential uses permitted on property without additional cleanup.

Site Control Sequence #:	685
Site Id:	1822
Control Sequence #:	4
Begin Date:	12/03/2012
End Date:	Not reported
Frequency Of Review:	60
Last Reviewed By:	E. Clough, DEQ
Last Review Date:	12/03/2012
Last Updated By:	GWISTAR
Last Updated Date:	12/17/2012
Group Sequence #:	2
Control Code:	USG
Control Description:	Use Restriction Groundwater
FK Type Code:	1
Group Code:	PR
Group Description:	Proprietary
Type Code:	I
Type Description:	Institutional
Comments:	No on-site use of groundwater without prior DEQ approval.

PELICAN AUTO SERVICE (Continued) **U000436177**

ECSI:

State ID Number:	1822	Brown ID:	0
Study Area:	False	Region ID:	3
Legislatve ID:	0	Investigation:	No Further Action
FACA ID:	20691	Further Action:	0
Lat/Long (dms):	43 24 27.40 / -124 13 27.10	County Code:	6.00
Score Value:	Not reported	Cerclis ID:	Not reported
Township Coord.:	25.00	Township Zone:	S
Range Coord:	13.00	Range Zone:	W
Section Coord:	15	Qtr Section:	Not reported
Tax Lots:	Not reported	Size:	Approx. 0.25 acre
NPL:	False	Orphan:	False
Updated By:	GWISTAR	Update Date:	12/17/2012

Hazardous Release:

Substance ID.:	122015
Haz Release ID:	380404
Qty Released:	unknown
Date Released:	unknown
Update Date:	03/27/1996
Update By:	Not reported
Substance Code:	ECD282
Substance Name:	OIL - WASTE
Substance Abbrev.:	Not reported
Substance Category ID:	8541
Substance Category:	Petroleum Related Releases for OSPIRG Report
Category Level:	Not reported
Created By:	Not reported
Created Date:	12/17/2002
Substance Category ID:	8541
Substance Category:	Petroleum Related Releases for OSPIRG Report
Category Level:	Not reported
Created By:	Not reported
Created Date:	12/17/2002
Sampling Result ID:	342071
Feature Id:	Not reported
Hazard Release Id:	380404
Medium:	703
Substance Abbrev.:	Not reported
Unit Code:	7
Observation:	False
Owner Operator:	False
Lab Data:	False
Sample Depth:	Not reported
Start Date:	08/01/1993
End Date:	08/01/1993
Min Concentration:	.00
Max Concentration:	81000.00
Sample Comment:	Taken from excavation sidewalls. Excavated soils were placed back into cavities.
Last Update By:	san
Update Date:	03/27/1996

Substance ID.:	121610
Haz Release ID:	380405
Qty Released:	unknown
Date Released:	unknown

PELICAN AUTO SERVICE (Continued) **U000436177**

Update Date: 03/27/1996
Update By: Not reported
Substance Code: 71-55-6
Substance Name: TRICHLOROETHANE,1,1,1-
Substance Abbrev.: Not reported
Substance Category ID: 8521
Substance Category: Volatiles
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8552
Substance Category: Solvents of interest to Milwaukie Area GW study
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8521
Substance Category: Volatiles
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8552
Substance Category: Solvents of interest to Milwaukie Area GW study
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Alias ID: 318151
Sub Alias Name: TCA,1,1,1-
Substance Alias ID: 319183
Sub Alias Name: BALTANA
Substance Alias ID: 319184
Sub Alias Name: CHLOROTHENE
Substance Alias ID: 319185
Sub Alias Name: METHYLCHLOROFORM
Sampling Result ID: 342072
Feature Id: Not reported
Hazard Release Id: 380405
Medium: 703
Substance Abbrev.: Not reported
Unit Code: 7
Observation: False
Owner Operator: False
Lab Data: False
Sample Depth: Not reported
Start Date: 08/01/1993
End Date: 08/01/1993
Min Concentration: .00
Max Concentration: 9.00
Sample Comment: Not reported
Last Update By: san
Update Date: 03/27/1996

Substance ID.: 121011
Haz Release ID: 380406
Qty Released: unknown
Date Released: unknown
Update Date: 03/27/1996
Update By: Not reported

PELICAN AUTO SERVICE (Continued) **U000436177**

Substance Code: 127-18-4
Substance Name: TETRACHLOROETHYLENE
Substance Abbrev.: Not reported
Substance Category ID: 8519
Substance Category: Volatiles
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8551
Substance Category: Solvents of interest to Milwaukie Area GW study
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8519
Substance Category: Volatiles
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Category ID: 8551
Substance Category: Solvents of interest to Milwaukie Area GW study
Category Level: Not reported
Created By: Not reported
Created Date: 12/17/2002
Substance Alias ID: 316912
Sub Alias Name: ETHENE,TETRACHLORO-
Substance Alias ID: 316913
Sub Alias Name: ETHYLENE TETRACHLORIDE
Substance Alias ID: 316914
Sub Alias Name: PERCHLOROETHYLENE
Substance Alias ID: 316915
Sub Alias Name: PERCLENE
Substance Alias ID: 316916
Sub Alias Name: TETRACHLOROETHENE
Substance Alias ID: 316917
Sub Alias Name: TETRACHLOROETHENE,1,1,2,2-
Substance Alias ID: 316918
Sub Alias Name: TETRACHLOROETHYLENE,1,1,2,2-
Sampling Result ID: 342073
Feature Id: Not reported
Hazard Release Id: 380406
Medium: 703
Substance Abbrev.: Not reported
Unit Code: 7
Observation: False
Owner Operator: False
Lab Data: False
Sample Depth: Not reported
Start Date: 08/01/1993
End Date: 08/01/1993
Min Concentration: .00
Max Concentration: .30
Sample Comment: Not reported
Last Update By: san
Update Date: 03/27/1996

Narrative:
NARR ID: 5735709
NARR Code: Manner of Release

PELICAN AUTO SERVICE (Continued) **U000436177**

Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
NARR Comments: Leaking underground waste oil storage tank.

NARR ID: 5735710
NARR Code: Project Activity Status
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
NARR Comments: July 2001 referral to LUST Program took place with the concurrence of Acting Managers Dave Belyea (LUST) and Bill Mason (CU).

NARR ID: 5735711
NARR Code: Remedial Action
Created By: Not reported
Created Date: 12/17/2002
Updated By: GWISTAR
Updated Date: 12/17/2012
NARR Comments: (7/19/01 SAN/SAS) Detections of chlorinated solvents appear incidental to petroleum releases from underground tanks at site (waste oil tank). Therefore, the Cleanup Program has referred this site to DEQ's Western Region UST Section for follow-up (log #06-93-0070). Any further action needed is the responsibility of the UST Section.(12/17/12 GMW/SAS) DEQ's Tanks Program has made a conditional NFA determination for past tank releases at the site. The conditions include prohibitions on groundwater use without prior DEQ approval, and certain land-use restrictions. See attached NFA letter for more details. The Cleanup Program has no additional requirements.

NARR ID: 5735712
NARR Code: Health Threats
Created By: Not reported
Created Date: 12/17/2002
Updated By: Not reported
Updated Date: 12/17/2002
NARR Comments: Potential impacts to downgradient aquatic environments, including Pony Slough and Coos Bay, were the original threats that this site posed.

NARR ID: 5754394
NARR Code: 1922
Created By: GWISTAR
Created Date: 12/17/2012
Updated By: GWISTAR
Updated Date: 12/17/2012
NARR Comments: [Dec. 2012] DEQ's Tanks Program has made a conditional NFA determination for past tank releases at the site. The conditions include prohibitions on groundwater use without prior DEQ approval, and certain land-use restrictions. See attached NFA letter for more details. The Cleanup Program has no additional requirements for the site.

Site Control:
Site Control #: 685
Control Number: 4

PELICAN AUTO SERVICE (Continued) **U000436177**

Begin Date: 12/03/2012
End Date: Not reported
Frequency Of Review: 60
Last Reviewed By: E. Clough, DEQ
Last Reviewed Date: 12/03/2012
Last Update By: GWISTAR
Last Updated Date: 12/17/2012
Site Comment: No on-site use of groundwater without prior DEQ approval.

Site Control #: 686
Control Number: 5
Begin Date: 12/03/2012
End Date: Not reported
Frequency Of Review: 60
Last Reviewed By: E. Clough, DEQ
Last Reviewed Date: 12/03/2012
Last Update By: GWISTAR
Last Updated Date: 12/17/2012
Site Comment: Occupational/commercial development only, and not in areas of contamination; no residential uses permitted on property without additional cleanup.

Administrative Action:

Admin ID:	704449	Action ID:	9477
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	07/19/2001	Complete Date:	07/19/2001
Substance Code:	LUS	Rank Value:	Not reported
Employee Id:	272	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	REFL	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	Refer to LUST Program		
Further Action:	0		
Comments:	LUST log #06-93-0070.		

Admin ID:	704450	Action ID:	9427
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	07/19/2001	Complete Date:	07/19/2001
Substance Code:	SAS	Rank Value:	0
Employee Id:	566	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	EXCL	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Excluded from confirmed release definition		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	711192	Action ID:	9498
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	03/15/1996	Complete Date:	03/15/1996
Substance Code:	SAS	Rank Value:	0
Employee Id:	566	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RPLC	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Proposal for Confirmed Release List recommended		
Further Action:	Not reported		
Comments:	Analytical data confirms soil contamination.		

PELICAN AUTO SERVICE (Continued) **U000436177**

Admin ID:	711193	Action ID:	9503
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	03/15/1996	Complete Date:	03/15/1996
Substance Code:	SAS	Rank Value:	0
Employee Id:	566	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RRIFS	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	Remedial Investigation/Feasibility Study recommended		
Further Action:	Medium		
Comments:	Not reported		

Admin ID:	713083	Action ID:	9437
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	03/14/1996	Complete Date:	03/15/1996
Substance Code:	SAS	Rank Value:	0
Employee Id:	566	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	LRC	Category:	Listing Action
Action Flag:	True	Action Code Flag:	False
Action:	Listing Review completed		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	714564	Action ID:	9424
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	01/24/1996	Complete Date:	Not reported
Substance Code:	SAS	Rank Value:	0
Employee Id:	566	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	ENTRY	Category:	Administrative Action
Action Flag:	True	Action Code Flag:	False
Action:	Site added to database		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	714872	Action ID:	9425
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	03/05/1996	Complete Date:	03/15/1996
Substance Code:	SAS	Rank Value:	0
Employee Id:	566	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	EV	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	SITE EVALUATION		
Further Action:	Not reported		
Comments:	State Screening		

Admin ID:	714881	Action ID:	9459
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	03/05/1996	Complete Date:	03/15/1996
Substance Code:	SAS	Rank Value:	0
Employee Id:	566	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	PAE	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	PRELIMINARY ASSESSMENT EQUIVALENT		

PELICAN AUTO SERVICE (Continued) **U000436177**

Further Action: Not reported
Comments: Not reported

Admin ID:	740726	Action ID:	9411
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	12/03/2012	Complete Date:	12/03/2012
Substance Code:	UST	Rank Value:	Not reported
Employee Id:	272	Cleanup Flag:	False
Created By:	GWISTAR	Created Date:	12/17/2012
Action Code:	CNFA	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	No Further Action (Conditional)		
Further Action:	0		
Comments:	Includes NFA for LUST log #06-93-0070.		

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41 South 1/2-1 0.944 mi. 4983 ft. **BLM PARKING LOT COOS BAY 1460 N BAYSHORE DR. COOS BAY, OR 97420** **SPILLS ECSI** **S107594546 N/A**

Relative: Higher

Actual: 9 ft.

OR SPILLS:

Year:	Not reported
DEQ Region:	Not reported
Facility ID:	96-2093
Incident Status:	Not reported
Spill Date:	Not reported
Material:	Diesel fuel
Quantity:	150
Unit of Measure:	Gallons
How Occurred:	Not reported
Release Date:	07/05/1996
Description:	semi - ruptured saddle tanks crossing railroad tracks
Location:	Not reported
Lat/Long:	43.379300000000001 / -124.217
Source:	Motor Vehicle - Commercial
Media:	Non-saturated soil, rock, etc.
Responsible Company:	CTS Trucking
Responsible Contact:	Rick Sorenson
Responsible Address:	PO Box 5856
Responsible City,St,Zip:	Cleveland, OH 44101-0856
Responsible Country:	Not reported

ECSI:

State ID Number:	1945	Brown ID:	0
Study Area:	False	Region ID:	3
Legislatve ID:	0	Investigation:	No Further Action
FACA ID:	40468	Further Action:	0
Lat/Long (dms):	43 22 45.50 / -124 13 1.20	County Code:	6.00
Score Value:	Not reported	Cerclis ID:	Not reported
Township Coord.:	25.00	Township Zone:	S
Range Coord:	13.00	Range Zone:	W
Section Coord:	26	Qtr Section:	Not reported
Tax Lots:	Not reported	Size:	Not reported
NPL:	False	Orphan:	False
Updated By:	GWISTAR	Update Date:	04/13/2007

BLM PARKING LOT COOS BAY (Continued) **S107594546**

Narrative:

NARR ID:	5736334
NARR Code:	Site Contacts
Created By:	Not reported
Created Date:	12/17/2002
Updated By:	Not reported
Updated Date:	12/17/2002
NARR Comments:	Tim Votaw, BLM Coos Bay, 1300 Airport LN, North Bend, 97459.

Administrative Action:

Admin ID:	706799	Action ID:	9508
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	10/22/1996	Complete Date:	10/22/1996
Substance Code:	SAS	Rank Value:	0
Employee Id:	273	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	RSSC	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	Site Screening recommended (EV)		
Further Action:	Not reported		
Comments:	Not reported		

Admin ID:	709639	Action ID:	9443
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	01/09/1998	Complete Date:	01/09/1998
Substance Code:	SAS	Rank Value:	0
Employee Id:	566	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	NFA	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	NO FURTHER STATE ACTION REQUIRED		
Further Action:	Not reported		
Comments:	NFA based on naturally occurring arsenic.		

Admin ID:	711343	Action ID:	9425
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	12/30/1997	Complete Date:	01/09/1998
Substance Code:	SAS	Rank Value:	0
Employee Id:	566	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	EV	Category:	Remedial Action
Action Flag:	True	Action Code Flag:	False
Action:	SITE EVALUATION		
Further Action:	Not reported		
Comments:	State Screening.		

Admin ID:	713342	Action ID:	9424
Agency:	Dept Of Environmental Quality	Region:	Western Region
Start Date:	10/21/1996	Complete Date:	Not reported
Substance Code:	SAS	Rank Value:	0
Employee Id:	273	Cleanup Flag:	False
Created By:	Not reported	Created Date:	12/17/2002
Action Code:	ENTRY	Category:	Administrative Action
Action Flag:	True	Action Code Flag:	False
Action:	Site added to database		
Further Action:	Not reported		
Comments:	Not reported		

Count: 4 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
COOS BAY	U003960251	CHARLESTON SANITARY DISTRICT - PS	CAPE ARAGO STATE HWY	97420	LUST, UST
HAUSER	S108571974	HEATING OIL TANK	101 ALPINE LOOP	97459	LUST
MARSHFIELD (COOS BAY	1008408791	MARSHFIELD ELECTRIC LIGHT AND GAS	N 8TH STREET	97420	EDR MGP
NORTH BEND	S109051815	D. B. WESTERN, INC.	90418 TRANS PACIFIC LN	97459	NPDES, HSIS, ECSI

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/16/2014
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 32

Source: EPA
Telephone: N/A
Last EDR Contact: 04/08/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/16/2014
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 32

Source: EPA
Telephone: N/A
Last EDR Contact: 04/08/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/16/2014	Source: EPA
Date Data Arrived at EDR: 01/08/2015	Telephone: N/A
Date Made Active in Reports: 02/09/2015	Last EDR Contact: 04/08/2015
Number of Days to Update: 32	Next Scheduled EDR Contact: 07/20/2015
	Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/25/2013	Source: EPA
Date Data Arrived at EDR: 11/11/2013	Telephone: 703-412-9810
Date Made Active in Reports: 02/13/2014	Last EDR Contact: 05/29/2015
Number of Days to Update: 94	Next Scheduled EDR Contact: 09/07/2015
	Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 03/26/2015	Source: Environmental Protection Agency
Date Data Arrived at EDR: 04/08/2015	Telephone: 703-603-8704
Date Made Active in Reports: 06/11/2015	Last EDR Contact: 04/08/2015
Number of Days to Update: 64	Next Scheduled EDR Contact: 07/20/2015
	Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 10/25/2013	Source: EPA
Date Data Arrived at EDR: 11/11/2013	Telephone: 703-412-9810
Date Made Active in Reports: 02/13/2014	Last EDR Contact: 05/29/2015
Number of Days to Update: 94	Next Scheduled EDR Contact: 09/07/2015
	Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: Environmental Protection Agency
Telephone: (206) 553-1200
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: Environmental Protection Agency
Telephone: (206) 553-1200
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: Environmental Protection Agency
Telephone: (206) 553-1200
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: Environmental Protection Agency
Telephone: (206) 553-1200
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List
A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 03/16/2015
Date Data Arrived at EDR: 03/17/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 06/01/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls
A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 03/16/2015
Date Data Arrived at EDR: 03/17/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 06/01/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Varies

LUCIS: Land Use Control Information System
LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/28/2015
Date Data Arrived at EDR: 05/29/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 13

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 05/18/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 03/30/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 63

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Annually

State- and tribal - equivalent CERCLIS

ECSI: Environmental Cleanup Site Information System
Sites that are or may be contaminated and may require cleanup.

Date of Government Version: 04/01/2015
Date Data Arrived at EDR: 04/09/2015
Date Made Active in Reports: 04/23/2015
Number of Days to Update: 14

Source: Department of Environmental Quality
Telephone: 503-229-6629
Last EDR Contact: 06/04/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Quarterly

CRL: Confirmed Release List and Inventory
All facilities with a confirmed release.

Date of Government Version: 02/17/2015
Date Data Arrived at EDR: 02/18/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 23

Source: Department of Environmental Quality
Telephone: 503-229-6170
Last EDR Contact: 05/21/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Solid Waste Facilities List

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 04/17/2015
Date Data Arrived at EDR: 04/23/2015
Date Made Active in Reports: 05/19/2015
Number of Days to Update: 26

Source: Department of Environmental Quality
Telephone: 503-229-6299
Last EDR Contact: 04/16/2015
Next Scheduled EDR Contact: 08/03/2015
Data Release Frequency: Semi-Annually

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 01/06/2015
Date Data Arrived at EDR: 02/18/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 19

Source: Department of Environmental Quality
Telephone: 503-229-5790
Last EDR Contact: 05/21/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 01/08/2015
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 01/08/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Quarterly

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 02/03/2015
Date Data Arrived at EDR: 02/12/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 29

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Quarterly

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 02/01/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 184

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/03/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 01/30/2015
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 32

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 09/30/2014
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 10

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Semi-Annually

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 09/23/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 65

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 01/28/2015
Date Data Arrived at EDR: 01/30/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 42

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Quarterly

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 01/23/2015
Date Data Arrived at EDR: 02/10/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 31

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Varies

State and tribal registered storage tank lists

UST: Underground Storage Tank Database
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 01/06/2015
Date Data Arrived at EDR: 02/18/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 19

Source: Department of Environmental Quality
Telephone: 503-229-5815
Last EDR Contact: 05/21/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Quarterly

AST: Aboveground Storage Tanks
Aboveground storage tank locations reported to the Office of State Fire Marshal.

Date of Government Version: 03/16/2015
Date Data Arrived at EDR: 04/10/2015
Date Made Active in Reports: 04/22/2015
Number of Days to Update: 12

Source: Office of State Fire Marshal
Telephone: 503-378-3473
Last EDR Contact: 06/08/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/23/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 65

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 01/29/2015
Date Data Arrived at EDR: 01/30/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 42

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Quarterly

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 02/01/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 01/27/2014
Number of Days to Update: 271

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/28/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 02/03/2015
Date Data Arrived at EDR: 02/12/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 29

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Quarterly

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 01/23/2015
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 28

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 01/30/2015
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 36

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 12/14/2014
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 28

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Quarterly

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 09/30/2014
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 10

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Semi-Annually

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 04/13/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

ENG CONTROLS: Engineering Controls Recorded at ESCI Sites

Engineering controls are physical measures selected or approved by the Director for the purpose of preventing or minimizing exposure to hazardous substances. Engineering controls may include, but are not limited to, fencing, capping, horizontal or vertical barriers, hydraulic controls, and alternative water supplies.

Date of Government Version: 04/01/2015
Date Data Arrived at EDR: 04/09/2015
Date Made Active in Reports: 04/23/2015
Number of Days to Update: 14

Source: Department of Environmental Quality
Telephone: 503-229-5193
Last EDR Contact: 06/04/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Quarterly

INST CONTROL: Institutional Controls Recorded at ESCI Sites

An institutional control is a legal or administrative tool or action taken to reduce the potential for exposure to hazardous substances. Institutional controls may include, but are not limited to, use restrictions, environmental monitoring requirements, and site access and security measures.

Date of Government Version: 04/01/2015
Date Data Arrived at EDR: 04/09/2015
Date Made Active in Reports: 04/23/2015
Number of Days to Update: 14

Source: Department of Environmental Quality
Telephone: 503-229-5193
Last EDR Contact: 06/04/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Quarterly

State and tribal voluntary cleanup sites

VCS: Voluntary Cleanup Program Sites
Responsible parties have entered into an agreement with DEQ to voluntarily address contamination associated with their property.

Date of Government Version: 03/31/2015
Date Data Arrived at EDR: 04/14/2015
Date Made Active in Reports: 04/23/2015
Number of Days to Update: 9

Source: DEQ
Telephone: 503-229-5256
Last EDR Contact: 04/02/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Quarterly

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 09/29/2014
Date Data Arrived at EDR: 10/01/2014
Date Made Active in Reports: 11/06/2014
Number of Days to Update: 36

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 04/02/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Brownfields Projects
Brownfields investigations and/or cleanups that have been conducted in Oregon.

Date of Government Version: 02/06/2015
Date Data Arrived at EDR: 02/18/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 23

Source: Department of Environmental Quality
Telephone: 503-229-6801
Last EDR Contact: 05/21/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Semi-Annually

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 03/23/2015
Date Data Arrived at EDR: 03/24/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 70

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/24/2015
Next Scheduled EDR Contact: 07/06/2015
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 04/23/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: No Update Planned

SWRCY: Recycling Facility Location Listing
A listing of recycling facility locations.

Date of Government Version: 03/03/2015
Date Data Arrived at EDR: 03/04/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 9

Source: Department of Environmental Quality
Telephone: 503-229-5353
Last EDR Contact: 06/03/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Quarterly

HIST LF: Old Closed SW Disposal Sites
A list of solid waste disposal sites that have been closed for a long while.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 07/08/2003
Date Made Active in Reports: 07/18/2003
Number of Days to Update: 10

Source: Department of Environmental Quality
Telephone: 503-229-5409
Last EDR Contact: 07/08/2003
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 05/01/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/25/2015
Date Data Arrived at EDR: 03/10/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 15

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Quarterly

AOC COL: Columbia Slough
Columbia Slough waterway boundaries.

Date of Government Version: 08/10/2005
Date Data Arrived at EDR: 05/17/2006
Date Made Active in Reports: 06/16/2006
Number of Days to Update: 30

Source: City of Portland Environmental Services
Telephone: 503-823-5310
Last EDR Contact: 03/13/2007
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

AOC MU: East Multnomah County Area
Approximate extent of TSA VOC plume February , 2002

Date of Government Version: N/A
Date Data Arrived at EDR: 10/07/2002
Date Made Active in Reports: 10/22/2002
Number of Days to Update: 15

Source: City of Portland Environmental Services
Telephone: 503-823-5310
Last EDR Contact: 03/13/2007
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CDL 2: Clandestine Drug Lab Site Listing
A listing of clandestine drug lab site locations included in the Incident database.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 05/07/2014
Date Made Active in Reports: 05/22/2014
Number of Days to Update: 15

Source: Oregon State Police
Telephone: 503-373-1540
Last EDR Contact: 05/06/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Varies

CDL: Uninhabitable Drug Lab Properties
The properties listed on these county pages have been declared by a law enforcement agency to be unfit for use due to meth lab and/or storage activities. The properties are considered uninhabitable until cleaned up by a state certified decontamination contractor and a certificate of fitness is issued by the Oregon Health Division.

Date of Government Version: 04/21/2015
Date Data Arrived at EDR: 05/12/2015
Date Made Active in Reports: 05/19/2015
Number of Days to Update: 7

Source: Department of Consumer & Business Services
Telephone: 503-378-4133
Last EDR Contact: 05/07/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/25/2015
Date Data Arrived at EDR: 03/10/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 15

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/18/2014
Date Data Arrived at EDR: 03/18/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 03/30/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Annually

SPILLS: Spill Data
Oil and hazardous material spills reported to the Environmental Response Program.

Date of Government Version: 04/09/2015
Date Data Arrived at EDR: 04/14/2015
Date Made Active in Reports: 04/24/2015
Number of Days to Update: 10

Source: Department of Environmental Quality
Telephone: 503-229-5815
Last EDR Contact: 04/02/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Semi-Annually

HAZMAT: Hazmat/Incidents
Hazardous material incidents reported to the State Fire Marshal by emergency responders. The hazardous material may or may not have been released.

Date of Government Version: 03/02/2015
Date Data Arrived at EDR: 05/06/2015
Date Made Active in Reports: 05/19/2015
Number of Days to Update: 13

Source: State Fire Marshal's Office
Telephone: 503-373-1540
Last EDR Contact: 05/06/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Semi-Annually

SPILLS 90: SPILLS90 data from FirstSearch
Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 05/01/2006
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: Environmental Protection Agency
Telephone: (206) 553-1200
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

DOT OPS: Incident and Accident Data
Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 05/05/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Varies

DOD: Department of Defense Sites
This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 04/14/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites
The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 06/06/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 09/18/2014
Number of Days to Update: 8

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 06/12/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 46

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 03/30/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Varies

ROD: Records Of Decision
Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 11/25/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 74

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 06/12/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites
Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 05/26/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 12/30/2014
Date Data Arrived at EDR: 12/31/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 29

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 06/03/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 02/12/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 110

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 01/29/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/15/2015
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 14

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 03/27/2015
Next Scheduled EDR Contact: 07/06/2015
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 05/20/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 05/20/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 04/10/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 01/23/2015
Date Data Arrived at EDR: 02/06/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 04/09/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 10/15/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 33

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 04/17/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 03/31/2015
Date Data Arrived at EDR: 04/09/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 63

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 06/04/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 04/07/2015
Date Data Arrived at EDR: 04/09/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 04/09/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 01/18/2015
Date Data Arrived at EDR: 02/27/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 26

Source: EPA
Telephone: (206) 553-1200
Last EDR Contact: 06/10/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 02/01/2015
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 04/19/2013
Number of Days to Update: 52

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Biennially

UIC: Underground Injection Control Program Database
DEQ's Underground Injection Control Program is authorized by the Environmental Protection Agency (EPA) to regulate all underground injection in Oregon to protect groundwater resources.

Date of Government Version: 03/30/2015
Date Data Arrived at EDR: 04/01/2015
Date Made Active in Reports: 04/22/2015
Number of Days to Update: 21

Source: Department of Environmental Quality
Telephone: 503-229-5945
Last EDR Contact: 03/30/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Varies

OR MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 11/26/2014
Date Made Active in Reports: 02/02/2015
Number of Days to Update: 68

Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 05/07/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Annually

DRYCLEANERS: Drycleaning Facilities
A listing of registered drycleaning facilities in Oregon.

Date of Government Version: 05/05/2015
Date Data Arrived at EDR: 05/05/2015
Date Made Active in Reports: 05/19/2015
Number of Days to Update: 14

Source: Department of Environmental Quality
Telephone: 503-229-6783
Last EDR Contact: 05/04/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Varies

NPDES: Wastewater Permits Database
A listing of permitted wastewater facilities.

Date of Government Version: 05/07/2015
Date Data Arrived at EDR: 05/08/2015
Date Made Active in Reports: 05/19/2015
Number of Days to Update: 11

Source: Department of Environmental Quality
Telephone: 503-229-5657
Last EDR Contact: 05/06/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Quarterly

AIRS: Oregon Title V Facility Listing
A listing of Title V facility source and emissions information.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 01/16/2015
Date Made Active in Reports: 02/27/2015
Number of Days to Update: 42

Source: Department of Environmental Quality
Telephone: 503-229-6459
Last EDR Contact: 04/02/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Varies

HSIS: Hazardous Substance Information Survey
Companies in Oregon submitting the Hazardous Substance Information Survey and either reporting or not reporting hazardous substances.

Date of Government Version: 03/16/2015
Date Data Arrived at EDR: 04/10/2015
Date Made Active in Reports: 04/22/2015
Number of Days to Update: 12

Source: State Fire Marshal's Office
Telephone: 503-373-1540
Last EDR Contact: 06/08/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Semi-Annually

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 04/14/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 05/21/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 04/14/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: N/A

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 11/25/2014
Date Data Arrived at EDR: 11/26/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 04/10/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial assurance information for hazardous waste facilities.

Date of Government Version: 11/21/2014
Date Data Arrived at EDR: 11/26/2014
Date Made Active in Reports: 01/15/2015
Number of Days to Update: 50

Source: Department of Environmental Quality
Telephone: 541-633-2011
Last EDR Contact: 05/26/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 05/14/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Varies

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 05/14/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 05/07/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 04/15/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 05/01/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 06/12/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Varies

COAL ASH: Coal Ash Disposal Sites Listing
A listing of coal ash disposal sites.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 12/19/2014
Date Made Active in Reports: 02/02/2015
Number of Days to Update: 45

Source: Department of Environmental Quality
Telephone: 541-298-7255
Last EDR Contact: 06/04/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing
Financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 03/09/2015
Date Data Arrived at EDR: 03/12/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 13

Source: Department of Environmental Quality
Telephone: 503-229-5521
Last EDR Contact: 05/26/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information
All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/09/2015
Date Data Arrived at EDR: 03/10/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 15

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 05/14/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Quarterly

US AIRS MINOR: Air Facility System Data
A listing of minor source facilities.

Date of Government Version: 10/16/2014
Date Data Arrived at EDR: 10/31/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 17

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 03/30/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Annually

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)
The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/16/2014
Date Data Arrived at EDR: 10/31/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 17

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 03/30/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Annually

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR US Hist Auto Stat: EDR Exclusive Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Cleaners: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Oregon.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/27/2013
Number of Days to Update: 179

Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Oregon.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/03/2014
Number of Days to Update: 186

Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LF: Recovered Government Archive Solid Waste Facilities List
The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Oregon.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 05/01/2015
Date Data Arrived at EDR: 05/06/2015
Date Made Active in Reports: 05/20/2015
Number of Days to Update: 14

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 05/06/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 03/19/2015
Date Made Active in Reports: 04/07/2015
Number of Days to Update: 19

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 06/11/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: PennWell Corporation
Telephone: 281-546-1505
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data
Source: PennWell Corporation
Telephone: 800-823-6277
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Child Care Listings
Source: Employment Department
Telephone: 503-947-1420

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory Data
Source: Oregon Geospatial Enterprise Office
Telephone: 503-378-2166

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

MILL CASINO SITE
3201 TREMONT AVENUE
NORTH BEND, OR 97459

TARGET PROPERTY COORDINATES

Latitude (North):	43.3939 - 43˚ 23' 38.04''
Longitude (West):	124.2185 - 124˚ 13' 6.60''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	401315.6
UTM Y (Meters):	4805063.5
Elevation:	7 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	43124-D2 NORTH BEND, OR
Most Recent Revision:	1971

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

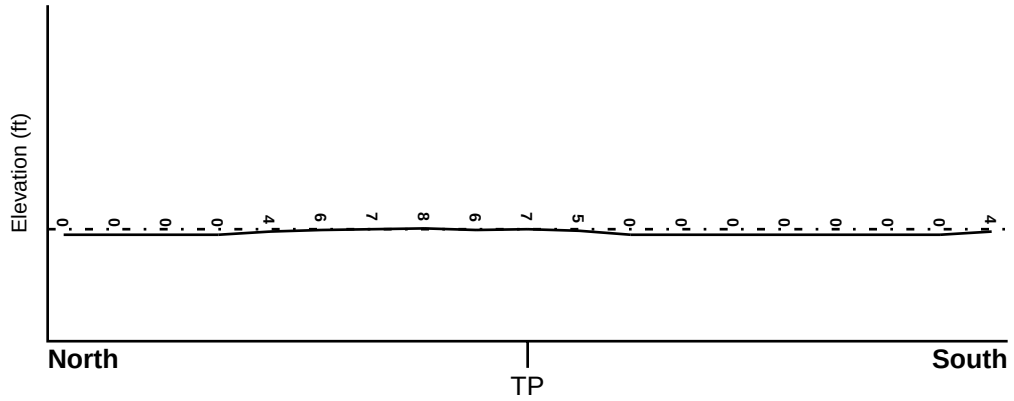
TOPOGRAPHIC INFORMATION

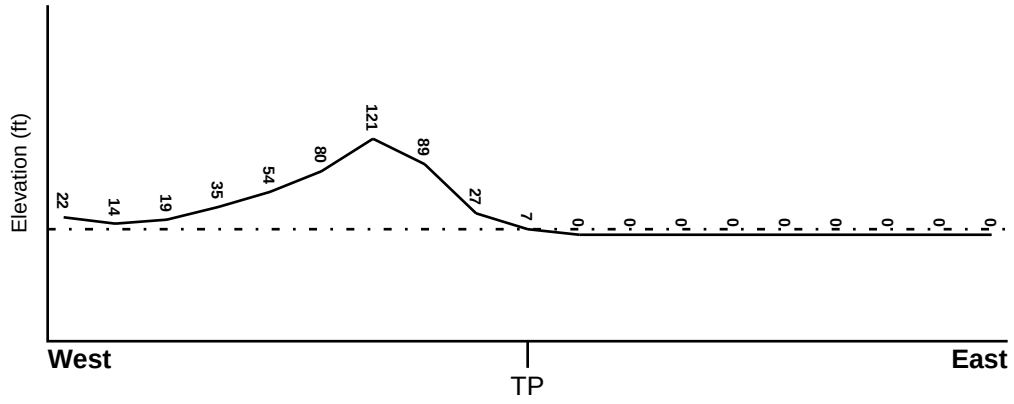
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General East

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 7 ft.

0 1/2 1 Miles

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
COOS, OR	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 41011C - FEMA DFIRM Flood data

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
NORTH BEND	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

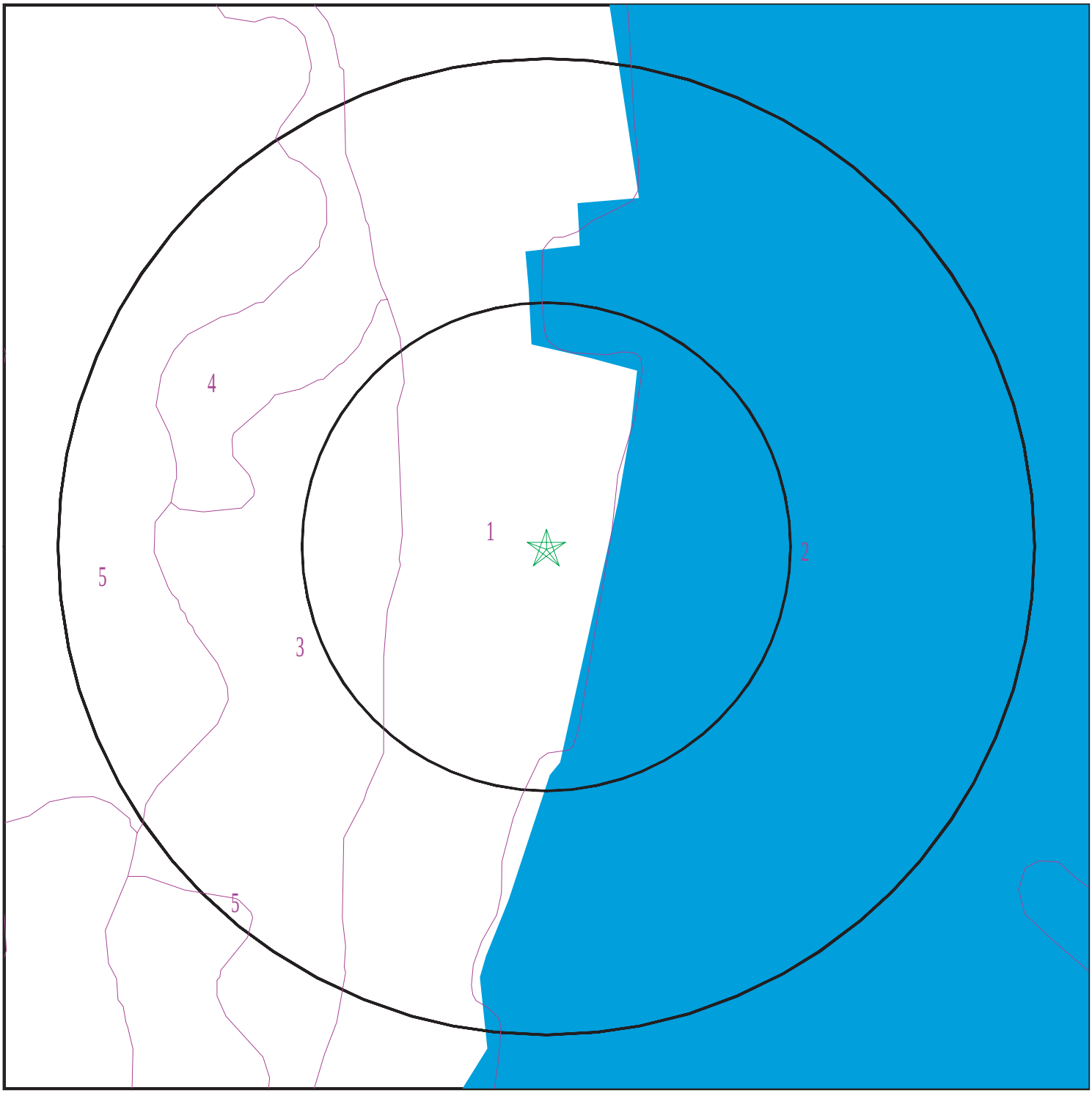
Era:	Cenozoic
System:	Tertiary
Series:	Eocene
Code:	Te *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 4331748.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME: Mill Casino Site ADDRESS: 3201 Tremont Avenue North Bend OR 97459 LAT/LONG: 43.3939 / 124.2185	CLIENT: Analytical Environmental Serv. CONTACT: Katherine Green INQUIRY #: 4331748.2s DATE: June 19, 2015 4:25 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Udorthents

Soil Surface Texture:
Hydrologic Group: Not reported

Soil Drainage Class: Poorly drained

Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 2

Soil Component Name: Water

Soil Surface Texture:
Hydrologic Group: Not reported

Soil Drainage Class:
Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 3

Soil Component Name: Templeton

Soil Surface Texture: weathered bedrock

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	42 inches	51 inches	weathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:
2	0 inches	16 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 5.5 Min: 3.6
3	16 inches	42 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 5 Min: 3.6

Soil Map ID: 4

Soil Component Name: Templeton

Soil Surface Texture: weathered bedrock

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	42 inches	51 inches	weathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:
2	0 inches	16 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 5.5 Min: 3.6
3	16 inches	42 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 5 Min: 3.6

Soil Map ID: 5

Soil Component Name: Templeton

Soil Surface Texture: weathered bedrock

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	42 inches	51 inches	weathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:
2	0 inches	16 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 5.5 Min: 3.6
3	16 inches	42 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 5 Min: 3.6

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 0.001 miles
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

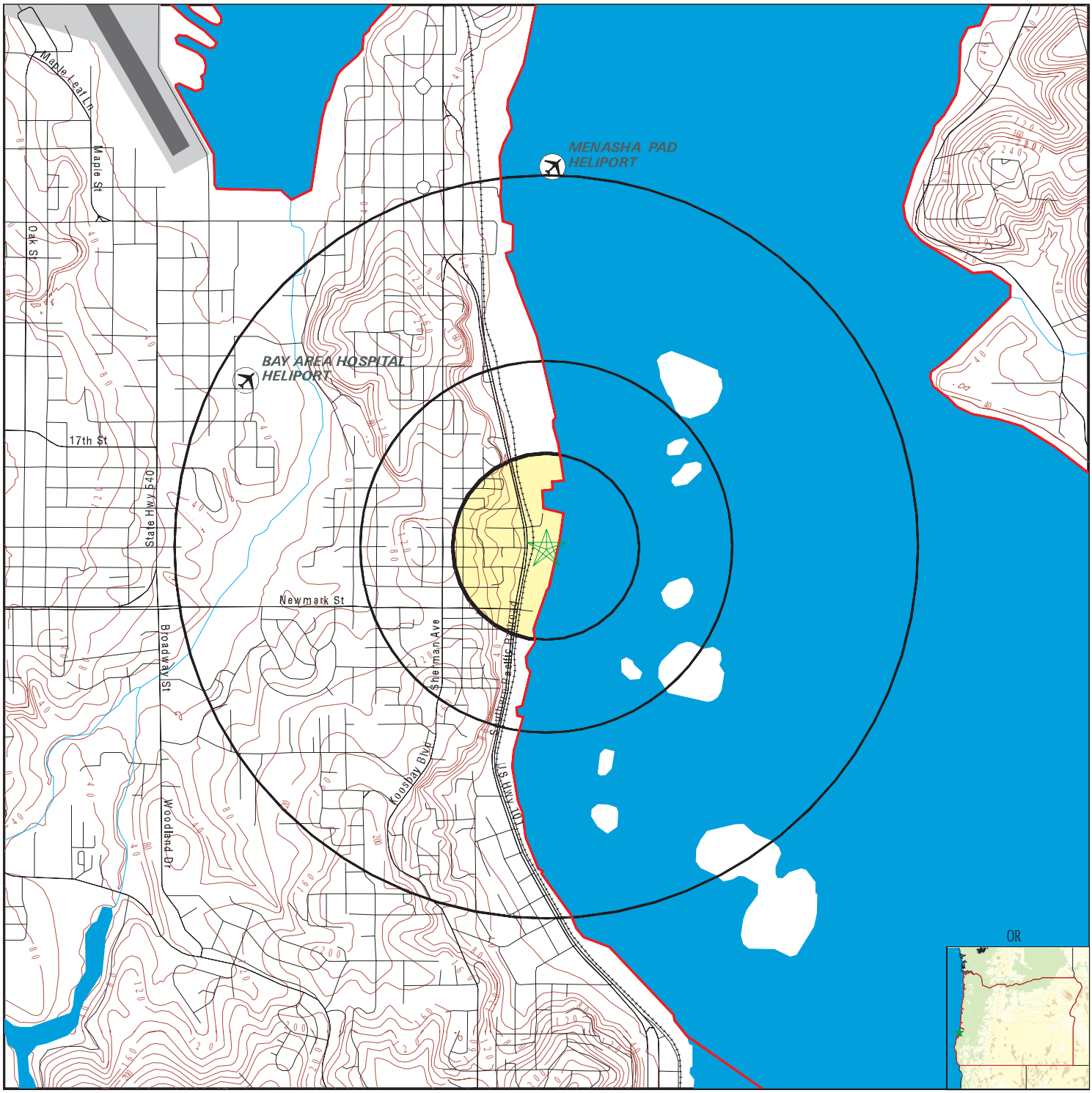
Note: PWS System location is not always the same as well location.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 4331748.2s



0 1/4 1/2 1 Miles

- County Boundary
- Major Roads
- Contour Lines
- Airports
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location

SITE NAME:	Mill Casino Site	CLIENT:	Analytical Environmental Serv.
ADDRESS:	3201 Tremont Avenue North Bend OR 97459	CONTACT:	Katherine Green
		INQUIRY #:	4331748.2s
LAT/LONG:	43.3939 / 124.2185	DATE:	June 19, 2015 4:25 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: OR Radon

Radon Test Results

Zipcode	Num Tests	Maximum	Minimum	Average	# > 4 pCi/L
97459	11	15.6	0.1	2.1	1

Federal EPA Radon Zone for COOS County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory Data
Source: Oregon Geospatial Enterprise Office
Telephone: 503-378-2166

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Data
Source: Department of Water Resources
Telephone: 503-986-0843

OTHER STATE DATABASE INFORMATION

Oil and Gas Well Locations
Source: Department of Geology and Mineral Industries
Telephone: 971-673-1540
A listing of oil and gas well locations in the state.

RADON

State Database: OR Radon
Source: Oregon Health Services
Telephone: 503-731-4272
Radon Levels in Orgeon

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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APPENDIX N

Air Quality Output Tables

Table 1a

Alternative A - Percent Distribution, Patrons, and Vehicle Miles Travels per Year

Routes[1]	Market Areas	Trip Distribution[1]	Average Distance (miles)[2]	Alternatives A and B	
				Trips[3]	VMT/Year
North of Project Site	Medford and Grants Pass	0.75	12	299,927	3,599,128
South of Project Site	Northbound I-5. Pheonix, Ashland	0.25	23	99,976	2,299,443
Total VMT (miles)					5,898,571

[1] Traffic Impact Analysis (JRH Transportation Engineering, 2015, Appendix X)
[2] Trip lenghts based on weighted aveage of distance to population centers.
[3] Based on 1,753 average daily patrons and 1.6 patrons per vehicle. Includes reduction of 38 percent for existing trips.
Sources:Business Plan For Porposed Class II Gaming Facility in Medford, Oregon; April 2013; AES, 2016

Table 1b

Alternative B - Percent Distribution, Patrons, and Vehicle Miles Travels per Year

Routes[1]	Market Areas	Trip Distribution[1]	Average Distance (miles)	Alternatives C	
				Trips	VMT/Year
South of Project Site	Northbound I-5. Pheonix, Ashland	35%	28	139,966	3,919,051
North of Project Site	Medford and Grants Pass	65%	14	259,937	3,639,118
Total VMT (miles)					7,558,169

[1] Traffic Impact Analysis (JRH Transportation Engineering, 2015, Appendix X)
[2] Trip lenghts based on weighted aveage of distance to population centers.
[3] Based on 1,753 average daily patrons and 1.6 patrons per vehicle. Includes reduction of 38 percent for existing trips.
Sources:Business Plan For Porposed Class II Gaming Facility in Medford, Oregon; April 2013; AES, 2016

Table 1c

Alternative C - Percent Distribution, Patrons, and Vehicle Miles Travels per Year

Routes[1]	Market Areas	Trip Distribution[1]	Average Distance (miles)[2]	Alternatives D	
				Trips[3]	VMT/Year
City Streets and Route 101	North Bend and Coos Bay	100	3	43,435	130,305

[1] Traffic Impact Analysis (JRH Transportation Engineering, 2015, Appendix X)
[2] Trip lenghts based on weighted aveage of distance to population centers.
[3] Based on 1,753 average daily patrons and 1.6 patrons per vehicle. Includes reduction of 38 percent for existing trips.
Sources:Business Plan For Purposed Class II Gaming Facility in Medford, Oregon; April 2013; AES, 2016

Table 2a
2022 Mobile Operations Criteria Pollutant and GHG Emissions

Alternatives	**Alternative A**	**Alternative B**	**Alternative C**
Speed (mph)	**Freeway. Arterial, and Local**	**Freeway. Arterial, and Local**	**Freeway. Arterial, and Local**
vmt/yr	5,898,571	7,558,169	130,305
Criteria Pollutant Emissions (tpy)			
NOx	5.5	7.0	0.121
VOC	0.6	0.7	0.013
SO_2	0.0	0.1	0.001
CO	18.0	23.1	0.398
$PM_{2.5}$	0.2	0.2	0.004
PM_{10}	0.5	0.7	0.011
Greenhouse Gas[1]			
CO_2	3244.6	4157.5	65.023

[1] GHG emissions shown in metric tonnes.
Source: MOVES, 2010; AES, 2019.

Table 2b
2042 Mobile Operations Criteria Pollutant and GHG Emissions

Alternatives	**Alternative A**	**Alternative B**	**Alternative C**
Speed (mph)	**Freeway. Arterial, and Local**	**Freeway. Arterial, and Local**	**Freeway. Arterial, and Local**
vmt/yr	5,898,571	7,558,169	130,305
Criteria Pollutant Emissions (tpy)			
NOx	1.30	1.67	0.029
VOC	0.13	0.17	0.003
SO_2	0.01	0.01	0.000
CO	6.11	7.83	0.135
$PM_{2.5}$	0.04	0.05	0.001
PM_{10}	0.33	0.42	0.007
Greenhouse Gas[1]			
CO_2	2,468.1	3,162.5	49.462

[1] GHG emissions shown in metric tonnes.
Source: MOVES, 2010; AES, 2019.

Table 3a
Build Out 2022 Operational Mobile Annual Average Emission Factors

Criteria Pollutant	grams per mile
NOx	0.84
VOC	0.09
SO_2	0.01
CO	2.77
$PM_{2.5}$	0.03
PM_{10}	0.08
Greenhouse Gas	
CO_2	499.01

Source: MOVES, 2014; AES, 2019.

Table 3b
Build Out 2042 Operational Mobile Annual Average Emission Factors

Criteria Pollutant	grams per mile
NOx	0.20
VOC	0.02
SO_2	0.00
CO	0.94
$PM_{2.5}$	0.01
PM_{10}	0.05
Greenhouse Gas	
CO_2	379.59

Source: MOVES, 2014; AES, 2019.

Table 3c
Build Out 2022 Operational Start Annual Average Emission Factors

Criteria Pollutant	grams per start
NOx	0.86
VOC	1.26
SO_2	0.00
CO	10.55
$PM_{2.5}$	0.02
PM_{10}	0.02
Greenhouse Gas	
CO_2	122.18

Source: MOVES, 2014; AES, 2019.

Table 3d
Build Out 2042 Operational Start Annual Average Emission Factors

Criteria Pollutant	grams per start
NOx	0.24
VOC	0.39
SO_2	0.00
CO	4.10
$PM_{2.5}$	0.01
PM_{10}	0.01
Greenhouse Gas	
CO_2	94.45

Source: MOVES, 2014; AES, 2019.

Table 4

Fugitive Dust Emissions from Construction

Alternatives	Alternative A	Alternative B	Alternative C
Construction Area (acres)	6.00	7.80	1.00
Duration of Construction (months)	12	18	12
On-site cut/fill (1,000 cubic yards)	20	20	0
PM_{10} Emisson Factor (tons PM_{10}/acre-month)	0.011	0.011	0.011
On-site cut/fill PM10 Emission Factor (tons PM10/1,000 cubic yards)	0.059	0.059	0.059
Total PM10 Emissions (tons)	**1.97**	**2.72**	**0.13**
Total $PM_{2.5}$ Emissions (tons)	**0.99**	**1.36**	**0.07**

Source: Emission factors from WRAP's Fugitive Dust Handbook (Level 2).

Note: On-site cut/fill conservatively estimated based on project description. PM2.5 conservatively estimated to be half of PM10 emissions.

Table 5a

Alternative A - Construction Emissions

Construction Equipment[1]	Horsepower[2]	Load Factor[2]	Hours in Use[2] (hours/day)	Emission Factors (g/bhp/hr)[4]						Emission (tons/year)					
				CO	VOC	NO_2	SO_2	PM_{10}	$PM_{2.5}$[3]	CO	VOC	NO_2	SO_2	PM_{10}	$PM_{2.5}$
2021 Site Grading															
2 Bulldozer	352	0.59	8	4.04	0.49	5.08	0.01	0.23	0.21	0.98	0.12	1.23	0.00	0.06	0.05
1 Motor Grader	174	0.575	8	3.56	0.51	4.84	0.01	0.27	0.25	0.21	0.03	0.28	0.00	0.02	0.01
1 Water Truck (other general equipment)	417	0.49	8	1.33	0.20	1.80	0.01	0.06	0.06	0.16	0.02	0.21	0.00	0.01	0.01
2 Other Construction Equipment	190	0.62	8	1.60	0.22	2.43	0.01	0.09	0.08	0.29	0.04	0.44	0.00	0.02	0.01
Employee Trips (miles)[3]		2,000		17.946	0.735	1.156	0.0078	0.0371	0.0215	1.58	0.06	0.10	0.00	0.00	0.00
Fugitive Dust														1.972	0.986
2022 Construction															
1 Concrete/Industrial Saw	84	0.73	8	3.52	0.37	2.91	0.01	0.17	0.17	0.69	0.07	0.57	0.00	0.03	0.03
1 Crane	190	0.43	8	1.68	0.35	4.10	0.01	0.17	0.15	0.44	0.09	1.08	0.00	0.04	0.04
2 Rough Terrain Forklift	94	0.475	8	3.25	0.18	2.29	0.01	0.09	0.08	0.93	0.05	0.66	0.00	0.03	0.02
1 Rubber Tire Loader	165	0.465	8	3.35	0.35	3.12	0.01	0.17	0.16	0.83	0.09	0.77	0.00	0.04	0.04
1 Tractors/Loader/Backhoe	79	0.465	8	3.57	0.30	3.00	0.01	0.18	0.16	0.42	0.03	0.35	0.00	0.02	0.02
2 Other Construction Equipment	190	0.62	8	1.60	0.22	2.43	0.01	0.09	0.08	1.21	0.16	1.84	0.00	0.07	0.06
Employee Trips (miles)[3]		2,000		17.946	0.735	1.156	0.0078	0.0371	0.0215	0.04	0.00	0.00	0.00	0.00	0.00
Paving[4]															
1 Paver	132	0.59	8	3.01647	0.256	2.6948	0.005	0.13	0.12	0.14	0.01	0.12	0.00	0.01	0.01
1 Paving Equipment	111	0.53	8	3.5537	0.355	3.45065	0.005	0.219	0.201	0.12	0.01	0.12	0.00	0.01	0.01
1 Rollers	114	0.43	8	3.50719	0.353	3.5889	0.005	0.219	0.202	0.10	0.01	0.10	0.00	0.01	0.01
Architectural Coating															
Coating		0.0116									0.49				
Total Project Construction Emissions										**8.14**	**1.30**	**7.88**	**0.01**	**2.33**	**1.31**

Source: AES, 2019

[1] Construction equipment list from USEPA approved EMFAC 2014 air model.

[2] Hours per normal work day.

[3] Based on 40 mile trip length, maximum of 50 trips per day, and EMFAC, 2014 emission factors (grams/mile).

[4] Emission factors provided by EMFAC, 2014, EPA approved offroad emission factors, as sourced from CalEEMod Default Data Tables: http://www.aqmd.gov/docs/default-source/caleemod/caleemod-appendixd.pdf?sfvrsn=2.

Table 5b

Alternative B- Construction Emissions

Construction Equipment[1]	Horsepower[2]	Load Factor[2]	Hours in Use[2] (hours/day)	Emission Factors (g/bhp/hr)[4]						Emisssion (tons/year)					
				CO	VOC	NO_2	SO_2	PM_{10}	$PM_{2.5}$[3]	CO	VOC	NO_2	SO_2	PM_{10}	$PM_{2.5}$
2021 Site Grading															
2 Bulldozer	352	0.59	8	4.04	0.49	5.08	0.01	0.23	0.21	0.98	0.12	1.23	0.00	0.06	0.05
3 Motor Grader	174	0.575	8	3.56	0.51	4.84	0.01	0.27	0.25	0.62	0.09	0.84	0.00	0.05	0.04
2 Water Truck (other general equipment)	417	0.49	8	1.33	0.20	1.80	0.01	0.06	0.06	0.32	0.05	0.43	0.00	0.02	0.01
4 Other Construction Equipment	190	0.62	8	1.60	0.22	2.43	0.01	0.09	0.08	0.58	0.08	0.89	0.00	0.03	0.03
Employee Trips (miles)[3]		4,000		17.946	0.735	1.156	0.0078	0.0371	0.0215	1.58	0.06	0.10	0.00	0.00	0.00
Fugitive Dust														2.043	1.022
Total 2021 Emissions										***4.08***	***0.40***	***3.49***	***0.01***	***2.20***	***1.16***
2022 Construction															
1 Concrete/Industrial Saw	84	0.73	8	3.52	0.37	2.91	0.01	0.17	0.17	0.69	0.07	0.57	0.00	0.03	0.03
2 Crane	190	0.43	8	1.68	0.35	4.10	0.01	0.17	0.15	0.88	0.00	0.02	0.00	0.00	0.00
3 Rough Terrain Forklift	94	0.475	8	3.25	0.18	2.29	0.01	0.09	0.08	0.93	0.08	0.98	0.00	0.04	0.03
2 Rubber Tire Loader	165	0.465	8	3.35	0.35	3.12	0.01	0.17	0.16	1.66	0.17	1.54	0.00	0.08	0.08
2 Tractors/Loader/Backhoe	79	0.465	8	3.57	0.30	3.00	0.01	0.18	0.16	0.84	0.07	0.71	0.00	0.04	0.04
2 Other Construction Equipment	190	0.62	8	1.60	0.22	2.43	0.01	0.09	0.08	1.21	0.16	1.84	0.00	0.07	0.06
Employee Trips (miles)[3]		4,000		17.946	0.735	1.156	0.0078	0.0371	0.0215	0.00	0.00	0.00	0.00	0.00	0.00
Fugitive Dust														0.681	0.341
Paving[4]															
1 Paver	132	0.59	8	3.01647	0.256	2.6948	0.005	0.13	0.12	0.14	0.01	0.12	0.00	0.01	0.01
1 Paving Equipment	111	0.53	8	3.5537	0.355	3.45065	0.005	0.219	0.201	0.12	0.01	0.12	0.00	0.01	0.01
1 Rollers	114	0.43	8	3.50719	0.353	3.5889	0.005	0.219	0.202	0.10	0.01	0.10	0.00	0.01	0.01
Architectural Coating															
Coating		0.0116									0.49				
Total 2018 Emissions										***6.58***	***1.08***	***6.01***	***0.01***	***0.97***	***0.60***
Total 2018 Project Construction Emissions										**10.66**	**1.48**	**9.49**	**0.02**	**3.16**	**1.77**

Source: EPA, 2011; AES, 2019

[1] Construction equipment list from USEPA approved EMFAC 2011 air model.

[2] Hours per normal work day.

[3] Based on 40 mile trip length, maximum of 100 trips per day, and EMFAC, 2011 emission factors (grams/mile).

[4] Emission factors provided by EMFAC, 2014, EPA approved offroad emission factors, as sourced from CalEEMod Default Data Tables: http://www.aqmd.gov/docs/default-source/caleemod/caleemod-appendixd.pdf?sfvrsn=2.

[5] 75% of fugitive dust is assumed to occur during construction in 2021, 25% in 2018.

Table 5c

Alternative C- Construction Emissions

Construction Equipment[1]	Horsepower[2]	Load Factor[2]	Hours in Use[2] (hours/day)	Emission Factors (g/bhp/hr)[4]						Emisssion (tons/year)					
				CO	VOC	NO_2	SO_2	PM_{10}	$PM_{2.5}$[3]	CO	VOC	NO_2	SO_2	PM_{10}	$PM_{2.5}$
2021 Site Grading															
1 Bulldozer	352	0.59	8	4.04	0.49	5.08	0.01	0.23	0.21	0.49	0.06	0.61	0.00	0.03	0.03
1 Motor Grader	174	0.575	8	3.56	0.51	4.84	0.01	0.27	0.25	0.21	0.03	0.28	0.00	0.02	0.01
1 Water Truck (other general equipment)	417	0.49	8	1.33	0.20	1.80	0.01	0.06	0.06	0.16	0.02	0.21	0.00	0.01	0.01
2 Other Construction Equipment	190	0.62	8	1.60	0.22	2.43	0.01	0.09	0.08	0.29	0.04	0.44	0.00	0.02	0.01
Employee Trips (miles)[3]		1,000		17.946	0.735	1.156	0.0078	0.0371	0.0215	1.58	0.06	0.10	0.00	0.00	0.00
Fugitive Dust														0.132	0.066
2021 Construction															
1 Concrete/Industrial Saw	84	0.73	8	3.52	0.37	2.91	0.01	0.17	0.17	0.69	0.07	0.57	0.00	0.03	0.03
1 Rough Terrain Forklift	94	0.475	8	3.25	0.18	2.29	0.01	0.09	0.08	0.47	0.03	0.33	0.00	0.01	0.01
1 Tractors/Loader/Backhoe	79	0.465	8	3.57	0.30	3.00	0.01	0.18	0.16	0.42	0.03	0.35	0.00	0.02	0.02
1 Other Construction Equipment	190	0.62	8	1.60	0.22	2.43	0.01	0.09	0.08	0.61	0.00	0.00	0.00	0.00	0.00
Employee Trips (miles)[3]		1,000		17.946	0.735	1.156	0.0078	0.0371	0.0215	0.04	0.00	0.00	0.00	0.00	0.00
Paving[4]															
1 Paver	132	0.59	8	3.01647	0.256	2.6948	0.005	0.13	0.12	0.14	0.01	0.12	0.00	0.01	0.01
1 Paving Equipment	111	0.53	8	3.5537	0.355	3.45065	0.005	0.219	0.201	0.12	0.01	0.12	0.00	0.01	0.01
1 Rollers	114	0.43	8	3.50719	0.353	3.5889	0.005	0.219	0.202	0.10	0.01	0.10	0.00	0.01	0.01
Architectural Coating															
Coating		0.0116									0.49				
Total Project Construction Emissions										**5.31**	**0.88**	**3.26**	**0.01**	**0.29**	**0.21**

Source: EPA, 2011; AES, 2019

[1] Construction equipment list from USEPA approved EMFAC 2011 air model.

[2] Hours per normal work day.

[3] Based on 20 mile trip length, maximum of 50 trips per day, and EMFAC, 2007 emission factors (grams/mile).

[4] Emission factors provided by EMFAC, 2014, EPA approved offroad emission factors, as sourced from CalEEMod Default Data Tables: http://www.aqmd.gov/docs/default-source/caleemod/caleemod-appendixd.pdf?sfvrsn=2.

Table 6a

Alternative A - Construction GHG Emissions

Construction Equipment[1]	Horsepower[2]	Load Factor[2]	Hours in Use[2] (hours/day)	Emission Factors (g/bhp/hr) CO2	Emisssion (tons/year) CO2
2017 Site Grading					
2 Bulldozer	352	0.59	8	478.99	580
1 Motor Grader	174	0.575	8	478.53	140
1 Water Truck	417	0.49	8	472.93	282
2 Other Construction Equipment	190	0.62	8	495.93	341
Employee Trips (miles)[3]		2,000		552.80	1
Site Grading GHG Emissions					1,344
2018 Construction					
1 Concrete/Industrial Saw	84	0.73	8	568.30	112
1 Crane	190	0.43	8	499.37	131
2 Rough Terrain Forklift	94	0.475	8	499.17	215
1 Rubber Tire Loader	165	0.465	8	497.35	245
1 Tractors/Loader/Backhoe	79	0.465	8	502.80	119
2 Other Construction Equipment	190	0.62	8	495.93	376
Employee Trips (miles)[3]		2,000		552.80	1
Paving[4]					
1 Paver	132	0.59	8	472.5552	118
1 Paving Equipment	111	0.53	8	473.2205	90
1 Rollers	114	0.43	8	473.9012	75
Construction GHG Emissions					**2,826**

Source: EPA, 2011; AES, 2016

[1] Construction equipment list from USEPA approved EMFAC 201 air model.

[2] Hours per normal work day.

[3] Emission factors provided by EMFAC, 2014, EPA approved offroad emission factors, as sourced from CalEEMod Default Data Tables: http://www.aqmd.gov/docs/default-source/caleemod/caleemod-appendixd.pdf?sfvrsn=2.

Table 6b

Alternative B - Construction GHG Emissions

Construction Equipment[1]	Horsepower[2]	Load Factor[2]	Hours in Use[2] (hours/day)	Emission Factors (g/bhp/hr)[4] CO	Emisssion (tons/year) CO
2021 Site Grading					
2 Bulldozer	352	0.59	8	478.99	580
3 Motor Grader	174	0.575	8	478.53	419
2 Water Truck	417	0.49	8	472.93	564
4 Other Construction Equipment	190	0.62	8	495.93	682
Employee Trips (miles)[3]		4,000		552.80	2
Site Grading GHG Emissions					**2,247**
2021 Construction					
1 Concrete/Industrial Saw	84	0.73	8	568.30	112
2 Crane	190	0.43	8	499.37	262
3 Rough Terrain Forklift	94	0.475	8	499.17	215
2 Rubber Tire Loader	165	0.465	8	497.35	245
2 Tractors/Loader/Backhoe	79	0.465	8	502.80	119
2 Other Construction Equipment	190	0.62	8	495.93	376
Employee Trips (miles)[3]		4,000		552.80	2
Paving[4]					
1 Paver	132	0.59	8	472.5552	118
1 Paving Equipment	111	0.53	8	473.2205	90
1 Rollers	114	0.43	8	473.9012	75
Construction GHG Emissions					**3,861**

Source: EPA, 2011; AES, 2016

[1] Construction equipment list from USEPA approved EMFAC 2007 air model.

[2] Hours per normal work day.

[3] Emission factors provided by EMFAC, 2014, EPA approved offroad emission factors, as sourced from CalEEMod Default Data Tables: http://www.aqmd.gov/docs/default-

Table 6c

Alternative C - Construction GHG Emissions

Construction Equipment[1]	Horsepower[2]	Load Factor[2]	Hours in Use[2] (hours/day)	Emission Factors (g/bhp/hr)[4] CO	Emisssion (tons/year) CO
2018 Site Grading					
1 Motor Grader	174	0.575	8	478.53	140
1 Water Truck	417	0.49	8	472.93	282
1 Other Construction Equipment	190	0.62	8	495.93	170
Employee Trips (miles)[3]		500		552.80	0
Total Site Grading					**592**
Construction					
1 Concrete/Industrial Saw	84	0.73	8	568.30	112
1 Rough Terrain Forklift	94	0.475	8	499.17	72
1 Tractors/Loader/Backhoe	79	0.465	8	502.80	59
1 Other Construction Equipment	190	0.62	8	495.93	188
Employee Trips (miles)[3]		500		552.80	0
Paving					
1 Paver	132	0.59	8	472.5552	118
1 Paving Equipment	111	0.53	8	473.2205	90
1 Rollers	114	0.43	8	473.9012	75
Total Construction Emissions					**1,306**

Source: EPA, 2011; AES, 2016

[1] Construction equipment list from USEPA approved EMFAC 2011 air model.

[2] Hours per normal work day.

[3] Emission factors provided by EMFAC, 2014, EPA approved offroad emission factors, as sourced from CalEEMod Default Data Tables: http://www.aqmd.gov/docs/default-

Table 7a
Alternative A

Pollutant/GHG	MMscf/year	Emission Factors (lb/MMscf)	Conversion factor (lb/tons)	Emissions (tons)
VOC	30	5.50	0.0005	0.08
NOx	30	0.64	0.0005	0.01
CO	30	11.00	0.0005	0.17
SO_2	30	0.60	0.0005	0.01
PM_{10}	30	5.70	0.0005	0.09
$PM_{2.5}$	30	1.90	0.0005	0.03
Greenhouse Gas			**lb/MT**	**MT**
CO_2	30	120,000	0.00045	1,620

Stationary Sources include boilers, stoves, heating units, and other equipment.
Source: EPA, AP 42, 1997; AES, 2016.

Table 7b
Alternative B

Pollutant/GHG	MMscf/year	Emission Factors (lb/MMscf)	Conversion factor (lb/tons)	Emissions (tons)
VOC	40	5.50	0.0005	0.11
NOx	40	0.64	0.0005	0.01
CO	40	11.00	0.0005	0.22
SO_2	40	0.60	0.0005	0.01
PM_{10}	40	5.70	0.0005	0.11
$PM_{2.5}$	40	1.90	0.0005	0.04
Greenhouse Gas			**lb/MT**	**MT**
CO_2	40	120,000	0.00045	2,160

Stationary Sources include boilers, stoves, heating units, and other equipment.
Source: EPA, AP 42, 1997; AES, 2016.

Table 7c
Alternative C

Pollutant/GHG	MMscf/year	Emission Factors (lb/MMscf)	Conversion factor (lb/tons)	Emissions (tons)
VOC	20	5.50	0.0005	0.06
NOx	20	0.64	0.0005	0.01
CO	20	11.00	0.0005	0.11
SO_2	20	0.60	0.0005	0.01
PM_{10}	20	5.70	0.0005	0.06
$PM_{2.5}$	20	1.90	0.0005	0.02
Greenhouse Gas			**lb/MT**	**MT**
CO_2	20	120,000	0.00045	1,080

Stationary Sources include boilers, stoves, heating units, and other equipment.
Source: EPA, AP 42, 1997; AES, 2016.

Table 8a - Alternative A and B Energy, Solid Waste, and Water/Wastewater		
Electricity	**Water/Wastewater**	**Solid Waste**
Emission Factor		
MT/MW-h	MT/gal	MT/tons of waste
0.428	3.54E-07	0.010296546
Use		
MW-h	Gallons	Tons of Waste
118	7,948,970	886
50	3	9

Table 8b - Alternative C Energy, Solid Waste, and Water/Wastewater		
Electricity	**Water/Wastewater**	**Solid Waste**
Emission Factor		
MT/MW-h	MT/gal	MT/tons of waste
0.428	3.54E-07	0.010296546
Use		
MW-h	Gallons	Tons of Waste
39	2,108,970	50
17	1	1