

MILLENNIUM BULK TERMINALS—LONGVIEW NEPA ENVIRONMENTAL IMPACT STATEMENT

NEPA LAND USE TECHNICAL REPORT

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List of Acronyms and Abbreviations

Applicant	Millennium Bulk Terminals—Longview, LLC
BNSF	BNSF Railway
BPA	Bonneville Power Administration
CCC	Cowlitz County Code
CFR	Code of Federal Regulations
CWCOG	Cowlitz-Wahkiakum Council of Governments
Ecology	Washington State Department of Ecology
GIS	geographic information system
GMA	Growth Management Act
I-5	Interstate 5
LMC	Longview Municipal Code
M/RTP	CWCOG Metropolitan and Regional Transportation Plan 2009–2029
NEPA	National Environmental Policy Act
NORPAC	North Pacific Paper Corporation
OHWM	ordinary high water mark
Port	Port of Longview
RCW	Revised Code of Washington
SEPA	Washington State Environmental Policy Act
SMA	Shoreline Management Act
SMP	Shoreline Management Master Program
USC	United States Code
WDFW	Washington Department of Fish and Wildlife

This technical report assesses the potential land use impacts of the proposed Millennium Bulk Terminals-Longview project (On-Site Alternative), Off-Site Alternative, and No-Action Alternative. For the purposes of this assessment, land use includes land and shoreline resources, parks and recreation facilities, and agricultural land. This report describes the regulatory setting, establishes the method for assessing potential land use impacts, presents the historical and current land use conditions in the study area, and assesses potential impacts.

1.1 Project Description

Millennium Bulk Terminals—Longview, LLC (Applicant) proposes to construct and operate an export terminal in Cowlitz County, Washington, along the Columbia River (Figure 1). The export terminal would receive coal from the Powder River Basin in Montana and Wyoming and the Uinta Basin in Utah and Colorado via rail shipment, then load and transport the coal by ocean-going ships via the Columbia River and Pacific Ocean to overseas markets in Asia. The export terminal would be capable of receiving, stockpiling, blending, and loading coal by conveyor onto ships for export. Construction of the export terminal would begin in 2018. For the purpose of this analysis, it is assumed the export terminal would operate at full capacity by 2028. The following subsections present a summary of the On-Site Alternative, Off-Site Alternative, and No-Action Alternative.

1.1.1 On-Site Alternative

Under the On-Site Alternative, the Applicant would develop an export terminal on 190 acres (project area). The project area is located within an existing 540-acre area currently leased by the Applicant at the former Reynolds Metals Company facility (Reynolds facility), and land currently owned by Bonneville Power Administration. The project area is adjacent to the Columbia River in unincorporated Cowlitz County, Washington near Longview city limits (Figure 2).

The Applicant currently and separately operates at the Reynolds facility, and would continue to separately operate a bulk product terminal on land leased by the Applicant. Industrial Way (State Route 432) provides vehicular access to the Applicant's leased land. The Reynolds Lead and the BNSF Spur rail lines, both operated by Longview Switching Company (LVSW),¹ provide rail access to the Applicant's leased area from the BNSF Railway Company (BNSF) main line (Longview Junction) located to the east in Kelso, Washington. Ships access the Applicant's leased area including the bulk product terminal via the Columbia River and berth at an existing dock (Dock 1) operated by the Applicant in the Columbia River.

¹ LVSW is jointly owned by BNSF Railway Company (BNSF) and Union Pacific Railroad (UP).

Figure 1. Project Vicinity

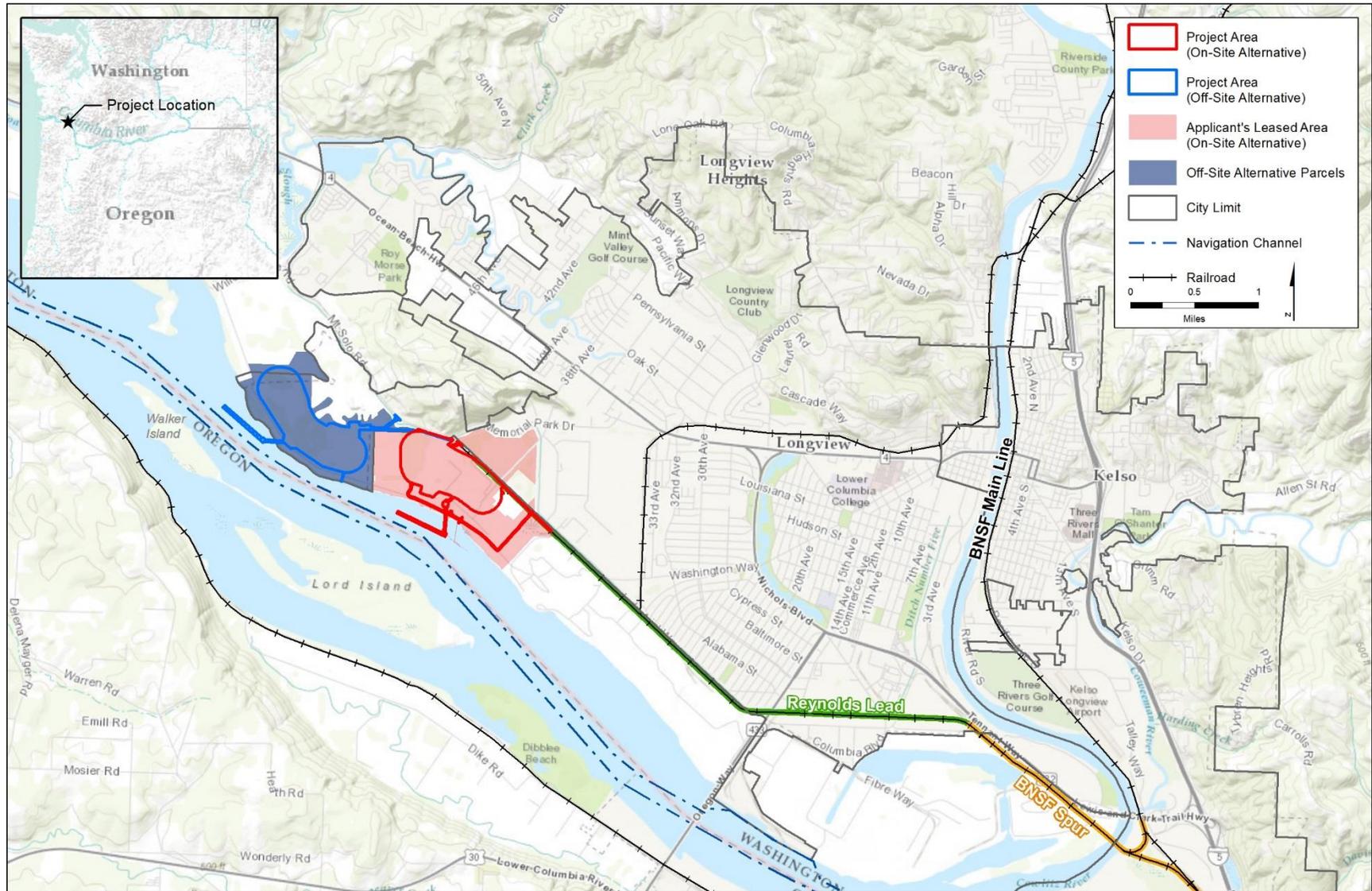
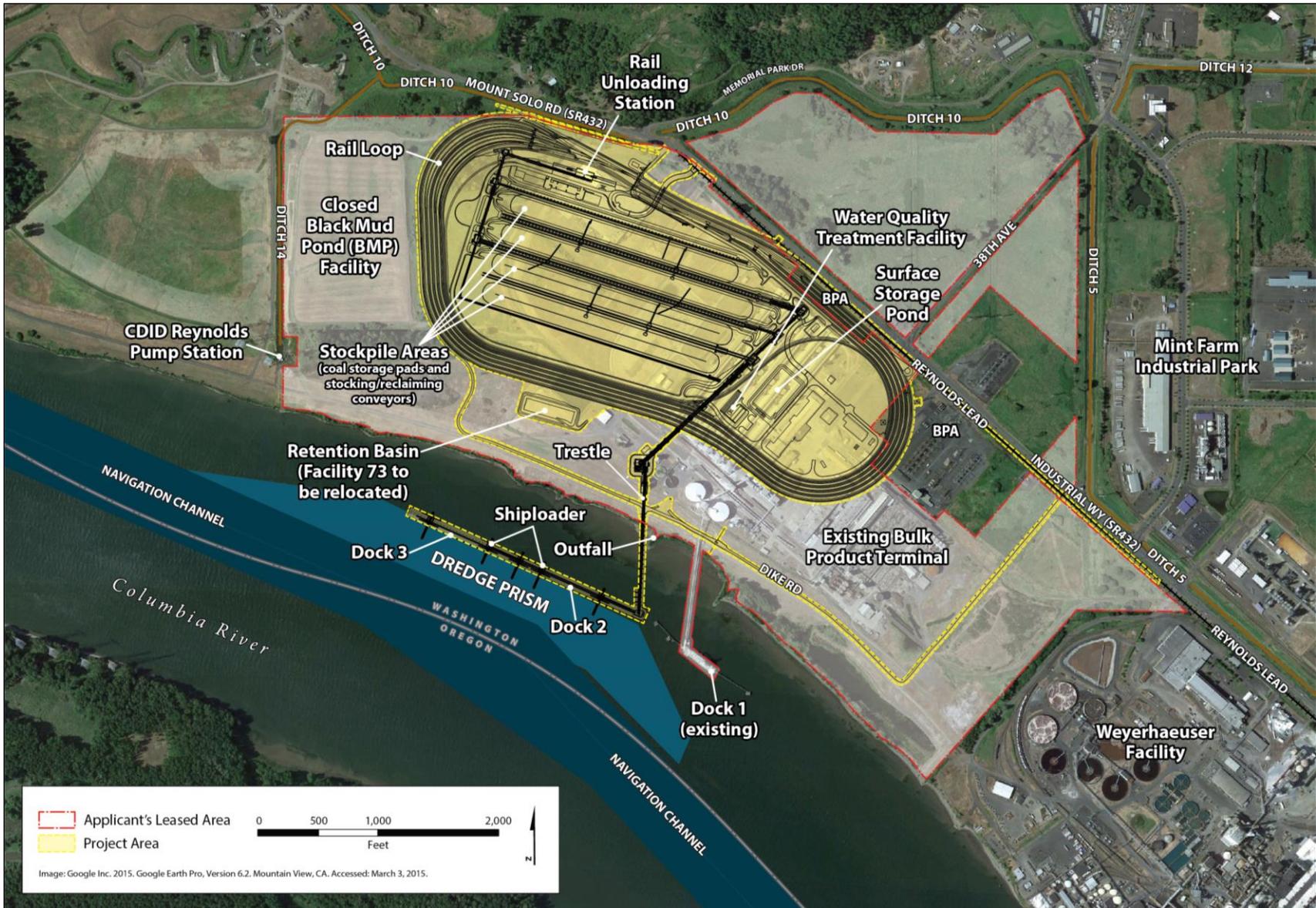


Figure 2. On-Site Alternative



Under the On-Site Alternative, BNSF or Union Pacific Railroad (UP) trains would transport coal in rail cars from the BNSF main line at Longview Junction to the project area via the BNSF Spur and Reynolds Lead. Coal would be unloaded from rail cars, stockpiled and blended, and loaded by conveyor onto ocean-going ships at two new docks (Docks 2 and 3) on the Columbia River for export to Asia.

Once construction is complete, the export terminal would have an annual throughput capacity of up to 44 million metric tons of coal.² The export terminal would consist of one operating rail track, eight rail tracks for the storage of rail cars, rail car unloading facilities, stockpile areas for coal storage, conveyor and reclaiming facilities, two new docks in the Columbia River (Docks 2 and 3), and ship-loading facilities on the two docks. Dredging of the Columbia River would be required to provide access to and from the Columbia River navigation channel and for berthing at the two new docks.

Vehicles would access the project area from Industrial Way (State Route 432). Ships would access the project area via the Columbia River and berth at one of the two new docks. Trains would access the export terminal via the BNSF Spur and the Reynolds Lead. Terminal operations would occur 24 hours per day, 7 days per week. The export terminal would be designed for a minimum 30-year period of operation.

1.1.2 Off-Site Alternative

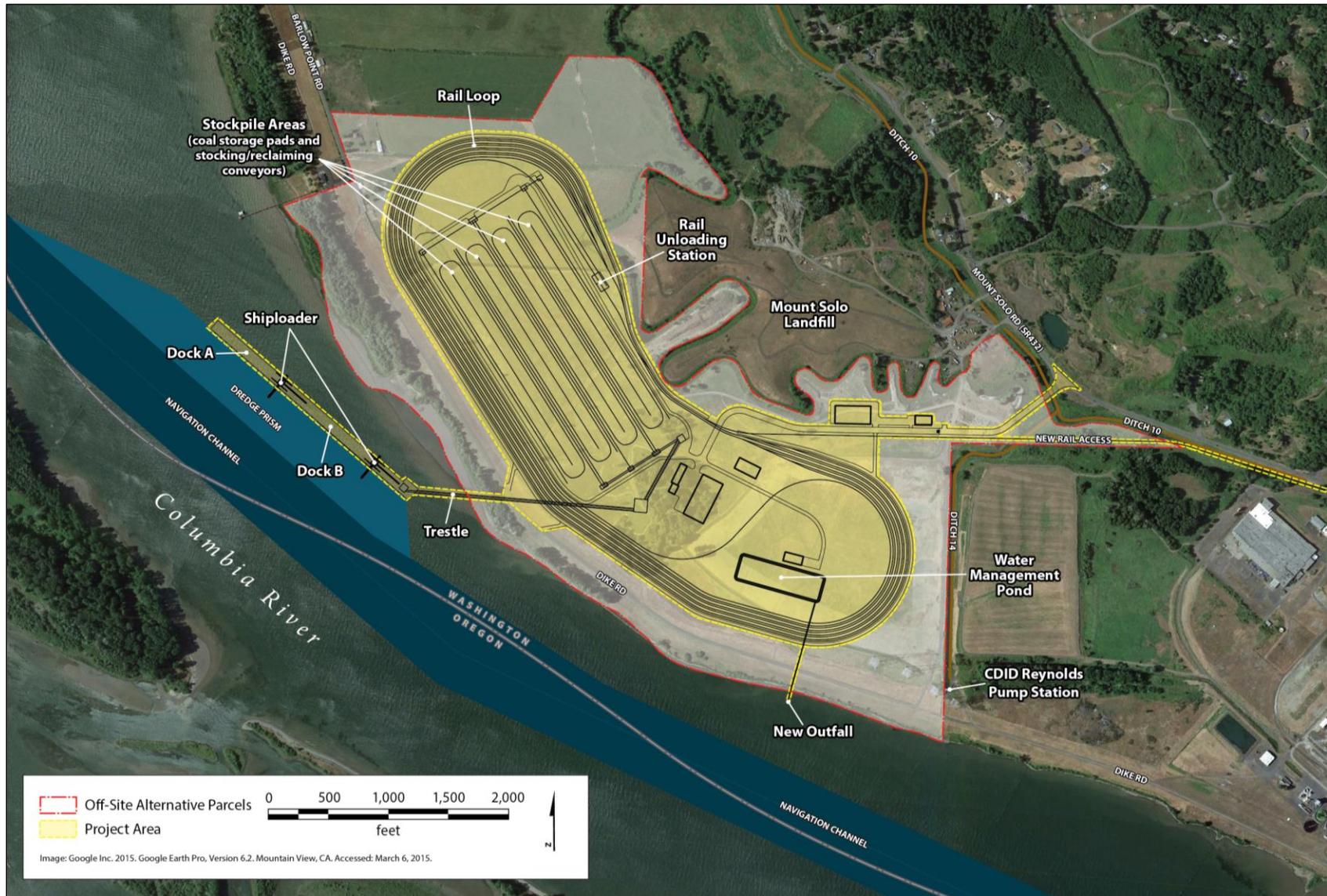
Under the Off-Site Alternative, the export terminal would be developed on an approximately 220-acre site adjacent to the Columbia River, located in both Longview, Washington, and unincorporated Cowlitz County, Washington, in an area commonly referred to as Barlow Point (Figure 3). The project area for the Off-Site Alternative is west and downstream of the project area for the On-Site Alternative. Most of the project area for the Off-Site Alternative is located within Longview city limits and owned by the Port of Longview. The remainder of the project area is within unincorporated Cowlitz County and privately owned.

Under the Off-Site Alternative, BNSF or UP trains would transport coal from the BNSF main line at Longview Junction over the BNSF Spur and the Reynolds Lead, which would be extended approximately 2,500 feet to the west. Coal would be unloaded from rail cars, stockpiled and blended, and loaded by conveyor onto ocean-going ships at two new docks (Docks A and B) on the Columbia River. The Off-Site Alternative would serve the same purpose as the On-Site Alternative.

Once construction is complete, the Off-Site Alternative would have an annual throughput capacity of up to 44 million metric tons of coal. The export terminal would consist of the same elements as the On-Site Alternative: one operating rail track, eight rail tracks for the storage of rail cars, rail car unloading facilities, stockpile areas for coal storage, conveyor and reclaiming facilities, two new docks in the Columbia River (Docks A and B), and ship-loading facilities on the two docks. Dredging of the Columbia River would be required to provide access to and from the Columbia River navigation channel and for berthing at the two new docks.

² A metric ton is the U.S. equivalent to a tonne per the International System of Units, or 1,000 kilograms or approximately 2,204.6 pounds.

Figure 3. Off-Site Alternative



Vehicles would access the project area via a new access road extending from Mount Solo Road (State Route 432) to the project area. Trains would access the terminal via the BNSF Spur and the extended Reynolds Lead. Ships would access the project area via the Columbia River and berth at one of the two new docks. Terminal operations would occur 24 hours per day, 7 days per week. The export terminal would be designed for a minimum 30-year period of operation.

1.1.3 No-Action Alternative

Under the No-Action Alternative, the U.S. Army Corps of Engineers would not issue the requested Department of the Army permit under the Clean Water Act Section 404 and the Rivers and Harbors Act Section 10. This permit is necessary to allow the Applicant to construct and operate the proposed export terminal.

The Applicant plans to continue operating its existing bulk product terminal located adjacent to the On-Site Alternative project area, as well as expand this business whether or not a Department of the Army permit is issued. Ongoing operations would include storing and transporting alumina and small quantities of coal, and continued use of Dock 1. Maintenance of the existing bulk product terminal would continue, including maintenance dredging at the existing dock every 2 to 3 years. Under the terms of an existing lease, expanded operations could include increased storage and upland transfer of bulk products utilizing new and existing buildings. The Applicant would likely undertake demolition, construction, and other related activities to develop expanded bulk product terminal facilities.

In addition to the current and planned activities, if the requested permit is not issued, the Applicant would intend to expand its bulk product terminal business onto areas that would have been subject to construction and operation of the proposed export terminal. In 2014, the Applicant described a future expansion scenario under No-Action Alternative that would involve handling bulk materials already permitted for off-loading at Dock 1. Additional bulk product transfer activities could involve products such as a calcine pet coke, coal tar pitch, cement, fly ash, and sand or gravel. While future expansion of the Applicant's bulk product terminal business might not be limited to this scenario, it was analyzed to help provide context to a No-Action Alternative evaluation and because it is a reasonably foreseeable consequence of a Department of the Army denial.

1.2 Regulatory Setting

Federal, state, and local regulations, statutes, and guidelines require the review of the possible environmental impacts of the On-Site Alternatives and Off-Site Alternative, including potential impacts on land use. The jurisdictional authorities and corresponding regulations, statutes, and guidance for determining potential land use impacts are summarized in Table 1.

Table 1. Regulations, Statutes, and Guidance for Land Use

Regulation, Statute, Guideline	Description
Federal	
National Environmental Policy Act (42 USC 4321 <i>et seq.</i>)	Requires the consideration of potential environmental effects. NEPA implementation procedures are set forth in the President's Council on Environmental Quality's Regulations for Implementing NEPA (49 CFR 1105).
U.S. Army Corps of Engineers NEPA Environmental Regulations (33 CFR 230)	Requires the consideration of probable impacts, including cumulative impacts, of proposed activities and their intended use on public interest. Evaluations should reflect national concern for both protection and use of important resources including the cumulative effects on aesthetics and welfare of people.
State	
Washington State Environmental Policy Act (WAC 197-11, RCW 43.21C)	Requires state and local agencies in Washington to identify potential environmental impacts that could result from governmental decisions.
Washington State Growth Management Act (WAC 365-196, RCW 36.70A)	Requires state and local governments to manage Washington's growth by identifying and protecting critical areas and natural resource lands, designating urban growth areas, and preparing comprehensive plans and implementing them through capital investments and development regulations. The County is required to designate and protect critical areas under the Growth Management Act, but is otherwise not required to fully plan under the Growth Management Act.
Washington State Shoreline Management Act (WAC 173. 27 <i>et seq.</i> , RCW 90.58)	Governs the use and development of "shoreslines of the state." Requires local jurisdictions with "shoreslines of the state" to develop and adopt a shoreline master program to carry out the policies of the SMA.
Washington State Harbor Improvement Plans (RCW 53.20)	Requires port commissions to develop and adopt a comprehensive scheme of harbor improvements and to make harbor improvements substantially in accordance with the adopted plan.
State Water Pollution Control Law (RCW 90.48)	Provides Ecology with the jurisdiction to control and prevent the pollution of streams, lakes, rivers, ponds, inland water, salt waters, watercourses, and other surface and groundwater in the state.
Local	
Cowlitz County SEPA Regulations (CCC Code 19.11)	Provide for the implementation of SEPA in Cowlitz County.
Cowlitz County Shorelines Management Regulations (CCC 19.20)	Adopted in 1977 in accordance with requirements of the SMA and Cowlitz County shorelines management regulations. Defines goals, policies, and objectives that apply to development within shoreline areas of Cowlitz County. A draft update is currently in public review; adoption is expected in fall 2016.
Cowlitz County Critical Areas Regulations (CCC 19.15)	Designates critical areas within Cowlitz County and adopts development regulations to preserve them, in accordance with the requirements of GMA.

Regulation, Statute, Guideline	Description
Cowlitz County Land Use Ordinance (CCC 18.10)	Establishes official land use controls (including zoning regulations) for unincorporated areas of Cowlitz County. The zoning regulations are the principal tool for implementing the goals and policies of the Cowlitz County Comprehensive Plan.
Cowlitz County Comprehensive Plan	Adopted in 1976 and amended in 1981 to manage County growth. A draft update is currently in public review and is subject to change. Adoption of the updated comprehensive plan is expected in 2016.
City of Longview Comprehensive Plan	Comprehensive plan adopted in 2006 to manage the City of Longview's growth. This comprehensive plan applies only to the Off-Site Alternative.
Port of Longview Comprehensive Scheme of Harbor Improvements	Describes the Port's existing facilities and defines plans for future investment, operation, and development of Port properties. Applicable in portions of the study areas only; does not apply to the project area. This plan applies only to the Off-Site Alternative.
Port of Longview Port Master Plan Report	Provides guidance for the future development of Port properties. This plan applies only to the Off-Site Alternative.
City of Longview SEPA Regulations (LMC 17.20)	Sets City SEPA procedures and policies; incorporates by reference SEPA rules at WAC 197-11. This regulation applies only to the Off-Site Alternative.
City of Longview Shoreline Master Program	Update to City of Longview Shoreline Master Program; approved by Ecology on July 27, 2015, and became effective August 10, 2015 (Washington State Department of Ecology 2015). This regulation applies only to the Off-Site Alternative.
City of Longview Zoning Ordinance (LMC 19)	Establishes zoning regulations for the City of Longview. This regulation applies only to the Off-Site Alternative.
City of Longview Critical Areas Protection (LMC 17.10 and 17.12)	Provides protection for designated critical areas within the City of Longview. This regulation applies only to the Off-Site Alternative.
NEPA = National Environmental Policy Act; CFR = Code of Federal Regulations; USC = United States Code; RCW = Revised Code of Washington; SEPA = State Environmental Policy Act; WAC = Washington Administrative Code; SMA = Shoreline Management Act; CCC = Cowlitz County Code; County = Cowlitz County; SMP = Shoreline Management Master Program; City = City of Longview; Port = Port of Longview; LMC = Longview Municipal Code	

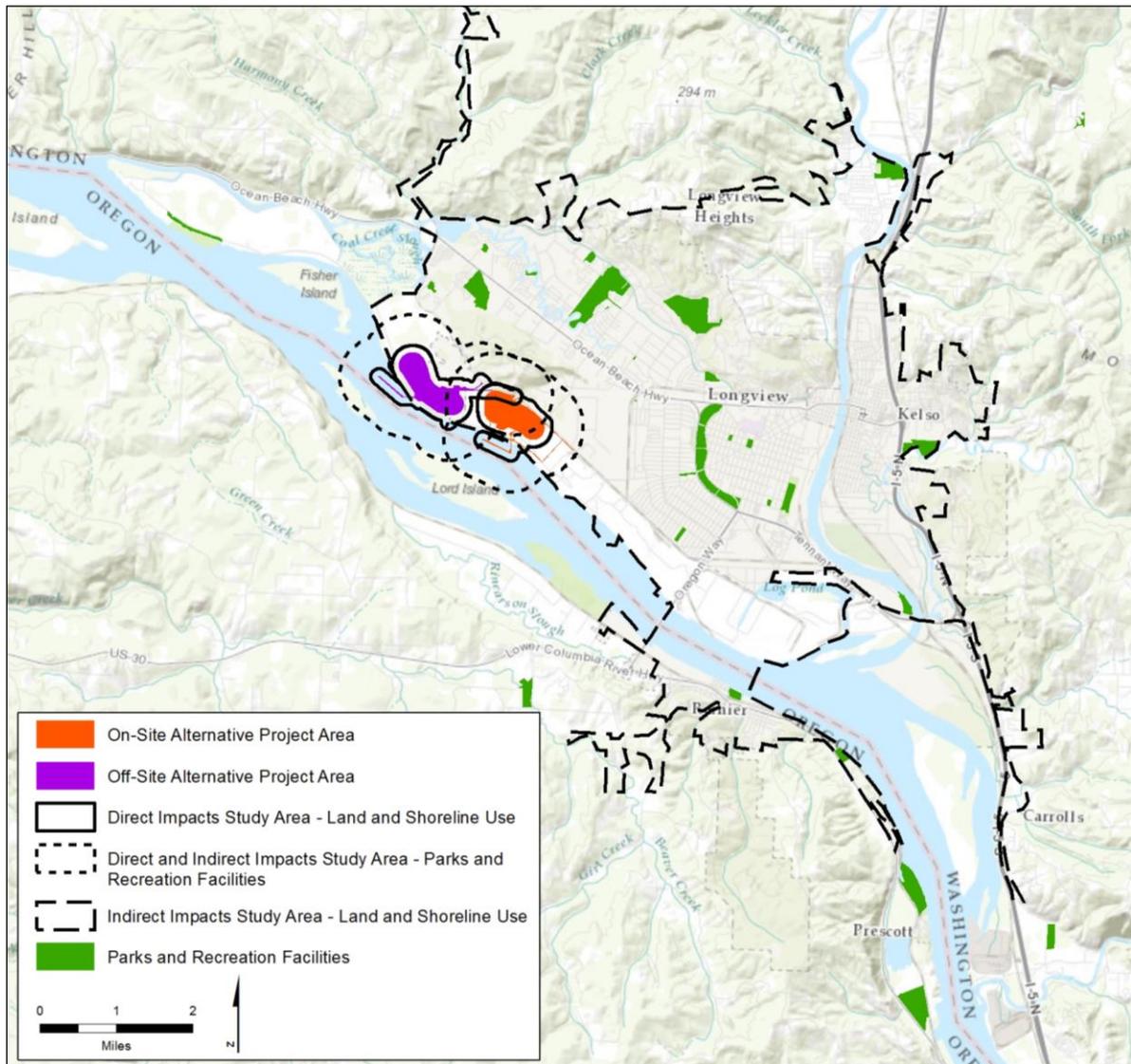
1.3 Study Areas

The land use analysis addresses three built environment elements, each of which has its own study area.

- **Land use and shoreline resources.** For direct impacts, the study area is the project area and the area within 500 feet of it, including the Columbia River. For indirect impacts, the study area is the project area and the surrounding Longview-Kelso urban area and nearby unincorporated areas of Cowlitz County (Figure 4).³
- **Parks and recreation facilities.** For direct and indirect impacts, the study area is the project area and the area within 0.5 mile of the project area plus the nearby Willow Grove boat launch in Washington and the Rainier Riverfront Park boat launch in Oregon. Although these boat launches are more than 0.5 mile from the project area, they have been included in the assessment because they provide public boating access to the Columbia River near the project area.
- **Agricultural land.** For direct impacts, the study area is defined as the project area. For indirect impacts, the study area is the project area and the area within 500 feet of it.

³ This broader land use study area is the Longview-Kelso urban area as defined in the 2010 U.S. Census and adjusted to include the unincorporated areas of Cowlitz County adjacent to the project area, which are not part of the Census-defined urban area.

Figure 4. Study Areas



This chapter describes the methods for assessing the affected environment and determining impacts, and the affected environment in the study area as it pertains to land use.

2.1 Methods

This section describes the methods and data sources used to characterize the affected environment and assess the potential impacts of the On-Site Alternative, Off-Site Alternative, and No-Action Alternative on land use.

2.1.1 Data Sources

The following sources of information were used to evaluate the land use characteristics of the study areas and to define applicable public policies.

- *City of Longview Comprehensive Plan* (2006)
- *Shorelines Management Master Program* (Cowlitz County 1977) and current documents related to the update process for both Cowlitz County and the City of Longview, including draft Shoreline Environmental Designation maps
- *Cowlitz County Comprehensive Plan* (1976) and current comprehensive plan update documents
- Cowlitz County Code (CCC), including the Land Use Ordinance (Chapter 18.10), Environmental Policy (Chapter 19.11), Critical Areas Protection Ordinance (Chapter 19.15), and Shoreline Management (Chapter 19.20)
- Cowlitz County NetMaps and geographic information system (GIS) data
- *Metropolitan & Regional Transportation Plan 2009–2029* (Cowlitz-Wahkiakum Council of Governments 2009)
- Field surveys conducted September 15 and October 29, 2014
- *Comprehensive Scheme of Harbor Improvements* (Port of Longview 2011)
- *Port Master Plan Report* (Port of Longview 2011)
- Revised Code of Washington (RCW) and Washington Administrative Code (WAC)
- U.S. Census Bureau, State and County Quick Facts reports for the Cities of Kelso and Longview and Table DP-1 Profile of General Population and Housing Characteristics: 2010 Demographic Profile for the City of Rainier (U.S. Census Bureau 2014a, 2014b, 2014c)
- *Millennium Coal Export Terminal Longview, Washington Land Use and Shoreline Plans and Policies; Other Public Interest Areas Resource Report* (URS Corporation 2014)
- *Remedial Investigation Feasibility Study, Former Reynolds Metals Reduction Plant-Longview Draft Executive Summary* (Washington State Department of Ecology 2014)

- Cowlitz County and City of Longview websites
- Longview Municipal Code
- Websites for Mint Farm Industrial Park; Lower Columbia Estuary Partnership; Patriot Rail; Millennium Bulk Terminals—Longview, LLC; Washington Department of Fish and Wildlife; and Weyerhaeuser

2.1.2 Impact Analysis

The following methods were used to evaluate the potential impacts of the action alternative on land use in the study areas. For the purposes of this analysis, construction impacts are based on peak construction period, and operations impacts are based on maximum throughput capacity (up to 44 million metric tons per year).

The analysis identifies the affected environment and then describes changes to land use conditions at the project area during both construction and operation of the On-Site Alternative, Off-Site Alternative, and No-Action Alternative. The analysis then assesses whether the changes to land use on the project areas would be compatible with surrounding land use and whether they would be consistent with applicable land use plans and policies, zoning ordinances, and shoreline regulations. In general, the assessment of land use compatibility is based on the types of uses, their intensities, and their proximity to one another.

2.2 Affected Environment

The existing environmental conditions related to land use, zoning, land use plans, and public policy in the study areas are described below.

2.2.1 On-Site Alternative

The following sections describe land uses, zoning, land use plans, and public policies of the project area and study areas for the On-Site Alternative.

2.2.1.1 Land Use

This section describes the existing land use of the project area and the study areas for the On-Site Alternative.

Direct Impacts Study Area

The project area consists of an approximately 190-acre upland portion primarily within a 540-acre area currently leased and operated by the Applicant, as well as the in-water area where the proposed docks would be constructed in the Columbia River. The project area consists of all or portions of eight Cowlitz County tax parcels (619530400, 61950, 61953, 6195303, 61954, 61951, 61948, and WI3100003). These parcels are owned by Northwest Alloys, BNSF Railway Company (BNSF), and the Bonneville Power Administration (BPA) (Cowlitz County 2014). The project area also includes portions of the Columbia River that are owned by the Washington State Department of Natural Resources and subject to an aquatic lands lease (Lease No. 20-B09222). Northwest Alloys

leases the aquatic lands, but the Applicant is under contract as the operator of the marine and upland facilities at the project area.

Historical Land Use

The 540-acre area leased by the Applicant that contains the project area has been an industrial use since 1941. Reynolds Metals Company constructed and operated an aluminum smelter and aluminum casting facility within the project area from 1941 until 2000. Northwest Alloys purchased the area in May 2000, and remains as the owner. Operations at the area ceased in February 2001, and all smelting equipment was removed (Washington State Department of Ecology 2014a). The Reynolds Metals Company facility was an intensive industrial use and, at the time of its closure in 2001, it employed approximately 800 workers and operated 24 hours per day, 7 days per week. In December 2004, Chinook Ventures purchased the facility assets and obtained a ground lease to store and transport fly ash, petroleum coke, alumina, and cement from 2004 to 2010. The Applicant purchased the facility assets from Chinook Ventures in January 2011, and now operates on a ground lease with Northwest Alloys (Washington State Department of Ecology 2014a). After taking ownership of facility assets in early 2011, the Applicant cleared and disposed of the debris and waste left by previous industrial activities.

Current Land Use

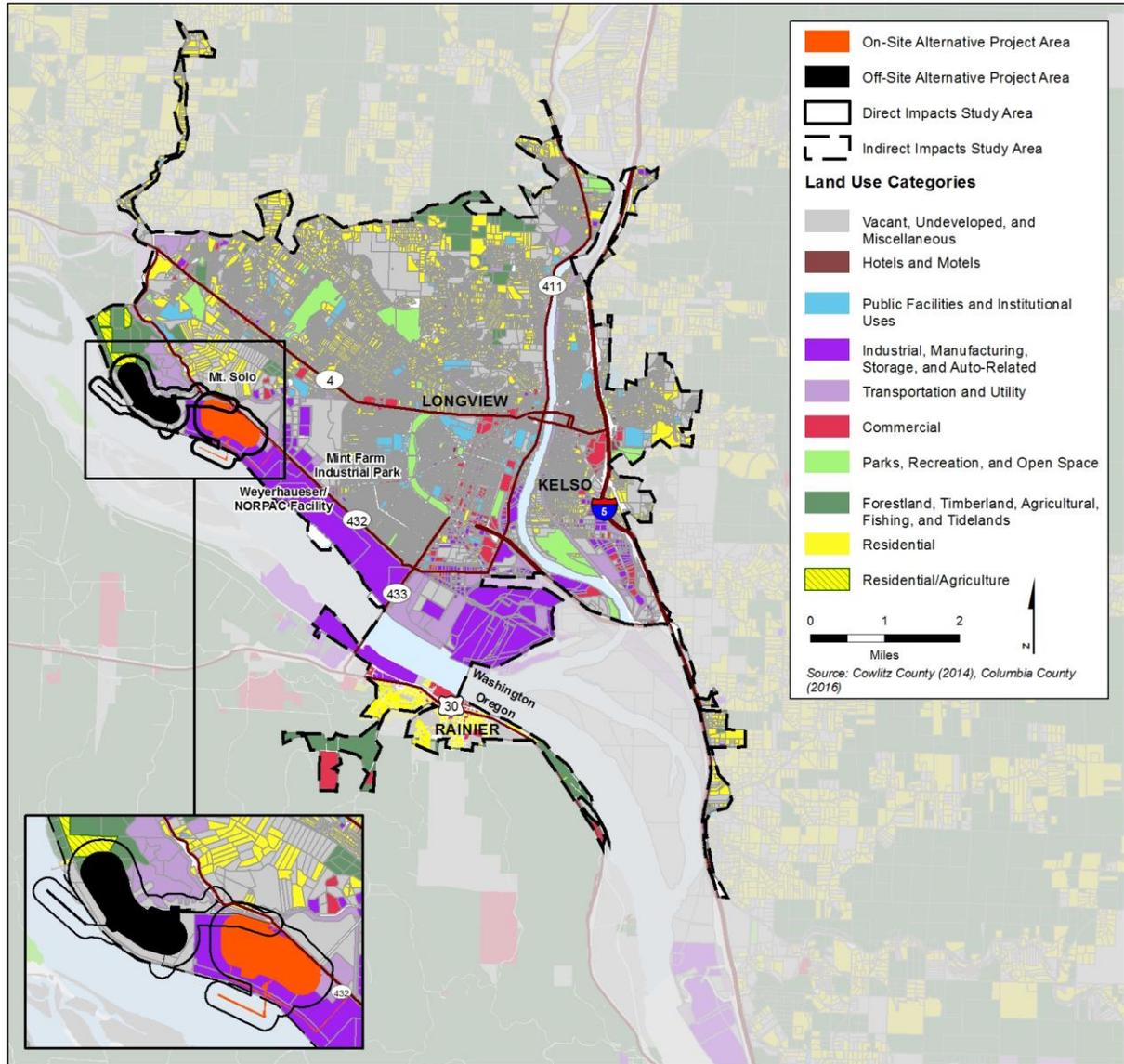
Overall, the 190-acre project area has industrial activities occurring at a much lower intensity than historical levels. Portions of the project area are also the subject of ongoing hazardous materials cleanup activities resulting from contamination by former aluminum smelting and casting uses (NEPA Hazardous Materials Technical Report (ICF International 2016b)). Figure 5 shows the existing land uses near the project area; land uses in the broader indirect impacts study area are discussed below.

According to reports prepared by the Applicant (URS Corporation 2014a), portions of the project area are used for industrial purposes, and facilities in the project area include the following.

- Four office buildings
- Maintenance sheds
- Potlines for storage of materials
- Two cast house buildings
- A combined stormwater and wastewater treatment facility
- An industrial wastewater treatment plant
- A carbon plant
- The former cable plant building and associated structures
- Rail facilities associated with the Reynolds Metals Company operations

The project area also overlaps with two parcels currently owned by BPA and parcels owned by BNSF. The BPA parcels contain BPA facilities, including an access road and substation along Industrial Way. The parcels owned by BNSF contain portions of the Reynolds Lead rail line.

Figure 5. Existing Land Use



The Applicant's leased area surrounding the project area also contains industrial uses associated with the existing bulk products terminal. Facilities within the Applicant's leased area include:

- A sanitary sewer treatment plant
- A dock, trestle, and dolphins for vessel berthing
- A ship berth
- A vacuum ship unloader used for alumina shipments
- An additional shiploader originally installed by Reynolds Metals Company
- A conveyor system extending from the vacuum unloader to upland storage silos
- Holding tanks and silos constructed for the Reynolds Metals Company operations

While most of the project area is developed, its undeveloped western limit consists of open areas of grass and wetlands, and there is an approximately 6-acre forested wetland in the northwest corner of the property. No formally designated recreation sites or activities are located on the project area. An extensive levee system along the Columbia River is maintained by the Consolidated Diking Improvement District #1 (CDID #1).

The area within 500 feet of the project area contains predominantly industrial and transportation/utility land uses, along with two single-family residential uses. The area south of the project area is occupied by the bulk products terminal that the Applicant operates within the 540-acre leased area. Currently the Applicant uses a portion of the leased area as a bulk products terminal to import, store, and transfer bulk alumina and coal. The leased area includes upland facilities, a dock on the Columbia River capable of receiving Panamax-sized ships, and rail and road connections. Alumina is imported by ship, then stored and transferred by rail to an ALCOA smelter near Wenatchee, Washington (Millennium Bulk Terminals Longview 2104). The coal is currently imported by rail, stored, and then transferred by truck to the adjacent Weyerhaeuser lumber products manufacturing facility, where it is used to power the facility.

Immediately west of the project area is the closed Black Mud Pond facility, which previously served the Reynolds Metals Company facility. As part of the Reynolds facility, a cryolite recovery plant was constructed in 1953. A byproduct of the cryolite recovery process was black mud, which was disposed of in several fill deposits. One such pond was located in the West Plant area near Landfill 2. The 33-acre black mud pond impoundment, which was formally closed in 1992, has been subject to an approved ongoing maintenance and monitoring program overseen by Ecology. No further remedial activities related to the Closed Black Mud Pond Facility are required in the final cleanup action plan.

This Black Mud Pond facility appears as open vacant land traversed by overhead electrical lines and towers. Industrial Way (State Route 432) and the Reynolds Lead spur track of the BNSF Railway (BNSF) run adjacent to the project area to the northeast. As noted, in this area, the BNSF tracks are used to deliver and ship alumina and coal for the bulk products terminal. The area east of Industrial Way from the project area is also part of the Applicant's 540-acre leased area and contains open land with overhead electrical wires and towers and a vacant building (formerly the Reynolds Longview Federal Credit Union) on the corner of Industrial Way and 38th Avenue. The Bonneville Power Administration (BPA) operates a substation along Industrial Way adjacent to the project area and the 540-acre leased area.

Other uses within the direct impacts study area include rights-of-way for CDID #1 and various land owned by the Port. The CDID #1 rights-of-way contain flood protection facilities such as levees, drainage ditches, and pump stations. The Port-owned land within the 500-foot study area is vacant.

The only residential uses in the direct impacts study area are two single-family detached houses across Industrial Way from the project area. These houses are on wooded lots set back from the street.

No agricultural activities occur within 500 feet of the project area. While no formally designated recreation sites or activities occur in the upland portion of the direct impacts study area, the Columbia River is used for boating, fishing, and other forms of water recreation. In addition, the 146-mile Lower Columbia River Water Trail, which extends from Bonneville Dam to the mouth of the Columbia River, passes by the project area (Lower Columbia Estuary Partnership 2014).

Table A-1 in Appendix A, *Properties and Land Use in the Study Area*, lists the properties located within 500 feet of the boundaries of the project area and their land uses.

Indirect Impacts Study Area

The indirect impacts study area includes the Longview-Kelso urban area as defined in the 2010 U.S. Census and the unincorporated areas of the County adjacent to the project area (which are not part of the Census-defined urban area). The Cities of Longview and Kelso, Washington and Rainier, Oregon are located in this study area (Figure 4). The downtown centers of Longview (2010 population 36,648) and Kelso (2010 population 11,925) are located approximately 1 mile and 5 miles east of the project area, respectively, and Rainier (2010 population 1,895) is located approximately 4 miles southeast of the project area across the Columbia River (U.S. Census Bureau 2014). The Lewis and Clark Bridge connects the Washington and Oregon sides of the river.

Longview was the first planned community in Washington, and its downtown core along the west bank of the Cowlitz River includes streets radiating out from the Civic Center around R. A. Long Square. As is typical of urban areas, the indirect impacts study area includes a wide range of industrial, residential, commercial, recreation, and public facility land uses. Development patterns throughout the indirect impacts study area generally consist of areas dominated by a single land use (e.g., residential neighborhoods and commercial shopping centers), except for limited mixed-use development in downtown Longview and Kelso.

Major road corridors through the indirect impacts study area include Ocean Beach Highway (State Route 4) and Industrial Way (east-west) and Interstate 5 (I-5), SR 433, and SR 411 (north-south) through Longview and Kelso, along with U.S. Highway 30 in Rainier (east-west). Another prominent transportation use in the indirect impacts study area is BNSF and the Columbia & Cowlitz Railway. The BNSF tracks generally run along the Columbia and Cowlitz Rivers, with spurs serving downtown Longview and the industrial areas along the Columbia River, including the project area. The Columbia & Cowlitz Railway, operated by Patriot Rail, connects and exchanges traffic with the BNSF tracks along Industrial Way and runs north and east through Longview parallel to 33rd Avenue and Ocean Beach Highway. These railways consist of active freight rail traffic including shipments of alumina and coal, as well as lumber, metals, liquefied petroleum gas, and steel and petroleum products (Patriot Rail 2014). In addition, the Columbia River provides a key marine transportation link serving the indirect impacts study area. According to Washington State Department of Ecology (Ecology) Vessel Entry and Transit (VEAT) data, the river accommodated approximately 1,457 cargo and passenger vessels, tank ships, and articulated tug barge vessel calls in 2013 (Washington State

Department of Ecology 2014c). Historically, the Columbia River has supported even higher levels of ship traffic; in 1999, the peak traffic year for the Columbia River, there were 2,269 vessel calls, including 2,052 cargo and passenger vessels and 217 tank ships and articulated tug barges (Washington State Department of Ecology 2014c). Furthermore, according to data from the Columbia River Bar Pilots, who sometimes move vessels that are not required to be reported in the data captured for the VEAT database, the river supported an annual average of approximately 2,000 vessel calls per year from 1979 to 2000 and a historic high traffic level of 2,376 vessel calls in 1979 and 1988 (ICF International 2016c). Overall, the integrated network of road, rail, and marine transportation in the indirect impacts study area has facilitated the area's development as an industrial and commercial hub along the Columbia River.

There is a wide corridor of industrial and transportation/utility land uses along the Columbia River in the indirect impacts study area. This corridor includes the project area as discussed above. The 550-acre Weyerhaeuser Company lumber products manufacturing site/North Pacific Paper Corporation (NORPAC) facility is located upstream (southeast) of the project area along the Columbia River. This manufacturing facility produces liquid packaging board, newsprint, and other specialty papers and includes open-air storage of lumber (Weyerhaeuser 2014a, 2014b). Further upstream from the project area is the Port of Longview's 478-acre Port Industrial Marine property, which includes eight marine terminals equipped to handle commodities such as bulk goods, forest products, wind energy products, steel, and heavy-lift cargo, as well as associated staging and storage areas and water treatment facilities (Port of Longview 2011a). The Port also operates a warehouse complex and storage area on the Port Industrial Marine property.

The Mint Farm Industrial Park, a partially developed 445-acre industrial site operated as a public-private partnership between the City of Longview and the Weyerhaeuser Real Estate Development Company, is located across Industrial Way from a portion of the Applicant's 540-acre leased area and the Weyerhaeuser facility. Current tenants include Epson Toyocom (manufacturer of quartz devices), Flexible Foam Products (manufacturer of polyurethane foam and carpet cushion), Northwest Renewables LLC (a proposed biomass energy facility), and the Mint Farm Energy Center (a natural gas energy plant) (The Mint Farm 2014). Development and tenancy of the Mint Farm Industrial Park are ongoing and additional industrial tenants may locate there in the future. The industrial park also includes open-space areas set aside for stormwater management and wetland mitigation.

The Barlow Point property, an undeveloped area downstream (west) of the project area along the Columbia River and within Longview, was recently purchased by the Port for future port improvements (Port of Longview 2011a). The Mount Solo landfill, a closed landfill under WAC 173-304 regulations, is located adjacent to the Port's Barlow Point property to the north (EMCON Northwest 1992). Further downstream (northwest) from Barlow Point, the indirect impacts study area contains large-lot residential and agricultural land uses south of Industrial Way, the Longview Memorial Park Cemetery and small single-family housing subdivisions north of Industrial Way, and the undeveloped Willow Grove property just outside of the indirect impacts study area to the northwest. The Willow Grove property is used for wetlands preservation and mitigation and most of it was sold recently by the Port to the Columbia Land Trust. The Port retained approximately 76 acres of Willow Grove for anticipated future mitigation needs.

Aside from the two residences located adjacent to the project area, other nearby residential uses include several single-family residences on Mount Solo, a steep hill near the project area, approximately 0.5 to 0.75 mile north of the project area. More densely developed residential areas

are located at least 1 mile away from the project area to the north and east in Longview and across the Cowlitz River in the City of Kelso. Nearby residential neighborhoods include Memorial Park, Mint Valley, Columbia Valley Garden, West Longview, Olympic West, St. Helens, and Highlands (City of Longview 2014a). Residential uses in the indirect impacts study area consist primarily of low-density, single-family, detached houses. Higher-density residential uses, such as two- and three-story apartment buildings, exist along Ocean Beach Highway and in downtown Longview between 7th Avenue and 11th Avenue.

Commercial uses in the indirect impacts study area include retail, office, and storage uses concentrated along Ocean Beach Highway and in downtown Longview and Kelso. In Longview, commercial uses along Ocean Beach Highway include storage facilities, restaurants, and large-format retailers such as Walmart and Fred Meyer. Commercial uses in downtown Longview are located primarily in the area bounded by Ocean Beach Highway, 11th Avenue, Tennant Way, and 15th Avenue. Most of the commercial uses in this area are located along auto-oriented corridors, although there is a concentration of mixed-use, ground-floor commercial with residential use above along Commerce Avenue.

Development in Kelso is concentrated primarily between the Cowlitz River and I-5. Land use patterns are characterized by commercial uses along Ocean Beach Highway. Residential uses exist further north and south of the corridor, and a mix of industrial, commercial, and undeveloped land uses in the southern portion of the City of Longview near the confluence of the Cowlitz and Columbia rivers. The biggest commercial use is the Three Rivers Mall near I-5 and Ocean Beach Highway. As in Longview, residential uses in Kelso are predominantly low-density, single-family, detached dwellings.

As shown in Figure 4, the indirect impacts study area extends well beyond the project area and the downtown cores of Longview and Kelso. To the north, the outer portions of the indirect impacts study area encompass suburban and exurban areas with scattered residential development interspersed among forested areas. Residential development is generally denser, closer to the Cowlitz River. West Side Highway, a census-designated place characterized by relatively dense development of single-family detached houses, occupies the northernmost portion of the indirect impacts study area along the Cowlitz River.

The Lewis and Clark Bridge (SR 433) spans the Columbia River upstream from the project area and provides access to Rainier, Oregon. This portion of the study area is approximately 2 to 5 miles from the project area; it is characterized by industrial and open-storage uses along the Columbia River, low-density residential and commercial development within Rainier, agricultural uses, and undeveloped and forested land. In general, commercial uses in Rainier exist along Oregon's Highway 30, and residential uses are located on steeply sloped streets south of the commercial corridor.

The project area and indirect impacts study area fall within the Washington Department of Fish and Wildlife (WDFW) Mount Saint Helens Wildlife Area. The nearest wildlife unit is the Fisher Island unit, which is located approximately 3 miles downstream from the project area. This 257-acre wildlife unit is maintained as forested floodplain (Washington Department of Fish and Wildlife 2014).

A variety of public facility uses serve the indirect impacts study area, including schools, police and fire facilities, libraries, community centers, health care facilities, and government facilities. Table 2 and Figure 6 identify the locations of the major public facilities in the indirect impacts study area. As shown, several public facility uses are centered on R.A. Long Square, which comprises the Longview's civic center.

Parks and Recreation Study Area

As discussed above, the study area for parks and recreation facilities is the area within 0.5 mile of the project area, as well as the Willow Grove boat launch.

There are no parks and recreation facilities on the project area or within the 0.5-mile study area. However, the Columbia River is used for boating, fishing, and other forms of water recreation. The 146-mile Lower Columbia River Water Trail, which extends from Bonneville Dam to the mouth of the Columbia River, passes by the project area. Recreation users of the Columbia River currently must share the use of the river with a variety of commercial vessels, including oceangoing cargo ships.

The nearest parks are Roy Morse Park 1 mile north of the project area, Mint Valley Golf Course 1 mile northeast of the project area, and a primitive campsite (i.e., a campsite with no support facilities) on Lord Island 0.8 mile south of the project area (Lower Columbia Estuary Partnership 2014) (Figure 7). In addition, a portion of Dike Road to the northwest of the project area has been identified as a potential trail in Cowlitz Regional Trails Plan (Cowlitz Wahkiakum Council of Governments 2006). Roy Morse Park is a 60-acre sports complex owned by the City of Longview containing baseball, softball, and soccer fields; basketball courts; picnic areas; playground equipment; seasonal restrooms; and parking lots (City of Longview 2014c). Mint Valley Golf Course is a public golf course also owned by the City of Longview.⁴

The nearest boat launches are located at Rainier Riverfront Park in Rainier, across the Columbia River and approximately 4 miles upstream and at Willow Grove Boat Launch, approximately 4 miles downstream. Rainier Riverfront Park is owned by the City of Rainier and includes a boat launch, restrooms, baseball field, basketball and tennis courts, a skateboard park, and playground equipment. The Willow Grove boat launch is located in Willow Grove Park, which is owned by the Port and is open daily from 5:00 a.m. to 10:00 p.m. year-round (Cowlitz County 2014c). In addition to the boat launch, Willow Grove Park includes an asphalt walking trail, riverfront beach, large parking lot, picnic areas, seating, bathrooms, lawn areas, and playground equipment.

⁴ For additional public parks within the City of Longview area, see the NEPA Aesthetics Technical Report (ICF International 2016a), which identifies public parks within approximately 3 miles of the project area.

Table 2. Public Facility Uses in the Indirect Impacts Study Area

Map No.	Name	Address	City	Type
1	Public Library	351 Three Rivers Mall Drive	Kelso	Library
2	Police Department	203 S Pacific Avenue	Kelso	Police
3	Community Development	203 S Pacific Avenue	Kelso	Government
4	Water and Sewer Department	203 S Pacific Avenue	Kelso	Government
5	Cowlitz Fire Station 2	701 Vine Street	Kelso	Fire Department
6	Southwest Regional Airport	2215 Parrot Way	Kelso	Airport
7	Public Works Department	2300 Parrot Way	Kelso	Utilities
8	City Hall	1525 Broadway Street	Longview	Government
9	Street, Traffic, Transit, and Fleet Divisions	254 Oregon Way	Longview	Transportation
10	Transit Center	1135 12th Avenue	Longview	Transportation
11	Regional Water Treatment Plant	101 Fishers Lane	Longview	Utilities
12	Water and Sewer Operations	1460 Industrial Way	Longview	Government
13	Police Department	1351 Hudson Street	Longview	Police
14	Longview Public Library	1600 Louisiana Street	Longview	Library
15	Cowlitz Fire Station 81	740 Commerce Avenue	Longview	Fire Department
16	Parks Division	706 30th Avenue	Longview	Government
17	Recreation Office	2920 Douglas Street	Longview	Government
18	Mint Valley Golf Course and Facilities Maintenance	4002 Pennsylvania Street	Longview	Recreation
19	Mint Valley Racquet and Fitness Complex	4004 Pennsylvania Street	Longview	Recreation
20	Highlands Police Office	216 30th Avenue	Longview	Police
21	Cowlitz Fire Station 82	2355 38th Avenue	Longview	Fire Department
22	Columbia Theater	1231 Vandercook Way	Longview	Entertainment
23	Senior Center	1111 Commerce Avenue	Longview	Community Center
24	McClelland Arts Center	951 Delaware Street	Longview	Entertainment
25	Women's Club	835 21st Avenue	Longview	Recreation
26	Elks Memorial Building	2121 Kessler Blvd	Longview	Community Center
27	Cowlitz County District Court	310 1st Avenue	Kelso	Government
28	St. Helens Elementary	4371 27th Avenue	Longview	Education
29	Memorial Stadium	28th Avenue	Longview	Recreation
30	R.A. Long Senior High School	2903 Nichols Blvd.	Longview	Education
31	Monticello Middle School	1225 28th Ave	Longview	Education
32	Kelso High School	1904 Allen Street	Kelso	Education
33	Cascade Middle School	2821 Parkview Drive	Longview	Education
34	Columbia Heights Elementary	2820 Parkview Drive	Longview	Education
35	North Lake Elementary	2210 Olympia Way	Longview	Education
36	Columbia Valley Garden	2644 30th Avenue	Longview	Education

Map No.	Name	Address	City	Type
	Elementary			
37	Kessler Elementary	1902 East Kessler	Longview	Education
38	Mint Valley Elementary	2745 38th Ave	Longview	Education
39	Robert Gray Elementary	4622 Ohio Street	Longview	Education
40	Olympic Elementary	1324 30th Ave	Longview	Education
41	Mount Solo Middle School	5300 Mount Solo Road	Longview	Education
42	Mark Morris High School	1602 Mark Morris Court	Longview	Education
43	Post Office	1603 Larch Street	Longview	Government
44	St. John Medical Center	1615 Delaware Street	Longview	Healthcare
45	Cowlitz Free Medical Clinic	1230 7th Avenue	Longview	Healthcare
46	Senior Center	106 NW 8th Avenue	Kelso	Recreation
47	Barnes Elementary	401 Barnes Street	Kelso	Education
48	Huntington Middle School	500 Redpath Street	Kelso	Education
49	Butler Acres Elementary	1609 Burcham Street	Kelso	Education
50	Caitlin Elementary	404 Long Street	Kelso	Education
51	Wallace Elementary	410 Elm Street	Kelso	Education
52	Carrolls Elementary	3902 Old Pacific Highway	Kelso	Education
53	Rose Valley Elementary	1502 Rose Valley Road	Kelso	Education
54	Coweeman Middle School	2000 Allen Street	Kelso	Education
55	Cowlitz County Health and Human Services	900 Ocean Beach Highway	Longview	Healthcare
56	City Hall/ Library/Utilities/ Court/ Police Department	106 West B Street	Rainier	Government
57	Post Office	207 West A Street	Rainier	Government
58	Hudson Park Elementary	28176 Old Rainier Road	Rainier	Education
59	North Columbia Academy	28168 Old Rainier Road	Rainier	Education
60	Rainier Junior/Senior High School	28170 Old Rainier Road	Rainier	Education
61	Columbia River Fire & Rescue	211 West 2nd Street	Rainier	Fire Department

Figure 6. Public Facilities

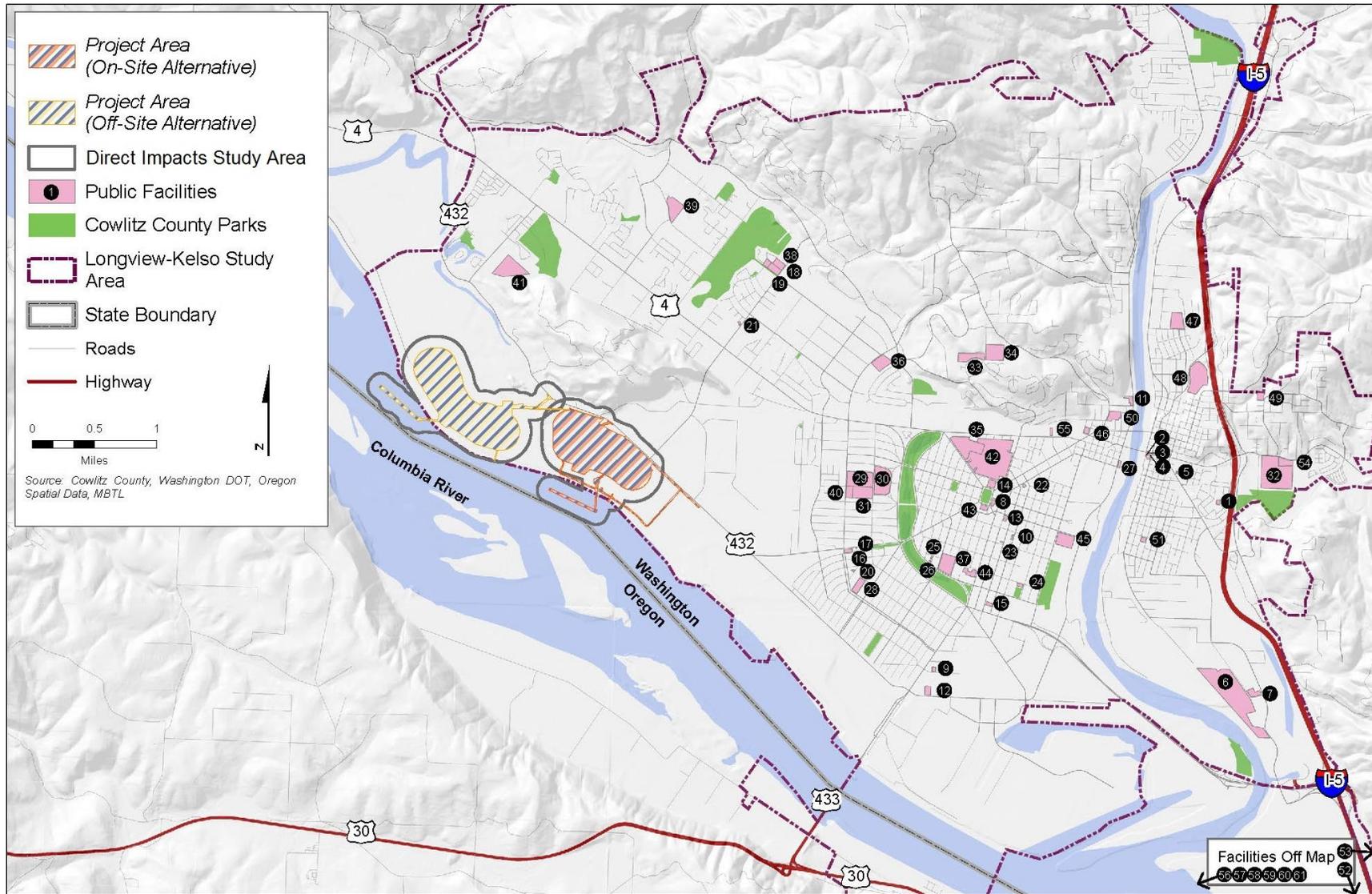
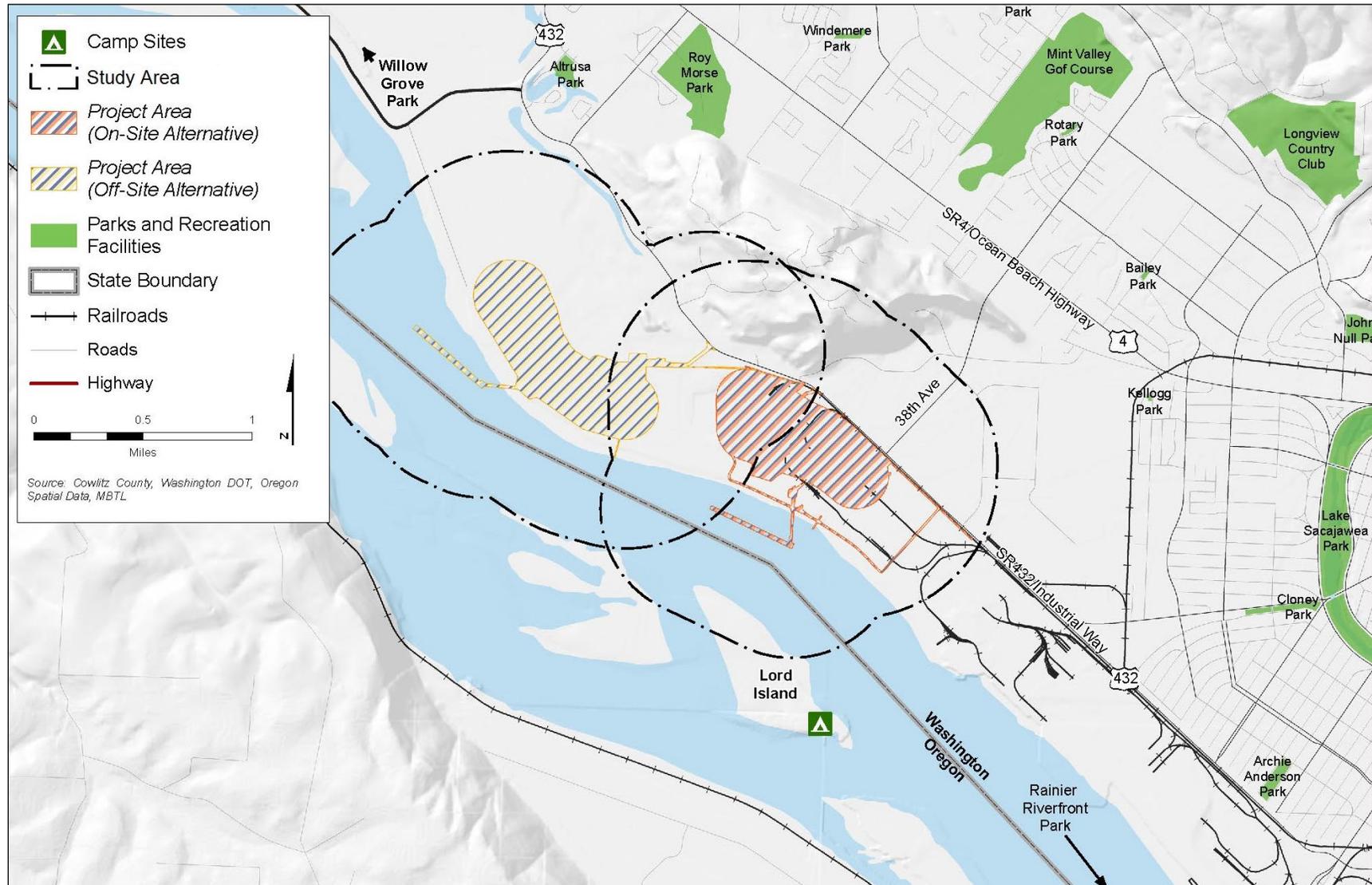


Figure 7. Parks and Recreation Facilities



Agricultural Land Study Area

As discussed above, the study area for agricultural land uses is the project area and the area within 500 feet of the project area. According to Ecology Farm Soil Maps, the entire project area and study area, except for the levees along the Columbia River and slopes on Mount Solo, contain soils designated as “prime farmland,” “prime farmland if drained,” and “prime farmland if irrigated” (Washington State Department of Ecology 2008). However, as noted above, these areas contain predominantly industrial uses and there are no agricultural land uses within the project area or within 500 feet.

2.2.1.2 Zoning

The project area is located in an unincorporated portion of the County; therefore, it is subject to the Cowlitz County Code (CCC). County zoning regulations are established in the Land Use and Development Code (CCC 18.10). The zoning regulations establish permitted uses, various building and lot dimensional standards, and other requirements for development on parcels throughout the county. The zoning regulations are the principal tool for implementing the goals and policies of the *Cowlitz County Comprehensive Plan*.

The following sections discuss the zoning regulations pertaining to the project area.

Direct Impacts Study Area

The project area is zoned Heavy Manufacturing, as shown in Figure 8. Per CCC Chapter 18.10.235, the purpose of the Heavy Manufacturing zone is as follows.

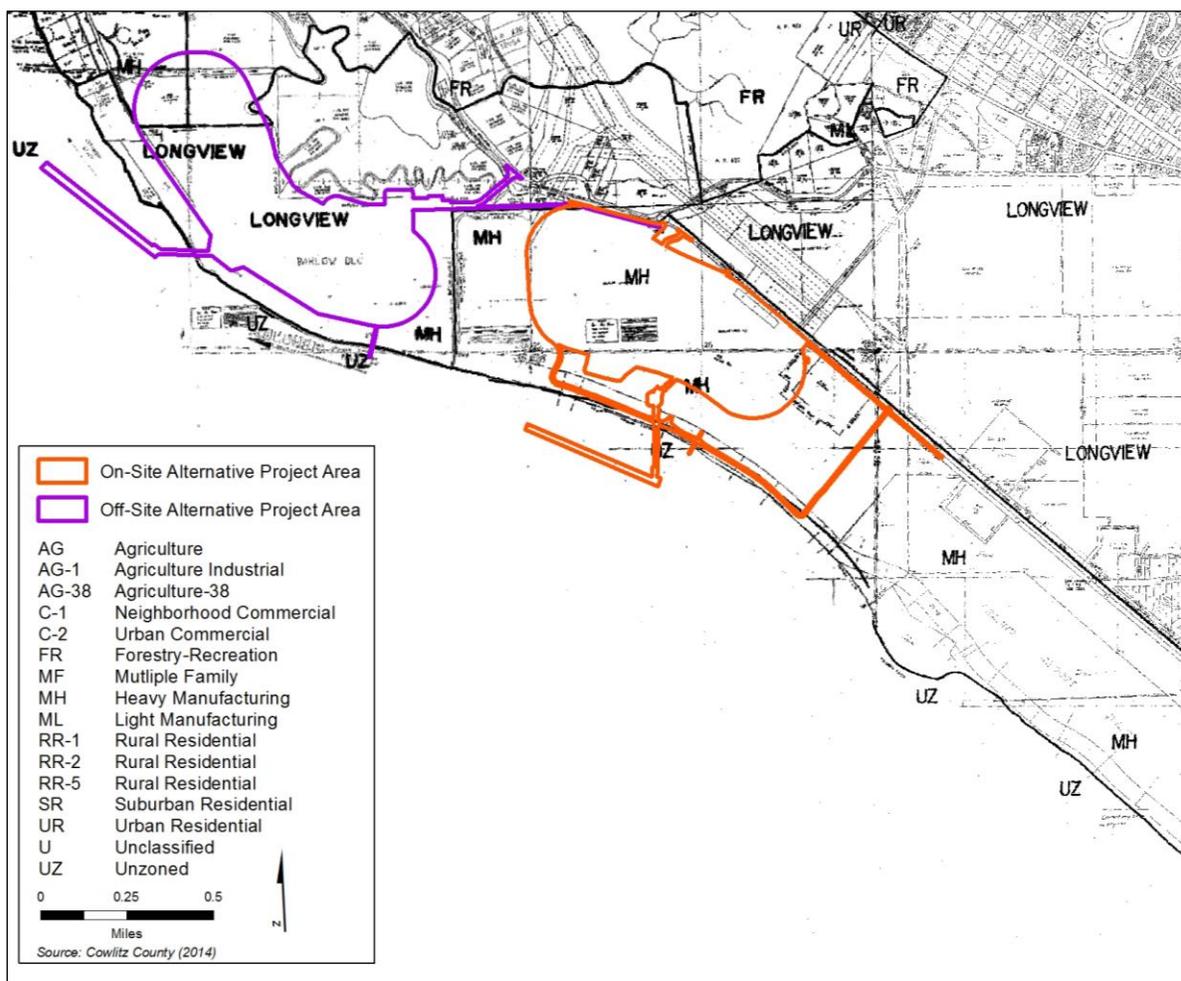
The purpose of this zoning classification is to allow heavy industrial uses or structures where the primary use involves fabrication, manufacturing, assembly, processing and distribution of raw materials, primarily serving nonlocal wholesale and retail markets. Heavy industrial uses may generate some noise, smoke, dust, odors, toxic gases, vibration, glare, heat and other environmental pollutants in conformance with applicable regulations and must be tolerated, to the benefit of the economy and general welfare of the county. Heavy industrial uses are dependent upon rail, water or arterial access to the interstate highway system.

The permitted uses in the Heavy Manufacturing zone are identified in CCC 18.10.236 and include “[s]torage and distribution of petroleum, propane, liquefied gas, coal, and wood.” Minimum standards regarding lot area, setbacks, and lot coverage have not been established for Heavy Manufacturing zones, except for rear and side yard setback requirements for buildings exceeding 35 feet in height.

Unincorporated areas of Cowlitz County are subject to the zoning provisions of CCC 18.10. Areas in Longview are subject to the zoning established by the Longview Municipal Code (LMC) 19.

The zoning designations for parcels within the direct impacts study area are provided in Appendix A, Table A-1. The City of Longview zones these parcels as Heavy Industrial and Mixed Use – Commercial/Industrial (City of Longview 2014b). In addition to the Heavy Industrial and Mixed Use – Commercial/Industrial -zoned parcels, the area also includes state-owned right-of-way associated with SR 432/Industrial Way.

Figure 8. Cowlitz County Zoning Map



LMC 19 states the Heavy Industrial zone is “intended for industrial uses that tend to involve processing of natural and manmade materials into finished goods for sale, and may take place in interior and/or exterior settings. Uses in this district may require some handling of hazardous or flammable materials, may require outdoor storage, and may create some external emissions of noise, odor, glare, vibration, etc., but these are largely contained on-site.” LMC 19 states the Mixed Use – Commercial/Industrial zone is “intended to allow low intensity industrial uses, including light manufacturing, warehousing and distribution, research and development, and regional commercial services. Commercial uses should be compatible to and complement low-intensity industrial uses and provide a convenient business environment for employees and visitors. High quality employment facilities are encouraged, such as corporate office headquarters and technology centers.”

LMC 19.58.030 also establishes dimensional standards for the Heavy Industrial and Mixed Use – Commercial/Industrial zoning districts. These standards establish minimum lot size, frontage, and setbacks, and maximum building heights and maximum impervious area of the lot. In particular, the standards for both districts permit a maximum building height of 60 feet (no more than six stories) and a maximum impervious area of 85%.

2.2.1.3 Land Use Plans and Public Policies

Development in the project area and surrounding study areas is guided by a variety of land use plans and public policies, which include comprehensive plans, shoreline management master programs, transportation plans, critical area regulations, and other specific plans.

The following land use plans and public policies apply to the project area and surrounding area.

Cowlitz County Comprehensive Plan

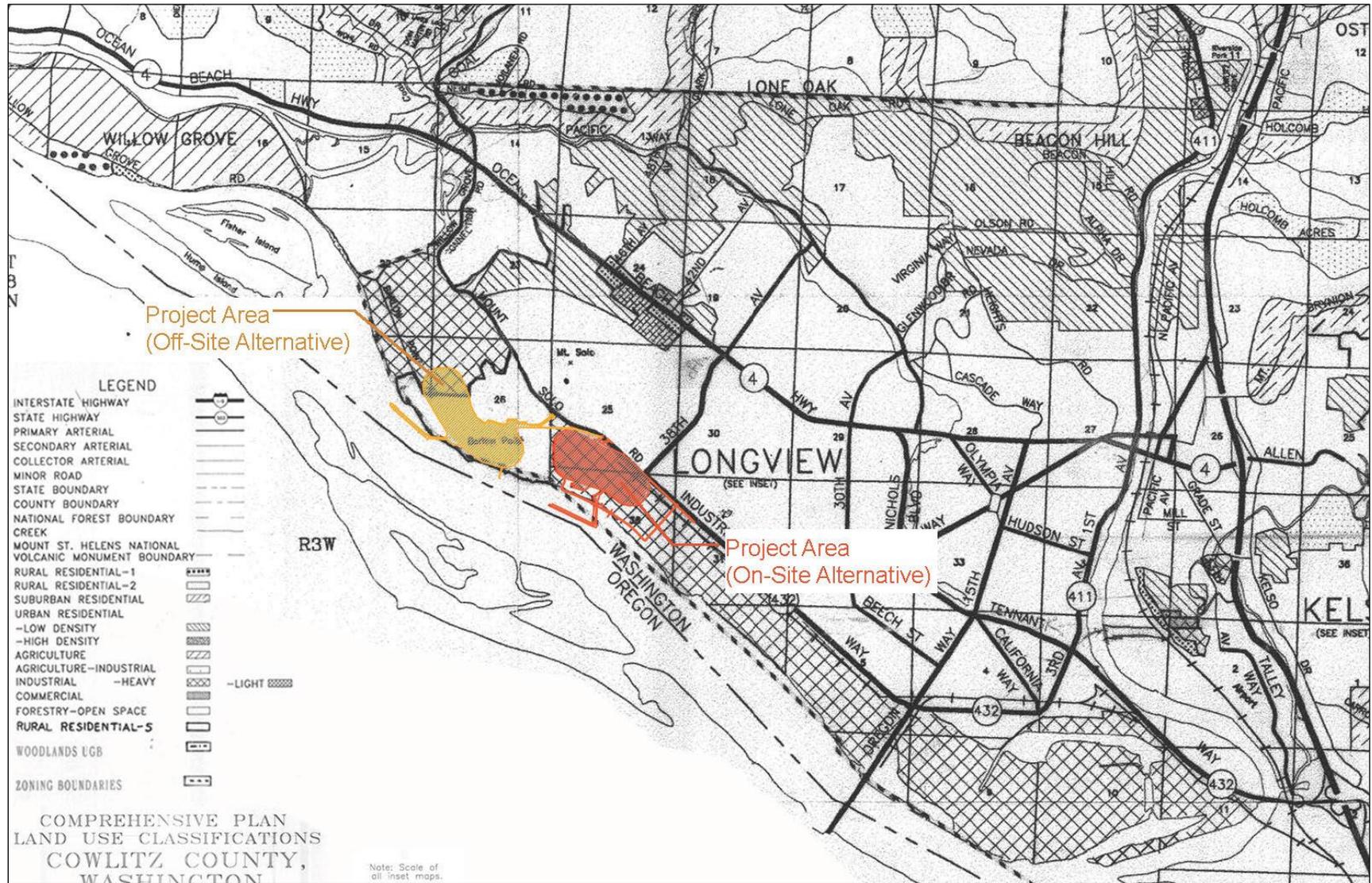
According to the Washington State Growth Management Act (GMA), counties and cities meeting specific population and growth criteria are required to prepare comprehensive plans in accordance with GMA goals. Cowlitz County is not required to fully plan under the GMA, but counties not fully planning under the GMA are still required to prepare a comprehensive plan with elements defined in Revised Code of Washington (RCW) 36.70.330. The County adopted its comprehensive plan in 1976, updated it in 1981, and is currently updating the plan. A draft update of the comprehensive plan is currently in public review, and adoption of the updated comprehensive plan is expected in 2016.

The County's current comprehensive plan designates the project area as Heavy Industrial (Cowlitz County 1976) (Figure 9). The plan states that the purpose of the industrial classification is to "assure the presence of adequate amounts of land for industrial growth in the County." Appropriate uses in the Heavy Industrial designation include lumber and plywood mills, metal manufacturing, sand and gravel operations, foundry or iron works, quarries, agriculture, nonresidential commercial, and forest management and processing (Cowlitz County 1976). Power substations and generating facilities are subject to special use approval, and all residential uses are discouraged.

The County's current comprehensive plan articulates eight goals, each with supporting policies, to further the overall goals of the comprehensive plan and the Heavy Industrial designation.

- Goal A: Provide for adequate land to accommodate a moderate level of economic growth in Cowlitz County.
- Goal B: Encourage development of the necessary supporting services and facilities to support a moderate level of industrial growth consistent with the respective general service and facility plans for the area.
- Goal C: Encourage industrial development that will maintain or enhance the county's environment. Industries requiring shoreline locations should be developed consistent with the Shorelines Management section of this plan.
- Goal D: Industrial development should be encouraged to locate in areas where environmental constraints relating to soils, slopes, geology, and drainage are minor.
- Goal E: Industrial development should be located near existing industrial activities so that special facilities and services required to support industrial activities can be more effectively and efficiently provided, thereby minimizing private and public costs.
- Goal F: Encourage industrial diversifications so that the County's economy is less vulnerable to the cyclical fluctuations of one or two dominant industries.
- Goal G: The location of new industrial activities in prime agriculture areas should be avoided.
- Goal H: Industrial growth in shoreland areas of the County should be planned so that unique recreation and environmental features common to these areas are protected.

Figure 9. Cowlitz County Comprehensive Plan Map



The March 2015 draft comprehensive plan map and April 2015 draft comprehensive plan text that are part of the update designate the project area as Economic Resource Lands – Industrial. The draft comprehensive plan states that the County must provide a balanced distribution of land for industrial activities to accommodate economic growth and outlines two goals and associated policies to identify and protect industrial resource lands (Cowlitz County 2014b). The updated comprehensive plan is currently in review by the Cowlitz County Planning Commission and adoption is anticipated by the Board of County Commissioners in 2016.

A section of the County's current comprehensive plan lists policies and goals related to shoreline management. These are the same goals articulated in the Cowlitz County Shoreline Management Master Program (SMP), and are discussed in the section below.

Cowlitz County Shorelines Management Master Program

The Shoreline Management Act (SMA) applies to all counties and cities that have “shorelines of the state,” as defined in RCW 90.58.030. The SMA requires that these jurisdictions prepare and adopt shoreline master programs that protect natural resources along regulated shorelines and give priorities and preferences, including public access and water-oriented uses within shoreline environments. Each jurisdiction with shorelines of the state must establish shoreline “environment designations” based on physical, biological, and developmental characteristics (Washington State Department of Ecology 2014b). The current Cowlitz County SMP was approved in 1977 and includes four basic shoreline environment designations: natural, conservancy, rural, and urban.

The Columbia River, which borders the project area to the south, is a shoreline of statewide significance. The areas of the project area under shoreline jurisdiction include the Columbia River and all areas within 200 feet of the ordinary high water mark (OHWM). The Cowlitz County SMP designates the shoreline environment at the project area as urban, making it suitable for intensive recreation, residential, industrial, and commercial development (Cowlitz County 1977:22) (Figure 10). The objective of the urban designation is to identify those defined areas that are currently in and potentially capable of such use to satisfy the socioeconomic needs of the present and future population of the County. Figure 11 shows the regulated shoreline jurisdiction within the On-Site Alternative project area.

The Cowlitz County SMP establishes use regulations for 21 shoreline use activities. These use regulations supplement other land use regulations and speak to the shoreline management issues that must be addressed to implement the goals of the SMP. According to these regulations, ports and water-related industries are permitted uses in urban shorelines. The SMP also includes use activity regulations for construction and operations, commercial development (which applies to industrial development as well), roads and railroads, and shoreline works and structures.

To achieve the overall goals of the SMA, the Cowlitz County SMP also outlines a series of specific goals related to circulation, conservation, economic development, historical/cultural, recreation, residential, public access, and shoreline uses. Policies related to ports and water-related industries are identified under the economic development goal of the SMP. The SMP also includes policies related to dredging, shoreline protection works, and piers.

Figure 10. Cowlitz County 1977 Shorelines Designation Map

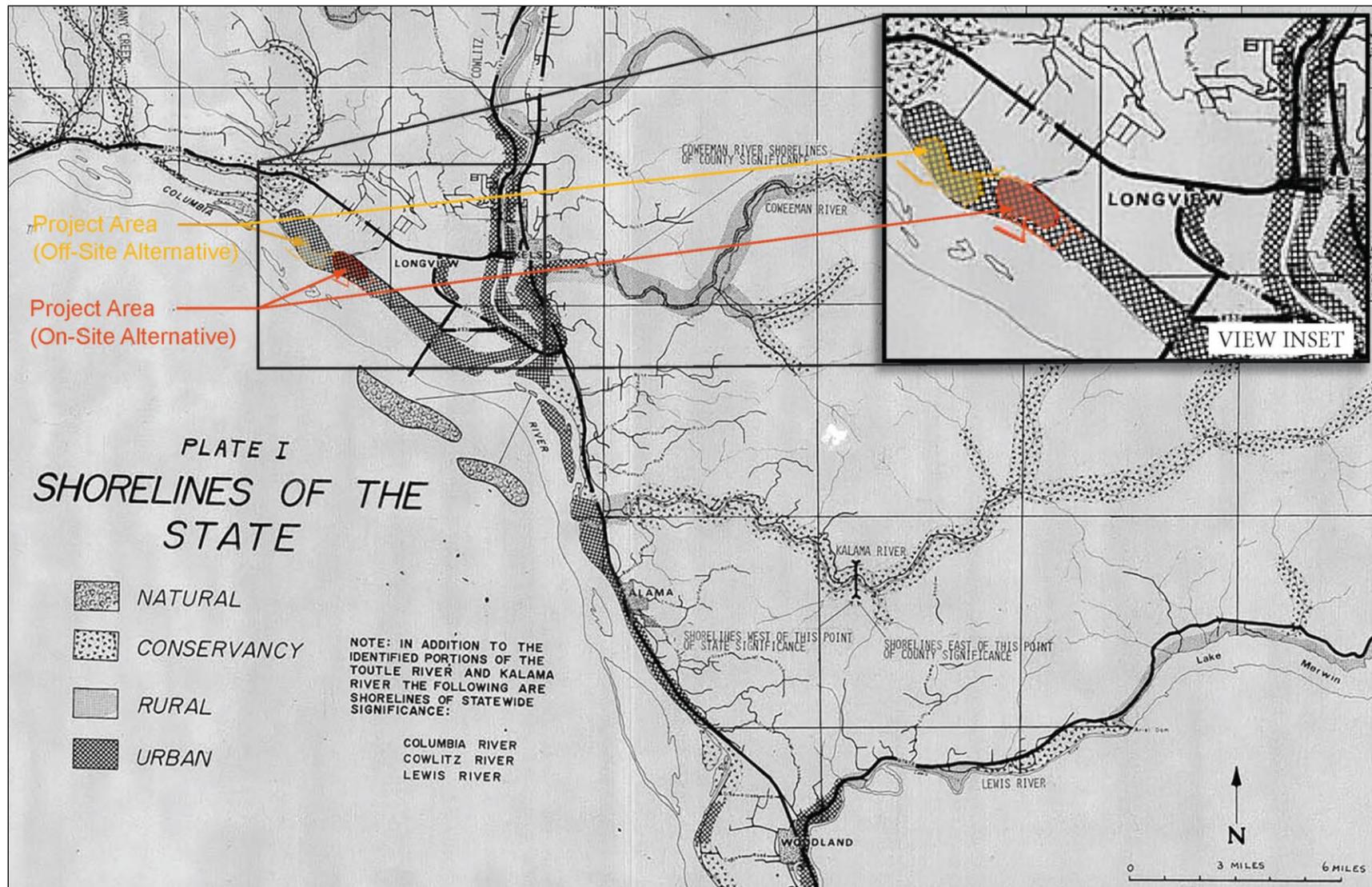
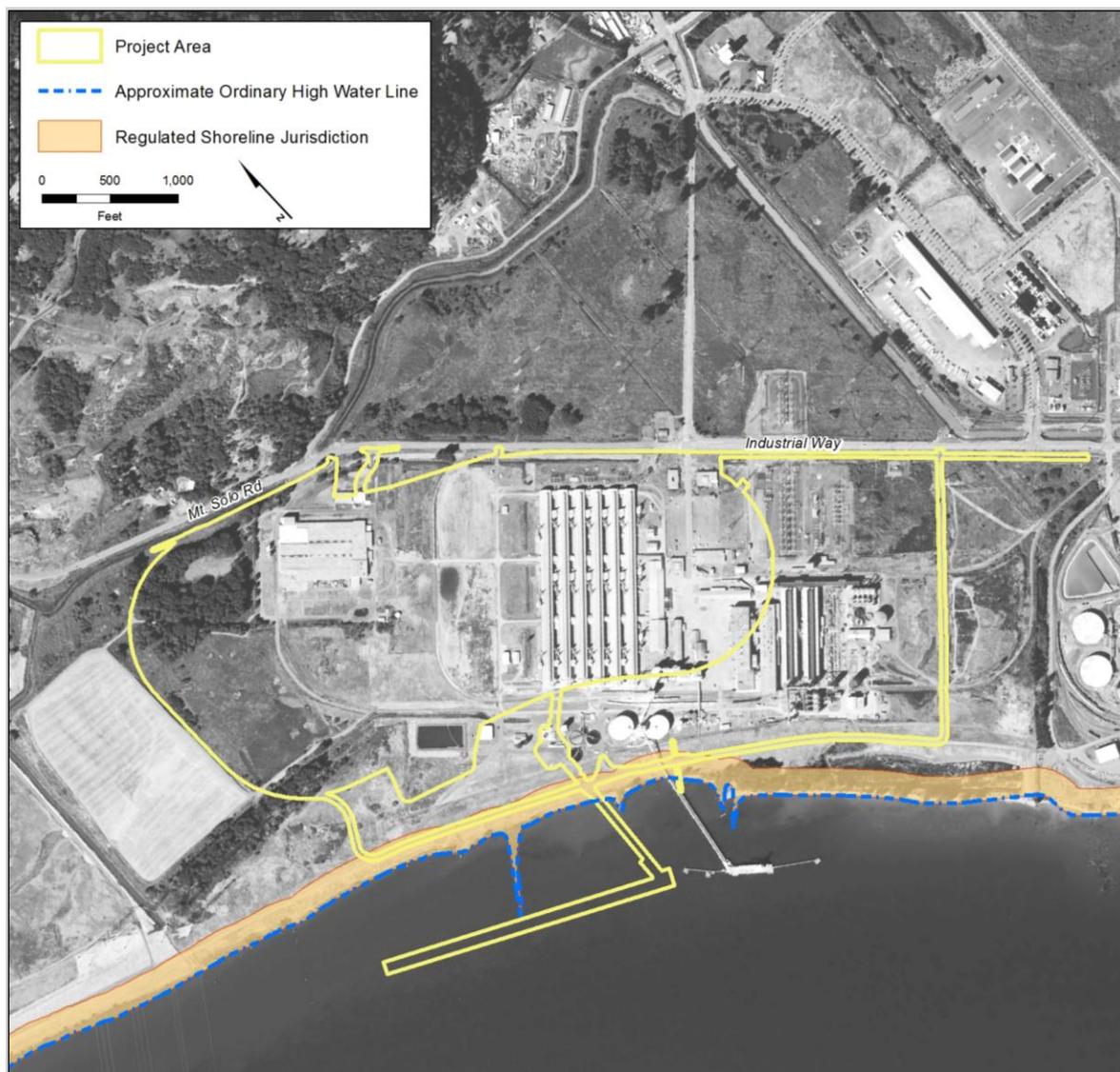


Figure 11. Regulated Shoreline Jurisdiction for the On-Site Alternative

The Cowlitz County SMP is implemented by CCC 19.20, which identifies the submittal requirements and approval process for proposed development activities in a designated shoreline.

Cowlitz County's SMP is undergoing a comprehensive update to meet the requirements of the revised 2003 and 2011 Shoreline Master Program Guidelines based on WAC 173-26. The guidelines set minimum procedural and substantive standards for local governments updating their programs. Updated SMPs are required to account for advancements in science and shoreline management practices and to align with current environmental and land use laws such as the GMA and critical area ordinances. They are also required to plan for preferred uses following a required order of preference that prioritizes uses that protect and restore ecological functions or are water-dependent or water-related. The guidelines also direct that SMPs include policies and regulations to achieve "no net loss of shoreline ecological functions" and plan for shoreline restoration to provide of overall improvements in shoreline ecological function over time.

The draft updated SMP shoreline maps, dated February 15, 2015, designate the shoreline environment at the project area as Heavy Industrial and Aquatic (Cowlitz County 2015). The draft updated SMP is currently undergoing public review and is subject to review and approval by Ecology and adoption by the Board of Commissioners.

Cowlitz County Critical Areas Protection

CCC 19.15 provides protection for designated critical areas. As mandated by the GMA (RCW 36.70A.060), the County is required to develop and adopt a critical areas protection ordinance that designates critical areas in the County and sets out development regulations to ensure their protection. The ordinance must classify, designate, and protect critical areas, which include critical aquifer recharge areas, frequently flooded areas, geological hazard areas, wetland areas, and fish and wildlife habitat conservation areas. The critical areas identified on the upland portions of the project area include geologic hazard areas, critical aquifer recharge areas, and wetlands (URS Corporation 2014a). Frequently flooded areas and fish and wildlife habitat conservation areas are found along the shoreline of and within the Columbia River.

2.2.2 Off-Site Alternative

The following sections describe land uses, zoning, and land use plans and public policies of the project area and study areas for the Off-Site Alternative.

2.2.2.1 Land Use

This section describes the existing land use of the project area and the study areas for the Off-Site Alternative.

Direct Impacts Study Area

The project area for the Off-Site Alternative is approximately 220 acres in an area referred to locally as Barlow Point. Most of the project area is located within Longview city limits and owned by the Port, although a small portion of the project area extends onto privately owned property in unincorporated Cowlitz County.

Historical Land Use

Historically, the project area was used for agricultural activities such as farming and livestock grazing. In recent years, portions of the project area have been used for off-road motorcycle racing and drag racing before the Port acquired the area in 2010. Since this acquisition, the project area has remained vacant.

Current Land Use

The project area is currently undeveloped and contains open land and vegetated areas (Figure 5). The Port owns the portion of the project area within Longview city limits. In 2010, the Port acquired approximately 280 acres of undeveloped land in the Barlow Point area from a private owner to supplement the Port's industrial property that was nearing capacity approximately 4 miles upstream on the Columbia River. The northern portion of the project area is within unincorporated Cowlitz County.

The direct impacts study area for the Off-Site Alternative is bordered by a mix of residential, agricultural, light industrial, transportation, and utility uses. The project area is adjacent to an existing corridor of industrial and transportation/utility land uses along the Columbia River to the southeast.

There are two single-family residential structures in the direct impacts study area along Barlow Point Road. Agricultural land uses occur in the direct impacts study area, north of the project area on parcels within unincorporated Cowlitz County. The closest other residential areas are approximately 0.25 mile north of the project area along Barlow Point Road. Northeast of the project area is the former Mount Solo landfill, CDID #1 ditches, and a transportation/utility land use located between the project area and Mount Solo Road (SR 432). There are also two residential land uses on the north side of Mount Solo Road near the proposed entrance and rail access to the project area. The Applicant's existing 540-acre leased area is east of the project area within 500 feet and includes the closed Black Mud Pond facility, which previously served the Reynolds Metals Company facility. South and east of the project area is Dike Road and a CDID #1, located between the project area and the Columbia River.

While no formally designated recreation sites or activities occur in the upland portion of the direct impacts study area, the Columbia River is used for boating, fishing, and other forms of water recreation. In addition, the 146-mile Lower Columbia River Water Trail, which extends from Bonneville Dam to the mouth of the Columbia River, passes by the project area (Lower Columbia Estuary Partnership 2014).

Appendix A, Table A-2, lists properties located within 500 feet of the boundaries of the project area and the primary land use.

Indirect Impacts Study Area

The indirect impacts study area for the Off-Site Alternative is the same as the indirect impacts study area for the On-Site Alternative, as described in Section 2.2.1, *On-Site Alternative*.

Parks and Recreation Study Area

There are no parks and recreation facilities in the project area for the Off-Site Alternative or within 0.5 mile of it. As with the On-Site Alternative, the Lower Columbia River Water Trail passes by the project area. Primitive campsites are located on Lord and Walker Islands, approximately 0.5 to 1 mile from the project area and Roy Morse Park is located approximately 1 mile north of the project area. A portion of Dike Road adjacent to the project area has been identified as a potential trail in the Cowlitz Regional Trails Plan (Cowlitz Wahkiakum Council of Governments 2006).

Agricultural Land Study Area

According to Ecology farm soil maps, the entire project area and surrounding indirect impacts study area, except for the levees along the Columbia River, contain soils designated as "prime farmland if drained" and "prime farmland if irrigated" (Washington State Department of Ecology 2008). As noted previously, the northern portion of the project area extends onto privately owned parcels that contain agricultural uses. Adjacent parcels within 500 feet to the north also contain agricultural uses.

2.2.2.2 Zoning

As noted previously, the project area is located in Longview and unincorporated Cowlitz County. Zoning for these two jurisdictions is discussed separately below.

Cowlitz County Zoning

The portion of the project area within unincorporated Cowlitz County is located in the Heavy Manufacturing zone and the Forestry-Recreation zone (Figure 8). As discussed above, the purpose of the Heavy Manufacturing zoning classification is to allow Heavy Industrial uses, including those that may generate noise, smoke, dust, and other environmental pollutants and those that are dependent on access to rail, water, and highway transportation systems. Per CCC 18.10.255, the purpose of the Forestry-Recreation zone is

...to provide for the maintenance of a stable commercial forest land base for the development and sustained production of forest products and to protect this resource from the intrusion of incompatible uses.

City of Longview Zoning

The portion of the project area within Longview is zoned Heavy Industrial (Figure 12). As discussed above, the Heavy Industrial zone is “intended for industrial uses that tend to involve processing of natural and manmade materials into finished goods for sale, and may take place in interior and/or exterior settings. Uses in this district may require some handling of hazardous or flammable materials, may require outdoor storage, and may create some external emissions of noise, odor, glare, vibration, etc., but these are largely contained on-site.” LMC 19.58.030 also establishes dimensional standards for the Heavy Industrial zoning district, such as minimum lot size, frontage, and setbacks, and maximum building heights and maximum impervious area of the lot. In particular, the standards for the district permit a maximum building height of 60 feet (no more than six stories) and a maximum impervious area of 85% of the lot.

2.2.2.3 Land Use Plans and Public Policies

The following sections describe the City of Longview and Cowlitz County land use plans and policies that are applicable to the Off-Site Alternative.

City of Longview and Cowlitz County Comprehensive Plans

The City of Longview comprehensive plan designates the southern portion of the Off-Site Alternative project area as Heavy Industrial and the northern portion as Mixed-Use Residential/Commercial (City of Longview 2014b) (Figure 13). The *City of Longview Comprehensive Plan* describes the Heavy Industrial designation as follows.

This classification recognizes areas currently used or suitable for heavy industry because of good vehicular access, rail access, waterfront access, or proximity to existing heavy industry. Heavy industrial uses tend to involve processing of natural and manmade materials into finished goods for sale, and may take place in interior and/or exterior settings. Uses in this district may require some handling of hazardous or flammable materials, may require outdoor storage, and may create some external emissions of noise, odor, glare, vibration, etc., but these are largely contained on-site, and, where possible, such uses are buffered from sensitive uses.

Figure 12. City of Longview Zoning Map

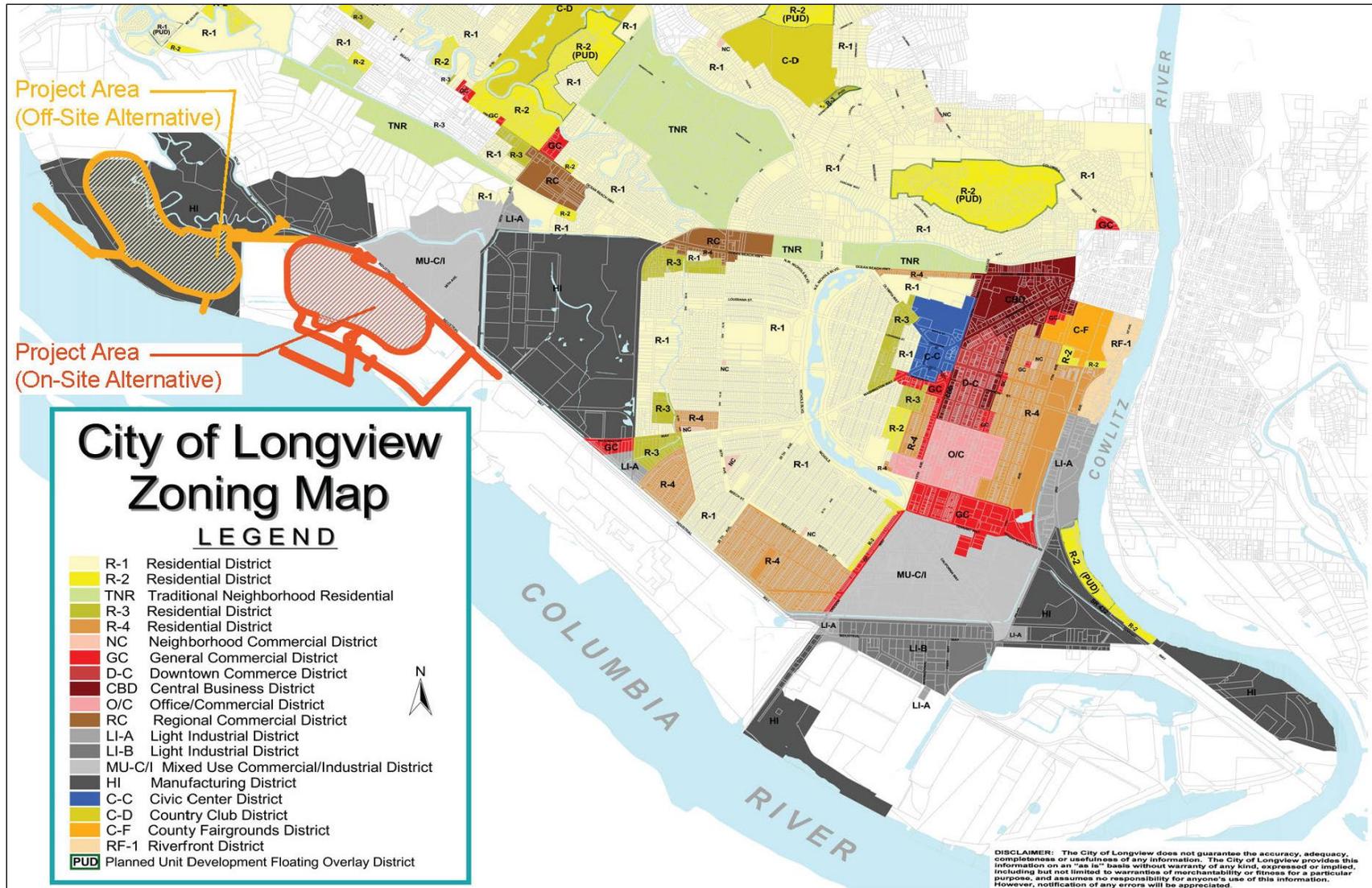
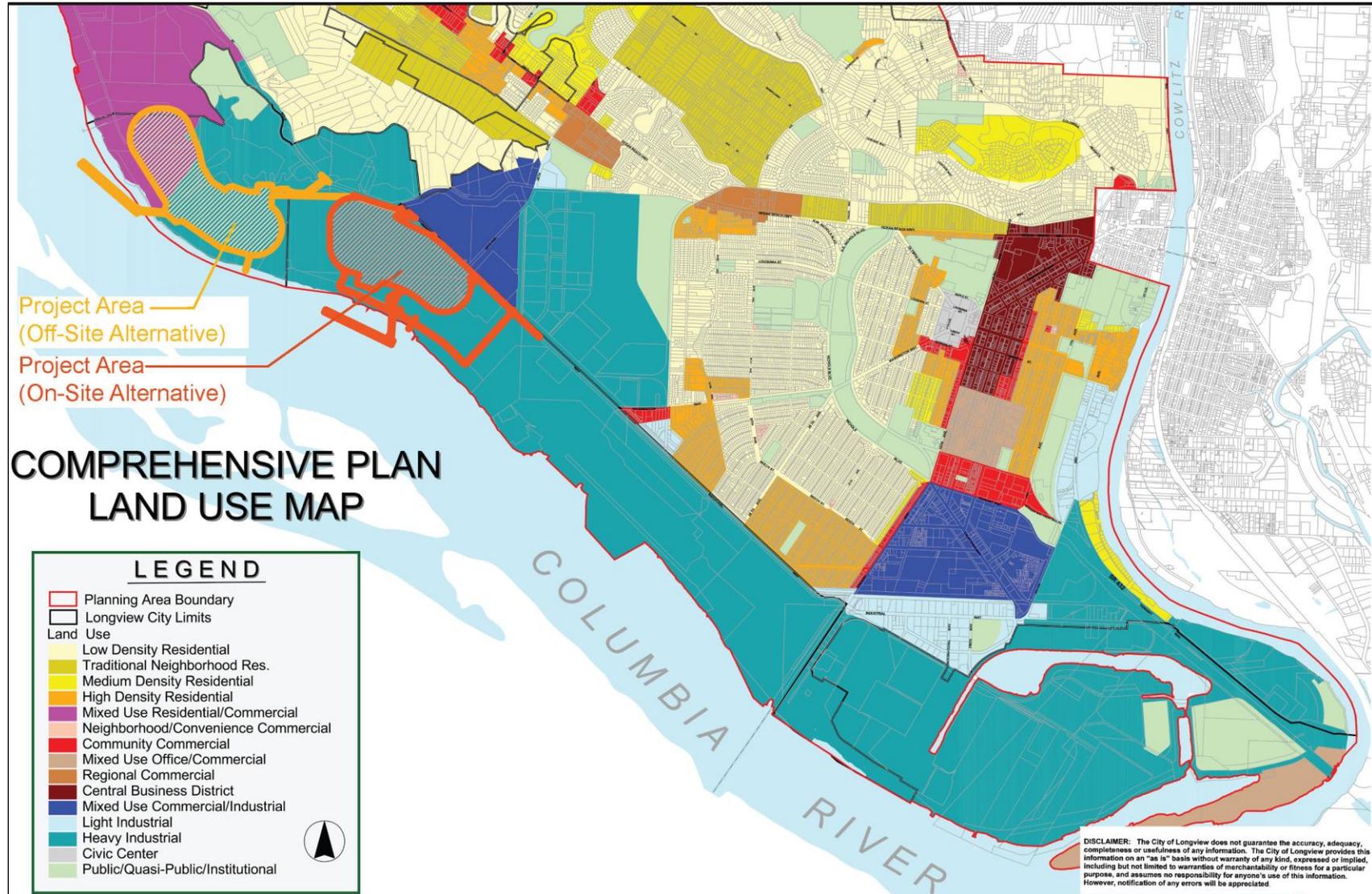


Figure 13. City of Longview 2006 Comprehensive Plan Map



Appropriate uses within the Heavy Industrial designation include manufacturing and fabrication, warehousing and storage, wholesale distribution, product processing and packaging, energy production, and shipping.

The *City of Longview Comprehensive Plan* describes the Mixed-Use Residential/Commercial designation as follows.

This designation is intended to encourage an integration of residential, village style commercial, waterfront commercial, and office uses under a planned development process, which encourages creativity in site planning by allowing flexibility in lot and building arrangements and a mix of uses. "Village-style commercial" is intended to mean locally oriented retail, restaurants, and services that are placed in a node rather than in a strip, and that are designed in a pedestrian friendly, human scale character. Large-scale developments containing only single uses are discouraged within this classification.

The Mixed-Use Residential/Commercial designation of the project area is inconsistent with the City of Longview's Heavy Industrial zoning of the project area. The Port of Longview has filed an application to change the Mixed-Use Residential/Commercial designation within the Off-Site Alternative project area to a Heavy Industrial designation. In late 2015, the City of Longview City Council postponed the public hearing on this application until the City of Longview Planning Commission completes its update of the city's comprehensive plan (City of Longview 2015c).

The County's comprehensive plan designates the portion of the project area within the County as Heavy Industrial. The purpose and goals of the industrial classification are discussed in Section 2.2.1.3, *Cowlitz County Comprehensive Plan*. The County's draft updated comprehensive plan designates the portion of the project area within unincorporated Cowlitz County as Economic Resource Lands – Industrial.

City of Longview Shoreline Master Program

The Columbia River, which borders the project area to the south and west, is a shoreline of statewide significance. The areas of the project area under shoreline jurisdiction include the Columbia River and all areas within 200 feet of the OHWM. The Off-Site Alternative would result only in activities within the City of Longview's regulated shoreline area.

The City of Longview Shoreline Master Program designates the shoreline environment adjacent to the project area as High Intensity (City of Longview 2015a). As stated in the City of Longview Shoreline Master Program, "the purpose of the High Intensity environment is to provide for high intensity water-oriented commercial, transportation, and industrial uses while protecting existing shoreline ecological functions and restoring ecological functions in areas that have been previously degraded" (City of Longview 2015b).

The in-water activities associated with the project area would fall within the Aquatic shoreline designation. The purpose of the Aquatic designation "is to protect, restore, and manage the unique characteristics and resources of the area waterward of the OHWM." The Aquatic designation at this location may permit dredging activities in support of a water-dependent use, if the City of Longview finds that the need is demonstrated, and it permits new mooring structures for water-dependent uses or public access. There is also a small area designated as Urban Conservancy adjacent to the project area, but because the Off-Site Alternative would not result in any activities in this area, this designation would not apply to the Off-Site Alternative.

The City of Longview Shoreline Master Program includes a series of overall policy goals and objectives related to shoreline use, public access, restoration, circulation, conservation, economic development, flood-risk management, recreation, and educational, historical, and cultural considerations. Of these, the economic development goal is particularly relevant to the Off-Site Alternative. The economic development goal generally seeks to ensure healthy and orderly economic growth. This goal is supported by an objective related to new development, which states “[n]ew water-oriented and non-water-oriented industrial, commercial, and resource-based activities that can be adequately mitigated for to ensure that the activity will not harm the quality of the site’s environment, adjacent shorelands, or water quality are encouraged along the shoreline.”

City of Longview and Cowlitz County Critical Areas Protection

Longview Municipal Code (LMC) 17.10 and 17.12 provide protection for designated critical areas within Longview. Critical areas identified on the project area include critical aquifer recharge areas, wetlands, fish and wildlife habitat areas, and geologically hazardous areas (URS Corporation 2014b). The Cowlitz County critical areas ordinance (CCC 19.15) would apply to the portions of the project area located within unincorporated Cowlitz County.

Port of Longview Comprehensive Scheme of Harbor Improvements

Ports in Washington State are required to adopt a comprehensive scheme of harbor improvements under RCW 53.20.010, *Adoption of Harbor Improvement Plan*. Land holdings and properties owned by the Port are subject to the *Port of Longview Comprehensive Scheme of Harbor Improvements*, a document that describes the Port’s existing facilities and defines its plans for future investment, operation, and development of its properties (Port of Longview 2011a). The Off-Site Alternative project area is part of the 280 acres of land owned by the Port at Barlow Point and has been designated for future development. The Port’s comprehensive scheme states that at Barlow Point “long-term uses have yet to be determined; however, it is anticipated that long-term development will include a marine facility, as well as other industrial activities as allowed in a Heavy Industrial designation.” The comprehensive scheme further states “the Barlow Point property will continue to be maintained in its present state in the short term until the Port is ready for marketing and development of the property.” The document indicates, “it is under consideration to increase the acreage committed to farming until development plans are considered. In the interim, the Port will begin preliminary site planning analysis for infrastructure needs such as rail, roadways and utilities in anticipation of future marine and industrial development.” Port of Longview Master Plan Report

Approved in June 2011, the *Port of Longview Port Master Plan Report* was developed to help the Port identify new cargo opportunities, determine the best use of existing Port facilities, and provide an analysis to support the rail system (Port of Longview 2011b). The master plan is intended to provide flexible, market-driven guidelines for the future development of Port facilities. The Off-Site Alternative project area is owned by the Port of Longview and is identified in the master plan as a development site that will allow the Port to develop both its terminal and industrial properties to meet future demands and opportunities.

In addition to developing its overall master plan, the Port has also prepared the Barlow Point Master Plan specifically addressing port properties in the project area. The Port is continuing to study its properties within the Off-Site Alternative project area.

This chapter describes the impacts on land use that would result from construction and operation of the On-Site Alternative or the Off-Site Alternative, or the conditions under the No-Action Alternative.

3.1 On-Site Alternative

Overall, the On-Site Alternative would affect the land use of the project area by redeveloping it with an export terminal that would include a rail loop system and rail unloading facilities, coal handling and stockpile areas, and shiploading facilities (including two new docks in the Columbia River). Construction activities associated with the On-Site Alternative would also affect land use. These activities would include building demolition, site preparation (e.g., clearing, grading, and earthwork), ground preloading in preparation for coal stockpiles, equipment installation, rail loop construction, and dredging and in-water construction.

The following sections describe the potential land use impacts attributable to the construction and operation of the On-Site Alternative.

3.1.1 Construction: Direct Impacts

The NEPA Alternatives Technical Report describes construction-related activities in the project area. These activities would not change land use in the project area. The project area is currently in industrial use and would remain in industrial use upon completion of the construction activities.

3.1.2 Construction: Indirect Impacts

Construction of the On-Site Alternative would not result in indirect impacts on land use because it would be limited to the project area and construction activities would not affect land use outside the project area.

3.1.3 Operations: Direct Impacts

As noted above, the study area for direct impacts has been defined as the project area and the area within 500 feet of it. The following direct impacts on land use may result from the operation of the On-Site Alternative.

3.1.3.1 Land Use

Modify Existing Land Uses on the Project Area

The On-Site Alternative would redevelop the project area with an export terminal that would include a rail loop system and rail unloading facilities, coal handling and stockpile areas, shiploading facilities (including two new docks in the Columbia River), and associated rail and coal handling facilities. This would constitute a new heavy industrial use in the project area, replacing the existing low-intensity industrial use. However, because the project area and

surrounding area already contain industrial uses, the On-Site Alternative would not change the land use character of the project area substantially and would be generally consistent with other land uses in the direct impacts study area, except for the two single-family residential uses, as discussed below. As discussed above, land use within the direct impacts study area is already characterized by the presence of many industrial and transportation/utility land uses. The On-Site Alternative would be consistent with these industrial and transportation/utility land uses, including the existing bulk products terminal that would continue to operate within the 540-acre leased area, as well as the Weyerhaeuser facility, the Port Industrial Marine property, and the Mint Farm Industrial Park located just outside the direct impacts study area. Although the On-Site Alternative would increase activity on the project area as compared to current conditions, it should be noted that employment activity with the On-Site Alternative would be similar to historical employment on the project area.

Because of the change in land use on the project area, surrounding uses and the Columbia River may experience other impacts related to water quality, noise and vibration, coal dust, wake action on the shoreline, erosion, and vessel transportation. These potential impacts are addressed in the NEPA Water Quality Technical Report (ICF International 2016d), NEPA Noise Technical Report (ICF International 2016e), NEPA Air Quality Technical Report (ICF International 2016f), NEPA Geology and Soils Technical Report (ICF International 2016g), NEPA Fish Technical Report (ICF International 2016h), and NEPA Vessel Transportation Technical Report (ICF International 2016c).

Introduce New, Intensive Industrial Use near Residential Land Uses

Two single-family residential uses are located adjacent to the project area within the direct impacts study area. These uses currently coexist with existing industrial uses on the project area and nearby. Therefore, the On-Site Alternative would not affect the adjacent residential uses directly with respect to land use compatibility. Potential impacts on these residential uses related to noise, air quality, and transportation (i.e., vehicular and rail traffic) are discussed in the respective technical reports.

3.1.3.2 Parks and Recreation Facilities

For parks and recreation facilities, the study area for direct impacts has been defined as the project area and the area within 0.5 mile of the project area as well as the Willow Grove and Rainier Riverfront Park boat launches along the Columbia River. As discussed above, there are no parks and recreation facilities within the project area or the half-mile study area; the nearest parks are approximately 1 mile away from the project area. The On-Site Alternative would not have the potential to directly affect parks and recreation land uses because of the distance between the project area and such uses.

The On-Site Alternative would not affect the continued use of the Columbia River for recreation purposes, nor would it have any impact on the Willow Grove and Rainier Riverfront Park boat launches. There are no other parks or recreation facilities in the study area. Therefore, the On-Site Alternative would not result in any direct impacts on parks and recreation facilities.

3.1.3.3 Agricultural Areas

As discussed above, there are no agricultural land uses within the study area. Therefore, the On-Site Alternative would not result in any direct impacts on agricultural land uses.

3.1.4 Operations: Indirect Impacts

Operation of the terminal at the On-Site Alternative location would result in the following indirect impacts. As discussed above, the study area for indirect impacts is the Longview-Kelso urban area and other nearby unincorporated areas of Cowlitz County.

3.1.4.1 Land Use

The On-Site Alternative would be compatible with land use conditions within the broader indirect impacts study area. The On-Site Alternative would be consistent with the existing concentration of industrial land uses along the Columbia River, in particular with the Weyerhaeuser and Port facilities upstream from the project area. Downstream from the project area, the closed Black Mud Pond facility would separate the On-Site Alternative from the currently undeveloped Barlow Point property. Furthermore, the Port may redevelop the Barlow Point property in the future, and such port-related land uses, which are expected to include a marine facility and other industrial activities as discussed in the Port's Comprehensive Scheme of Harbor Improvements, would be compatible with the On-Site Alternative land use. The large-lot residential and agricultural land uses downstream from Barlow Point are approximately 1 mile from the project area and would be separated from the project area by the Barlow Point property and the closed Black Mud Pond facility. Therefore, the land use conditions in this area would not be impacted by the On-Site Alternative.

The On-Site Alternative would not indirectly affect land use conditions elsewhere in the indirect impacts study area. Most land uses outside the corridor of industrial and transportation/utility uses along the Columbia River are separated from the project area by at least 1 mile. Furthermore, the nearest residential uses to the north on Mount Solo (aside from the two residences adjacent to the project area) are located approximately 0.5 to 0.75 mile from the project area and are buffered by dense vegetation on Mount Solo. More densely developed residential neighborhoods to the north are buffered from the project area by Mount Solo. Land uses within the Rainier, Oregon portion of the study area would continue to be separated from the project area by the Columbia River and thus the On-Site Alternative would not affect land use conditions in the Rainier area.

The On-Site Alternative would result in increased rail traffic due to coal being transported to the project area, but this traffic would not affect land use conditions along the rail lines in the study area. Land uses adjacent to the rail lines currently coexist with rail traffic, including the transportation of coal, and the On-Site Alternative would not change the land uses along the rail corridors. The On-Site Alternative would also result in increased commercial ship traffic along the Columbia River and, as discussed above, the Columbia River is already used for marine transportation, and the additional ship traffic would be consistent with this ongoing use.

As discussed in the NEPA Vessel Transportation Technical Report (ICF International 2015c), the On-Site Alternative would result in approximately 840 vessel calls per year during full operation. This increase in vessel traffic and the potential impacts associated with it are discussed in detail in the Vessel Transportation Technical Report. The potential impacts from propeller wash and ship wakes are discussed in the NEPA Water Quality Technical Report (ICF International 2016d) and NEPA Fish Technical Report (ICF International 2016h), respectively.

Overall, the development of the On-Site Alternative would not affect land use trends or conditions throughout the indirect impacts study area.

3.1.4.2 Parks and Recreation Facilities and Agricultural Land

Operating the proposed terminal at full capacity would introduce approximately 70 additional ships per month (840 per year) to the Columbia River. Although the On-Site Alternative would add commercial ship traffic to the river, recreational users (such as those using the river for fishing or boating) currently must take account of commercial vessels, including large oceangoing ships. With the additional vessels, the On-Site Alternative would result in an approximate 46% increase over current river vessel traffic.⁵ While this would be a substantial increase, the vessels would operate in the navigation channel except when arriving or departing the proposed docks under the assistance of tugs, and operations would be similar to current vessel traffic. Recreational boats are smaller and are not limited to using the navigation channel, and the Willow Grove and Rainier Riverfront Park boat launches are distant from the project area. Therefore, it is not expected that recreational boaters would be substantially affected by vessels and tugs using the proposed docks. The On-Site Alternative would not result in indirect impacts on parks and recreation facilities or on agricultural land.

3.1.5 Consistency with Zoning

The On-Site Alternative would be consistent with the stated purpose of the existing Heavy Manufacturing zoning designation and would comply with the permitted uses and associated development standards and requirements. The purpose of the existing Heavy Manufacturing zone is to allow heavy industrial uses, including those that are dependent on rail and water access. The On-Site Alternative would introduce an export terminal dependent on rail and marine transportation and thus would be consistent with the purpose of the Heavy Manufacturing zone. As discussed above, the “[s]torage and distribution of petroleum, propane, liquefied gas, coal, and wood” is a permitted use in Heavy Manufacturing zones (CCC 18.10.236). Therefore, the proposed export terminal would be a permitted use. Furthermore, minimum standards regarding lot area, setbacks, and lot coverage have not been established for Heavy Manufacturing zones, except for rear and side yard setback requirements for buildings exceeding 35 feet in height (CCC 18.10.501). The On-Site Alternative would comply with the limited rear and side yard setback requirements for any proposed structures exceeding 35 feet in height.

As the On-Site Alternative would not alter the existing zoning of the project area, it would continue to be consistent with zoning in the surrounding area, which includes the City of Longview’s Heavy Industrial and Mixed Use – Commercial/Industrial districts within 500 feet of the project area. Overall, the On-Site Alternative would not result in any impacts on zoning.

3.1.6 Consistency with Land Use Plans and Public Policies

3.1.6.1 Cowlitz County Comprehensive Plan

As discussed above, the current *Cowlitz County Comprehensive Plan* designates the project area as Heavy Industrial. The purpose of this classification is to “assure the presence of adequate amounts of land for industrial growth in the County.” The On-Site Alternative would maintain and expand the industrial use of the project area and would be consistent with the comprehensive plan designation.

⁵ Based on 2014 large commercial vessel traffic in the Columbia River according to Bar Pilots records, which was 3,638 transits or 1,819 vessels. See *Vessel Transportation Technical Report*.

Furthermore, the currently effective, adopted comprehensive plan articulates several goals regarding industrial development that are applicable to the On-Site Alternative. The On-Site Alternative would be consistent with these goals, as analyzed below.

- **Goal A: Provide for adequate land to accommodate a moderate level of economic growth in Cowlitz County.** The project area is designated for heavy industrial use, and as such is part of the land designated by the County to fulfill this goal. Therefore, the On-Site Alternative would be supportive of Goal A.
- **Goal B: Encourage development of the necessary supporting services and facilities to support a moderate level of industrial growth consistent with the respective general service and facility plans for the area.** The On-Site Alternative would redevelop an existing industrial site and would add to an existing concentration of industrial uses. Therefore, the On-Site Alternative would be consistent with this goal.
- **Goal C: Encourage industrial development that will maintain or enhance the county's environment. Industries requiring shoreline locations should be developed consistent with the Shorelines Management section of this plan.** Consistent with the comprehensive plan policies related to this goal, the Applicant would be required to adhere to all federal, state, and local laws regarding pollution abatement and would seek to minimize nuisances related to industrial activity by implementing best management practices to minimize and control fugitive dust emissions, noise, and stormwater runoff.
- **Goal D: Industrial development should be encouraged to locate in areas where environmental constraints relating to soils, slopes, geology, and drainage are minor.** The On-Site Alternative would be located on an area that is currently developed with and designated for industrial uses. The Applicant's project design is intended to address any environmental constraints on the project area.
- **Goal E: Industrial development should be located near existing industrial activities so that special facilities and services required to support industrial activities can be more effectively and efficiently provided, thereby minimizing private and public costs.** The On-Site Alternative would be located on an existing industrial site in close proximity to several other large industrial uses, including the Weyerhaeuser facility, the Mint Farm Industrial Park, and the Port. Furthermore, the project area is zoned for heavy industrial uses and designated as Heavy Industrial in the County's comprehensive plan.
- **Goal F: Encourage industrial diversifications so that the County's economy is less vulnerable to the cyclical fluctuations of one or two dominant industries.** The On-Site Alternative would introduce a major new bulk commodity export terminal to the County, which would bring new economic activity to an existing underutilized industrial site.
- **Goal G: The location of new industrial activities in prime agriculture areas should be avoided.** The On-Site Alternative would be located on an existing industrial site designated for industrial use. There are no active agricultural uses on the project area or within 500 feet of the project area.
- **Goal H: Industrial growth in shoreland areas of the County should be planned so that unique recreation and environmental features common to these areas are protected.** The policies pertaining to this goal identify four specific shoreline areas that require special planning. These areas are Cottonwood Island, the industrial area north of the mouth of the Kalama River, Austin Point near the confluence of the Columbia and Lewis Rivers, and a portion

of the Woodland Bar north of Austin Point. The On-Site Alternative would not be located in any of these areas. Therefore, this goal does not apply to the On-Site Alternative.

Overall, the On-Site Alternative would be consistent with the *Cowlitz County Comprehensive Plan* because it would maintain and expand the industrial use of the project area and would be supportive of the plan's various policies related to industrial land uses.

The On-Site Alternative would also be consistent with the Economic Resource Lands – Industrial designation of the project area in the draft updated Cowlitz County Comprehensive Plan. By redeveloping an existing industrial site with a new, active industrial use, the On-Site Alternative would be supportive of the draft comprehensive plan goals to identify and protect industrial land.

3.1.6.2 Cowlitz County Shorelines Management Master Program

The On-Site Alternative would result in development within the shoreline area regulated by the County SMP. It designates the shoreline environment at the project area as urban, which includes areas suitable for intensive recreation, residential, industrial, and commercial development. The On-Site Alternative would be consistent with the objective of the urban designation. Furthermore, ports and water-related industries, such as those contemplated in the On-Site Alternative, are permitted uses on urban shorelines per the SMP.

Cowlitz County's SMP is undergoing a comprehensive update to meet the requirements of the revised 2003 and 2011 Shoreline Master Program Guidelines based on WAC 173-26. The proposed industrial use is a preferred use under the Shoreline Management Act as a water-dependent use.

Dredging and the installation of the new docks, which may occur under the On-Site Alternative, is a conditional use on urban shorelines. Therefore, new development on the project area would require an SSDP from Cowlitz County for any new structures within the shoreline jurisdiction, and a Conditional Use Permit from Cowlitz County for proposed dredging activities.

Specifically, the On-Site Alternative would dredge an estimated 500,000 cubic yards of material to provide access from the Columbia River navigation channel and berthing at Docks 2 and 3. The On-Site Alternative would also require construction activities both in-water and above-water and waterward of the ordinary high water line for the approach trestle and entire dock structure for Docks 2 and 3. The Applicant currently anticipates up to 2 years of in-water work (over two approved in-water work windows) to complete Docks 2 and 3 and the associated trestlework, depending on permit restrictions. Work windows would be scheduled to avoid and minimize impacts on various natural resources, most notably federally protected fish species. In-water construction would primarily involve dredging, pile driving and pile removal (pile dikes) and would use barge-based equipment and purpose-built vessels, although some work would likely be supported from land. Piles would be driven and removed via vibratory methods. Potential impacts from dredging and in-water construction associated with the proposed docks are described in the NEPA Water Quality Technical Report (ICF International 2016d).

The On-Site Alternative's consistency with the applicable policies and use activity regulations of the SMP are discussed in Table 3 and Table 4 below.

Table 3. Cowlitz County SMP Applicable Policies and Goals

Policy & Goal	Response
Goal: Economic Development	
5. Ports and Water-Related Industry—Ports are centers for waterborne traffic and as such, have become gravitational points for industrial/manufacturing firms.	
a) Port facilities shall be designed to permit viewing of harbor areas from viewpoints, waterfront restaurants, and similar public facilities which would not interfere with port operations or endanger public health and safety.	<i>The proposed export terminal would be located in an existing industrial area and there are no public viewpoints, waterfront restaurants, or similar public facilities on the project area or in the immediate area. Furthermore, the proposed export terminal would not preclude the construction of the harbor area viewpoints in the surrounding area in the future as described in the Aesthetics Technical Report. Therefore, the proposed export terminal would be consistent with this policy.</i>
b) Sewage treatment, water reclamation, and desalinization and power plants shall be located where they do not interfere with, and are compatible with, recreational, residential, or other public uses of the water and shorelands. Waste treatment ponds for water-related industry shall occupy as little shoreline as possible.	<i>The proposed export terminal does not involve sewage treatment, water reclamation, desalinization, or power plants. During construction, the On-Site Alternative would create five water quality ponds to store and treat stormwater. During operation, the On-Site Alternative water management system would collect all stormwater and surface water (washdown water) from the stockpile areas, rail loop, office areas, docks, and other paved/impervious surface areas at the project area and direct these waters to a series of vegetated ditches and ponds, and then to a collection basin or sump. Similar to current conditions, collected water would be pumped to an existing on-site treatment facility consisting of settling pond(s). It is expected that these ponds would be located outside the shoreline jurisdiction. Therefore, the proposed export terminal would be consistent with this policy.</i>
c) The cooperative use of dock parking, cargo handling, and storage facilities shall be strongly encouraged in waterfront industrial areas.	<i>At this time, the proposed export terminal does not contemplate the cooperative use of parking or cargo handling or storage facilities. However, the proposed export terminal would not preclude the cooperative use of such facilities in other industrial areas. Therefore, the proposed export terminal would be consistent with this policy.</i>
d) Land transportation and utility corridors serving ports and water-related industry in the shoreline area shall follow the guidelines provided under the sections dealing with utilities and road and railroad design and construction. Where feasible, transportation and utility corridors shall be located upland to reduce pressures for the use of waterfront sites.	<i>The proposed export terminal would utilize existing upland transportation (roadway and rail) corridors and utility corridors. Therefore, the proposed export terminal would be consistent with this policy.</i>

Policy & Goal	Response
e) Prior to allocating shorelines for port uses, local government shall consider statewide needs and coordinate planning with other jurisdictions to avoid wasteful duplication of port services within port-service regions.	<i>The proposed export terminal would be located on an existing waterfront industrial site, and therefore would be connected to the existing network of port services and facilities. The proposed export terminal would not allocate new shorelines for port uses. Therefore, the proposed export terminal would be consistent with this policy.</i>
f) Since industrial docks and piers are often longer and greater in bulk than recreational or residential piers, careful planning must be undertaken to reduce the adverse impact of such facilities on other water-dependent uses, aesthetics, and shoreline resources. Because heavy industrial activities are associated with industrial piers and docks, the location of these facilities must be considered a major factor in determining the environmental and aesthetic compatibility of such facilities.	<i>The proposed export terminal, including the two proposed docks, is the subject of this environmental review, which will account for its potential impacts to other land uses, water-dependent uses, aesthetics, and shoreline resources. Furthermore, the proposed export terminal would require an SSDP and a CUP for any dredging activities as well as a critical areas permit. The reviews for these permits will consider the environmental and aesthetic compatibility and potential adverse impacts of the proposed export terminal and would condition the permits to include necessary mitigation measures. Therefore, the proposed export terminal would be consistent with this policy.</i>
g) Because a large impact cannot be avoided due to ports and port-related uses, preference will be given to develop and redevelopment of existing port areas.	<i>The proposed export terminal would redevelop a contaminated waterfront industrial site. Therefore, the proposed export terminal would be consistent with this policy.</i>
h) Ports and water-related industries are encouraged to locate in urban environments, but in exceptional cases may locate under natural, conservancy, and rural environments, subject to conditional use and specific performance standards. An exception is log storage and rafting which may be permitted in conservancy, rural, urban, and is considered as a conditional use on natural shorelines.	<i>The proposed export terminal would be located in a designated urban shoreline environment and therefore is consistent with this policy.</i>

Policy & Goal	Response
<i>Other General Shoreline Uses</i>	
Goal: Development within the shorelines of Cowlitz County must be for the betterment of the life style of the citizens of Cowlitz County, and so located as to prevent ecological debilitation from occurring.	
1. Dredging - Dredging is the removal of earth from the bottom of a stream, river, lake, bay, or other water body for the purposes of deepening a navigational channel or to obtain use of the bottom materials for landfill.	
<p>a) Dredging operations shall be so controlled as to minimize damage to existing ecological values and natural resources of both the area to be dredged, and the area for deposit of dredged materials</p>	<p><i>Dredging would be controlled to minimize and avoid potential impacts. Permits and authorizations under Section 10 of the Rivers and Harbors Act, Section 404 of the Clean Water Act, and the provisions of other laws and regulations would be required before dredging operations begin.</i></p> <p><i>Dredging would be conducted using a barge-mounted mechanical clamshell dredge with material loaded into a bottom-dump barge for transport to an approved dredge material disposal site once the barge is full. This method does not require dewatering.</i></p> <p><i>As discussed in the water quality technical report, dredged material would be suitable for flow-lane disposal or beneficial use in the Columbia River based on recent sediment sampling that suggests that sediments from the deepwater areas of the Columbia River are composed of silty sands with a low proportion of fines and low total organic carbon. The disposal area for this dredging action is anticipated to be approximately 80 to 110 acres. However, the actual acreage of the disposal site would be determined by the permitting agencies and would be based on sediment characteristics (i.e., consistency and density of sediments).</i></p> <p><i>Impacts on water quality from dredging would be minimized with the implementation of a dredging and disposal quality control plan in compliance with the dredged material management program as required by state agencies (Ecology and WDNR) and federal agencies (the Corps and EPA).</i></p> <p><i>The quality control plan would include dredging methods and procedures to minimize water quality impacts, define disposal protocols (whether upland or in-water), and develop a water quality monitoring plan and contingencies for exceedances. Adhering to the plan would avoid and minimize impacts and ensure that potential impacts would be temporary and localized. Therefore, the proposed export terminal would be consistent with this policy.</i></p>

Policy & Goal	Response
b) This program must include long-range plans for the deposit and use of spoils on land. Spoils deposit sites in water areas shall also be identified by local government in cooperation with the state departments of natural resources, game, and fisheries. Depositing of dredge material in water areas shall be allowed only for habitat improvement, to correct problems of material distribution adversely affecting fish and shellfish resources, or where the alternative of depositing material on land is more detrimental to shoreline resources than depositing it in water areas.	<i>Dredged material would be suitable for flow-lane disposal or beneficial use in the Columbia River. The disposal area for this dredging action is anticipated to be approximately 80 to 110 acres. The dredging and disposal quality control plan would include dredging methods and procedures to minimize water quality impacts, define disposal protocols (whether upland or in-water), and develop a water quality monitoring plan and contingencies for exceedances. Adhering to the plan would avoid and minimize impacts and ensure that potential impacts would be temporary and localized. Therefore, the proposed export terminal would be consistent with this policy.</i>
c) Dredging of bottom materials for the single purpose of extending one's property shall be discouraged.	<i>Dredging would be required to provide access to and from the Columbia River navigation channel and for berthing at the two new docks. Dredging would not be used to extend the area of the property.</i>
d) Navigation channels, turning and moorage basins shall be identified. Future channel and basin areas which would be used in conjunction with potential future ports and marinas should be identified as non-deposit areas for spoils from other dredging operations.	<i>The proposed dredge prism, navigation channels, and the turning and moorage basins would be identified in the permit applications as required.</i>
3. Shoreline Protection Works - Shoreline protection works (SPW) shall include bulkheads, breakwaters, jetties, groins, levees, berms, retaining walls, riprapping, dikes, and the like.	
a) Shoreline protection works should be located and constructed in such a manner which will not result in adverse effects on "wetlands" and will minimize alterations of the natural shoreline.	<i>The proposed export terminal would not create any new shoreline protection works within the shoreline jurisdiction. The Columbia River shoreline near the On-Site Alternative project area already includes extensive diking and riprap that would not be altered with the proposed export terminal. Therefore, this policy does not apply.</i>
b) Consider the effect of a proposed SPW on public access to publicly owned shorelines.	<i>The proposed export terminal would not create any new shoreline protection works within the shoreline jurisdiction. Therefore, this policy does not apply.</i>
c) Shoreline protection works should be designed to blend in with the surroundings and not to detract from the aesthetic qualities of the shoreline.	<i>The proposed export terminal would not create any new shoreline protection works within the shoreline jurisdiction. Therefore, this policy does not apply.</i>
d) The construction of SPW should be permitted only where they provide protection to upland areas or facilities and not for the direct purpose of creating land by filling behind the SPW. Landfill operations should satisfy the policies under "Landfills".	<i>The proposed export terminal does not include any landfill operations. Therefore, this policy does not apply.</i>

Policy & Goal	Response
e) Riprapping and other bank stabilization measures should be located, designed, and constructed so as to avoid the need for channelization, and to protect the natural character of the streamway.	<i>The proposed export terminal does not involve any new riprapping or other bank stabilization measures within the shoreline jurisdiction. Therefore, this policy does not apply.</i>
f) The use of non-rock riprap material should be strongly discouraged. The use of abandoned automobiles for SPW is to be prohibited.	<i>The proposed export terminal does not involve any new riprapping within the shoreline jurisdiction. Therefore, this policy does not apply.</i>
g) Planned flood protection measures, such as dikes, should be placed landward of the streamway, including associated swamps and marshes, and other wetlands directly inter-related and inter-dependent with the stream proper.	<i>The proposed export terminal does not include any new flood protection measures. The Columbia River shoreline near the On-Site Alternative project area already includes extensive diking that would not be altered with the proposed export terminal. Therefore, this policy does not apply.</i>
h) Flood protection measures which result in channelization should be avoided.	<i>The proposed export terminal would not introduce flood protection measures. Therefore, this policy does not apply.</i>
i) Special attention should be given to the effect these structures will have on fish and wildlife propagation, habitat, and movement.	<i>The proposed export terminal would not create any new shoreline protection works within the shoreline jurisdiction. Therefore, this policy does not apply.</i>

4. Piers - A pier or dock is a structure built over or floating upon the water, used as a landing place for marine transportation or for recreation purposes

a) The use of floating docks should be encouraged in those areas where scenic values are high and where conflicts with recreational boaters and fishermen will not be created.	<i>A floating dock is not feasible due to the scale of ships used in exporting coal.</i>
b) Open-pile piers should be encouraged where shore trolling is important, where there is significant littoral drift, and where scenic values will not be impaired.	<i>The proposed docks would be open pile construction and located in an area where similar docks are constructed.</i>
c) Priority should be given to the use of community piers and docks in all new major waterfront developments. In general, encouragement should be given to the cooperative use of piers and docks.	<i>At this time, the Applicant does not contemplate the cooperative use of the proposed docks. However, the proposed export terminal would not preclude the cooperative use of such facilities in other industrial areas. Therefore, the proposed export terminal would be consistent with this policy.</i>

Policy & Goal	Response
<p>d) In providing for boat docking facilities in the master program, local governments should consider the capacity of the shoreline sites to absorb the impact of waste discharges from boats including gas and oil spillage.</p>	<p><i>The project area and surrounding shoreline area contain predominantly industrial and transportation/utility land uses and are designated as urban shorelines in the County SMP. The County has determined this shoreline area best for supporting potential shipping-related facilities. Modern vessel design and operational standards greatly reduce the potential for a fuel oil spill. In addition, federal and state regulations protect against the discharge of contaminated ballast water and the introduction of exotic species via ballast water (RCW 77.120). The discharge of ballast water into waters of the state is not allowed unless there has been an open sea exchange (replacing coastal water with open-ocean water to reduce the density of coastal organisms), or the vessel has treated its ballast water to meet state and federal standards set by the U.S. Coast Guard, the Clean Water Act (33 USC 1251–1387), or the international maritime organization. Therefore, the proposed export terminal would be consistent with this policy.</i></p>
<p>e) The risk and potential damage of contaminants must be determined for piers and the ability of the shoreline area to recover from such spills must be known. Where appropriate, contamination prevention and abatement measures will be required as part of any proposal to erect a pier.</p>	<p><i>The potential impacts of the proposed export terminal attributable to contaminants from the construction and operation of the proposed docks are accounted for as part of this environmental review. Furthermore, the proposed export terminal would require a critical areas permit and an SSDP and a CUP for any dredging activities. The reviews for these permits would also consider the environmental and aesthetic compatibility and potential adverse impacts of the proposed export terminal and would condition the permits to include necessary mitigation measures. Therefore, the proposed export terminal would be consistent with this policy.</i></p>

Table 4. Cowlitz County SMP Applicable Use Activity Regulations

Use Activity Regulations:	Response
Construction and Operations Regulations	
1) No construction equipment shall enter any shoreline body of water, except as authorized under the terms of a substantial development permit.	<i>Dredging and dock construction activities under the proposed export terminal would require construction equipment to be in and over the water. The SSDP should include the specific authorization of this activity.</i>
2) Vegetation along the water shall be left in its natural condition unless the substantial development permit allows otherwise.	<i>Construction of the proposed export terminal would require the removal of vegetation within the shoreline jurisdiction. The SSDP should include the specific authorization of this activity.</i>
3) During construction, care will be taken to assure that waste material and foreign matter are not allowed to enter the water.	<i>As discussed in the water quality technical report, a wide variety of BMPs would be implemented during construction to avoid and minimize potential impacts on water quality. These BMPs would include measures to reduce pollutants in stormwater and other nonpoint source runoff. Construction practices would include measures to avoid and minimize soil erosion associated with land disturbance and the subsequent discharge of sediment-laden stormwater to adjacent surface waters. Construction projects in Washington that include clearing, grading, and excavating activities that disturb one or more acres and discharge stormwater to surface waters of the state must obtain an NPDES Construction Stormwater General Permit from Ecology. That permit requires the development and implementation of a TESC plan, an SWPPP, and BMPs to avoid and minimize the risk of erosion. Therefore, the proposed export terminal would be consistent with this policy.</i>
4) All fuel and chemicals shall be kept, stored, handled and used in a fashion which assures that there will be no opportunity for entry of such fuel and chemicals into the water.	<i>The development and implementation of an SPCC plan and a site-specific construction SWPPP that include BMPs for material handling and construction waste management would reduce the potential for water quality impacts from sources of fuel and chemical pollutants during construction because water entering the CDID ditches from the project area would be treated. Furthermore, with proper training as specified in the SPCC, the response to a spill would be quick, and proper equipment would be labeled and available.</i>
5) Protection from siltation and erosion shall be provided for on all earthworks projects.	<i>To control on-site erosion and off-site sediment delivery during construction and initial operation, the proposed export terminal would implement the erosion control recommendations in the geotechnical report. Additionally, the site erosion control plan would include an SWPPP and would implement measures in Ecology's Stormwater Management Manual for Western Washington. The proposed export terminal also would incorporate a monitoring and evaluation plan in the erosion control plan to identify and address any deficiencies that might occur over this extended construction timeframe. When build-out is complete, impervious surfaces would constitute approximately 90% of the project area, reducing the potential for soil erosion to near zero.</i>

Use Activity Regulations:	Response
6) Land being prepared for development shall have an adequate drainage system to prevent runoff from entering water bodies.	<p><i>The proposed export terminal would be required to obtain a NPDES Construction Stormwater General Permit from Ecology. The permit requires the development and implementation of a TESC plan, a construction SWPPP, and BMPs to avoid and minimize the risk of erosion. The Ecology Stormwater Management Manual for Western Washington would guide the design and implementation of these BMPs. The selected BMPs would represent the best available technology that is economically achievable and the best conventional pollutant control technology to reduce pollutants. BMPs would include a wide variety of measures to reduce pollutants in stormwater and other nonpoint source runoff. Construction practices would include measures to avoid and minimize soil erosion associated with land disturbance and subsequent discharge of sediment-laden stormwater to adjacent surface waters.</i></p> <p><i>During operation, stormwater would be managed in accordance with the requirements of a new NPDES Industrial Stormwater Permit to be issued exclusively for the export terminal water management facilities. Contaminants such as oil and grease, coal dust, and other chemicals could accumulate on surfaces and would become constituents of site stormwater. All stormwater runoff would be collected for treatment before reuse or discharge to the Columbia River. Coal particulates would be removed from stormwater and placed back in the coal stockpile area for shipment. Other solids accumulated in the treatment systems not acceptable for reuse would be collected periodically and disposed of at an appropriate off-site disposal site.</i></p>
7) Side casting of excess road building material into streams will not be permitted.	<p><i>Road building materials would not be side-cast into streams.</i></p>
8) All construction debris such as fuel and oil containers and barrels and other miscellaneous litter shall be removed from the shoreline area. No equipment shall be abandoned within the shoreline area.	<p><i>Construction materials would be placed in designated staging areas. Unused equipment and materials would be removed from the project area once construction is complete.</i></p>
9) State and federal water quality standards for both inter-state and intra-state waters already are established. These shorelines regulations need only allude to these and other regulations already in effect. Any activities within the shorelines must, as a minimum, meet all these other regulations.	<p><i>The proposed export terminal would comply with all applicable state and federal water quality standards.</i></p>

Use Activity Regulations:	Response
Commercial Development	
1) Commercial and industrial uses are of such varied nature that many may be considered a conditional use in any district and to be permitted must meet conditions; except independent commercial parking lots, which shall be prohibited in all environments.	<i>The proposed export terminal would be required to obtain an SSDP and a CUP. The proposed export terminal does not include a commercial parking lot.</i>
2) Airport and aircraft landing strips shall be prohibited in natural and conservancy districts and shall be considered a conditional use in rural and urban environments.	<i>The proposed export terminal does not involve the development of an airport or an aircraft landing strip. Therefore, this regulation does not apply.</i>
Urban District	
1) Because shorelines suitable for urban uses are a limited resource, emphasis should be given to development within already developed areas and particularly on water-dependent industrial and commercial uses requiring frontage on navigable waters.	<i>The proposed export terminal would redevelop a contaminated waterfront industrial site with an industrial use containing water-dependent and water-related uses as defined in WAC 173-26-020.</i>
2) A permit for commercial development may be granted subject to the following regulations:	
a) Commercial buildings of more than 35 feet above average ground grade shall be allowed as a conditional use.	<i>This regulation would not apply to the proposed export terminal.</i>
b) Any commercial structure or facility except one which requires or is dependent on direct, contiguous access to the water shall be set back from the ordinary high water mark by a minimum of ten feet, as measured on a horizontal plane.	<i>The proposed docks are the only commercial facility associated with the proposed export terminal that is within 10 feet of the ordinary high water mark. The docks depend on direct, contiguous access to the water.</i>
c) Parking facilities shall not be located within ten (10) feet of the ordinary high water mark, as measured on a horizontal plane.	<i>No parking facilities would be located within the shoreline jurisdiction with the proposed export terminal.</i>

Use Activity Regulations:	Response
Ports and Water-Related Industries	
Urban District	
1) Port facilities and water-related industries shall be permitted on urban shorelines.	<i>As defined under WAC 173-26-20(43), a “water-related” use “means a use or portion of a use which is not intrinsically dependent on a waterfront location but whose economic viability is dependent upon a waterfront location.” Because the proposed export terminal involves the export of coal by oceangoing vessels, the proposed export terminal is a water-related and water-dependent use and is therefore permitted on urban shorelines.</i>
2) Any person proposing a development, expansion or alteration, or any phase thereof which constitutes a complete project, of a port facility or water-related industry, shall apply for a permit.	<i>Applications for a SSDP and a CUP as appropriate would be submitted for the proposed export terminal.</i>
3) A permit for a port facility or water-related industry, or any expansion or alteration thereof which constitutes a complete project, may be granted a permit subject to compliance with local ordinances and the following regulations:	
a) Demonstration of compliance with the regulations specified on any federal and state permits required for such facilities and operations, by presentation of an application for each permit or other means satisfactory to the administrator.	<i>The applicant for the proposed export terminal would obtain all required federal and state permits. These include, but are not limited to, permits and authorizations pursuant to Section 10 of the Rivers and Harbors Act, Section 404 of the Clean Water Act, Hydraulic Project Approval, Section 401 water quality certification, and NPDES permits, and the proposed export terminal would comply with the terms of the permits.</i>
b) Compliance with other applicable use regulations in this program is required.	<i>This application for the SSDP and shoreline CUP will address all applicable shoreline use regulations.</i>
4) Water storage of logs shall be permitted subject to the following minimum regulations:	
a) No feasible dry land storage area is available, except emergency or short-term storage of logs may be in water regardless of the availability of dry and storage areas. Logs shall not be stored so that a complete waterway is blocked for public boating or public access through log storage areas along waterway.	<i>The proposed export terminal does not involve the water storage of logs. Therefore, this regulation does not apply.</i>

Use Activity Regulations:	Response
Roads and Railroads	
1) Whenever necessary to locate roads, location shall be subject to road location standards set forth in the Forest Practices and Shoreline Management Special Report, found under Forest Practices and Shoreline Management, pages 34 - 36.	<i>The proposed export terminal would improve Dike Road, an existing roadway, but would not locate new roads within shoreline jurisdiction. Therefore, this regulation does not apply.</i>
Urban District	
1) Non-motorized trails shall be permitted within urban shorelines	<i>The proposed export terminal does not include non-motorized trails. Therefore, this regulation does not apply.</i>
2) Railroads shall be permitted within urban shorelines.	<i>The proposed export terminal would not locate railroads within shoreline jurisdiction. Therefore, this regulation does not apply.</i>
3) Future construction of all roads, highways, freeways, and access roads shall assure compliance with existing county rules and regulations addressing such construction.	<i>The improvements to Dike Road within the shoreline jurisdiction under the proposed export terminal would comply with applicable county rules and regulations.</i>
4) All public roads and railroads shall not impede non-motorized public access to public shorelines.	<i>The On-Site Alternative project area is an active industrial site and there is no existing public access. Therefore, this regulation does not apply.</i>
5) All private roads must meet the road specifications as outlined in the Forest Practices and Shoreline Management Special Report, found under Forest Practices and Shoreline Management, pages 34 - 36.	<i>The proposed export terminal would improve Dike Road, an existing roadway, but would not develop new private roads within shoreline jurisdiction. The improvements to Dike Road within shoreline jurisdiction under the proposed export terminal would comply with applicable county rules and regulations. Therefore, this regulation does not apply.</i>
Shoreline Works and Structures	
1) Riprapping and other bank stabilization measures shall be located, designed and constructed so as to avoid the need for channelization and to protect the natural character of the streamway. In all environments, the use of non-rock riprap material shall be considered as a conditional use, and the use of abandoned automobiles for SWS shall be prohibited.	<i>The proposed export terminal does not involve any new riprapping or other bank stabilization measures within the shoreline jurisdiction. Therefore, this regulation does not apply.</i>
Urban District	
1) Shoreline works and structures are allowed anywhere on urban shorelines.	<i>The proposed export terminal would not create any new shoreline protection works within the shoreline jurisdiction. Therefore, this regulation does not apply.</i>

3.1.6.3 Cowlitz County Critical Areas Protection

The On-Site Alternative would result in development within designated critical areas, including geologically hazardous areas, critical aquifer recharge areas, wetlands, frequently flooded areas, and fish and wildlife habitat conservation areas. Potential impacts on these critical areas have been assessed in the NEPA Geology and Soils Technical Report (ICF International 2016g), NEPA Surface Water and Floodplains Technical Report (ICF International 2016j), NEPA Groundwater Technical Report (ICF International 2016k), NEPA Fish Technical Report (ICF International 2016l), NEPA Wildlife Technical Report (ICF International 2016m), and NEPA Vegetation Technical Report (ICF International 2016n) prepared for the On-Site Alternative. Furthermore, the On-Site Alternative would be required to obtain a critical areas permit, and any necessary mitigation measures would be required as a condition of the permit. With these mitigation measures, any impacts on regulated critical areas would be offset or minimized such that there would be no net loss of critical area functions and values. Therefore, the On-Site Alternative would be consistent with the public policy related to critical areas protection.

3.2 Off-Site Alternative

The following sections describe the potential land use impacts attributable to the construction and operation of the Off-Site Alternative.

3.2.1 Construction: Direct Impacts

Construction of the Off-Site Alternative would introduce a new intensive activity to the project area, which would result in the following potential direct impacts due to construction activities.

Modify Existing Land Uses on the Project Area

Construction of the Off-Site Alternative would change the land use of the project area from undeveloped to industrial. As discussed above, the existing land use of the project area is agricultural land and undeveloped areas and is bordered by a mix of industrial, residential/agricultural, and transportation and utility uses, including two single-family residential structures to the north. Construction of the Off-Site Alternative would be generally consistent with industrial, transportation, and utility uses.

Off-Site Alternative construction activities would be in close proximity to the two single-family residences to the north within the direct impacts study area. Construction activities would be temporary and would not change land use patterns in the study area during construction.

Construction activities may result in other potential impacts on nearby uses, including the two single-family residences, related to traffic congestion, noise and vibration, and air pollutant emissions and fugitive dust. These impacts are addressed in the NEPA Vehicle Transportation Technical Report (ICF International 2016i), NEPA Noise Technical Report (ICF International 2016e), and NEPA Air Quality Technical Report (ICF International 2016f).

3.2.2 Construction: Indirect Impacts

Construction of the Off-Site Alternative would not result in indirect impacts on land use because it would be limited to the project area and construction activities would not affect land use outside the project area.

3.2.3 Operations: Direct Impacts

The Off-Site Alternative would transform the project area from an undeveloped area into an intensive industrial use with an export terminal with the same coal handling, rail, and shiploading facilities as the On-Site Alternative. As discussed above, the northern portion of the project area extends onto privately owned parcels containing residential and agricultural uses and three small structures, including a single-family residence.

The following direct impacts on land use may result from the operation of the Off-Site Alternative.

3.2.3.1 Land Uses

Modify Existing Land Uses on the Project Area

The Off-Site Alternative would change the existing land use of the project area from agricultural and undeveloped to a new heavy industrial use. Although this would change the land use character of the project area, the City of Longview Zoning Map and Cowlitz County Comprehensive Plan designate the project area for industrial use. Surrounding land uses to the southeast include industrial and transportation/utility uses, and the Off-Site Alternative would be consistent with these uses, including the bulk products terminal that would continue to operate on the adjacent leased area for the On-Site Alternative. Potential impacts related to land use compatibility with the two single-family residential/agricultural uses to the north are discussed below.

Introduce New, Intensive Industrial Use near Residential/Agricultural Land Uses

The Off-Site Alternative would introduce a new industrial use in close proximity to two existing single-family residential structures with agricultural uses located north of the project area (approximately 500 feet from the residential structures to the project area boundary). While the existing land use of these parcels are single-family residential and agricultural, the Cowlitz County Comprehensive Plan designates these parcels for industrial use.

Given the intensity of the export terminal use, its proximity to the residential uses, and the lack of buffers (e.g., hills, rivers) between the uses, the Off-Site Alternative would not be compatible with the adjacent residential/agricultural uses to the north. Potential impacts on these residential uses related to noise, air quality, and transportation are discussed in the NEPA Noise Technical Report (ICF International 2016e), NEPA Air Quality Technical Report (ICF International 2016f), and NEPA Vehicle Transportation Technical Report (ICF International 2016i).

Two residential uses on the north side of Mt. Solo Road would also be within 500 feet of the Off-Site Alternative project area. These residences currently coexist with industrial uses in the On-Site Alternative project area and nearby. These residences would be within 500 feet of the entrance to the Off-Site Alternative project area and rail access but not within 500 feet of the

stockpiles, rail loop, and other facilities. Therefore, the Off-Site Alternative would not directly affect these uses with respect to land use compatibility.

3.2.3.2 Parks and Recreation Facilities

As discussed above, there are no parks and recreation facilities on the project area or within the surrounding half-mile. Therefore, the Off-Site Alternative would not have the potential to directly affect parks and recreation land uses because of the distance between the project area and such uses.

3.2.3.3 Agricultural Areas

Convert Agricultural Uses to Industrial Use

With respect to agricultural uses, the Off-Site Alternative would result in an impact on agricultural uses because it would displace the existing agricultural uses on the northern portion of the project area. While the Off-Site Alternative would convert the existing agricultural use on these parcels to industrial use, the Cowlitz County Comprehensive Plan designates these parcels for industrial use. As noted above, this alternative would require property acquisition from three parcels containing residential and agricultural uses: parcel 107840100 (283 Barlow Point Road); parcel WL2608003 (263 Barlow Point Road); and parcel 608600100. Property acquired from these parcels would be converted from agricultural use to industrial use.

3.2.4 Operations: Indirect Impacts

As previously described, the study area for indirect impacts is the Longview-Kelso urban area and other nearby unincorporated areas of Cowlitz County.

The Off-Site Alternative would be compatible with land use conditions within the broader indirect impacts study area. In particular, the Off-Site Alternative would be consistent with the existing concentration of industrial land uses along the Columbia River to the southeast of the project area, including the existing bulk terminal in the Applicant's leased area for the On-Site Alternative, and Weyerhaeuser and other Port of Longview facilities further upstream from the project area. More densely developed residential neighborhoods to the northeast of the project area are buffered from the project area by Mount Solo. Land uses within the Rainier, Oregon portion of the study area would continue to be separated from the project area by the Columbia River and thus the Off-Site Alternative would not affect land use conditions in the Rainier area.

The *Cowlitz County Comprehensive Plan* designates the land north and south of the project area along the Columbia River for industrial use. Therefore, the Off-Site Alternative is not likely to indirectly affect land uses in the Barlow Point area.

The Off-Site Alternative would increase rail traffic to the project area, but this new rail traffic would not change general land uses along the rail corridor from the BNSF main line to the project area. Land uses adjacent to the rail lines already coexist with rail traffic, including the transportation of coal. The Off-Site Alternative would not be expected to change the general land uses along the rail corridor. The Off-Site Alternative would increase commercial ship traffic along the Columbia River, but the Columbia River is already used for marine transportation, and the additional ship traffic would be consistent with this ongoing use.

Overall, the Off-Site Alternative would not affect land use trends or conditions throughout the indirect impacts study area and would not result in indirect land use impacts.

3.2.4.1 Parks and Recreation Facilities and Agricultural Land

The Off-Site Alternative would introduce the same amount of vessel traffic as the On-Site Alternative. As with the On-Site Alternative, it is not expected that recreational boaters would be substantially affected by vessels and tugs serving an export terminal at the Off-Site Alternative location. The Off-Site Alternative would not result in indirect impacts on park and recreation facilities or agricultural land.

3.2.5 Consistency with Zoning

The portion of the Off-Site Alternative within Longview would be consistent with the zoning designation of Heavy Industrial and would comply with the permitted uses and associated development standards and requirements documented in Section 2.2.1.2, *Zoning*. The Off-Site Alternative within unincorporated Cowlitz County would be consistent with the stated purpose of the Cowlitz County Heavy Manufacturing zoning designation and would comply with the permitted uses and associated development standards and requirements documented in Section 2.2.2.2, *Zoning*.

Conflict with Cowlitz County Zoning

A portion of the Off-Site Alternative would be within the Cowlitz County Forestry-Recreation zoning designation. The Off-Site Alternative would not be consistent with the stated purpose of the Forestry-Recreation zoning designation. The Off-Site Alternative would require an amendment to the Cowlitz County zoning map.

3.2.6 Consistency with Land Use Plans and Public Policies

3.2.6.1 City of Longview and Cowlitz County Comprehensive Plans

As discussed above, the project area is subject to comprehensive plan designations by the City of Longview and Cowlitz County.

Conflict with City of Longview Comprehensive Plan

Within Longview, the southern portion of the project area is designated as Heavy Industrial and the northern portion is designated Mixed-Use Residential/Commercial. As with the On-Site Alternative discussed above, the Off-Site Alternative would be consistent with the City of Longview's Heavy Industrial comprehensive plan designation. However, the Off-Site Alternative would not be consistent with the City of Longview's Mixed-Use Residential/Commercial designation. This designation encourages residential, village-style commercial, waterfront commercial, and office uses, and discourages large-scale developments with single uses. The Off-Site Alternative would not introduce any of the uses encouraged by this designation and would result in a single-user, large-scale development. Therefore, the Off-Site Alternative would be inconsistent with the City of Longview's comprehensive plan designation in a portion of the project area. As noted above there is a pending application before the City of Longview to change the comprehensive plan designation from Mixed-Use Residential/Commercial to Heavy

Industrial. If adopted, this application would address the inconsistency between the comprehensive plan and the zoning ordinance. If this application is not adopted, this alternative would require a comprehensive plan amendment or other coordination with the City of Longview.

The portion of the project area within Cowlitz County is designated Heavy Industrial in the *Cowlitz County Comprehensive Plan*. As with the On-Site Alternative, the Off-Site Alternative would be consistent with the *Cowlitz County Comprehensive Plan* because it would expand industrial use on the project area and would be supportive of the plan's various policies related to industrial land uses. However, because the Off-Site Alternative would displace agricultural uses in the northern portion of the project area, it would be less consistent than the On-Site Alternative with Goal G of the County's current comprehensive plan, which seeks to avoid locating new industrial activities in prime agricultural areas. The Off-Site Alternative would be consistent with the Economic Resource Lands – Industrial designation of the project area in the draft updated *Cowlitz County Comprehensive Plan*.

3.2.6.2 City of Longview Shoreline Master Program

As stated previously, the project area is within the High Intensity and Aquatic shoreline designations of the City of Longview Shoreline Master Program. The Off-Site Alternative would be consistent with the purpose of the High Intensity designation and would comply with the management policies of the designation. In particular, the High Intensity designation gives first priority to water-dependent uses. As defined in the Shoreline Master Program, a water-dependent use means a use or portion of a use that cannot exist in a location that is not adjacent to the water and which is dependent on the water because of the intrinsic nature of its operations. The Off-Site Alternative would be dependent on water access for the shipment of coal overseas, and therefore would constitute a water-dependent use. Furthermore, the Off-Site Alternative would be a permitted industrial use within the High Intensity shoreline designation. By introducing a new water-dependent industrial use, the Off-Site Alternative would also further the economic development goals and objectives of the City of Longview Shoreline Master Program.

The Off-Site Alternative would also be consistent with the purpose of the Aquatic designation of the City of Longview Shoreline Master Program. As with the On-Site Alternative, the Off-Site Alternative would be developed in accordance with all required local, state, and federal permitting requirements, and would preserve water quality and aquatic habitat. The proposed docks under the Off-Site Alternative may be permitted within the Aquatic designation because they would be in support of a water-dependent use. Dredging activities under the Off-Site Alternative may be allowed because they, too, would be in support of a water-dependent use.

Overall, the Off-Site Alternative would be consistent with the policies of the City of Longview Shoreline Master Program. The Off-Site Alternative would be required to obtain an SSDP.

3.2.6.3 Critical Areas Protection

The Off-Site Alternative would result in development within designated critical areas under the jurisdiction of the City of Longview and Cowlitz County. As with the On-Site Alternative, this alternative would be required to obtain a critical areas permit which would be conditioned on any required mitigation measures. With these mitigation measures, any impacts on regulated critical areas would be offset or minimized such that there would be no net loss of critical area functions

and values. Therefore, the Off-Site Alternative would be consistent with public policy related to critical areas protection.

3.2.6.4 Port of Longview Comprehensive Scheme of Harbor Improvements

The *Port of Longview Comprehensive Scheme of Harbor Improvements* anticipates future marine and industrial development on its Barlow Point property. The Off-Site Alternative would introduce an export terminal to the project area. Although this use is not specifically contemplated in the document, it would be in keeping with the anticipated marine and industrial development. Therefore, the Off-Site Alternative would be consistent with the *Port of Longview Comprehensive Scheme of Harbor Improvements*.

3.2.6.5 Port of Longview Port Master Plan Report

The *Port Master Plan Report* identifies the project area as a development site that will allow the Port to develop both its terminal and industrial properties to meet future demands and opportunities. The Off-Site Alternative would introduce a new industrial and marine terminal use to the project area. This use would be in keeping with the guidelines of the *Port Master Plan Report*; therefore, the Off-Site Alternative would be consistent with the report.

3.3 No-Action Alternative

Under the No-Action Alternative, the Corps would not issue a Department of the Army permit authorizing construction and operation of the proposed export terminal. As a result, impacts resulting from constructing and operating the export terminal would not occur. In addition, not constructing the export terminal would likely lead to expansion of the adjacent bulk product business onto the export terminal project area. The following discussion assesses the likely consequences of the No-Action Alternative related to land use.

3.3.1 Construction

Under the No-Action Alternative, although the export terminal would not be constructed, new construction, demolition, or related activities to develop the project area into an expanded bulk product terminal would occur on previously developed upland portions of the project area. Upland areas of the site are zoned Heavy Industrial and it is assumed that newly proposed industrial uses in these upland areas could be permitted in the future. Construction of new buildings could involve demolition and replacement of existing buildings and new or modified permits. However, no new docks would be built and no new dredging would occur. The No-Action Alternative would likely not result in indirect construction impacts on land use because construction would be limited to the project area and would not change land use outside the project area.

3.3.2 Operations

As with the On-Site Alternative, the No-Action Alternative could expand existing or introduce a new industrial use to the project area. However, because the project area and surrounding area already contain industrial uses, the No-Action Alternative would likely not change the land use of the project

area. The No-Action Alternative would not directly affect parks and recreation land uses because of the distance between the project area and such uses, nor would it result in direct impacts on agricultural land uses.

If the No-Action Alternative resulted in expanding the bulk product terminal, it could increase rail and truck traffic due to expanded coal, alumina, and industrial chemical handling operations. This increase in rail and truck traffic would likely be compatible with existing industrial land uses along these transportation corridors. Land uses adjacent to the rail lines currently coexist with rail traffic, including the transportation of coal and other commodities, and the No-Action Alternative would not change land uses along the rail corridors. The No-Action Alternative would likely be compatible with land use in the indirect impacts study area, including the existing concentration of industrial uses along the Columbia River. Overall, the No-Action Alternative would not be expected to result in indirect impacts on land or shoreline use.

The following permits would be required in relation to land use.

4.1 On-Site Alternative

The On-Site Alternative would require the following permits related to land use.

- **Shoreline Substantial Development—Cowlitz County Department of Building and Planning.** The On-Site Alternative would result in new development within the shoreline area regulated by the County SMP. Therefore, it would require an SSDP from Cowlitz County.
- **Shoreline Conditional Use Permit—Cowlitz County Department of Building and Planning/Washington State Department of Ecology.** The On-Site Alternative may require dredging activities. Dredging is a conditional use on urban shorelines, and therefore the On-Site Alternative would require a CUP from Cowlitz County.
- **Critical Areas Permit—Cowlitz County Department of Building and Planning.** The On-Site Alternative would result in development within designated critical areas, and therefore would require a critical areas permit.
- **Building and Site Development Permits—Cowlitz County Department of Building and Planning.** The On-Site Alternative would require building and site development permits, such as fill and grade permits, plumbing permits, fire permits, mechanical permits, etc., from the Cowlitz County Department of Building and Planning for any new construction of structures.

4.2 Off-Site Alternative

The Off-Site Alternative would require the following permits related to land use.

- **Shoreline Substantial Development—City of Longview Community Development Department.** The Off-Site Alternative would result in new development within the shoreline area regulated by the City of Longview Shoreline Master Program. Therefore, it would require an SSDP from the City of Longview.
- **Critical Areas Permit—City of Longview Community Development Department and Cowlitz County Department of Building and Planning.** The Off-Site Alternative would result in development within designated critical areas in Longview and Cowlitz County; therefore, this alternative would require critical areas permits.
- **Comprehensive Plan Amendment—City of Longview Planning Commission and City Council.** The Off-Site Alternative would be inconsistent with the City of Longview's comprehensive plan designation for the northern portion of the project area. Therefore, the Off-Site Alternative would require an amendment to the City of Longview's comprehensive plan if the Port of Longview's application to change the designation to Heavy Industrial is not approved.

- **Zoning Map Amendment—Cowlitz County Planning Commission.** The Off-Site Alternative would be inconsistent with the Forestry-Recreation zoning on a portion of the project area. Therefore, the Off-Site Alternative would require an amendment to the Cowlitz County zoning map.
- **Building and Site Development Permits—City of Longview Community Development Department and Cowlitz County Department of Building and Planning.** The Off-Site Alternative would require building and site development permits for any new construction of structures. If any new structures would be located within the portion of the project area in Cowlitz County, building and site development permits from the County would also be required.

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Appendix A

Properties and Land Use in the Study Area

Appendix A

Properties and Land Use in the Study Area

Table A-1. Properties within Direct Impact Study Area—On-Site Alternative

Property Owner	Tax Parcel(s)	Acres	Zoning	Land Use
Port of Longview	106980100, 106970100, 106990100	25.51	HI	Vacant
City of Longview (CDID #1)	107080100, 107090100, 10219, 619530201	32.80	HI and MU-C/I	Diking right-of- way
BNSF Railway	61948, 61951, WI3100003	16.47	MH	Railroad right-of- way
Bonneville Power Administration	6195303, 61954, 1021401	46.99	MH and MU-C/I	Substation
3 B's Land & Gravel, LLC	106850100, 106930100	11.83	HI	Vacant land
Private	106880100	4.94	HI	Single-family residence
Private	106870100	2.52	HI	Parcel with small outbuildings
Private	106860100	2.38	HI	Single-family residence
Northwest Alloys, Inc.	619530400	271.55	MH	Closed Reynolds landfill (westernmost portion), existing MBTL facilities
Northwest Alloys, Inc.	61953	86.81	MH	Existing MBTL bulk terminal
Northwest Alloys, Inc.	61950	60.00	MH	Shoreline berm at existing MBTL terminal
Northwest Alloys, Inc.	10213	100.47	MU-C/I	Vacant land
Northwest Alloys, Inc.	1021501	0.06	MU-C/I	Vacant building
USA	61954	22.00	MH	BPA Substation
Washington State Department of Transportation	SR 432 (Industrial Way)	N/A	No Zoning	Transportation right-of-way

Source: Cowlitz County, 2014
 MH: Heavy Manufacturing (Cowlitz County)
 HI: Heavy Industry (City)
 MU-C/I: Mixed Use – Commercial/Industrial (City)

Table A-2. Properties within Direct Impact Study Area—Off -Site Alternative

Property Owner	Tax Parcel(s)	Acres	Zoning	Primary Current Land Use
Northwest Alloys, Inc.	10213	100.47	MU-C/I	Vacant
City of Longview (CDID #1)	10219	15.54	MU-C/I	Diking right-of-way
3 B's Land/Gravel LLC	106840100	0	HI	Vacant
3 B's Land/Gravel LLC	106850100	0	HI	Vacant
Private	106860100	2.38	HI	Single-family residence
Private	106870100	2.52	HI	Parcel with small outbuildings
Private	106880100	4.94	HI	Residential
3 B's Land/Gravel LLC	106910100	17.68	HI	Vacant
3 B's Land/Gravel LLC	106930100	0.98	HI	Vacant
3 B's Land/Gravel LLC	106940100	0.19	HI	Vacant
3 B's Land/Gravel LLC	106950100	4.49	HI	Vacant
3 B's Land/Gravel LLC	106960100	9.48	HI	Vacant
Port of Longview	106970100	1.92	HI	Vacant
Port of Longview	106980100	2.47	HI	Vacant
Port of Longview	106990100	21.12	HI	Vacant
Port of Longview	107000100	3.56	HI	Vacant
Mt. Solo Landfill LLC	107010100	59.65	HI	Closed landfill
Port of Longview	107020100	0.25	HI	Vacant
Keystone Contracting Inc	107040100	38.16	HI	Vacant
Port of Longview	107050100	6.03	HI	Vacant
City of Longview (CDID #1)	107080100	11.32	HI	Vacant
City of Longview (CDID #1)	107090100	5.24	HI	Vacant
Mt. Solo Landfill LLC	107100100	4.05	HI	Closed landfill
Port of Longview	107110100	3.29	HI	Vacant
Private	107120100	2.62	HI	Residential
Barlow Point Land Company LLC	107130100	10.91	HI	Agriculture/Dike Road
Barlow Point Land Company LLC	107140100	15.71	HI	Vacant
Port of Longview	107150100	36.2	HI	Vacant
Port of Longview	107160100	10.69	HI	Vacant
Port of Longview	107170100	104.76	HI	Vacant
Port of Longview	107180100	41.96	HI	Vacant
Port of Longview	107190100	42.23	HI	Vacant/Dike Road
Longview Property LLC	107840100	45.35	HI	Agriculture
Private	107850100	1.31	HI	Agriculture
Private	60860	24.66	FR	Agriculture
Private	608600100	24.66	FR	Agriculture

Property Owner	Tax Parcel(s)	Acres	Zoning	Primary Current Land Use
BNSF Railway	61948	3.43	MH	Railroad right-of-way
Northwest Alloys, Inc.	619530400	271.55	MH	Closed Reynolds landfill (westernmost portion)
Private	WL2608003	12.51	FR	Residential and agriculture
Washington State Department of Transportation	SR 432 (Industrial Way/Mount Solo Road)	Not Applicable	Not Applicable	Transportation right-of-way
Cowlitz County	Barlow Point Road	Not applicable	Not applicable	Transportation right-of-way

Note: Table includes parcels within the entire project area, including the access road from Mount Solo Road/SR 432.

Source: Cowlitz County, 2014

MH: Heavy Manufacturing (Cowlitz County)

FR: Forestry-Recreation (Cowlitz County)

HI: Heavy Industrial (City of Longview)