
EXHIBIT K-9
CONSISTENCY WITH
WASHINGTON LOCAL SHORELINE
MASTER PROGRAMS
(REVISED)

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Columbia River Channel Improvement Project

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Consistency with Washington Local Shoreline Master Programs (Revised) Columbia River Channel Improvement Project

1. Introduction

This report is prepared primarily for the purpose of reviewing consistency of the Project with local shoreline master programs (“SMPs”) to comply with the Washington State Environmental Policy Act (SEPA), chapter 43.21C RCW. The level of detail results from the extensive discussions that have occurred between the Washington Ports, the Corps, and State and local agencies. This level of detail exceeds the amount of information often found in an Environmental Impact Statement.

The Project takes place within five different local shoreline jurisdictions in Washington: Wahkiakum County, Clark County, Cowlitz County, the City of Longview and the City of Vancouver. Accordingly, this report demonstrates consistency of all Project activities with statewide shoreline requirements under the Shoreline Management Act (“SMA”) as well as the applicable shoreline requirements of those five applicable local jurisdictions.

In addition, the analysis in this report supplements the Coastal Zone Management Consistency analysis in Exhibit F of the Final SEIS. In order to meet the requirements of the federal Coastal Zone Management Act (“CZMA”), all activities must be consistent with the States’ Coastal Zone Management Program. Washington’s State Coastal Zone Management Program includes Wahkiakum County and Pacific County. Therefore, the analysis, discusses Pacific County’s Shoreline Master Program, although no Project activities will occur in Pacific County’s shoreline.

This report reviews the specific use activity regulations as well as the more general goals and policies for the proposed activities in each jurisdiction and finds that the Project is not only consistent and in general conformance with these standards, it actually promotes several key goals and policies for circulation and economic development.

2. Method

The Project permitting team met with appropriate regulatory personnel from each of the local jurisdictions to discuss permitting requirements, including the application of local SMPs to Project activities within their jurisdiction. The meetings, called Focus Groups, were held with individual jurisdictions to ensure that each local government had the opportunity to ask questions and express concerns about the Project. The Project team also had the opportunity to verify their understanding of the local requirements and ordinances. Focus group meetings with City jurisdictions took place with those of their respective Counties in order to identify and clarify similarities and differences in requirements. At least one representative from the Department of Ecology attended each meeting. Focus Group meeting dates are listed in Table 1 below.

Table 1 Focus Group meetings with local jurisdictions.

Date	Jurisdiction
October 25, 2001	Wahkiakum County
October 24 2001	Pacific County
November 20, 2001	Cowlitz County/City of Longview
January 23, 2002	Clark County/City of Vancouver

At the Focus Group meetings, it was determined which sections of the appropriate SMP applied to each of the disposal and mitigation sites. The Project team checked each provision of the applicable SMP to make sure that all Project activities were consistent with the requirements. The Project team coordinated with local jurisdiction personnel in completing this consistency analysis. This process is documented in Section 3, Process, and the analysis is provided in Section 4, Results.

In addition, the Project team met with Ecology to discuss the draft consistency analysis. As a result of these meetings, a more detailed analysis of the Ocean Resource Management Act was performed. This analysis resulted in significant revision to the discussion of the Pacific County Shoreline program.

3. Process

The SMA classifies certain shoreline areas as “shorelines of statewide significance.” As such, certain state statutory use priorities and policies apply to these “shorelines of statewide significance.”

The SMA also requires cities and counties to classify the State’s shorelines within their jurisdictions as “types” of shoreline environments (such as urban, rural, conservancy, and so on), encompassing both aquatic environments and upland areas within shoreline jurisdiction. Local SMPs may designate appropriate “uses” for specific shoreline environments, incorporating both regulatory standards and broader policy objectives and guidelines.

The format of this report corresponds with the standards for review of shoreline development proposals. It evaluates the consistency of those project elements with the specific “use” regulations and broader policy objectives and guidelines applicable to that shoreline environment. Because of the way SMPs are written, there are typically numerous policies, guidelines, regulations, and criteria that apply to any given project element, many of which are duplicative. The reader is requested to bear with the repetition inherent in each SMP. Summary statements and cross-references are used as much as possible without making the analysis difficult to follow.

3.1 Summary of Applicable Standards. The report begins by evaluating shoreline consistency of all Project elements with criteria for shorelines of statewide significance:

3.1.1 Shorelines of Statewide Significance Criteria. The Columbia River is a shoreline of statewide significance. Therefore, all Project elements occurring within shoreline jurisdiction are reviewed for consistency with the six criteria for shorelines of statewide significance listed in the Act. These are, in order of priority:

- Recognize and protect the state-wide interest over local interest;
- Preserve the natural character of the shoreline;
- Result in long term over short term benefits;
- Protect the resources and ecology of the shoreline;
- Increase public access to publicly owned areas of the shoreline;
- Increase recreational opportunities for the public in the shoreline;
- Provide for any other element deemed appropriate or necessary.

The report then evaluates shoreline consistency of the Project elements occurring in each jurisdiction, with the provisions of the respective jurisdiction's SMP.

3.1.2 Shoreline Substantial Development Criteria. Each Project activity is also reviewed to determine whether it is permitted in the relevant jurisdiction. Project activities are reviewed under the criteria for a shoreline substantial development permit. The standards are:

- Compliance with Use Regulations and Standards. Each Project activity is reviewed for compliance with the specific regulations and standards governing that type of use or activity. For example, disposal of dredged material is reviewed under the use standards for disposal of dredged material and/or landfill, resale of dredged materials is reviewed under the specific use standards for mining, etc.
- Consistency with Policy Goals, Objectives and Guidelines. Each Project activity is also reviewed for consistency with the general policy goals, objectives and guidelines for that type of use or activity.

3.1.3 Conditional Use Criteria. Certain activities may constitute conditional uses. The Project is reviewed for consistency with the Conditional use criterion in Section 4.1.3.

4. Results –Findings of Shoreline Consistency

4.1 Shorelines of Statewide Significance.

4.1.1 Project Activities within Shorelines of Statewide Significance. The Project includes the following types of activities that will take place within shorelines of statewide significance. Table 1 summarizes information regarding upland disposal and shoreline disposal sites. A potential ocean disposal site was selected after a thorough analysis of alternative disposal sites. The site is located more than 3 miles offshore, and therefore outside the shoreline jurisdiction. The site is also located south of Cape Disappointment. Under the SMA's definition of a shoreline of statewide significance, the site is not in a shoreline of statewide significance.

The ocean disposal site would not be used under the preferred option. Under other alternatives, ocean disposal would only occur following additional site planning and baseline studies.

Columbia River – 43-ft. Channel Improvement Construction and Maintenance Dredging

The Columbia River will be dredged from CRM 3 to CRM 106.5 to deepen the existing 40-foot-deep channel to the newly authorized depth of 43 feet. Once the channel improvements are made, maintenance dredging will be conducted to maintain the 43-foot channel. Dredged material will be disposed in a variety of aquatic and shoreline sites.

Both construction and maintenance of the 43-foot channel will be conducted using a combination of dredging methods currently used for channel maintenance, primarily hopper and pipeline dredges. Overall construction of the 43-foot channel is anticipated to require removing approximately 14.5 mcy of dredged material, as well as 50,500 cubic yards of basalt rock and 440,000 cubic yards of cemented sand, gravel and boulders. Over the first 20 years following completion of the channel improvements, overall annual maintenance dredging is expected to decline from around 8 mcy to about 3 mcy of sand as the new channel reaches equilibrium. Annual maintenance will then continue at an average of about 3 mcy of sand per year for the remaining 30-year life of the Project.

Columbia River - Dredged Material Flowlane Disposal

Flowlane disposal, similar to that which currently occurs for channel maintenance, will be done in selected locations from CRM 3 to CRM 106.5 in or adjacent to the navigation channel, where depths range from 50 to 65 feet, but are typically greater than 50 feet. Flowlane disposal will distribute dredged material in areas within or adjacent to the navigation channel that are at depths greater than the channel, to minimize the potential for material settling back into the channel and causing additional shoaling problems.

Flowlane disposal sites are not specifically designated because they vary according to the condition of the channel and the techniques used by the contractor selected to perform the work. Flowlane disposal is dispersed along the channel to minimize the potential for material settling back into the channel and causing additional shoaling.

Upland Dredged Material Disposal

A number of upland disposal sites will also be used for the disposal of dredged sediments, to reduce the need for in-water disposal. The Project will use existing disposal sites to the extent feasible, as well as three new sites that are located at least 300 feet beyond the River. One site, Adjacent to Fazio in Clark County, would result in disposal on new ground for approximately one-half of the 17-acre site. Upland disposal sites include: Brown Island, Puget Island and Rice Island in Wahkiakum County; Austin Point, Martin Bar, Northport, Cottonwood Island, Howard Island, IP Rehandle, Reynolds Aluminum, and Hump Island in Cowlitz County; Mt. Solo in the City of Longview (Cowlitz County); Fazio and adjacent to Fazio in Clark County; and Gateway in the City of Vancouver (Clark County).

The Rice Island and Hump Island sites will only be used for disposal of maintenance dredge material. Four new sites: Gateway, Adjacent to Fazio (if necessary in the future), Mt. Solo and Puget Island are proposed in the state of Washington. These sites are located at least 300 feet from the Columbia River.

Shoreline Disposal

The Project also includes a shoreline and beneficial use disposal site at Skamokawa in Wahkiakum County. This site will only be used for maintenance dredge material.

Restoration Activities

The Project incorporates a number of ecosystem restoration activities. The following are located in Washington State: a combined pump/gravity water supply for restoring wetland and riparian habitat at Shillapoo Lake (CRM 91); tidegate retrofits with fish slides for salmonid passage at selected locations along the lower Columbia River; connecting channels at Hump-Fisher Islands to improve fish access to embayments and rearing habitat for juvenile salmonids. Additional ecosystem restoration features that are planned include: Purple Loosestrife Control Program, Cottonwood/Howard Island Columbia White-Tailed Deer Introduction, and Bachelor Slough Restoration. Dredged materials will be used to attain target depths for some of these intertidal and/or subtidal habitat restoration efforts. These actions will restore and improve the habitat of native species found in the lower Columbia River ecosystem.

Mitigation Features

The Projects includes a number of mitigation features to address impacts caused by the Project. The following mitigation features are located in Washington State: Martin Island Embayment and Woodland Bottoms. The activities required to implement this mitigation are discussed in Section 4.5.

Dredged Material Resale Activities

The Project also uses a number of disposal sites from which disposed sediments may be sold and reused. These resale sites include the Skamokawa resale site in Wahkiakum County, the Fazio and Adjacent to Fazio sites in Clark County, and the Reynolds Aluminum, International Paper, Northport, Austin Point, and, perhaps, Martin Bar, sites in Cowlitz County. The Adjacent to Fazio site will only be used for maintenance dredge material. These resale activities may be conducted by the Site owner/operator but are not part of the Project.

4.1.2 Shorelines of Statewide Significance Criteria. The Project is consistent with the criteria for activities within shorelines of statewide significance, which are set forth in the SMA in the following order of preference:

1. *Recognize and protect the statewide interest over local interest.*

The Project furthers the interests of Oregon and Washington and recognizes the statewide, regional, and national interests in interstate commerce over local interests. The primary purposes of the Project are to deepen the navigation channel of the Columbia River to a depth of 43 feet and to implement ecosystem restoration features. The Project will enhance the efficiency of navigation on the Columbia River and improve navigational access for goods throughout Oregon, Washington and the region. Navigation is one of the principal public uses recognized and protected under the public trust doctrine and the Washington Shoreline Management Act. (Johnson, *The Public Trust Doctrine and Coastal Zone Management in Washington State*, Washington Law Review, July 1992).

The Columbia River is an international gateway for waterborne cargo for the Pacific Northwest region and the United States. More than 35 million tons of cargo are shipped annually on approximately 2,000 ocean-going vessels via the ports of Kalama, Longview and Vancouver in Washington, and Portland and St. Helens in Oregon. In 2000, cargo valued at \$14 billion was shipped via lower Columbia River ports. The Columbia River corridor serves as a funnel for cargo moving from more than 40 states, which is then shipped from Columbia River ports.

Since the last improvement to the Columbia River navigation channel, authorized in 1962, the volume of cargo carried by deep-draft vessels to and from Columbia River ports has tripled. During the same period, the average tonnage per vessel has also tripled, while the number of deep-draft vessels calling at Columbia River ports declined slightly. Over the past 20 years, an increasing share of the Columbia River cargo tonnage has been carried on vessels that are Panamax class (the largest size vessels that can transit the Panama Canal) or larger. These larger vessels have design drafts that, after allowing for underkeel clearance requirements, exceed the depth allowed by the 40-foot channel; consequently, these ships must often leave the Columbia River ports “light loaded” (i.e., only partially loaded). Currently, more than 70 percent of the vessels deployed in the transpacific container trade are constrained by the 40-foot channel depth. This would be reduced to 39 percent with a 43-foot channel. By deepening the navigation channel, the Project will continue to support these water-dependent uses that are vital to the economies of Oregon and Washington.

Ecosystem restoration and mitigation also recognize the statewide interest. Proposed restoration focuses on habitat types that have been determined to be important to species listed under the Endangered Species Act, including white-tailed deer and salmonids. This habitat will also benefit a variety of non-listed species. Proposed mitigations focus on habitat types determined to be important resources such as wetlands and riparian habitat that contribute directly and indirectly to aquatic and terrestrial resources. Specific activities needed to implement restoration and mitigation projects are discussed under the appropriate local jurisdiction.

2. Preserve the natural character of the shoreline.

The Project includes restoration features to help restore the natural function of shoreline ecosystems and minimize intrusions on shoreline areas. The Project’s restoration components responds to a well-demonstrated need for ecosystem restoration and incorporates many restoration actions.

The Project uses dredging and disposal methods similar to those used for maintenance dredging that are designed to minimize impacts on shorelines. Dredging and flowlane disposal will occur at depths to minimize impacts. Dredging will use hopper and pipeline dredges to minimize turbidity. Flowlane disposal uses a “down pipe” with a diffuser plate at its end. The down pipe extends 20 feet below the water surface to avoid impacts to migrating juvenile salmonids. The diffuser and movement of the pipe help prevent mounds from forming on the river bottom. Upland disposal will use temporary pipelines extending from dredges. These temporary pipelines will be removed after dredged material disposal occurs for each event. The Project uses shoreline sites for upland disposal that have been previously used for this purpose for most of the disposal sites. The new sites in Washington State are located at least 300 feet from the Columbia River upland to minimize intrusion on the shoreline.

3. *Plan for long term over short term benefit.*

The Project plans for the long-term benefits of enhanced navigational access. Over the past 20 years, an increasing share of the Columbia River cargo tonnage has been carried by Panamax class vessels or larger. These larger vessels have design drafts that, after allowing for underkeel clearance requirements, exceed the depth allowed by the 40-foot channel; consequently, these ships must often leave the Columbia River ports “light loaded” (i.e., only partially loaded). Currently, more than 70 percent of the vessels deployed in the transpacific container trade are constrained by the 40-foot channel depth. This amount would be reduced to 39 percent with a 43-foot channel. By deepening to 43 feet, the Project will be able to improve navigation infrastructure and maximize the efficiency of the vessels and waterborne cargo shipments for years to come.

The Project’s restoration features also are intended to provide a long-term benefit to the Columbia River. These features include shallow water and intertidal habitat important to salmonids, habitat for white tail deer listed under the Endangered Species Act and to further Lower Columbia River Estuary goals for restoring natural resources in the Columbia River. The Project’s mitigation activities are also intended to provide a long-term benefit to the Columbia River, through acquisitions, preservation and long-term protection. The mitigation will provide a net increase in aquatic and riparian habitat.

4. *Protect the resource and ecology of the shoreline.*

Modeling of the Project has shown that it should have only minor, if any effects, on physical parameters such as salinity, stream flows, erosion and accretions. Habitat forming processes and food chain effects have also been determined to be minimal. The Project uses dredging and disposal methods designed to protect the resources and ecology of the shorelines. Dredging will be done at depths of more than 40 feet, while salmonids generally migrate at depths of less than 20 feet. The primary hopper and pipeline dredges generally do not produce large amounts of turbidity during dredging because of the suction action of the dredge pump and the fact that the drag arm or cutter head is buried in the sediment. Turbidity produced by clamshell dredges is minimal

Flowlane disposal generally will also be in depths ranging from 50 to 65 feet. The benthic invertebrates that provide a major food source for some fish are found at depths of less than 20 feet. Therefore, restricting the disposal of dredged materials to depths greater than 20 feet will minimize potential impacts from this activity. To avoid mounding during hopper-dredge disposal, material will be released while the dredge is in motion to disperse material over the flowlane disposal area. During disposal or placement of dredged material by pipeline dredge, the diffuser and movement of the pipe help prevent mounds from forming on the river bottom.

Upland disposal along the Columbia River channel has been reviewed by the NOAA Fisheries and USFWS to avoid adverse impacts on listed fish species or proposed critical habitat. Upland disposal activities will employ measures to minimize potential impacts.

Sand will be placed at upland disposal sites with a temporary pipeline. The pipeline will be removed after the sand is in place, in order to minimize any interference with recreational boating and commercial fishing. Upland disposal sites are designed to contain the dredged material and hold the return water while allowing sand and suspended sediment to settle. Water is allowed to settle and clear through the retention pond drainage system before it runs back into the river. Weirs are used to regulate the return of water to the river. Water returned to the river through weirs is subject to applicable state water quality standards, after dilution, at an appropriate point of compliance.

Upland sites that have been used for past dredged material disposal are being used again. New upland disposal sites have been located 300 feet beyond ordinary high water. All proposed sites have been located to avoid wetlands to the extent feasible. Impacted wetlands will be mitigated at a ratio of 1:12 or greater.

5. *Increase public access to publicly owned areas of the shorelines.*

The shoreline disposal at Skamokawa Beach helps to maintain a popular public park. A number of the sites that are being acquired for restoration or mitigation are currently planned to focus on their potential to enhance natural resources and help to recover fish and wildlife species, rather than to significantly increase public access because public access can adversely affect natural resources in a manner that would be inconsistent with the basin wide priority for natural resource restoration.

6. *Increase recreational opportunities for the public on the shorelines.*

The Project will enhance recreational opportunity on the shorelines by restoring the erosive beach at Skamokawa beach. The ecosystem restoration features of the Project will enhance passive recreational opportunities for studying and viewing wildlife on the shorelines. The restoration features located in Washington include restored wetland and riparian habitat at Shillapoo Lake (CRM 91); fish gates for salmonid passage at selected locations along the lower Columbia River; connecting the river to embayments at the upstream end of Hump-Fisher Islands for improved fish access to embayments and rearing habitat for juvenile salmonids; the Purple Loosestrife Control Program; the Cottonwood/Howard Island Columbia White-Tailed Deer Introduction; and the Bachelor Slough Restoration.

4.1.3 Conditional Use Criteria. Each local SMP identifies some of the Project activities as conditional uses in certain areas in its shoreline. The Project activities meet the SMA's conditional use criteria as discussed below.

1. *The use will cause no unreasonable adverse effects on the environment or other uses within the area.*

The Project incorporates numerous best management practices and ecosystem restoration features and is not expected to have an unreasonable adverse effect in the areas where they will take place. Dredging will be done at depths of more than 40 feet, beyond the depths at which salmonids generally migrate. Flowlane disposal generally will be in depths ranging from 50 to 65 feet, beyond the depths at which benthic invertebrates are found. Upland disposal along the Columbia River, is not known to have had any adverse impacts on listed fish species or proposed critical habitat to date. New upland sites are located 300 feet beyond the river to avoid adverse effects.

2. *The use will not interfere with the public use of public shorelines.*

Navigation is a principle public use of the Columbia River, which will be enhanced by this Project. The federal government has dredged the channel for navigation purposes for over 100 years. Such dredging is an activity necessary to enhance and maintain the public's navigational access. Dredging and flowlane disposal will be limited to the navigation channel and adjacent areas will, therefore, not interfere with the other normal public uses of the shorelines. Placement of dredged materials at upland disposal sites will utilize a temporary pipeline extending from the dredge vessel that will be removed after the dredged materials are placed to minimize interference with recreational boating.

Shoreline disposal at Skamokawa Beach in Wahkiakum County also enhances the public use of the day park at that beach. In addition to enhancing the efficiency of the navigation channel, another purpose of this Project is to restore ecosystem function. This Project incorporates a number of ecosystem restoration projects and mitigation features that will enhance passive recreational opportunities for studying and viewing wildlife on the shorelines.

3. *The design of the proposed use will be compatible with the environment in which it will be located.*

The Project is compatible with the existing permitted uses. Dredging and flowlane disposal has historically taken place and is currently ongoing in the navigation channel to maintain the 40-foot channel depth. Additional dredging for the 43-foot channel is, therefore, consistent with existing permitted uses of the navigation channel and the environment in which they will be located. Most of the upland disposal sites have already been used. New sites are being located 300 feet beyond the Columbia River. The upland disposal sites are, therefore compatible with existing uses in the environments for which they are proposed.

a. *Specific performance standards shall be imposed and/or developed for any given use, to make that use compatible to the natural or conservancy environments, in which that use will locate.*

Each activity includes best management practices to make the use compatible with its location.

4. *The proposed use will not be contrary to the goals, policy statements or general intent of the shoreline environments of this master program.*

Most of the activities proposed have occurred in the same or similar locations for maintenance. The new upland disposal sites are sited 300 feet beyond the Columbia River.

4.2 Wahkiakum County

4.2.1 References. Wahkiakum County's shoreline regulations and policies are found in its SMP. References below to the Wahkiakum County SMP (revised 1980) ("WCSMP") are given by page number.

4.2.2 Proposed Shoreline Uses. The Project includes dredging and disposal of dredged material (including flow-lane, upland, and shoreline disposal). Site operators may resell dredged materials, although this activity is not part of the Project. Each of these activities has occurred within Wahkiakum County before in the same general locations as proposed for this Project, except for the upland disposal site on Puget Island. The Puget Island upland disposal site is located 300 feet from the Columbia River and is not within the shoreline jurisdiction. These activities are discussed further below:

Columbia River – 43-ft. Channel Improvement Construction and Maintenance Dredging,

The 600 foot wide navigation channel in the Columbia River will be dredged in specific locations from CRM 20 to CRM 52, in Wahkiakum County. Dredging will deepen the existing 40-foot-deep channel to the newly authorized depth of 43 feet. This dredging will occur in generally the same footprint as past maintenance dredging. Past maintenance dredging has been found to be consistent with the Washington Coastal Management Program. The Department of Ecology most recently determined maintenance dredging in these general areas to be consistent with the Washington Coastal Management Program on June 1, 2000. This Project includes dredging to a new depth within the general footprint for maintenance dredging not previously reviewed.

Columbia River – Dredged Material Flowlane Disposal

Flowlane disposal could be done in selected areas from CRM 20 to CRM 52, in Wahkiakum County. Flowlane disposal will occur where depths range from 50 to 65 feet in or adjacent to the navigation channel, but are typically greater than 50 feet.

Brown Island - Dredged Material Upland, CRM W-46.3/46.0

Size: 72 acres

Elevation: Current surface elevation estimated at +15 feet CRD; surface elevation with total volume placed estimated at +66 feet CRD.

Owner: Washington Department of Natural Resources (“WDNR”)

Brown Island is an existing upland disposal site located within 200 feet of the shoreline. The site was included in the maintenance proposal that was subject to the June 1, 2000 consistency determination.

Brown Island is located at the upper end of Puget Island. No improvements are located on the island. Ground surface consists of sand dredged from maintenance of the 40-ft navigation channel. There is no tree cover on the site. Brown Island is bordered by White Island. A low, seasonally inundated swale separates the two.

The site can accept up to 4,700,000 cy of sand. The Corps plans to place up to that amount, raising the elevation up to +66 CRD. Dredged material will be placed with a temporary pipeline extending from the dredge vessel. Water will be allowed to settle and clear through the existing weir system before returning to the river. Within the 200-foot shoreland environment, only a temporary pipeline will be used for placement of dredged materials at the site, and a return weir will be constructed for water drainage from the site back to the river, if it does not already exist.

Skamokawa – Dredged Material Shoreline Disposal/ Resale, CRM W-33.4

Size: 11 acres

Elevation: Current surface elevation for the shoreline site averages 0 feet CRD; post-disposal elevation based upon site capacity +18 feet CRD although will vary with resale of materials and beach erosion.

Owner: Port of Wahkiakum 2

Skamokawa is an existing shoreline disposal/resale. The Skamokawa shoreline disposal site will only be used for maintenance dredge material.

The site is zoned an urban shoreland environment above the ordinary high water (OHW) line, and a conservancy aquatic environment below OHW. The property borders a day-use park to the southeast and northeast. The site has been used for material disposal from the Columbia River. The Port of Skamokawa 2 site uses a holding area for sand that the Port sells in order to offset the park’s operating costs. The resale activity is not part of this Project and would be separately permitted. The sand and gravel resale operation is focused in the southeast corner of the property. There are no other improvements on the site.

The site can accept up to 250,000 cy of sand. The Corps plans to place 250,000 cy of sand on the beach during the maintenance phases of the Project. Sand has been placed as shoreline disposal at the Skamokawa site to ease severe beach erosion problems in the past, most recently

in 2000. Within the 200-foot shoreland environment, only a temporary pipeline will be used for placement of dredged materials at the site.

Rice Island - Dredged Material Land Disposal, CRM W-21.0

Size: 228 acres (21 acres, Washington; 207 acres, Oregon)

Elevation: Current surface elevation (average for Washington 21 acres) estimated at +13 feet CRD; surface elevation with total volume placed estimated at +53 feet CRD.

Owners: WDNR and Oregon Division of State Lands (“ODSL”)

Rice Island is an existing upland disposal site located within 200 feet of the shoreline. The Rice Island site will only be used for maintenance dredge material. The site was subject to the June 1, 2000 consistency determination.

The property occupies the majority of a roughly northeast-southwest trending bar island. The island was created with material dredged from the Columbia River. The topography of the island interior is relatively level, as the dredged material has been evenly distributed across it. Improvements observed on-site include a retention pond and metal drainage structure for the dredged material dewatering. The downstream end of the island is used by terns and access to the island is limited.

The site can hold up to 5,500,000 cy of sand. The Corps plans to place up to 5,500,000 cy of sand during the maintenance phases of the Project. The site’s elevation will be raised up to +53 feet CRD. Within the 200-foot shoreland environment, only a temporary pipeline will be used for placement of dredged materials at the site, and a return weir will be constructed for water drainage from the site back to the river, if it does not already exist.

Puget Island (Vik Property), CRM W-44.0

Size: 100 acres

Elevation: Current surface elevation estimated at +15 feet CRD; surface elevation with total volume placed estimated at +41 feet CRD.

Owner: Vik family

Puget Island is a new upland disposal site located at least 300 feet beyond a rural shoreland environment. Because this disposal site is outside the shoreline it is not subject to the WCSMP. The site is bordered on the north, west, and east by other agricultural lands and by private residences to the south. The property is currently used as agricultural land.

The site can accept up to 3,500,000 cy of sand. The Corps plans to place up to 3,300,000 cy of sand at the site, raising the elevation to +41 feet CRD. The topsoil will be replaced so that the property owner can resume using the land for agricultural purposes. Within the 200-foot shoreland environment, only a temporary pipeline will be used for placement of dredged materials at the site, and a return weir will be constructed for water drainage from the site back to the river, if it does not already exist.

4.2.3 Permitted Shoreline Uses. The principal WCSMP regulatory use standards that apply to the Project elements that will occur in Wahkiakum County are those governing: dredging, dredged material disposal, mining/mineral extraction, and commercial (sand resale) activities.

Dredging

The WCSMP defines dredging as the removal of earth, sediment or other material from the bottom of a river or other aquatic area for the purpose of deepening a navigation channel or to obtain use of the bottom sediments. In this case, the removal of sand from the Columbia River to deepen the navigational channel to 43 feet constitutes dredging.

- Maintenance dredging is permitted as a substantial development in the urban, rural and conservancy aquatic environments.
- New construction dredging is permitted as a substantial development in urban and rural aquatic environments.
- New construction dredging is permitted as a conditional use in conservancy aquatic environments.

Dredged Material Disposal

Under the WCSMP, the disposal of dredged material encompasses the deposition of dredged material in aquatic areas as well as shorelines, including land disposal, in-water disposal, shoreline disposal, flowlane disposal and ocean disposal. The Project will use three upland sites, one shoreline site, flowlane and in-water fill types of disposal in Wahkiakum County. However, there will be no ocean disposal in Wahkiakum County.

- Land disposal is the deposition of dredged material on land. It will occur at the Brown Island and Rice Island sites. It will also occur beyond shoreline jurisdiction at the Puget Island (Vic property) site.
- Flowlane disposal is the in-water deposition of dredged material in or adjacent to the maintained navigation channel and within the natural channel or the slopes adjacent to the natural channel, in order to avoid permanent deposition and allow the material to continue downstream. This will occur in and adjacent to the navigation channel in the stretch of the Columbia River in Wahkiakum County.
- Shoreline disposal is the deposition of dredged material in shoreline areas where active erosion is occurring, as a way of preventing further erosion of the bankline. This will occur at the Skamokawa shoreline disposal site.

Mining/Mineral Extraction

The WCSMP defines mining and mineral extraction as the removal for economic use of sands, gravels or other naturally occurring materials from the shorelines and/or the bed beneath an aquatic area. In this case, the resale of dredged materials from the Skamokawa site is of material that does not naturally occur at that site and may not constitute mining. The Washington

Department of Ecology has indicated that it would consider these activities to be mining and this analysis will review the resale activities for consistency with these provisions. As noted earlier, this activity is not part of the Project, but may be conducted under a separate permit by the Port of Wahkiakum 2.

Commercial (Sand Resale) Activities

Commercial uses are privately-owned or operated facilities or places of business open to the public for the sale of goods or services. Commercial developments are those uses which are involved in wholesale or retail trade or business activities. In this case, the resale of sand from the Skamokawa resale site is conducted by the Port of Skamokawa 2 and is not privately owned or operated. Therefore, it should not constitute a commercial use. The Washington Department of Ecology has indicated that it considers these activities to be commercial and this analysis will review the resale activities for consistency with the commercial provisions.

4.2.4 Format. The WCSMP is organized into the following areas: general conditions for substantial development, specific regulatory standards for shoreline uses and activities, general policies and objectives for shoreline uses and activities, shoreline environment objectives, element goals and objectives, and conditional use permitting criteria. The analysis below, therefore, follows that same basic structure:

- **Substantial Development Conditions**
- **Master Program Regulatory Standards for Uses and Activities**
 - Dredging
 - Dredged Material Disposal
 - Mining/Mineral Extraction
 - Commercial Activities
- **Master Program Policy Objectives for Uses and Activities**
 - Dredging and Dredged Material Disposal
 - Mining/Mineral Extraction
 - Commercial Activities
- **Master Program Shoreline Environments and Objectives**
 - Urban
 - Rural
 - Conservancy
- **Master Program Element Goals and Objectives**
 - Circulation
 - Conservation
 - Economic Development

4.2.5 Consistency Analysis – Findings. The Project is not only consistent and in general conformance with the WCSMP, it actually promotes several key goals and policies regarding navigation and economic development.

4.2.5.1 Substantial Development Conditions. The Project will adopt and comply with all applicable general permit conditions and best management practices (“BMPs”) identified on page “v” of the WCSMP.

4.2.5.2 Dredging. As noted above, the Project’s dredging will occur in the navigation channel where dredging has previously occurred. The Project, which involves incrementally deeper dredging, is consistent with the WCSMP’s regulatory use standards and general policy objectives for dredging.

4.2.5.2.1 Regulatory Use Standards for Dredging. The Project meets the specific standards for dredging (WCSMP, pp. 51-52):

1. *Dredging in aquatic areas shall be permitted only:*

a. *For navigation or navigational access.*

As discussed in Section 4.1.2, the primary purpose of the Project is to enhance navigation and navigational access. Dredging serves the purposes of navigation and navigational access.

b. *In conjunction with a permitted water-dependent use.*

Marine shipping and related navigational improvements are permitted water-dependent uses.

c. *As part of an approved restoration Project.*

The Project includes restoration features in Wahkiakum County. The Purple Loosestrife Control Program will occur in the county, principally in the vicinity of Puget Island, the mouth of the Elochoman River, the embayment at Three Tree Point and Grays Bay. The installation of tidegate retrofits to improve fish passage through tidegates will occur at Deep River.

d. *As a source of material, or for mining and/or mineral extraction.*

The Project uses disposal sites from which dredged materials can be used beneficially or sold, including the Skamokawa site in Wahkiakum County. The Project will provide materials for the active public port sand and gravel resale operation at the southeast corner of that site. As noted, this resale activity is not part of the Project.

e. *In conjunction with a permitted navigational structure for which there is a public need and no other feasible site or route.*

The dredging will occur in conjunction with construction of the deepened navigational channel. See Section 4.1.2 above.

2. *Minimize dredging.*

Construction and maintenance dredging will only remove the material necessary for the authorized 43-foot navigation channel.

3. *Locate dredging in sandy bottom sediments, where biological productivity is low and unwanted shoaling has occurred.*

The amount of dredging that will be necessary in a given location varies depending on the amount and location of shoaling. Most of the dredged materials that are removed during construction of the 43-foot navigation channel will primarily be sand (small quantity of basalt and cobbles), with a low percent (<1%) organic content. These areas are low in benthic productivity when compared to other parts of the river.

4. *Conform to federal and state permits.*

The Project will comply with applicable state and federal permits or approvals.

5. *Avoid destabilization of fine-textured sediments, erosion, siltation, and other undesirable changes in circulation patterns or flushing times.*

The Project will avoid destabilization of fine-textured sediments, erosion and siltation. Most of the dredged materials that are removed during construction of the 43-foot navigation channel will be coarse to medium sand as opposed to fine-textured sediments (silts and clays). Hopper dragheads and pipeline cutter heads will only be lifted to within 3 feet of the river bottom. This minimizes siltation and is normally done by the dredge operators, as it has been required by NOAA Fisheries for maintenance dredging of the 40-foot channel.

6. *Consider adverse effects of initial and maintenance dredging.*

Dredging will be done at depths of more than 40 feet where benthic productivity is low. Because salmonids generally migrate at depths within 20 feet of the surface, entrainment is not expected to occur. No crab are located in the area to be dredged within Wahkiakum County. Upland effects of disposal of dredged materials are discussed below.

7. *New project dredging in conservation aquatic areas shall be limited to shallow draft navigation or access channels.*

The navigation channel is not located in the Conservation Environment.

4.2.5.2.2 Policy Objectives for Dredging. The Project is also consistent with the WCSMP policy objectives for dredging (WCSMP, p. 20):

1. *Minimize damage to existing ecological systems and natural resources in both the dredging and deposition areas.*

Dredging will be done at depths of more than 40 feet, beyond the depths at which salmonids generally migrate. The primary hopper and pipeline dredges that will be used generally do not

produce large amounts of turbidity because of the suction action of the dredge pump and the burial of the drag arm or cutter head in the sediment.

Flowlane disposal generally will also be in depths ranging from 50 to 65 feet. Most benthic invertebrates that serve as a food source for fish are found at depths of less than 20 feet. Therefore, restricting the disposal of dredged materials to depths greater than 20 feet will minimize potential impacts from this activity. Most of the volume of disposal material will be placed in areas in Wahkiakum County that have no crabs. While it has been established that white sturgeon are present in the flowlane disposal areas, the Corps is conducting studies to help avoid and minimize impacts to sturgeon.

The proposed dredging disposal activity along the Columbia River channel has been subject to consultation under the Endangered Species Act to address impacts to listed fish species or proposed critical habitat. Except for the Puget Island site, the upland disposal sites in Wahkiakum County have been used for dredge material disposal. Selection of previously used sites helps to avoid damage to “existing ecological systems” and resources. The new disposal site, Puget Island, in Wahkiakum County is located 300 feet beyond the Columbia River to minimize damage to existing ecological systems and resources of the shoreline. The site is outside of shoreline jurisdiction. The Washington Department of Fish and Wildlife Priority Habitat Survey map does not show waterfowl use of the Puget Island disposal site. Wintering Canada geese would be expected to forage in these pasturelands. The wildlife mitigation plan includes creation of 132 acres of forage habitat at Woodland Bottoms. The disposal site ultimately will be returned to agricultural use and would then provide waterfowl forage compared to the present condition. Exhibit K-8, Consistency with Critical Areas Ordinances Including Wetland Mitigation (Revised). The USFWS Biological Opinion includes the Corps incremental (3 cell) disposal plan with topsoil replacement as a reasonable and prudent measure to minimize impacts on Columbian white-tailed deer.

2. *Restrict dredged material deposition in water areas to improve habitat or to correct material distribution adversely affecting resources.*

Shoreline sites selected for use as shoreline disposal areas are only those that are highly erosive, where replacement of dredged materials will correct the material distribution, such as at the Skamokawa shoreline disposal site in Wahkiakum County. Flowlane disposal will be restricted to the navigation channel and the adjacent areas and will use a diffuser on the down pipe that will be moved continually to prevent mounding on the river bottom.

3. *Local review of dredging to create land or extend property.*

The dredging that will occur in this Project is not being conducted for the purpose of creating land or extending property.

4. *Dredged material disposal in shoreland areas should not impair scenic views of local residents.*

The Project uses existing disposal sites, including Brown Island and Rice Island in Wahkiakum County, in order to minimize visual impacts. The new disposal site is located beyond the shoreline.

5. *Restrict dredging activities in commercial fish drift areas during fishing season.*

Dredging and flowlane disposal will be restricted to the navigation channel and adjacent areas. As noted above, the Project generally uses disposal sites and practices that are being, or have been, used for many years in Wahkiakum County. Dredging and flowlane disposal activities are spatially and temporally restricted and thus would preclude commercial fishing of only a minor portion of the river during dredging operations. Further, dredging operations (O&M) typically occur in the June to September timeframe and would have to coincide with commercial fishing seasons to result in a conflict.

4.2.5.3 Disposal of Dredged Material. The Project is consistent with the WCSMP's regulatory use standards and the policy objectives for the disposal of dredged materials.

4.2.5.3.1 Regulatory Use Standards for Disposal of Dredged Material. The Project is consistent with the WCSMP's standards for the disposal of dredged material (WCSMP, p. 55-57):

1. *Select dredged material disposal sites in accordance with the "Dredged Material Disposal Plan Site Selection and Use Priorities."*

All dredged material disposal sites that are within the shoreline are covered by CREST's Dredged Material Disposal Plan Site Selection and Use Priorities ("DMDP"). In addition the CREST DMDP explicitly states that "the Plan is not intended to be an exhaustive list of all possible disposal sites and *it in no way restricts the disposal of dredged materials to designated sites only.*"

2. *Use dikes to protect water quality, and graded slopes of 1½-1 and reseeding to minimize erosion at dredged material disposal sites.*

Upland disposal sites, like Brown Island, Rice Island and Puget Island are designed to contain the dredged material and hold the return water while allowing sand and suspended sediment to settle.

3. *Characterize bottom sediments in the dredging and disposal areas, except for clean Columbia River sands and gravel.*

Sediment quality has been evaluated for dredged materials from the navigation channel. Sediment samples were collected and subjected to physical and chemical analyses. These studies indicate that material to be dredged in the Columbia River navigation channel is suitable for unconfined open water disposal. The bed material of the Columbia River navigation channel is over 99 percent coarse and medium sand. Sediment evaluations of potential maintenance dredging material conducted since the 1970s have consistently found the material to be suitable

for unconfined in-water disposal. A recent review of all available sediment and contaminants data from the navigation channel determined that all such data was below current DMEF and NOAA Fisheries thresholds (NOAA Fisheries' Biological Opinion).

4. *Coordinate timing of dredging and disposal with federal, state and local agencies, and private interests to protect biological productivity and minimize interference with fishing activities.*

Year-round dredging is proposed for Project construction because dredging will be restricted to the navigation channel, at depths of more than 40 feet where salmonids and benthic invertebrates are generally not present. Typically, O&M dredging is conducted after the spring freshet, typically from July to October. Dredging and disposal in Wahkiakum County would be limited because the volume of material and number of disposal locations is limited. Restricting dredging and flowlane disposal to the navigation channel and adjacent areas will also minimize interference with commercial and recreational fishing, as will the use of temporary pipelines for placement of sand at upland disposal sites. The NOAA Fisheries and Fish and Wildlife have reviewed the Project and issued Biological Opinions that address the Project's effects on species listed under the Endangered Species Act. The use of existing disposal sites minimizes the impact to terrestrial vegetation, riparian habitat, and aquatic resources. Creation of the upland disposal site at Puget Island will impact farmlands that are located beyond the shoreline.

5. *Minimize adverse short-term effects of dredging and disposal such as turbidity, release of heavy metals, etc., disruption of food chains, loss of benthic productivity, and disturbance of fish runs.*

Dredging will occur at depths of more than 40 feet, beyond the depths at which salmonids generally migrate. Flowlane disposal generally will be in depths ranging from 50 to 65 feet, also beyond the depths at which most benthic invertebrates are found. The Project incorporates dredging methods and BMPs that minimize turbidity. Sediment studies indicate that the quality of sediments that will be dredged from the Columbia River navigation channel is suitable for unconfined open water disposal.

6. *All relevant state and federal water quality standards shall be met by dredging and dredged material disposal activities.*

A Section 401 water quality certification will be obtained for the Project. The Project will comply with all applicable water quality standards.

7. *In-water disposal requirements:*

Flowlane disposal is discussed in response to question 8 below. The only other in-water disposal is at Skamokawa Beach where such activity has occurred for many years.

a. *Consider the need for the proposed disposal, and alternate sites and methods of disposal that might be less damaging to the environment and benthic populations.*

The shoreline disposal site at Skamokawa has been used because of the need to counter highly erosive forces at this area of the shoreline. In addition, the Department of Ecology is generally encouraging in-water disposal.

- b. *Consider matching the size and characteristics of dredged material to the disposal site.*

Most of the dredged materials that are removed during construction of the 43-foot navigation channel will be sand, with a low percent organic content, like the sands at the Skamokawa site. Sediment evaluations of potential maintenance dredging material conducted since the 1970s have consistently found this material to be suitable for unconfined in-water disposal.

- c. *Avoid erosion, sedimentation, increased flood hazard and other undesirable changes in circulation in dredging and the disposal of the dredged material. Tidal marshes, tidal flats and other wetlands should not be adversely affected.*

The Skamokawa shoreline disposal site was selected specifically to counter erosion. Disposal at this location will neither result in undesirable change nor adversely affect desirable habitat.

- d. *No dredged material disposal in the vicinity of a public water supply intake.*

There is no public water supply intake near the Skamokawa shoreline disposal site.

8. *Flowlane disposal requirements:*

- a. *No deposit of material upstream from the dredging site or where flows or tidal conditions transport sediments predominantly upriver.*

Flowlane or in-water disposal distributes dredged material downstream of the dredging area, at sites within or adjacent to the navigation channel where depths are greater than the channel. This is done to minimize the potential for material settling back into the channel and causing additional shoaling problems.

- b. *No interference with fishing activities by causing major changes in the circulation patterns or bottom configuration of the disposal site.*

Flowlane disposal will be restricted to the navigation channel and the adjacent areas, where fishing activities generally do not take place. Flowlane disposal will be dispersed along the channel to avoid creating mounds that could change circulation patterns or bottom configurations. During hopper-dredge disposal, material will be released while the dredge is in motion to disperse material, during pipeline-dredge disposal, the diffuser on the down pipe will be operated to prevent mounding on the river bottom.

9. *Shoreline disposal requirements:*

a. *[No] erosion or deposition downstream from the disposal site, or erosion that could smother marsh or other shallow productive areas.*

The NOAA Fisheries and USFWS have approved shoreline disposal at Skamakowa after reviewing it to determine that it would not have adverse impacts to listed fish species or their habitat. The area downstream from Skamakawa is not a marsh or other shallow productive area. The site is on the outside bend of the river and, therefore, is unlikely that a stable benthic environment could form.

b. *The volume and frequency of dredged material disposal maintains a stable beach profile, as nearly as possible. Dredged material shall be graded at a uniform slope and contoured to reduce cove and peninsula formation and to minimize stranding of juvenile fish.*

Shoreline disposal will be done primarily with pipeline dredges. Material dredged from the main navigation channel is pumped to a shallow water and beach area. The dredge first pumps a landing on the beach to establish a point from which further material placement occurs. Dredged material is pumped as a sand and water slurry (about 20 percent sand). As it exits the shore pipe, the sand quickly settles out on the beach while the water returns to the river. Once sand begins to accumulate, it is spread to match the elevation of the existing beach. A typical shoreline disposal operation occurs only once at any location during the dredging season. It takes from 5 to 15 days to fill a site, depending on the size of the site and the amount of material to be dredged. The width of the beach that is maintained is approximately 100 to 150 feet riverward. The process continues by adding length to the shore pipe and proceeding longitudinally along the beach. After disposal the beach is groomed to a minimum steepness of 10 to 15 percent to prevent the possibility of creating areas where fish could be stranded by wave action.

10. *Ocean disposal requirements:*

No ocean disposal will occur within Wahkiakum County.

11. *Except for flowlane disposal and shoreline disposal, deposition inside the estuary should be substituted for ocean disposal only when sea or weather conditions are a hazard to navigation for the dredging vessel.*

None of the disposal in Wahkiakum County has been substituted for ocean disposal. In addition, the Washington Department of Ecology has encouraged the Corps to consider alternatives to ocean disposal.

12. *Land disposal requirements:*

a. *Surface discharge must be properly diverted to maintain the integrity of the natural streams, wetlands and drainage ways. Disposal runoff water must exit the waterway through an outfall at a location that maximizes circulation and flushing. Underground springs and aquifers must be identified and protected.*

Upland disposal sites will use weirs to regulate the return of water to the river. Water from the upland disposal sites will be allowed to settle and clear through the retention pond drainage system before it runs back into the river. Water returned to the river through weirs is subject to applicable state water quality standards, after dilution, at an appropriate point of compliance. The only new upland disposal site is located Puget Island beyond shoreline jurisdiction.

b. *Dikes should be well constructed and large enough to encourage proper “ponding” and to prevent the return of settleable solids into the waterway or estuary. Ponds should be designed to maintain at least one foot of standing water at all times to further encourage proper settling. Weirs should have proper crest heights.*

Upland sites, like Brown Island, Rice Island and Puget Island, in Wahkiakum County, are designed to contain the dredged material and hold the return water while allowing sand and suspended sediment to settle. Sand will be placed in upland disposal sites with a temporary pipeline extending from the dredge vessel. The pipeline will be removed from the sites after sand placement. Sand moves through the pipeline in the form of a slurry mixed with Columbia River water. Water from the upland disposal sites will be allowed to settle and clear through the retention pond drainage system before it runs back into the river. Weirs of appropriate crest height will be used, where necessary, to regulate the return of water to the river. Water returned to the river through weirs is subject to applicable state water quality standards, after dilution, at an appropriate point of compliance.

13. *Disposal should be comparable with the intended land surface use after disposal and should minimize the quantity of land that is disturbed. Clearing of land should occur in stages on an as-needed basis. Reuse of existing disposal sites is preferable to the creation of new sites.*

Upland disposal sites, like Brown Island and Rice Island, which have been used for past dredged material disposal will continue to be used. Reuse of previous disposal sites minimizes resources impacts as well as the need to obtain new disposal sites. The useful life of these diked disposal sites will be extended by building a series of “lifts” placed on top of the deposited sand after a specified height is reached. This method minimizes the quantity of land that is disturbed. Disposal at Puget Island will occur in stages and topsoil will be replaced to return the land to agricultural use.

14. *Where appropriate, revegetation should occur as soon as possible, using native species, consistent with the interagency seeding manual prepared by the Soil Conservation Service (SCS).*

The Puget Island site will have topsoil replaced and the area will be returned to agricultural use. Sand is not a natural soil base for either upland or beach sites in the project area. Consequently, dredged material disposal sites (sands) are an atypical habitat for the project area. There are no native plant species present in the project area for sandy beach or upland habitats. For upland dredged material sites, particularly downstream of CRM 46, experience has shown the sandy material on disposal sites above the high tide line too dry, sterile and erosive to allow for vegetation establishment.

15. *Height and slope requirements: The final height and slope after each use of a land dredged material site should be such that:*

a. *The site does not enlarge itself by sluffing and erosion.*

Once the water is drained from the upland disposal sites, the sand will be spread around the holding area. After they are no longer used for dredged material disposal, most sites will be regraded to minimize erosion.

b. *Material lost during storms and freshets is minimized.*

Upland sites, like Brown Island, Rice Island and Puget Island will be surrounded by earthen dikes to contain the dredged material and hold the return water while allowing sand and suspended sediment to settle. Return flows of water to the river will be regulated by weirs.

c. *View impacts from residences, viewpoints and parks are avoided.*

The Project uses existing disposal sites to the extent feasible, like Brown Island and Rice Island, in order to minimize visual impacts. The sites are quite distant from residences view points and parks.

4.2.5.3.2 Policy Objectives for Dredged Material Disposal. The Project is consistent with the WCSMP's standards for dredged material disposal, which are included within its policy objectives for dredging (WCSMP, p. 20). *See Section 4.1.5.1.2 above.*

4.2.5.4 Mining/Mineral Extraction. Although the resale of dredged materials is not part of the Project and does not appear to meet the definition of mining, resale activities that may be conducted by the Port of Wahkiakum 2 would be consistent with the WCSMP's regulatory use standards and general policy objectives for mining/mineral extraction.

4.2.5.4.1 Regulatory Use Standards for Mining/Mineral Extraction. Although not part of the Project, resale activities by the Port of Wahkiakum 2 are consistent with the WCSMP's standards for mining/mineral extraction (WCSMP, p. 71-72):

1. *Submit surface mining plan and a reclamation plan; comply with state and federal standards.*

N/A. Resale activities will comply with all applicable federal and state standards. However, a reclamation plan is typically required to address reclamation of a mine site after mining has finished. The Skamokawa resale site is not a mining site that will need to be reclaimed. Therefore, no reclamation plan should be necessary.

2. *Minimize impacts on fish, bird and wildlife habitats, riparian vegetation, water quality, shoaling, erosion, and circulation.*

The NOAA Fisheries and USFWS have identified the Skamokawa site because of its highly erosive nature and limited habitat value. The Skamokawa site also incorporates a shoreline disposal element specifically designed to correct an erosion problem.

3. *No petroleum extraction or drilling in aquatic areas.*

N/A. The Project does not include any petroleum extraction or drilling.

4. *Stockpiles should be beyond high water so that sediment will not enter or return to the waterway, not within aquatic areas.* Resale materials at the Skamokawa resale site will be placed in areas so that sediment will not enter the waterway. Only shoreline disposal materials will be placed in aquatic areas to restore eroded shorelines.

5. *Submit a surface mining plan or reclamation plan sufficient to protect or restore the shoreline environment.*

See 1 above.

6. *Gravel removal alongside, upstream or downstream from spawning areas shall comply with the technical provisions of the HPA.*

No gravel removal will occur from in-water areas at Skamokawa.

7. *Mining operations shall be strictly controlled or prohibited where historical, cultural, educational, or scientific values will be degraded.*

N/A. There are no known historical or cultural resources at the Skamokawa resale site.

4.2.5.4.2 Policy Objectives for Mining/Mineral Extraction. Resale of materials at Skamokawa resale element of the Project is also consistent with the WCSMP's policy objectives for mining/mineral extraction (WCSMP, p. 27):

1. *When materials are removed from shoreline areas, adequate protection against sediment and silt production should be provided.*

Resale activities at the Skamokawa resale site will take place at the existing sand and gravel removal operations, away from the shoreline to protect against sedimentation and siltation.

2. *Excavations for the production of sand, gravel and minerals should conform with the Washington State Surface Mining Act.*

The Skamokawa resale site will conform with all applicable state laws.

3. *When removal of sand and gravel is permitted, it should be taken from the least sensitive biophysical areas of the beach.*

Resale activities will take place only at the existing sand and gravel removal operation in the southeast corner of the Skamokawa site, upland from the shoreline.

4.2.5.5 Commercial Development. The Project does not include commercial development. Port resale activities, however, would be consistent with the WCSMP's regulatory use standards and general policy objectives for commercial development.

4.2.5.5.1 Regulatory Use Standards for Commercial Activities. Many of the commercial activities standards pertain specifically to commercial structures and developments. Resale, however, is consistent with all applicable WCSMP standards for commercial activities (WCSMP, p. 46-47):

1. *Because shorelines suitable for urban uses are a limited resource, emphasis shall be given to development within already developed areas and particularly to water-dependent commercial uses requiring frontage on navigable waters.*

The Skamokawa resale site is located at an existing sand and gravel resale operation in the southeast corner of the Skamokawa property.

2. *Commercial development may be permitted subject to the following regulations:*

a. *Commercial buildings of more than 35 feet above average ground grade shall be allowed as a conditional use.*

N/A. The Project does not include construction of any buildings. However, the final height of the Skamokawa resale site is not expected to exceed 15 feet.

b. *Commercial structures or facilities shall be set back from the ordinary high water mark by a minimum of 30 feet.*

N/A.

c. *Parking facilities shall be placed as far inland as the topography of the area allows.*

N/A. The Project does not include any parking facilities. The resale site will use the existing parking facilities.

3. *Commercial uses shall be aesthetically compatible with their waterfront location.*

N/A. The Project does not include construction of any buildings. However, the resale site has been operated for years in its current location and provides a revenue source for the day use park.

4. *Visual access to the water shall not be impaired by the placement of signs.*

N/A. The Project does not include any signage.

5. *Off-premise outdoor advertising shall not be allowed in conservancy and rural environments, or in aquatic areas.*

N/A. The Project does not include any off-premise advertising.

6. *Placement of riparian vegetation in shoreline areas to enhance visual attractiveness or assist in bank stabilization may be required.*

N/A. This site is an active eroding site that is used for material resale. Placement of vegetation to enhance visual attractiveness or bank stability is not warranted or feasible.

7. *Commercial uses situated on floating structures shall be located so as not to rest on the bottom at mean high tide and high water.*

N/A.

8. *When the proposed use is situated directly on the waterfront, maximum feasible public access shall be provided.*

N/A. Resale activities are conducted to maintain public access to the beach.

9. *Commercial recreational developments shall not substantially change the character of the environment in which they are located.*

N/A. The Project does not include any commercial recreational developments.

4.2.5.5.2 Policy Objectives for Commercial Activities. Resale activities by the Port of Skamokawa, although not part of the Project, are also consistent with the WCSMP's applicable policy objectives for commercial activities (WCSMP, p. 19):

1. *Prioritize commercial developments that are particularly dependent on location and/or use of the shorelines.*

The dredged materials sold at the Skamokawa resale site will be taken from the Columbia River. Utilizing a resale site close enough to the river to allow for placement of sand by a temporary pipeline extended from the dredge vessel minimizes impacts of moving materials across shorelines.

2. *Locate new commercial developments in those areas where current commercial uses exist.*

The Skamokawa resale site is an existing, rather than new site. It is located at an existing sand and gravel resale operation in the southeast corner of the property.

4.2.5.6 General Policies. The Project is not only consistent with the WCSMP standards and policies discussed above, it also furthers some of the more general master program goals and policy objectives for applicable shoreline environments and elements, as discussed below.

4.2.5.6.1 General Policy Objectives for Shoreline Environments. The Project is consistent with the WCSMP's general policy objectives for the shoreline environments in which Project elements will be located.

1. *Urban: To identify those defined areas which are currently in urban use and potentially capable of urban use to satisfy the socio-economic needs of the present and future population of the County.*

None of the proposed Project uses are urban in nature. The Skamokawa resale activity, although not part of the Project, is consistent with generating revenue to maintain the day use park.

2. *Rural: Establish open spaces which will satisfy positive human needs for recreation, discourage urban sprawl into areas beyond service capabilities and preserve the limited agricultural resource base.*

The only Project elements that will occur in a rural shoreland environment are the temporary pipeline from the dredge vessel to the Puget Island upland disposal site. These less intensive uses are consistent with the rural shoreline goals of establishing open spaces and discouraging urban sprawl.

3. *Conservancy: Maintain these areas for a sustained yield philosophy of resource management, and establish suitable areas for non-intensive agricultural uses, non-intensive recreational uses and limited intensive public access.*

Disposal of dredged material and the Skamokawa shoreline disposal activities will take place in conservancy shoreline areas. Shoreline disposal activities at Skamokawa will restore an eroded shoreline and return sands to the River system consistent with the conservancy shoreline goal of maintaining the Columbia River with a sustained yield philosophy of resource management.

4.2.5.6.2 General Policy Objectives for Shoreline Elements.

The Project is consistent with the WCSMP's general policy objectives for applicable shoreline elements.

1. *Circulation Element:*

Goal: Development of facilities for any of the various modes of travel on County shorelines must not endanger the life, property, or rights, nor debilitate the quality of life of citizens or existing commercial entities.

The dredging and disposal activities related to the navigation channel that are used in Wahkiakum County are similar to those used for many years and have not endangered life, property or the rights of others. The Skamokawa shoreline disposal enhances Wahkiakum County's quality of life by helping maintain the day use park.

Applicable Policy Objectives:

- a. *To ensure that the site selected is suitable for the use proposed.*

Dredging and flowlane disposal will be restricted to the navigation channel and the adjacent area. Upland dredged material disposal sites have been chosen so as to avoid and minimize impacts. Sites that have been used for past dredged material disposal, like Brown Island and Rice Island, will continue to be used. Sites from which dredged materials could be used beneficially or sold, like the Skamokawa resale site, were also selected in preference to other locations. The new upland disposal site at Puget Island (Vik), is located outside the 200-foot shoreline jurisdiction. The Skamokawa shoreline disposal site was selected to counter erosive effects to a popular recreation area.

- b. *To be introduced to the area with a minimal adverse effect upon the natural features, scenic quality and ecosystems.*

No new circulation activity is being introduced to the shoreline area. Dredging and disposal has occurred in Wahkiakum County for many years. The new Puget Island site is beyond the shoreline jurisdiction.

- c. *To fulfill a need which can only be satisfied by such use on the shorelines as opposed to an upland use.*

The Project will use the existing upland disposal sites at Brown Island and Rice Island, and the existing resale site at Skamokawa.

- d. *To protect the life, property and rights of others and sustain or improve the quality of life in the area.*

See Goal 1 above.

2. *Conservation Element:*

Goal: Encourage best management practices for the continued sustained yield of replenishable resources of the shorelines and preserve, protect and restore those unique and nonrenewable resources.

The Project incorporates the following BMPs, among others, to protect shoreline resources during dredging:

- During hopper and pipeline dredging, maintain dragheads in the substrate or no more than 3 feet above the bottom with the dredge pumps running.
- The contractor shall not release any trash, garbage, oil, grease, chemicals, or other contaminants into the waterway. The Project also incorporates the following BMPs, among others, to protect shoreline resources during dredged material disposal:

- For flowlane disposal, dispose of material in a manner that prevents mounding of the disposal material.
- Maintain discharge pipe of pipeline dredge at or below 20 feet of water depth during flowlane disposal.
- Berm upland disposal sites to maximize the settling of fines in the runoff water.
- Locate new upland disposal sites 300 feet from the Columbia River.
- Grade shoreline disposal sites to a slope of 10 to 15 percent, with no swales, to reduce the possibility of stranding of juvenile salmonids.

Applicable Policy Objectives:

- a. *Preserve the scenic and aesthetic qualities of shorelines and vistas.*

Existing upland disposal sites, like Brown Island and Rice Island, are being used. The new upland disposal site is located outside of the shoreline.

- b. *Contribute to a maximum utilization of resources without harming other natural systems or quality of life.*

By deepening the navigation channel to 3 feet in selected locations, the Project will maximize the utility of the navigation channel. At the same time, by incorporating ecosystem restoration components, the Project will further enhance the natural systems and quality of life.

- c. *Restore damaged features or ecosystems to a higher quality than may currently exist.*

The Project incorporates a number of ecosystem restoration actions.

- d. *Preserve unique and non-renewable resources.*

Restricting dredging and flowlane disposal to depths of more than 20 feet will minimize potential impacts from these activities on threatened and endangered species and their critical habitat.

- e. *Consider the total upstream and downstream effect of proposed developments to ensure that no degradation will occur to the shorelines.*

This report includes shoreline consistency analyses for each jurisdiction in which Project activities will take place to consider the total upstream and downstream effects of the proposal.

3. *Economic Development Element:*

Goal: Encourage industry and commercial activities on the shorelines that require the land-water interface for productive efforts.

The Columbia River navigation channel serves the national and regional economy. The lower Columbia River is the second largest grain-shipping waterway in the world, surpassed only by the Mississippi River. Regional growers, producers, and manufacturers use Columbia River ports to transport their goods to world markets. Shippers that use the Columbia River realize

lower shipping costs by using Columbia River ports as opposed to more distant alternative ports. Marine shipping is an important industry in the lower Columbia River region. Approximately 40,000 jobs depend on Columbia River port activity, at \$46,000 per year per employee on average. Columbia River port activity also generates \$2 billion in business revenues and more than \$200 million in state and local taxes each year. By lessening or removing the channel depth constraints for Columbia River port activity, the Project will continue to support this vital section of the regional economy for Wahkiakum County citizens and commercial entities.

Applicable Policy Objectives:

a. *Those economic developments proposed must not reduce the quality of life residents.*

The Project involves activities and methods that are well established in Wahkiakum County and will not reduce quality of life.

b. *Effectively operate without debilitating the quality of life or resources of the surrounding and adjacent area selected.*

By deepening the channel depth in selected locations, the Project will enhance the utility of the navigation channel. At the same time, by incorporating ecosystem restoration components, the Project will further enhance quality of life and preserve resources in the surrounding and adjacent areas.

4.2.6. Conditional Use Criteria. See the discussion in Section 4.1.3.

4.3 Pacific County

4.3.1 References. Pacific County’s shoreline regulations and policies are found in its SMP. References below to the Pacific County SMP (revised 2000) (“PCSMP”) are given by page number.

4.3.2 CZMA Consistency. Federal agency activities are reviewed for consistency with the enforceable policies of the Washington Coastal Management Program. Enforceable policies are legally binding laws, regulations, land use plans, ordinances, or other laws incorporated in an approved management program. A 65 Fed Reg. 77125 (December 8, 2000).

The Deep Water Site is located outside the limits of the Territorial Sea and is not directly within the jurisdiction of Pacific County.

The Pacific County Shoreline Master Program includes a number of provisions that implement the Washington Ocean Resources Management Act. The Ocean Resources Management Act does not apply to the Project because the Deep Water Site is off the coast of Oregon and is south of Cape Disappointment, the southern limit of the area regulated by the Act.

Section 2. Definitions. The Pacific County SMP defines “coastal waters” as “waters of the Pacific Ocean seaward from Cape Flattery south to Cape Disappointment, from mean high tide

seaward two hundred miles. For Pacific County, coastal waters include from mean high tide seaward three miles.” This definition is similar to the definition in the ORMA, except that it limits Pacific County’s definition of coastal waters to within three miles. The Pacific County SMP defines “ocean uses” as “activities or development involving renewable and/or nonrenewable resources that occur on Washington’s coastal waters.”

Subsection 25.B.9 designates an “Ocean Environment” to which specific regulations apply. This subsection defines the Ocean Environment as being located “between Pacific County and Grays Harbor County; and from mean high tide, seaward three miles.”

As noted above, the proposed ocean disposal site is located south of Cape Disappointment and is, therefore, not within the “coastal waters” covered by Pacific County’s SMP or in the “Ocean Environment” designated by Pacific County.

4.3.3 CZMA Consistency.

4.3.4 CZMA Findings.

Section 23 Columbia River Estuary Segment. Section 23 of the Pacific County SMP applies to the area defined by the Columbia River Segment of the Pacific County’s Shoreline Master Program. Appendix 5 of the SMP defines a part of the Columbia River Segment as including a specific area around Cape Disappointment. Subsection D of Section 23 identifies use and activity regulations for the Columbia River Segment. Subsection D provides tables identifying permitted uses and activities in seven management designations created by Subsection 25.B.1. through Subsection 25.B.8 of this Master Program. None of Subsections 25.B.1-8, cover the ocean. Subsection 25.B.9 designates an “Ocean Environment” and defines it as “waters of the Pacific Ocean from Cape Disappointment north to the border between Pacific County and Grays Harbor County; and from mean high tide, seaward three miles.

Section 23.D. provides use standards for activities in the environments of the Columbia River Segment defined in Subsections 25.B.1-8. As noted above, the project has no activities in any of these environments. Paragraph 23 of Section 23.D provides the use standards for dredge disposal in the Columbia River Segment. As discussed above, these standards only apply to specific environments that do not include the ocean. In addition, the Ocean Environment as defined by the SMP does not include the Ocean Disposal Site. Therefore, the standards in Section 23 do not apply and the use standards are not enforceable policies as defined by the CZMA.

ii. *The activity complies with the applicable regulations in Section 27 Ocean Resources.*

See following discussion.

Section 27 Ocean

12. *Permit Review Criteria.* The PCSMP sets forth eight criteria for the County to review ocean and associated upland or coastal uses and activities. By the terms of the PCSMP, these

criteria apply when the County is issuing permits. The County has no authority to issue permits beyond 3 miles, therefore, these criteria do not appear to apply under the plain reading of the PCSMP. In addition, the PCSMP specifically defines the Ocean Environment as the area north of Cape Disappointment.

In this regard, the terms of subsection 12 are not “enforceable policies” of the State Coastal Management Program because they explicitly only pertain to activities subject to the County’s permitting authority.

4.4 Clark County

Clark County is not located in Washington’s Coastal Zone. Therefore, review of the Clark County SMP is presented here for purposes of showing general consistency with local plans, rather than for purposes of demonstrating consistency with the Coastal Zone Management Act.

4.4.1 References. Clark County’s shoreline regulations and policies are found in its SMP. References to the Clark County Shoreline Master Program (revised 1974) (“CCSMP”) are given by page number.

4.4.2 Proposed Shoreline Uses. The Project, includes the following activities which may occur all or in part within Clark County’s shoreline jurisdiction:

Columbia River – 43-ft. Channel Improvement Construction and Maintenance Dredging

The Columbia River will be dredged in selected areas adjacent to Clark County. Dredging will deepen the existing 40-foot-deep channel to the newly authorized depth of 43 feet.

Columbia River – Dredged Material Flowlane Disposal

Flowlane disposal will be done adjacent to the channel in discrete locations.

The following activities, although not part of the Project, may be conducted by disposal site owners/operators:

Fazio Sand and Gravel - Dredged Material Upland Disposal and Resale/Mining, CRM W-97.1

Size: 27 acres

Elevation: Current surface elevation is approximately +10 feet CRD; surface elevation with total volume in place will go to +20 feet CRD but will vary due to resale.

Owner: Fazio Bros. Sand and Gravel

The Fazio Sand and Gravel site is currently used for sand resale operations. The mining operation is roughly in the center of the site. It is surrounded by a berm and drained by a weir system that allows water to clear before it is returned to the river. The disposal plan includes avoidance of the riparian vegetation.

The north-northwestern portion of the property is currently being used as a feedlot for cattle, and the northeast corner is used as an equipment storage yard. Prior to the mining operation, the property was reportedly used for agricultural purposes.

The site can accept up to 650,000 cy of additional sand. The Corps plans to place 112,000 cy of sand at the site during the 2-yr construction phase of the project. Maintenance dredging is estimated to be up to 1,000,000 cy over 20 years, with the material to be sold from the site as part of the sand resale operation. In the event the capacity is not sufficient to handle maintenance material in any given year, the intent would be to place the material at CRM 96.9, Adjacent to Fazio. Within the 200-foot shoreland environment, only a temporary pipeline will be used for placement of dredged materials at the site, and a return weir will be constructed for water drainage from the site back to the river, if it does not already exist.

Adjacent to Fazio - Dredged Material Upland Disposal and Resale/Mining Site, CRM W-96.9

Size: 17 acres

Elevation: Current surface elevation is approximately +20 feet CRD; surface elevation with total volume in place will go to +20 to +30 feet CRD but will vary due to resale.

Owner: Fazio Bros. Sand and Gravel

The Adjacent to Fazio site is an expanded upland disposal site that will be used for the maintenance phase of the project. The site can accept up to 475,000 cy of sand. The Adjacent to Fazio site has previously been used for disposal of dredged sand. The disposal plan will include avoidance of the riparian vegetation.

The Adjacent to Fazio site is currently used as a pasture for cattle. The western and northern portions of the site contain a cattle feedlot, while the eastern portion is open pasture. The soil is sandy and unsuitable for intensive use as cropland. The southern boundary adjoins the Fazio Bros. and New Columbia Garden Co compound. Within the 200-foot shoreland environment, only a temporary pipeline will be used for placement of dredged materials at the site, and a return weir will be constructed for water drainage from the site back to the river, if it does not already exist.

4.4.3 Permitted Shoreline Uses. The principal CCSMP regulatory use standards that apply to the Project are those governing dredging.

Dredging

The CCSMP defines dredging as the removal of earth from the bottom of streams, lakes or other water bodies for such purposes as channel improvements or to obtain bottom materials for landfill or resource utilization. (CCSMP, p. 68).

The following CCSMP regulatory use standard would apply to private activities that are not part of the project at the Fazio and Adjacent to Fazio sites:

Mining

The CCSMP defines mining as the removal of naturally occurring materials from the earth for economic use. (CCSMP, p. 67).

Commercial (Sand Resale) Development

The CCSMP defines commercial development as uses which are involved in services, wholesale and retail trade or other business activities. (CCSMP, p. 73).

4.4.4 Format. The CCSMP is organized into the following areas: specific regulatory standards for shoreline uses and activities, general policies and objectives for shoreline uses and activities, shoreline environment objectives, element goals and objectives, and conditional use criteria. The analysis below, therefore, follows that same basic structure:

- **Master Program Regulatory Standards for Uses and Activities**
 - Dredging
 - Mining
 - Commercial Development
- **Master Program Policy Objectives for Uses and Activities**
 - Dredging
 - Mining
 - Commercial Development
- **Master Program Shoreline Environments and Objectives**
 - Urban
 - Rural
 - Conservancy
- **Master Program Element Goals and Objectives**
 - Circulation
 - Conservation
 - Economic Development
 - Shoreline Use
 - Shoreline Improvement

4.4.5 Consistency Analysis – Findings. The Project is not only consistent and in general conformance with the CCSMP, it actually promotes several key goals and policies regarding navigation and economic development.

4.4.5.1 Dredging. The Project is consistent with the CCSMP’s regulatory use standards and general policy objectives for dredging.

4.4.5.1.1 Regulatory Use Standards for Dredging. The Project meets the specific regulations for dredging (CCSMP p. 68):

1. All permits for dredging must be obtained prior to the start of the operation from the appropriate agency or agencies.

The Project will obtain all applicable permits.

2. All dredging proposals which require a shoreline permit must clearly identify the need and purposes of the project; type and volume of dredge material; spoils disposal site; methods of

dredging; time frame of the project; conditions of the dredging site such as water uses and channel characteristics.

As discussed in Section 4.12, Project dredging is for navigation and navigational access. Construction and maintenance dredging will only remove the material necessary for the authorized 43-foot navigation channel. The amount of dredging that will be necessary in a given location varies depending on the amount and location of shoaling. Most of the dredged materials that are removed during construction of the 43-foot navigation channel will be sand, with a low percent organic content. Dredging will be done at depths of more than 40 feet. The primary hopper and pipeline dredges that will be used generally do not produce large amounts of turbidity because of the suction action of the dredge pump and the burial of the drag arm or cutter head in the sediment. Turbidity produced by mechanical dredging will be reduced by using a closing bucket. Hopper dragheads and pipeline cutter heads will be used only within 3 feet of the river bottom. This minimizes siltation and is normally done by the dredge operators, as it has been required by NOAA Fisheries for maintenance dredging of the 40-foot channel.

4.4.5.1.2 Policy Objectives for Dredging. The Project is also consistent with the CCSMP policy objectives for dredging (CCSMP, p. 68):

1. *Dredging of bottom materials for the single purpose of obtaining fill material should be strongly discouraged.*

The sole purpose of the Project's dredging is to deepen the navigation channel of the Columbia River to a depth of 43 feet to enhance navigational access.

2. *Dredging operations should be conducted in a manner which will minimize degradation of water quality, damage to aquatic life, and to other ecological values.*

Dredging will be done at depths of more than 40 feet, beyond the depths at which salmonids generally migrate. The primary hopper and pipeline dredges that will be used generally do not produce large amounts of turbidity because of the suction action of the dredge pump and the burial of the drag arm or cutter head in the sediment. Turbidity produced by mechanical dredging will be reduced by using a closing bucket. Hopper dragheads and pipeline cutter heads will be used only within 3 feet of the river bottom. This further minimizes siltation and is normally done by the dredge operators, as it has been required by NOAA Fisheries for maintenance dredging of the 40-foot channel.

3. *Dredge spoils should be deposited only to landward of high water flows, except in cases where deposition of spoils in water areas would result in an improvement of fish habitat, bank erosion; etc., or where depositing material on land would prove to be more detrimental to shoreline resources than a deposit in water areas.*

The Project utilizes upland disposal sites, to reduce the amount of in-water disposal consistent with this policy. However, it should be noted the Department of Ecology has recently begun encouraging in-water disposal of dredged materials. Flowlane disposal will be restricted to the navigation channel and the adjacent areas and will utilize a diffuser on the down pipe that will be moved continually to prevent mounding on the river bottom. Flowlane disposal generally will

also be in depths ranging from 50 to 65 feet. Most benthic invertebrates that serve as a food source for fish are found at depths of less than 20 feet. Therefore, restricting the disposal of dredged materials to depths greater than 20 feet will minimize potential impacts from this activity. While it has been established that white sturgeon are present in potential flowlane disposal areas, the Corps is conducting studies to help avoid and minimize impacts to sturgeon.

4. *All dredging plans should be in conformance with long range plans for the depositing of spoils on land and in water areas to be developed pursuant to the shoreline program.*

The dredging in Clark County is consistent with the Corps Dredge Material Management Plan.

4.4.5.2 Mining. Sand resale activities that will be conducted by Fazio Bros. Sand and Gravel are similar to those currently occurring and are consistent with the CCSMP's general policy objectives for mining. There are no specific regulations for mining under the CCSMP. (See CCSMP p. 67)

4.4.5.2.1 Policy Objectives for Mining. The Project is also consistent with the CCSMP policy objectives for mining (CCSMP, p. 67):

1. *Adequate protection against sediment and silt production should be provided for removal of rock, sand, gravel and minerals from shoreline areas.*

Resale activities at the Fazio and Adjacent to Fazio sites will take place beyond the berms, upland from the shoreline to protect against sedimentation and siltation.

2. *Operations for the production of sand, gravel, rock and minerals should be done in conformance with the Washington State Surface Mining Act.*

The Fazio and Adjacent to Fazio sites will comply with all applicable regulations.

a. *Proposals for surface mining should include plans for site reclamation.*

Fazio's resale activities will comply with all applicable reclamation requirements.

b. *State regulations should be applied to all surface mining in shoreline areas regardless of acreage or duration of the operation.*

Fazio's resale activities will comply with all applicable federal and state standards.

3. *The removal of sand and gravel from beaches should be prohibited.* The Project will not remove sand or gravel from beaches.

Project dredging will be restricted to the navigation channel.

4. *Removal of materials from stream banks and channels should be avoided and, when necessary, should be undertaken only with approval of the Departments of Fisheries and Game.*

The Project will not remove sand or gravel from stream banks or stream channels. Project dredging will be restricted to the navigation channel of the Columbia River.

5. *Surface mining should not occur along wooded shorelines, nor on agriculturally productive lands.*

The disposal plans for Fazio and Adjacent to Fazio avoids riparian vegetation. Because these sites have been previously used for disposal of dredged materials, soils are generally sandy and unsuitable for intensive crop use.

4.4.5.3 Commercial Development. Some of the commercial development standards pertain specifically to commercial structures. Although the standards may not apply, Fazio Bros. Sand and Gravel are involved in retail trade, consistent with the CCSMP's regulatory use standards and general policy objectives for commercial development.

4.4.5.3.1 Regulatory Use Standards for Commercial Development. The Project meets the specific regulations for commercial development (CCSMP p. 73):

1. *Proposals for commercial developments along the shoreline shall adequately demonstrate that a shoreline location is required.*

The dredged materials sold at the Fazio and Adjacent to Fazio sites will be taken from the Columbia River. Utilizing a resale site close enough to the river to allow for placement of sand by a temporary pipeline extended from the dredge vessel minimizes impacts of moving materials across shorelines.

2. *Drainage for the development shall be approved by the Clark County Director of Public Works.*

The Project will obtain all applicable required approvals. Upland sites, like Fazio and Adjacent to Fazio, in Clark County, are designed to contain the dredged material and hold the return water while allowing sand and suspended sediment to settle. Water from the upland disposal sites will be allowed to settle and clear through the drainage system before it runs back into the river. Weirs of appropriate crest height will be used to regulate the return of water to the river. Water returned to the river through weirs is subject to applicable state water quality standards, after dilution, at an appropriate point of compliance.

3. *Parking facilities shall be placed inland from the shore.*

N/A. The Project does not include any parking facilities. The Fazio resale site will utilize the existing parking facilities.

4.4.5.3.2 Policy Objectives for Commercial Development. The Project does not include commercial development; however, Fazio's resale activities are also consistent with the CCSMP policy objectives for commercial development (CCSMP, p. 73):

1. *New commercial developments on shorelines should be located in those areas where existing commercial uses are found.*

The Fazio site is an existing resale site. The Adjacent to Fazio site is located in the same area, along the northern boundary of the Fazio site.

2. *Commercial structures on shorelines should be designed and located so that scenic views from surrounding areas are not degraded.*

N/A. The Project does not include construction of any commercial structures.

3. *Shoreline frontage of commercial establishments should, to the extent possible, be maintained in its natural condition.*

N/A. The Project does not include construction of any commercial establishments or structures.

4. *Public access to the shoreline should be provided unless in conflict with the commercial use.*

The Project will also enhance recreational opportunity on the shorelines by restoring important ecosystems. The ecosystem restoration features of the Project will enhance passive recreational opportunities for studying and viewing wildlife on the shorelines.

4.4.5.4. General Policy Objectives for Shoreline Elements. The Project is consistent with applicable CCSMP policy goals for applicable shoreline elements (CCSMP, p. 28-29).

1. *Circulation Element:*

Goal: To recognize existing transportation systems of shoreline areas as a means of providing access to other shoreline use activities; and, when additional circulation systems are proposed for shoreline areas, to assure that these facilities require such locations and are developed with minimum disturbance to the natural character of the shoreline.

The Project's in-water activities are located in and adjacent to the existing channel. The navigation channel serves the national and regional economy, including that of businesses located in Clark County. The lower Columbia River is the second largest grain-shipping waterway in the world, surpassed only by the Mississippi River. Regional growers, producers, and manufacturers use Columbia River ports to transport their goods to world markets. Upland dredged material disposal sites have been chosen so as to avoid and minimize impacts. The Project relies heavily on sites that have been used for past dredged material disposal, like the Fazio and Adjacent to Fazio sites. Sites from which dredged materials could be sold, like the Fazio and Adjacent to Fazio sites, were also selected.

2. *Conservation Element:*

Goal: To provide for management of natural resources in shoreline areas by means which will assure the preservation of non-renewable resources, while allowing sound utilization of renewable resources in a manner consistent with the public interest.

Dredging will be done at depths of more than 40 feet, to minimize effects on natural ecosystems. Existing upland disposal sites, like the Fazio site, will be utilized to the extent feasible. Upland disposal at these sites has been reviewed by the NOAA Fisheries and USFWS to address impacts to ESA listed fish species or their critical habitat. Numerous ecosystem restoration features have also been incorporated into the Project.

The Project incorporates the following BMPs, among others, to protect shoreline resources during dredging:

- During hopper and pipeline dredging, maintain dragheads in the substrate or no more than 3 feet above the bottom with the dredge pumps running.
- The contractor shall not release any trash, garbage, oil, grease, chemicals, or other contaminants into the waterway. The Project also incorporates the following BMPs, among others, to protect shoreline resources during dredged material disposal:
 - For flowlane disposal, dispose of material in a manner that prevents mounding of the disposal material.
 - Maintain discharge pipe of pipeline dredge at or below 20 feet of water depth during flowlane disposal.
 - Berm upland disposal sites to maximize the settling of fines in the runoff water.
 - Grade shoreline disposal sites to a slope of 10 to 15 percent, with no swales, to reduce the possibility of stranding of juvenile salmonids.

3. *Economic Development Element:*

Goal: To encourage the maintenance and enhancement of existing industrial and commercial activities along the shoreline in such a manner that the land-water interface be utilized for productive purposes while minimizing adverse effects to the environment; and to encourage appropriate shoreline locations for all such new developments of a water-dependent nature.

See above discussions.

4. *Shoreline Use Element:*

Goal: To encourage a pattern of land and water uses compatible with the character of shoreline environments and distributed so as to avoid undesirable concentrations of intense uses, and giving preference to uses which are dependent upon shoreline locations.

The dredging and flow lane disposal occur in, or adjacent to the navigation channel and are compatible with that existing use of the shoreline. Existing upland sites are used. The Gateway 3 site is Port property.

5. *Shoreline Improvement Element:*

Goal: To encourage the restoration of degraded shoreline areas to conditions of natural environmental quality, and promote the revitalization of abandoned shoreline facilities for practical and productive activities.

The Project includes two ecosystem restoration features in Clark County. The Bachelor Slough ecosystem restoration feature would occur on the Ridgefield NWR plus WDNR lands (Bachelor Slough and an old disposal location on the Columbia River shoreline). The Shillapoo Lake ecosystem restoration feature would occur on lands purchased by WDFW for inclusion in their Shillapoo Lake Wildlife Management Area.

Implementation of the Bachelor Slough ecosystem restoration feature is contingent on the Corps' sediment quality evaluation to determine whether material to be dredged from Bachelor Slough is suitable for dredging and/or upland disposal. The action also requires approval from WDNR and the USFWS to dispose of dredged material on their property for riparian habitat development purposes.

The restoration consists of two actions. The first action was proposed by the USFWS, Ridgefield National Wildlife Refuge. Approximately 132,000 cy of material would be dredged from Bachelor Slough to increase water depth and flow, with the result of decreasing water temperatures, which currently exceed the temperature tolerance of salmonids from mid-summer until fall. Improvements in water quality parameters are intended to benefit juvenile salmonids.

The second action involves restoring six acres of riparian habitat on the Bachelor Island shoreline of Bachelor Slough, downstream of the bridge crossing the slough, and restoration of riparian forest on up to 46 acres of upland disposal site(s) for the material dredged from Bachelor Slough.

This Shillapoo Lake ecosystem restoration feature consists of restoring wetland and riparian habitat on lands purchased by WDFW for inclusion in their Shillapoo Lake Wildlife Management Area. Shillapoo Lake lies behind flood control dikes and currently is drained annually for agricultural use on private lands and for planting of forage crops (mainly corn) to benefit wintering waterfowl.

The proposed ecosystem restoration feature would entail construction of water supply and control structures to ultimately create a total of four diked cells for wetland habitat management purposes. Construction of two cells would not occur unless private lands are acquired. These wetland cells would be hydrologically connected to the Lake River via pipelines, a tidegate and a pumping station in order to manage water levels in the four wetland management units. This will enable WDFW to maintain desired water levels in the wetland management units for optimal habitat management.

4.4.6. Conditional Use Criteria. See the discussion in Section 4.1.3.

4.5 Cowlitz County Cowlitz County is not located in Washington’s Coastal Zone. Therefore, review of the Cowlitz County SMP is presented here for purposes of showing general consistency with local plans, rather than for purposes of demonstrating consistency with Washington’s Coastal Program under the Coastal Zone Management Act. All of the upland disposal sites in Cowlitz County are existing disposal sites. Therefore, the level of detail of analysis for Cowlitz County reflects that sand disposal at these sites is an established, rather than a new use. The new Mt. Solo upland disposal site is in the City of Longview and is reviewed for consistency with the City of Longview Shoreline Master Program. Section 4.6. Dredging and flow lane disposal in the general locations for this Project are also currently occurring in Cowlitz County’s shoreline waters.

4.5.1 References. References to the Cowlitz County Shoreline Master Program (revised 1977) (“CSMP”) are given by page number.

4.5.2 Proposed Shoreline Uses. The Project, includes the following activities which may occur all, or in part, within Cowlitz County’s shoreline jurisdiction:

Columbia River – 43-ft. Channel Improvement Construction and Maintenance Dredging

The Columbia River will be dredged in selected areas within Cowlitz County’s shoreline jurisdiction in the location of the current navigation channel. Dredging will deepen the existing 40-foot-deep channel to the newly authorized depth of 43 feet.

Columbia River – Dredged Material Flowlane Disposal -

Flowlane disposal will be done in selected areas within Cowlitz County’s shoreline jurisdiction. These areas are similar to those currently used for maintenance dredging. Flowlane disposal will occur where depths range from 35 to 65 feet, but are typically greater than 50 feet.

Hump Island - Dredged Material Upland Disposal, CRM W-59.7

Size: 69 acres

Elevation: Current surface elevation is +25 feet CRD; surface elevation with total volume in place estimated at +42 feet CRD

Owners: Washington Department of Fish and Wildlife and Washington Department of Natural Resources

Hump Island is an active, existing upland sand disposal site for maintenance dredging of the 40-ft channel. It is located within 200 feet of the shoreline, in a rural environment. It will only be used for construction and six years of maintenance of the Project.

Hump Island can hold up to 1,500,000 cy additional sand. The Corps plans to place 1,500,000 cy during the construction and maintenance of the Project. Within the 200-foot shoreland environment, only a temporary pipeline will be used for placement of dredged materials at the

site, and a return weir will be constructed for water drainage from the site back to the river, if it does not already exist.

Reynolds Aluminum - Dredged Material Upland Disposal, Mining/Resale, CRM W-63.5

Size: 13 acres

Elevation: Current surface elevation is +20 feet CRD; surface elevation with total volume in place estimated at +50 feet CRD

Owner: Reynolds Aluminum

The Reynolds Aluminum site has been used in the past as an upland sand disposal site for maintenance dredging of the 40-ft channel. The Reynolds Aluminum site is in a heavily industrialized area. Sand is currently being sold from the site, and sand placed by this Project may also be resold. The site is diked and a drainage system for dredged sand is already in place. The Reynolds Aluminum site can hold up to 500,000 cy of sand. The Corps plans to place 180,000 cy during the construction phase. At full capacity, the top of the sand will reach +50 feet CRD, however that elevation is unlikely as the site is used for resale purposes. Within the 200-foot shoreland environment, only a temporary pipeline will be used for placement of dredged materials at the site, and a return weir will be constructed for water drainage from the site back to the river, if it does not already exist.

Port of Longview/International Paper - Dredged Material Upland Disposal, Mining/Resale, CRM W-67.5

Size: 29 acres

Elevation: Current surface elevation is +20 feet CRD; surface elevation with total volume in place estimated at +47 feet CRD

Owner: Port of Longview

The International Paper site has been used in the past as an upland sand disposal site for maintenance dredging of the 40-ft channel. The International Paper site is in a heavily industrialized area. Sand placed by this Project will be resold. A weir drainage system for dredged sand is already in place.

The site can accept up to 1,000,000 cy of sand. The Corps plans to place up to 2,900,000 cy of sand over the life of the project, using storage capacity created when sand is sold from the site. When full, the elevation at the top of the sand will be +47 feet CRD. Within the 200-foot shoreland environment, only a temporary pipeline will be used for placement of dredged materials at the site, and a return weir will be constructed for water drainage from the site back to the river, if it does not already exist.

Howard Island - Dredged Material Upland Disposal, CRM W-68.7

Size: 200 acres

Elevation: Current surface elevation is +26 feet CRD; surface elevation with total volume in place estimated at +29 feet CRD (at site capacity surface elevation is +51 feet CRD)

Owners: Washington Department of Natural Resources, Dr. Gene Davis, and Delta Trust

Howard Island is an existing disposal site used for maintenance of the 40-ft channel. The disposal site is setback 300 feet of the shoreline, and is outside shoreline jurisdiction, and in an urban environment. Nearly all of the Howard Island property has been covered with dredged sand over the last 40 years. A 200-acre area is planned for use for the construction and maintenance phases of the Project.

Howard Island can hold up to 6,400,000 cy of additional sand. The Corps plans to place 600,000 cy of sand and raising the site elevation to +28 feet CRD. Ultimately, the site could receive 6,400,000 cy of material raising the site elevation to +51 feet CRD. Within the 200-foot shoreland environment, only a temporary pipeline will be used for placement of dredged materials at the site, and a return weir will be constructed for water drainage from the site back to the river, if it does not already exist.

Cottonwood Island – Temporary Pipeline and Return Weir for Upland Dredged Material Upland Disposal, CRM W-70.1

Size: 62 acres

Elevation: Current surface elevation is +30 feet CRD; surface elevation with total volume in place estimated at +49 feet CRD

Owners: Washington Department of Natural Resources, Dr. Gene Davis, and Delta Trust

Cottonwood Island has been used in the past as an upland sand disposal site for maintenance dredging of the 40-ft channel. The Disposal Site is set back 300 feet from the Columbia River and is outside shoreline jurisdiction. Only the temporary pipeline used to place sand at, and the return weir used to drain water from, the upland disposal site will be located within the 200-foot shoreline jurisdiction.

Cottonwood Island has been almost completely covered in the past by dredged material. The land surface is +30 feet CRD. Cottonwood Island is undeveloped except for navigational beacons, shoreline protection structures, and a few primitive campsites.

The 62-acre site can hold up to 3,200,000 cy of sand. The Corps plans to place 1,500,000 cy of sand during the construction and maintenance phases of the project. The final site elevation will be +49 feet CRD. Within the 200-foot shoreland environment, only a temporary pipeline will be used for placement of dredged materials at the site, and a return weir will be constructed for water drainage from the site back to the river, if it does not already exist.

Northport - Dredged Material Upland Disposal, Resale CRM W-71.9

Size: 27 acres

Elevation: Current surface elevation is +15 feet CRD; surface elevation with total volume in place estimated at +41 feet CRD (will vary with resale)

Owner: Port of Kalama

Northport has been used for dredged sand disposal in the past. The Port of Kalama is currently selling sand from this site. Sand placed by this Project will also be resold.

The Corps plans to place 1,900,000 cy of sand at the site. When full, the site elevation will be +41 feet CRD. Within the 200-foot shoreland environment, only a temporary pipeline will be used for placement of dredged materials at the site, and a return weir will be constructed for water drainage from the site back to the river, if it does not already exist.

Martin Island Mitigation, CRM W-80.0

Size: 16 acres

Elevation: Current surface elevation is -20 feet CRD; surface elevation with total volume in place estimated at -8 feet CRD (dependent on adjacent tidal marsh elevation)

Owners: Robert and Richard Colf

Martin Island is a mitigation site. Mitigation activities at the Martin Island site consist of two parts: shoreline disposal/partial filling of the embayment to create intertidal marsh habitat, and establishment of riparian forest on the rest of the island. The goal of these mitigation activities on Martin Island is to return the island to a natural condition.

Martin Island's 32-acre embayment was artificially created in 1966 when sand was excavated for use in the construction of nearby Interstate Highway 5. A 16-acre portion of the lagoon will be filled to a surveyed elevation that matches the surveyed elevation for adjacent intertidal marsh in order to create a wetland/intertidal marsh. The Corps will use approximately 460,000 cy of sand, capped with two feet of top soil, to develop intertidal marsh habitat. The balance of the lagoon, 16+ acres, would be left in its current state.

Parts of Martin Island have been used for cattle grazing and crop land. The approximately 85 acres of degraded riparian forest and associated habitat and the approximately 159 acres of agricultural and associated habitat will be reverted to natural riparian forest.

Woodland Bottoms – Mitigation Site, CRM W-81.0

Size: 284 acres

The Woodland Bottoms Mitigation Site (Appendix A, Figure 8) is currently used for agricultural purposes, including row crops, hybrid poplar plantations, and pasture lands. Farmed wetlands (grazed, row crop) exist on the 284-acre wildlife mitigation site (Appendix A, Figure 9). Through mitigation construction activities, 97 acres of wetland habitat and 43 acres of riparian

habitat will be developed (Appendix A, Figure 10). A 132-acre portion of the site will be converted to permanent Canada goose forage habitat (Appendix A, Figure 10), similar to that at Ridgefield National Wildlife Refuge.

Construction activities at Woodland Bottoms would include some agricultural tillage. The only grading required would be done in construction of the perimeter levees for the wetland management unit in order to maintain the current level of protection to surrounding lands afforded by the Burriss Creek levees (Appendix A, Figure 11). Borrow material for use in constructing the perimeter levees will be obtained by removal of the necessary volume of material from the levees presently encompassing Burriss Creek (Appendix A, Figure 11). Removal of the Burriss Creek levees will allow for freshets to flood over the wetland management unit thus providing for a natural hydrologic regime.

Martin Bar - Dredged Material Upland Disposal Resale, CRM W-82.0

Size: 32 acres

Elevation: Current surface elevation is +25 feet CRD; surface elevation with total volume in place estimated at +51 feet CRD
Owner: Port of Woodland and Washington Department of Fish and Wildlife

Martin Bar has been used in the past as an upland sand disposal site. The site consists of two parcels with a day-use park in between. The site has been configured to avoid the day-use park. A weir system will be constructed to allow draining water to clear before it returns to the river.

The Corps plans to place an additional 760,000 cy of sand on the two parcels, raising the elevation to +51 feet CRD. The Port of Woodland may, at its discretion, use or sell sand from this site. Within the 200-foot shoreland environment, only a temporary pipeline will be used for placement of dredged materials at the site, and a return weir will be constructed for water drainage from the site back to the river, if it does not already exist.

Austin Point - Dredged Material Upland Disposal, Mining/Resale, CRM W-86.5

Size: 26 acres

Elevation: Current surface elevation is +15 feet CRD; surface elevation with total volume in place estimated at +64 feet CRD (without resale)

Owner: Port of Woodland

Austin Point has been used in the past as an upland sand disposal site. Most of the surface is covered with sand. The Port of Woodland owns the site and has been mining the sand for its own use or resale since the Corps discontinued using the site.

The 26-acre site will hold up 1,645,000 cy of sand. The Corps plans to place 1,700,000 cy over a twenty year period including the construction and maintenance phases of the project. The Port of Woodland will continue to remove sand from the site between disposal events, making room for additional sand. When full, the top of the sand will reach +64 feet CRD if no resale occurs.

Within the 200-foot shoreland environment, only a temporary pipeline will be used for placement of dredged materials at the site, and a return weir will be constructed for water drainage from the site back to the river, if it does not already exist.

4.5.3 Permitted Shoreline Uses. The principal CSMP regulatory use standards that apply to the Project are those governing dredging and dredged material disposal.

Dredging

The CSMP defines dredging as 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. (CSMP, p. 18).

Landfill

The CSMP defines landfill as the creation of dry upland area by the filling or depositing of sand, soil, or gravel into a wetland area. (CSMP, p. 18).

The following activities, although not part of the Project, may be conducted by disposal site owners/operators:

Mining

The CSMP defines mining as the removal of naturally occurring materials from the earth for economic use. (CSMP, p. 10). The sand disposed of as part of the Project is not naturally occurring at the disposal sites and may not constitute mining under the CSMP definitions. This analysis reviews resale for consistency with the mining standards. Mining is a permitted use in urban environments.

Ports and Water-Related Industries

The CSMP defines Ports and water-related industries as centers for water-borne traffic and, as such, it recognizes that Ports are centers for industrial/manufacturing firms.

Commercial (Sand Resale) Development

The CSMP defined commercial uses as those uses which are involved in wholesale and retail trade or business activities.

4.5.4 Format. The CSMP is organized into the following areas: general criteria for substantial development, specific regulatory standards for shoreline uses and activities, general policies and objectives for shoreline uses and activities, element goals and objectives. The analysis below, therefore, follows that same basic structure:

- **Substantial Development Conditions**
- **Master Program Regulatory Standards for Uses and Activities**
 - Dredging
 - Landfill
 - Mining
 - Ports and Water-Related Industries
 - Commercial Development

- **Master Program Policy Objectives for Uses and Activities**
 - Dredging
 - Landfill
 - Mining
 - Ports and Water-Related Industries
 - Commercial Development
- **Master Program Shoreline Environments and Objectives**
 - Urban
 - Rural
 - Conservancy
- **Master Program Element Goals and Objectives**
 - Circulation
 - Conservation
 - Economic Development
 - Public Access
 - Other Shoreline Uses

4.5.5 Consistency Analysis – Findings. The Project is not only consistent and in general conformance with the CSMP, it promotes several key goals and policies regarding navigation and economic development.

4.5.5.1 Substantial Development Conditions. The Project will comply with the general construction practices for substantial development that are set forth on page 27 of the CSMP.

4.5.5.2 Dredging. The Project is consistent with the CSMP’s regulatory use standards and general policy objectives for dredging.

4.5.5.2.1 Regulatory Use Standards for Dredging. The Project meets the specific regulations for dredging (CSMP p. 44-45):

1. *Dredging and landfills are prohibited on conservancy shorelines, except where they do not substantially change the character of that district along navigable waters deemed necessary for adequate navigation as determined by U.S. Army Corps of Engineers, and where they are necessary accessory to a project which is dependent on a location near or adjacent to a body of water. Dredging and landfills are permitted on rural, and natural shorelines subject to the regulations below, if they do not substantially change the character of the environment or are accessory to a project which is dependent on a location near a body of water.*

A principal purpose of this Project is to deepen the navigation channel of the Columbia River to enhance navigational access. The navigation channel that is the subject of this project has been authorized by Congress to provide adequate navigation on the Columbia River. Marine shipping and navigational improvements are permitted water-dependent public uses of the shoreline. Dredging and disposal of dredged sediments are necessary to maintaining these permitted water-dependent public uses of the shoreline. Disposal of dredge materials for proposed mitigation sites is for a project (channel deepening) that is water dependent.

Dredging and flowlane disposal will be restricted to the navigation channel and the adjacent area, which will preserve the existing character of the existing shoreline environment. Using existing upland disposal sites also helps to preserve the existing character of the shorelines.

2. *All dredging or spoils disposal shall conform to the following:*
 - a. *Dredging shall conform to the operating standards specified on any required federal and state permits.*

The Project will comply with applicable state and federal permits or approvals.

- b. *Dredge spoils exceeding the Department of Ecology criteria for toxic sediments shall be disposed of on land.*

Sediment quality has been evaluated for dredged materials from the navigation channel. Sediment samples were collected and subjected to physical and chemical analyses. These studies indicate that material to be dredged in the Columbia River navigation channel is suitable for unconfined open water disposal.

- c. *Dredge disposal sites shall be completely enclosed by dikes to allow sediment to settle before water leaves the diked area.*

Upland disposal sites, like Hump Island, Reynolds Aluminum, International Paper, Howard Island, Cottonwood Island, Northport, Martin Bar and Austin Point are designed with earthen dikes to contain the dredged material and hold the return water while allowing sand and suspended sediment to settle. Sand is placed with a temporary pipeline extending from the dredge vessel, which is removed from the site after sand placement. Sand moves through the pipeline in the form of a slurry mixed with Columbia River water and the water is allowed to settle and clear through the retention system before it runs back into the river. Weirs are used to regulate the return of water to the river. Water returned to the river through weirs is subject to applicable state water quality standards, after dilution, at an appropriate point of compliance. Once the water is drained, the sand is “drifted” or spread evenly around the holding area.

- d. *Dikes shall be sloped at 1-1/2 to 1 or flatter and seeded with grass or otherwise protected to prevent erosion. Outlets shall be placed so that water will take the longest time to reach the outlet and so that only the clearest water is allowed to return to the receiving waters.*

Weirs are used as needed to regulate the return of water to the river. Water from the upland disposal sites will be allowed to settle and clear through the retention pond drainage system before it runs back into the river. Water returned to the river through weirs is subject to applicable state water quality standards, after dilution, at an appropriate point of compliance. After they are no longer used for dredged material disposal, these sites will be regraded at the required slope and seeded to prevent erosion.

4.5.5.2.2 Policy Objectives for Dredging. The Project is also consistent with the CSMP policy objectives for dredging (CSMP, p. 18):

a. *Dredging shall minimize damage to existing ecological values and natural resources of the area to be dredged and the area for deposit of dredged materials.*

Dredging will be done at depths of more than 40 feet, beyond the depths at which salmonids generally migrate. The hopper and pipeline dredges that will be used generally do not produce large amounts of turbidity because of the suction action of the dredge pump and the burial of the drag arm or cutter head in the sediment. Turbidity produced by mechanical dredging will be reduced by using a closing bucket.

Flowlane disposal generally will also be in depths ranging from 50 to 65 feet. Most benthic invertebrates that serve as a food source for fish are found at depths of less than 20 feet. Therefore, restricting the disposal of dredged materials to depths greater than 20 feet will minimize potential impacts from this activity. While it has been established that white sturgeon are present in potential flowlane disposal areas, the Corps is conducting studies to help avoid and minimize impacts to sturgeon.

Upland disposal sites in Cowlitz County have been previously used and were selected to avoid impacts to new areas and their resources.

Upland disposal proposed in Cowlitz County has been the subject of a consultation under the Endangered Species Act to address potential impacts to ESA listed species and their critical habitat. Measures are included to minimize the potential for impact from this activity, such as maintaining minimum buffer widths between disposal sites and the river, avoiding the riparian edge along the shoreline, whenever possible, and avoiding wetlands.

b. *Deposit sites in water areas shall 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 alternatives of depositing material on land is more detrimental to shoreline resources.*

As in the case with the current flow lane disposal for maintenance dredging, flowlane disposal for the Project will be restricted to the navigation channel and the adjacent area. The only other in-water disposal proposed in Cowlitz County is for mitigation at Martin Island. The purpose of this mitigation is for habitat improvement.

c. *Dredging of bottom materials for the single purpose of extending ones property shall be discouraged.*

N/A. Project dredging is not for the purpose of extending property. It serves the purpose of enhancing the navigation channel.

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.*

N/A. Dredging and flowlane disposal for the Project will be limited to the navigation channel and adjacent areas.

4.5.5.3 Landfill. The Project is consistent with the CSMP's regulatory use standards and general policy objectives for landfill. The purpose of upland disposal for this Project is not to create dry upland areas, as dredged materials are being placed on areas that are already dry upland. Therefore, upland disposal does not meet the definition of landfill under the CSMP. Cowlitz County and WDOE, as a matter of practice, broadly interpret the definition to cover placement of dredged materials at upland disposal sites. As discussed below, however, even if the fills were considered to be landfill, they meet the requirements for such activities. Some fill activities will occur in the Martin Island Embayment and Woodland Bottoms Mitigation features. These fills are consistent with the SMP.

4.5.5.3.1 Regulatory Use Standards for Landfill. See Section 4.5.6.2.1 above.

4.5.5.3.2 Policy Objectives for Landfill. Although the disposal sites do not meet the definition of a landfill, the Project is also consistent with the CSMP policy objectives for landfill (CSMP, p. 18):

1. *Landfill*

a. Shoreline fills or cuts shall be designed and located so that significant damage to existing ecological values or natural resources, or alteration of local currents will not occur, creating a hazard to adjacent life, property, natural resources systems, and aesthetics.

All of the upland disposal sites in Cowlitz County have been used for past dredged material disposal. Continued use of these sites minimizes damage to existing ecological values and natural resources. Fills at Woodland Bottoms and Martin Island are intended to enhance habitat functions and values. Significant damage to existing ecological values is not anticipated.

b. All perimeters of fills shall be provided with vegetation, retaining walls, or other mechanisms for erosion prevention.

Upland disposal sites, like Hump Island, the Reynolds Aluminum and International Paper sites, Howard Island, Cottonwood Island, Northport, Martin Bar and Austin Point, are or will be surrounded by dikes as needed to avoid and prevent erosion.

Fill at Woodlands Bottom will be designed to prevent erosion. The goal at the Martin Island Embayment is to create intertidal marsh which will be vegetated.

c. Fill materials shall be of such quality that it will not cause problems of state water quality standards established by the Department of Ecology. Shoreline areas are not to be considered for sanitary landfills or the disposal of solid waste.

Sediment evaluations of potential maintenance dredging material conducted since the 1970s have consistently found the material to be suitable for unconfined in-water disposal. Water returned

to the river from upland disposal sites through weirs is subject to applicable state water quality standards, after dilution, at an appropriate point of compliance.

d. Priority shall be given to landfills for water-dependent uses and for public uses.

A principal purpose of this Project is to deepen the navigation channel of the Columbia River to enhance navigational access. Marine shipping and navigational improvements are permitted water-dependent public uses of the shoreline. Dredging and disposal of dredged sediments and fill for mitigation features are necessary to maintaining these water-dependent public uses of the shoreline.

e. In evaluating fill projects and in designating areas appropriate for fill, such factors as total water surface reduction, navigation restriction, impediment to water flow and circulation, reduction of water quality, and destruction of habitat shall be considered.

Upland disposal should have no impact on water surface, navigation, water flow or circulation different than the current disposal.

Upland disposal sites are designed to contain the dredged material and hold the return water while allowing sand and suspended sediment to settle. Sand will be placed in upland disposal sites with a temporary pipeline extending from the dredge vessel. The pipeline will be removed from the sites after sand placement. Sand moves through the pipeline in the form of a slurry mixed with Columbia River water. Water is allowed to settle and clear through the drainage system before it runs back into the river. Water returned to the river from upland disposal sites through weirs is subject to applicable state water quality standards, after dilution, at an appropriate point of compliance.

Fill associated with mitigation and Woodland Bottoms and Martin Island are not anticipated to restrict navigation, impede water flow and circulation or reduce water quality. This mitigation should enhance habitat functions and values.

f. All landfill materials and erosion control methods shall be subject to approval of the program administrator or his designee.

The program administrator will review Project materials, specifications and the proposed erosion control methods.

4.5.5.4 Mining. As discussed in Section 4.4.4, sand removal for resale involves restoring materials that do not naturally occur at the disposal sites and does not appear to meet the definition of mining. In practice, Cowlitz County and WDOE interpret the code provision to include sand removal for resale. Resale activities are not part of the Project, but are expected to be conducted by disposal site owners or operators. As discussed below, such resale is consistent with the CSMP's regulatory use standards and general policy objectives for mining.

4.5.5.4.1 Regulatory Use Standards for Mining. The Project meets the specific regulations for mining (CSMP p. 47):

1. *Mining that does not substantially change the character of the environment shall be permitted.*

Removal for resale of sand deposited will occur at some upland disposal sites. Reuse of upland disposal/mining sites, like the Reynolds Aluminum site, Northport, and Austin Point, helps to preserve the existing character of the shorelines.

2. *Any person proposing to undertake or engage in a mining operation shall apply for a permit.*

Site operators/owners will obtain all applicable permits.

3. *A permit for mining operation may be granted subject to the following regulations:*

a. *Operators of surface mines subject to the 1970 Surface Mine Land Reclamation Act shall present to the County a surface mining plan and a reclamation plan.*

The sand resale sites are not surface mines subject to the 1970 Surface Mine Land Reclamation Act.

b. *A surface mining plan or a reclamation plan judged by the County to be insufficient for the protection or restoration of the shoreline environment shall be grounds for denial of a permit.*

N/A. This provision applies to surface mines subject to the 1970 Surface Mine Land Reclamation Act. The sand resale sites are not such sites.

c. *Any gravel removal alongside, upstream or downstream from spawning areas shall be in conformance with the technical provisions of the hydraulics project approval by WDFW.*

The removal of gravel from the resale sites is not occurring upstream or downstream from spawning areas. The removal is occurring behind dikes which will prevent any impact on the river.

d. *Mining operations shall be strictly controlled or prohibited where historical, cultural, educational, or scientific value will be degraded.*

No mining is proposed in areas with historical, cultural, educational, or scientific value.

4.5.5.4.2 Policy Objectives for Mining. As noted above, WDOE and Cowlitz County broadly interpret the term “mining” to include resale. Although sand resale is not part of the Project, resale activities are also consistent with the CSMP policy objectives for mining (CSMP, p. 10):

a. *When rock, sand, gravel, and minerals are removed, adequate protection against sediment and silt production should be provided.*

Removal of sand from the mining/resale sites will occur behind dikes that will prevent sediment or silt from reaching the river.

b. *Excavations for the production of sand, gravel, and minerals should be done in conformance with the Washington State surface mining Act, and from the least sensitive biophysical areas.*

Project dredging is not for the purpose of production and sale of sand, it serves the purpose of enhancing navigational access. Dredging, therefore, will be limited to the navigation channel. However, the resale sites will comply with all applicable regulations.

c. *Since mining developments may have lasting effect on the visual quality of the shorelines, prudent judgment should be exercised in permitting areas to be developed for this particular use.*

Removal of sand from upland disposal resale sites, like the Reynolds Aluminum site, Northport, and Austin Point will not affect the visual quality of the shorelines as would occur from removing materials from their original location.

d. *Removal of rock, sand, gravel, and minerals shall be strictly controlled or prohibited where the scenic and aesthetic qualities of the shorelines will be degraded and in areas having historical, geological, cultural, educational, and/or scientific values.*

No resale is proposed in areas with historical, cultural, educational, or scientific value. Use of upland disposal, like the International Paper, Reynolds Aluminum, Northport, and Austin Point sites helps to preserve the aesthetic qualities of the shorelines.

4.5.5.5 Commercial Development. The Project does not include commercial development. However, disposal site operations may conduct resale activities.

4.5.5.5.1 Regulatory Use Standards for Commercial Development. Resale activities are consistent with the CSMP policy objectives for commercial development in urban environments (CSMP, p. 32):

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.*

All of the upland disposal/resale sites in Cowlitz County are being used or, have been previously used. Disposal of dredged material is necessary to maintaining marine shipping and navigational improvements are permitted water-dependent public uses of the shoreline.

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.*

N/A. The Project does not include any commercial buildings.

b. *Any commercial structure or facility except on 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.*

N/A. Resale sites do not require structures or facilities.

c. *Parking facilities shall not be located within ten (10) feet of the ordinary high water mark, as measured on a horizontal plane.*

N/A. The Project does not include any parking facilities.

4.5.5.5.2 Policy Objectives for Commercial Development. The resale activities are consistent with the applicable policy objectives for commercial development (CSMP, p. 6-7):

a. *Although many commercial developments benefit by a shoreline location, priority should be given to those commercial developments, which are particularly dependent on their location and/or use of the shorelines.*

Disposal of dredged material is necessary to maintaining marine shipping and navigational improvements are permitted water-dependent public uses of the shoreline.

b. *New commercial developments on shorelines should be encouraged to locate in those areas where current commercial uses exist.*

Upland disposal/resale sites in Cowlitz County, Northport, and Austin Point, are existing reuse sites.

c. *An assessment should be made of the effect a commercial structure will have on a scenic view significant to a given area or enjoyed by a significant number of people.*

N/A. The resale sites do not require a commercial structure.

d. *Commercial developments must be aesthetically compatible with the site or so buffeted as to lessen the visual impact of such development.*

Reuse of sand has occurred at these sites in the past.

4.5.5.6 Ports and Water-Related Industry. The Project is consistent with the CSMP's the specific regulations for Ports and water-related industry.

4.5.5.6.1 Regulatory Use Standards for Ports and Water-Related Industry. The Project is consistent with the CSMP policy objectives for Ports and water-related industry in urban environments (CSMP, p. 49-50):

1. Ports and Water-Related Industry:

2. Any person proposing a development which constitutes a Port facility or water-related industry shall apply for a permit.

The Project will obtain all applicable permits or approvals.

3. Permits may be granted upon:

a. Demonstration of compliance with the regulations specified on any federal and state permits required for such facilities and operations.

The Project will comply with the conditions of all applicable state and federal permits or approvals.

b. Compliance with other applicable use regulations in the SMP.

The Project will comply with applicable regulations as discussed in this memorandum.

4.5.5.6.2 Policy Objectives for Ports and Water-Related Industry. The Project is also consistent with the applicable policy objectives for Ports and water-related industry (CSMP, p. 7-8):

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.

All of the upland disposal sites and resale sites, except Hump Island, are located in urban environments. Although Hump Island is located in a rural environment, it has previously been used as a disposal site and is already covered with sand from maintenance dredging of the 40-foot channel.

4.5.6.7. General Policy Objectives for Shoreline Elements. The Project is consistent with the applicable CSMP general policies objectives for applicable shoreline elements.

Circulation: When necessary to develop facilities for any of the various modes of travel on the shorelines of Cowlitz County, these features must not endanger the life, property, or rights of others, nor debilitate the quality of life enjoyed by the public.

It is not clear that upland disposal sites are “facilities” under this Section. However, the Project meets this standard. The existing sites do not endanger life, property, or rights of others.

1. Ensure that the site selected is suitable for the proposed use.

Dredging and flowlane disposal for the project, as is the case for current maintenance activities, will be restricted to the navigation channel and the adjacent area. The Project uses upland dredged material disposal. The Project also uses locations in the urban environment for resale sites.

2. *Introduce development to the areas with a minimal adverse effect upon the natural features, scenic quality, and ecosystems existing in the shorelines.*

No new development is being introduced to the Cowlitz County shoreline. The Project's dredging and disposal activities are occurring in areas where such activities have occurred on a routine basis.

3. *The use should fulfill a need which can only be satisfied by such use on the shorelines as opposed to an upland use.*

A principal purpose of this Project is to deepen the navigation channel of the Columbia River to enhance navigational access. Marine shipping and navigational improvements are permitted water-dependent public uses of the shoreline. Dredging and disposal of dredged sediments are necessary to maintain these water-dependent public uses of the shoreline.

4. *New development should protect the life, property, and rights of others, and sustain or improve the quality of life existing in the area.*

See Discussion of Circulation Goal above.

Conservation: To encourage the best management practices for the continued sustained yield or replenishable resources of the shorelines and preserve, protect, and restore those unique and non-renewable resources.

The Project incorporates the following BMPs, among others, to protect shoreline resources during dredging:

- During hopper and pipeline dredging, maintain dragheads in the substrate or no more than 3 feet above the bottom with the dredge pumps running.
- The contractor shall not release any trash, garbage, oil, grease, chemicals, or other contaminants into the waterway. The Project also incorporates the following BMPs, among others, to protect shoreline resources during dredged material disposal:
 - For flowlane disposal, dispose of material in a manner that prevents mounding of the disposal material.
 - Maintain discharge pipe of pipeline dredge at or below 20 feet of water depth during flowlane disposal.
 - Berm upland disposal sites to maximize the settling of fines in the runoff water.
 - Grade shoreline disposal sites to a slope of 10 to 15 percent, with no swales, to reduce the possibility of stranding of juvenile salmonids.

1. *Preserve the scenic and aesthetic qualities of shorelines and vistas.*

Existing upland disposal sites are used in Cowlitz County to minimize aesthetic impacts.

2. *Contribute to a maximum utilization of the resources without harming other natural systems or the quality of life.*

By deepening the Columbia River channel in selected locations, the Project will improve the utility of the navigation channel. At the same time, by incorporating ecosystem restoration components, the Project will further enhance the natural systems.

3. *Restore damaged features or ecosystems to a higher quality than may currently exist.*

The Project incorporates a number of ecosystem restoration actions.

4. *Preserve unique and non-renewable resources.* Restricting dredging and flowlane disposal to depths of more than 40 feet will minimize potential impacts from these activities on threatened and endangered species and their critical habitat.

5. *Consider the total upstream, and downstream effect of proposed developments to ensure that no degradation will occur on the shoreline.*

This report includes shoreline consistency analyses for each jurisdiction in which Project activities will take place to consider the total upstream and downstream effects of the proposal.

Economic Development: To encourage the establishment and development of industrial and commercial activities in Cowlitz County on shorelines that require the land-water interface for productive efforts.

The Columbia River navigation channel serves the national and regional economy, including shippers located in Cowlitz County. The lower Columbia River is the second largest grain-shipping waterway in the world, surpassed only by the Mississippi River. Regional growers, producers, and manufacturers use Columbia River ports to transport their goods to world markets. These shippers realize lower shipping costs by using Columbia River ports as opposed to more distant alternative ports. Marine shipping is an important industry in the lower Columbia River region. Approximately 40,000 jobs depend on Columbia River port activity, at \$46,000 per year per employee on average. Columbia River port activity also generates \$2 billion in business revenues and more than \$200 million in state and local taxes each year.

1. *Those economic developments proposed on the shorelines must effectively operate without reducing the environmental quality of the surrounding shoreline area, or the quality of life of County residents.*

By deepening the navigation channel by three feet in selected locations, the Project will improve the utility of the navigation channel. At the same time, by incorporating ecosystem restoration components, the Project will further enhance quality of life and preserve resources in the surrounding and adjacent areas.

Public Access: To assure the safe and reasonable access for the public to public property in the shorelines of Cowlitz County.

1. *To retain existing public access and develop additional access where such will not endanger life or property nor interfere with the rights inherent with private property.*

A number of boaters use the Martin Island Embayment for mooring. This embayment is currently private property. Developing 16 acres of the embayment for intertidal marsh habitat to improve its natural functions may limit the use of this private land for boating. However, the balance of the embayment (16+ acres) would be left in its current state. The restoration proposed for this area is an important activity under the Shoreline Management Act and other laws such as the Endangered Species Act. Coordination with Cowlitz County has occurred to modify the initial proposal from a 32 acre mitigation development to the proposed 16 acre mitigation development in order to maintain boater access associated with the current use of the Martin Island embayment.

2. *Such access should not have an adverse effect on unique or fragile natural features, nor alter ecological systems of the area.*

Other Shoreline Uses: *Development within the shorelines of Cowlitz County must be for the betterment of the lifestyle of the citizens of Cowlitz County, and so located as to prevent ecological debilitation.*

By deepening the channel by three feet in selected locations, the Project will ensure that the navigation channel and continues to support marine shipping, a vital section of the regional economy for Cowlitz County citizens.

1. *To encourage those uses which are necessary to maintain or improve the health, safety, and welfare of the citizens when such uses must occupy shorelines.*

By deepening the channel in selected locations, the Project will improve the utility of the navigation channel.

2. *To locate those necessary uses and design facilities on the shorelines in such a manner as to retain or improve the physical and aesthetic quality of the natural environment.*

Existing upland disposal sites are used.

3. *To encourage multiplicities of use in proposed shoreline area developments.*

The Project will facilitate marine shipping and maximize public use of the navigation channel. The Project will also enhance passive recreational opportunities for studying and viewing wildlife on the shorelines.

4. *To retain or improve the degree of public access to shorelines.*

By deepening the channel, the Project will facilitate marine shipping and public use of the navigation channel.

4.5.6. Conditional Use Criteria. See the discussion in Section 4.1.3.

4.6 City of Longview

The City of Longview is not located in Washington's Coastal Zone. Therefore, review of the applicable SMP provisions is presented here for purposes of showing general consistency with local plans, rather than for purposes of demonstrating consistency with the Coastal Zone Management Act. The Mt. Solo disposal site is located outside the shoreline area. Dredging and flowlane disposal are well-established uses in the channel near the City of Longview.

4.6.1 References. The City of Longview uses Cowlitz County's SMP. Therefore, this section frequently references the analysis for Cowlitz County presented in the preceding section. References to the Cowlitz County Shoreline Master Program (revised 1974) ("CSMP") are given by page number.

4.6.2 Proposed Shoreline Uses. The Project, includes the following activities which may occur all or in part within the City of Longview's 200-foot shoreline jurisdiction:

Columbia River – 43-ft. Channel Improvement Construction and Maintenance Dredging

The Columbia River navigation channel will be dredged in selected locations within the City of Longview's shoreline jurisdiction. This dredging will typically occur in locations dredged for maintenance of the channel. Dredging will deepen the existing 40-foot-deep channel to the newly authorized depth of 43 feet

Columbia River – Dredged Material Flowlane Disposals

Flowlane disposal will be done in areas similar to those for maintenance dredging with the City of Longview's shoreline jurisdiction. Flowlane disposal will occur where depths range from 35 to 65 feet, but are typically greater than 50 feet.

Mt. Solo - Temporary Pipeline and Weir for Upland Dredged Material Disposal Site, CRM W-62.0

Size: 47 acres

Elevation: Current surface elevation is +8 feet CRD; surface elevation with total volume in place estimated at +49 feet CRD Owner: Radakovich family

Mt. Solo is a new upland disposal site located more than 300 feet beyond the ordinary high water mark. Because this disposal site is outside the shoreline it is not subject to the CSMP. Within the 200-foot shoreland environment, only a temporary pipeline will be used for placement of dredged materials at the site, and a return weir will be constructed for water drainage from the site back to the river, if it does not already exist.

The site is nearly level at +8 feet CRD. The site can hold up to 2,500,000 cy of dredged sand. The Corps plans to place 2,400, 000 cy of sand over a 20-yr period including the construction and maintenance dredging phases of the project, raising the site's elevation to +49 feet CRD.

4.6.3. Permitted Shoreline Uses. The principal CSMP regulatory use standards that apply to the Project elements that will occur in the City of Longview are those governing dredging

Dredging

The CSMP defines dredging as 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. (CSMP, p.18)

4.6.4. Format. The CSMP is organized into the following areas: general criteria for substantial development, specific regulatory standards for shoreline uses and activities, general policies and objectives for shoreline uses and activities, shoreline environment objectives, element goals and objectives, and conditional use permitting criteria. The analysis below, therefore, follows that same basic structure:

- **Substantial Development Conditions**
- **Master Program Regulatory Standards for Uses and Activities**
 - Dredging
- **Master Program Policy Objectives for Uses and Activities**
 - Dredging
- **Master Program Shoreline Environments and Objectives**
 - Urban
 - Rural
 - Conservancy
 - Natural
- **Master Program Element Goals and Objectives**
 - Circulation
 - Conservation
 - Economic Development
 - Public Access
 - Other Shoreline Uses

4.6.5. Consistency Analysis – Findings. The Project is not only consistent and in general conformance with the CSMP, it actually promotes several key goals and policies regarding navigation and economic development.

4.6.6.1 Substantial Development Criteria. The Project will comply with the general construction practices for substantial development that are set forth on page 27 of the CSMP.

4.6.6.2 Dredging. The Project is consistent with the regulatory use standards and general policy objectives for dredging. See discussion in Section 4.6.5.6.2 above.

4.6.6.3. General Policy Objectives for Shoreline Environments. The Project is consistent with the CSMP's general policy objectives for the shoreline environments in which Project elements will be located. See Section 4.5.6.7 above.

4.6.6.4. General Policy Objectives for Shoreline Elements. The Project is consistent with the applicable CSMP's general policy objectives for shoreline elements. See Section 4.5.6.8 above.

4.6.6.5. Conditional Use Criteria. See the discussion in Section 4.1.3.

4.7 City of Vancouver

The City of Vancouver is not located in Washington's Coastal Zone. Therefore, review of Vancouver's SMP is presented here for purposes of showing general consistency with local plans, rather than for purposes of demonstrating consistency with the Coastal Zone Management Act.

4.7.1 References. The City of Vancouver's shoreline regulations and policies are both found in its SMP. References to the City of Vancouver Shoreline Management Master Program (revised 1997) ("VSMMP") are given by page number.

4.7.2 Proposed Shoreline Uses. The Project, includes the following activities which may occur all or in part within the City of Vancouver's shoreline jurisdiction:

Columbia River – 43-ft. Channel Improvement Construction and Maintenance Dredging

The Columbia River will be dredged in selected areas adjacent to the City of Vancouver. Dredging will deepen the existing 40-foot-deep channel to the newly authorized depth of 43 feet.

Columbia River – Dredged Material Flowlane Disposal

Flowlane disposal may be done in selected areas adjacent to the City of Vancouver. Flowlane disposal will occur where depths range from 35 to 65 feet, but are typically greater than 50 feet.

Gateway 3 - Upland Dredged Material Disposal Site, CRM W-101.0

Size: 40 acres

Elevation: Current surface elevation is +21 feet CRD; surface elevation with total volume in place estimated at +65 feet CRD

Owner: Port of Vancouver

Gateway 3 is a new upland disposal site within the City's shoreline. A temporary pipeline will be used for placement of dredged materials at the site, and a return weir will be constructed for water drainage from the site back to the river.

Gateway 3 refers to Parcel 3 of the Port of Vancouver's Gateway property. The land is currently used for agricultural purposes. The Corps proposes to dispose of dredged sand on a portion of this parcel over a 20-yr period, during both the construction and maintenance phases of the project. The strip of riparian vegetation along the river will be avoided. The drainage weir is designed to cross at the most sparsely vegetated point, near the southernmost corner of the site.

The site is relatively level with an average elevation of +21 feet CRD. The disposal site has a capacity of 2,300,000 cy of dredged material. The Corps plans to place 2,300,000 cy of sand over a 20-year period including the construction and 20-year maintenance dredging phases of the project raising the site's elevation to +65 feet CRD. Within the 200-foot shoreland environment, only a temporary pipeline will be used for placement of dredged materials at the site, and a return weir will be constructed for water drainage from the site back to the river, if it does not already exist.

4.7.3 Permitted Shoreline Uses. The principal VSMMP regulatory use standards that apply to the Project are those governing: dredging, dredged material disposal, mining/mineral extraction, and commercial (sand resale) activities.

Dredging and Dredged Material Disposal. The VSMMP defines dredging as the removal or displacement of earth or sediments such as gravel, sand, mud or silt and/or other materials or debris from any stream, river, lake or marine water body and associated shorelines and wetlands. Under the VSMMP, landfill is defined as the placement of soil, sand, rock, gravel, or existing sediment or other material to create new land, tideland or bottom land area waterward of the OHWM, or in upland areas to raise elevations. The purpose of flowlane disposal is not to create new bottomland area. Therefore, flowlane disposal does not appear to meet the definition of a landfill; however, the use is analyzed for consistency with this provision.

4.7.4 Format. The VSMMP is organized into the following areas: general conditions for substantial development permits, specific regulatory standards for shoreline uses and activities, general policies and objectives for shoreline uses and activities, shoreline environment objectives, and element goals and objectives.

- **Substantial Development Permit Conditions**
- **Master Program Regulatory Standards for Uses and Activities**
 - Dredging and Dredged Material Disposal
 - Landfill
- **Master Program Policy Objectives for Uses and Activities**
 - Dredging and Dredged Material Disposal
 - Landfill
- **Master Program General Policies**
- **Master Program Shoreline Environments and Objectives**
 - Aquatic Environment
 - Upland Environment, Urban High-Density
- **Master Program Element Goals and Objectives**
 - Circulation
 - Conservation

Economic Development

4.7.5 Consistency Analysis – Findings. The Project is not only consistent and in general conformance with the VSMMP, it actually promotes several key goals and policies regarding navigation and economic development.

4.7.6.1 Substantial Development Permit Conditions. The Project will comply with all applicable general permit conditions and best management practices (“BMPs”) identified.

4.7.6.2 Dredging. The Project is consistent with the VSMMP’s regulatory use standards and general policy objectives for dredging. (VSMMP, p. 5-12 to 5-14).

77. Policy: Dredging operations should be planned and conducted to minimize interference with navigation and adverse impacts to other shorelines uses, properties and values. Long-range regional plans should be developed for the disposal and use of dredged material on land, particularly in areas where maintenance of navigation channels is routine and continuous. When dredge material has suitable organic and physical properties, dredging operations should be encouraged to recycle dredged material for beneficial use in beach enhancement, habitat creation, aggregate or clean cover material at a landfill.

As discussed in Section 4.1.2, a principal purpose of Project dredging is to enhance navigation and navigational access. The other purpose of the Project is ecosystem restoration. Dredging is occurring in locations where dredging has historically occurred, although at deeper depths in selected areas. Most of the dredged materials that are removed during construction will be sand, with a low percent organic content. Sediment evaluations of potential maintenance dredging material conducted since the 1970s have consistently found this material to be suitable for unconfined in-water disposal.

231. Regulation: In evaluating permit applications for any dredging project, the adverse effects of the initial dredging, subsequent maintenance dredging and dredge disposal that will be necessary shall be considered. Dredging and dredge disposal shall be permitted only where it is demonstrated that the proposed actions will not result in significant or ongoing adverse impacts to water quality, fish and wildlife habitat, flood holding capacity, natural drainage and water circulation patterns, significant plant communities, prime agricultural land, and public access to shorelines. When such impacts are unavoidable, they shall be minimized and otherwise mitigated.

Dredging will occur in locations that have been subject to dredging on a routine basis. The dredging to attain the new depth will occur deeper than 40 feet, beyond the depths at which salmonids generally migrate. The hopper and pipeline dredges that will be used generally do not produce large amounts of turbidity because of the suction action of the dredge pump and the burial of the drag arm or cutter head in the sediment. Turbidity produced by mechanical dredging will be reduced by using a closing bucket.

Flowlane disposal generally will also be in depths ranging from 50 to 65 feet. Most benthic invertebrates that serve as a food source for fish are found at depths of less than 20 feet.

Therefore, restricting the disposal of dredged materials to depths greater than 20 feet will minimize potential impacts from this activity. While it has been established that white sturgeon are present in the three potential flowlane disposal areas, the Corps is conducting studies to help avoid and minimize impacts to sturgeon.

Upland disposal along the Columbia River channel has been reviewed by the NOAA Fisheries and USFWS to address impacts, if any to ESA listed fish species or proposed critical habitat. The Gateway site is the only upland disposal site in the City of Vancouver. It has been located 300 feet beyond the ordinary high water to avoid impacts to shoreline resources. The site has been reduced in size since the 1999 Final IFR/EIS to further reduce impacts to riparian habitat. Impacts and proposed mitigation are discussed in detail in K-5, Wildlife and Wetland Mitigation (Revised) and K-8, Consistency with Critical Areas Ordinances Including Wetland Mitigation (Revised) of the Final SEIS. This exhibit demonstrates that proposed mitigation exceeds that required under local critical areas ordinances.

232. *Regulation:* Only the minimum amount of dredging necessary shall be permitted. Dredging techniques that cause minimum dispersal and broadcast of bottom material shall be used.

Construction and maintenance dredging will only remove the material necessary for the authorized 43-foot navigation channel.

233. *Regulation:* Dredging waterward of the OHWM shall be permitted only:

- a. *for navigation or navigational access;*
- b. *in conjunction with a water-dependent use of water bodies or adjacent shorelands;*
- c. *as part of an approved habitat improvement project;*
- d. *to improve water flow or water quality, provided that all dredged material shall be contained and managed so as to prevent it from reentering the water;*
- e. *in conjunction with a bridge, navigational structure or waste water treatment facility for which there is a documented public need and where other feasible sites or routes do not exist. to acquire only from within the Columbia River sand and gravel for commercial purposes.*

The dredging for the Project is for navigation and navigation access.

234. *Regulation:* Dredged material shall be disposed of on land only at contained sites approved by the USACOE and the City of Vancouver. Disposal shall be limited to the smallest possible land area, unless dispersed disposal is authorized as a condition of permit approval for soil enhancement or other purposes. Dredged material may be used for beach creation, expansion, restoration, or enhancement projects, PROVIDED the policies and regulations of this Master Program pertaining to such activities are fulfilled.

The Gateway 3 site has been selected by the USACOE. It is anticipated that the City will review its use.

235. *Regulation: The following conditions shall apply to land disposal sites:*

a. *Containment dikes and adequate settling basins shall be built and maintained so that the water discharged from the site carries a minimum of suspended sediment. Required basins shall be designed to maintain at least one foot of standing water at all times to encourage proper settling;*

b. *Proper diversion of surface discharge shall be provided to maintain the integrity of the natural streams, wetlands, and drainage ways;*

c. *There shall be a single point of ingress and egress for removal of the de-watered material;*

d. *Runoff shall be directed through grassy swales or other treatment features to a location that maximizes circulation and fishing; and sites shall be adequately screened from view. Dredge disposal in shoreline areas shall not impair scenic views.*

f. *Sites shall be revegetated with native species as soon as possible to retard erosion and restore wildlife habitat value;*

The site is designed to contain the dredged material and hold the return water while allowing sand and suspended sediment to settle. Sand will be placed in upland disposal sites with a temporary pipeline extending from the dredge vessel. The pipeline will be removed from the sites after sand placement. Sand moves through the pipeline in the form of a slurry mixed with Columbia River water. Water from the upland disposal sites will be allowed to settle and clear through the drainage system before it runs back into the river. Weirs of appropriate crest height will be used, as necessary, to regulate the return of water to the river. Water returned to the river through weirs is subject to applicable state water quality standards, after dilution, at an appropriate point of compliance. Perimeter dike erosion protection will be provided.

78. *Policy: Dredge material disposal in water bodies should be discouraged, except for habitat improvement where depositing dredge material on land would be more detrimental to shoreline resources than deposition in water areas. Dredge disposal sites in water areas should be identified by local governments in cooperation with the USACOE, EPA, and the State Departments of Ecology, Natural Resources, and Fish and Wildlife. Dredged material containing chemicals at concentrations high enough to cause significant harm to resident biota should not be placed at unconfined open-water disposal sites.*

Flowlane disposal will be restricted to the navigation channel and adjacent areas and will be similar to flow lane disposal that has been used by the Corps for maintenance dredge material disposal. Sediment quality has been evaluated for dredged materials from the navigation channel. Sediment samples were collected and subjected to physical and chemical analyses. These studies indicate that material to be dredged in the Columbia River navigation channel is

suitable for unconfined open water disposal. The bed material of the Columbia River navigation channel is medium to coarse grained sand with less than 1% fines. Sediment evaluations of potential maintenance dredging material conducted since the 1970s have consistently found the material to be suitable for unconfined in-water disposal.

236. *Regulation:* *The deposition of dredged materials in water shall be permitted only:*

- a. *to improve wildlife habitat;*
- b. *to correct material distribution problems adversely affecting fish habitat;*
- c. *to create, expand, rehabilitate, or enhance a beach when permitted under this Master Program; or*
- d. *when land deposition is demonstrated to be more detrimental to shoreline resources than water deposition.*

Flowlane disposal distributes dredged material downstream of the dredging area, at sites within or adjacent to the navigation channel where depths are greater than the channel. This is done to minimize the potential for material settling back into the channel and causing additional shoaling problems. The Washington Department of Ecology has recently begun encouraging the Corps to dispose of dredged materials in the river where possible.

237. *Regulation:* *Dredged material shall be disposed of in water only at sites approved by the USACOE and the City of Vancouver. Disposal techniques that cause minimum dispersal and broadcast of bottom material shall be used, unless dispersal of material is specifically approved.*

Flowlane disposal, similar to that which would be used for the Project, was approved by the Corps in the November 3, 1998 Record of Decision for the 40-foot navigation channel. During hopper-dredge disposal, material will be released while the dredge is in motion to disperse material; during pipeline-dredge disposal, the diffuser on the down pipe will be moved continually to prevent mounding on the river bottom.

238. *Regulation:* *Flow-lane disposal shall be conducted so that:*

- a. *disposal shall not occur under fresh-water flow and tidal conditions where the predominant sediment transport at a site is upriver; and*

Flowlane disposal distributes dredged material downstream of the dredging area, at sites within or adjacent to the navigation channel where depths are greater than the channel. This is done to minimize the potential for material settling back into the channel and causing additional shoaling problems.

- b. *use of the disposal site does not interfere with fishing activities by causing major changes in the circulation patterns or bottom configuration of the disposal site.*

Flowlane disposal will be dispersed adjacent to the channel in a manner that should not interfere with fishing activities.

79. *Policy: Dredging of bottom materials for the primary purpose of obtaining fill material is strongly discouraged.*

Project dredging is not for the purpose of obtaining fill material. As discussed in Section 4.1.2, Project dredging is for the purpose of increasing navigation and enhancing navigational access.

239. *Regulation: Dredging for the primary purpose of obtaining material for landfill shall be prohibited. Dredging and dredge material disposal shall be prohibited in wetlands, EXCEPT when these activities have been approved by a wetland permit as required under the Wetland Protection Ordinance, Dredging and dredge disposal shall be prohibited on or in archaeological sites which are listed on the Washington State Register of Historic Places until such time that they have been released by the State Archaeologist. Dredging to construct land canals or small basins for boat moorage or launching, water ski landings, swimming holes, or other similar recreational activities shall be prohibited. Dredging shall be prohibited between the OHWM and - 15 feet CRD, unless shallow water habitat will be created to mitigate for the dredging project.*

Project dredging is not for the purpose of obtaining fill material. As discussed in Section 4.1.2, Project dredging is for the purpose of increasing navigation and enhancing navigational access. The Gateway disposal site was designed so that it is outside the shoreline. The site avoids wetlands and their buffers.

4.7.6.3 Landfill. *The Project is consistent with the VSMMP's regulatory use standards and general policy objectives for landfill. (VSMMP, p. 5-15 to 5-16).*

80. *Policy: Shoreline fills shall be designed and located so that there will be no significant damage to existing ecological systems or natural resources, and no alteration of local currents, surface water drainage of flood waters which would result in a hazard to adjacent life, property, and natural resource systems. Their perimeters should be designed to avoid or eliminate erosion and sedimentation impacts, both during initial landfill activities and over time. In evaluating fill projects, such factors as conflict with potential and current public use of the shoreline and water surface area, total water surface reduction, navigation restriction, impediment to water flow and drainage, reduction of water quality, and destruction of habitat should be considered. Further, the City of Vancouver should assess the overall value of the landfill site in its present state versus the proposed shoreline use to be created to ensure consistency with the SMA and this Master Program.*

See answer to 242.

241. *Regulation: Environmental review of proposed landfills shall be accomplished concurrently with review of the intended use, and the threshold determination concerning the need for an environmental impact statement shall be based on this combined project review.*

The Corps has already issued a 1999 Final IFR/EIS for this Project as well as a Final SEIS to incorporate additional information.

242. *Regulation:* Landfills shall be designed, constructed and maintained to prevent, minimize, and control all material movement, erosion and sedimentation from the affected area. Perimeters of permitted landfill projects shall be designed and constructed with silt curtains, vegetation, retaining walls, or other mechanisms and appropriately sloped to prevent erosion and sedimentation both during initial landfill activities and afterwards. Such containment practices shall occur during the first growing season following completion of the landfill.

The Gateway 3 upland site is designed to contain the dredged material and hold the return water while allowing sand and suspended sediment to settle. Sand will be placed in upland disposal sites with a temporary pipeline extending from the dredge vessel. The pipeline will be removed from the sites after sand placement, to minimize interference with recreational boating. Sand moves through the pipeline in the form of a slurry mixed with Columbia River water. Water from the upland disposal sites will be allowed to settle and clear through the drainage system before it runs back into the river. Weirs will be used, as necessary to regulate the return of water to the river. Water returned to the river through weirs is subject to applicable state water quality standards, after dilution, at an appropriate point of compliance. Sites will be graded to avoid erosion.

243. *Regulation:* Fill materials shall be sand, gravel, soil, rock or other similar material. Use of polluted dredge spoils or sanitary landfill materials is prohibited. Landfill construction shall be timed to minimize damage to water quality and aquatic life. Pile or pier supports shall be utilized instead of landfills whenever feasible, particularly for permitted development in floodways or wetlands.

Sediments placed at Gateway 3 will be primarily sand, with low organic content. Sediment quality has been evaluated for dredged materials from the navigation channel. Sediment samples were collected and subjected to physical and chemical analyses. These studies indicate that material to be dredged in the Columbia River navigation channel is suitable for unconfined open water disposal.

244. *Regulation:* Landfill on dry land shall not result in substantial changes to surface water drainage patterns off the project site and onto adjacent properties. Landfills shall be designed to allow surface water penetration into groundwater supplies where such conditions existed prior to filling.

Water from the upland disposal sites will be allowed to settle and clear through the drainage system before it runs back into the river. Weirs will be used to regulate the return of water to the river. Water returned to the river through weirs is subject to applicable state water quality standards, after dilution, at an appropriate point of compliance.

81. *Policy:* Landfills should be permitted only when necessary for a specific development proposal that is permitted by this Master Program. They should be the of the minimum size necessary to provide for the proposed use. Speculative landfill activity should be prohibited. Solid waste landfills should not be located in shoreline jurisdiction. Landfills waterward of the OHWM should be prohibited except in conjunction with a water-dependent or public access use

when such fill is necessary and unavoidable and complies with all other policies and regulations of this Master Program.

The Primary purpose of the Project is to enhance navigation and navigational access for marine shipping. Marine shipping and related navigational improvements are permitted water-dependent uses. Flowlane and upland disposal are necessary for dredging. The Gateway 3 site does not constitute a speculative landfill because the fill is not being placed in speculation that the site will later be used for development. Rather, the site is a dedicated upland disposal site that is being used in conjunction with channel deepening and maintenance.

245. *Regulation: Landfills shall be permitted only in conjunction with a permitted use, and shall be of the minimum size necessary to support that use. Speculative landfills are prohibited.*

A principle purpose of the Project is to enhance navigation and navigational access for marine shipping. Marine shipping and related navigational improvements are permitted water-dependent uses. Flowlane and upland disposal are necessary for the Project. Construction and maintenance dredging will only remove the material necessary for the authorized 43-foot navigation channel. In this regard, the fill occurring at the Gateway 3 site is in conjunction with the permitted dredging activities.

246. *Regulation: Landfills shall be permitted only where it is demonstrated that the proposed action will not (1) result in significant damage to water quality, or fish and wildlife habitat, nor (2) adversely alter natural drainage and circulation patterns, currents, river and tidal flows, or significantly reduce flood water capacities. In addition, any such damage, alteration, or reduction not considered significant must be mitigated.*

Water from the upland disposal sites will be allowed to settle and clear through the drainage system before it runs back into the river. Weirs will be used to regulate the return of water to the river. Water returned to the river through weirs is subject to applicable state water quality standards, after dilution, at an appropriate point of compliance. Impacts to habitat from the Gateway 3 site are being mitigated by habitat creation in the mitigation sites, including Woodland Bottoms and Martin Island.

247. *Regulation: Landfill waterward of OHWM shall be prohibited, except it may be permitted as a conditional use (1) when it is necessary to support a water-dependent or public access use, or (2) in accordance with the provisions of a wetland permit pursuant to the Wetland Protection Ordinance, as amended (VMC 20.50). In the Columbia River, landfills shall be prohibited between the OHWM and -15 feet CRD unless shallow water habitat will be created as mitigation.*

A principle purpose of the Project is to enhance navigation and navigational access for marine shipping. Marine shipping and related navigational improvements are permitted water-dependent uses. Flowlane disposal is necessary to support a water-dependent activity and will occur beyond the 15 feet CRD. Flowlane disposal generally will also be in depths ranging from 50 to 65 feet. Most benthic invertebrates that serve as a food source for fish are found at depths of less than 20 feet. Therefore, restricting the disposal of dredged materials to depths greater

than 20 feet will minimize potential impacts from this activity. While it has been established that white sturgeon are present in potential flowlane disposal areas, the Corps is conducting studies to help avoid and minimize impacts to sturgeon.

248. *Regulation: Solid and hazardous waste landfills shall be prohibited in shoreline jurisdiction.*

N/A. The Project includes no solid or hazardous waste landfills.

4.7.6.4 Master Program General Regulations and Policies. The Project is consistent with the applicable general regulations and policies under the VSMMP.

General:

1. *Policy: All shoreline uses and modification activities should further the intent of the SMA and related federal, state, and local statutes and ordinances.*

As discussed in Section 4.1.2, the Project is consistent with the SMA's priorities for Shorelines of Statewide Significance. The Project will comply with all applicable regulations.

1. *Regulation: All shoreline uses and modification activities including those that do not require a Shoreline Substantial Development Permit shall (a) further the intent of the goals and policies of this Master Program; and (b) fulfill the requirements of all applicable sections of this Master Program as well as any other applicable federal, state, or local statutes ordinances, or codes.*

As discussed in this memorandum, the Project is consistent with the VSMMP.

5. *Policy: Water-dependent uses and water-enjoyment uses should have the closest physical relationship with the water, followed by water-related uses. Non-water-oriented uses should not generally be located within shoreline jurisdiction, although they may be permitted under certain circumstances. When they are permitted, they should be located upland of water-oriented uses and as far upland as possible.*

A principle purpose of the Project is to enhance navigation and navigational access for marine shipping. Marine shipping and related navigational improvements are permitted water-dependent uses. Flowlane and upland disposal are necessary for the Project.

9. *Policy: Adverse impacts to the environment and its natural processes should be avoided. When unavoidable, they should be minimized or otherwise mitigated.*

Dredging will be done at depths of more than 40 feet, beyond the depths at which salmonids generally migrate. The primary hopper and pipeline dredges that will be used generally do not produce large amounts of turbidity because of the suction action of the dredge pump and the burial of the drag arm or cutter head in the sediment. Turbidity produced by mechanical dredging will be reduced by using a closing bucket.

Flowlane disposal generally will also be in depths ranging from 50 to 65 feet. Most benthic invertebrates that serve as a food source for fish are found at depths of less than 20 feet. Therefore, restricting the disposal of dredged materials to depths greater than 20 feet will minimize potential impacts from this activity. While it has been established that white sturgeon are present in potential flowlane disposal areas, the Corps is conducting studies to help avoid and minimize impacts to sturgeon.

Upland disposal along the Columbia River channel has been reviewed by the NOAA Fisheries and USFWS to address impacts, if any, to ESA listed fish species and their critical habitat to date. The upland Gateway 3 disposal site has been located 300 feet beyond the river and avoids wetlands and their buffers.

16. *Regulation: All new shoreline uses and modification activities and their associated structures and equipment shall be located, designed, installed, constructed, conducted, managed, operated, and maintained using the best available technology and best management practices for the purpose of (1) protecting and enhancing all forms of aquatic, littoral, or terrestrial life, and their spawning, nesting, and rearing grounds, habitats, and migratory routes; and (2) avoiding probable significant adverse impact to the environment and its natural processes. When such impact cannot be entirely avoided, it shall be minimized or otherwise mitigated. For residents of the shoreline area, this regulation shall be construed to mean that hazardous materials be disposed of pursuant to federal, state, and local laws and ordinances, and that other steps be taken to protect the ecology of the shoreline area in accordance with the other policies and regulations of this Master Program.*

The Project incorporates the following BMPs, among others, to protect shoreline resources during dredging:

- During hopper and pipeline dredging, maintain dragheads in the substrate or no more than 3 feet above the bottom with the dredge pumps running.
- The contractor shall not release any trash, garbage, oil, grease, chemicals, or other contaminants into the waterway. The Project also incorporates the following BMPs, among others, to protect shoreline resources during dredged material disposal:
 - For flowlane disposal, dispose of material in a manner that prevents mounding of the disposal material.
 - Maintain discharge pipe of pipeline dredge at or below 20 feet of water depth during flowlane disposal.
 - Berm upland disposal sites to maximize the settling of fines in the runoff water.
 - Grade shoreline disposal sites to a slope of 10 to 15 percent, with no swales, to reduce the possibility of stranding of juvenile salmonids.

36. *Policy: The quantity and quality of surface and groundwater should be preserved and protected through treatment of stormwater, erosion control, restoration of degraded water discharge systems, and other appropriate actions.*

Water from the Gateway 3 upland disposal site will be allowed to settle and clear through the drainage system before it runs back into the river. Weirs will be used as necessary to regulate

the return of water to the river. Water returned to the river through weirs is subject to applicable state water quality standards, after dilution, at an appropriate point of compliance.

4.7.4.6. Master Program Element Goals and Objectives. The Project is consistent with the VSMMP's goals and objectives for shoreline elements.

Circulation Element:

1. *Provide safe, convenient, and diversified circulation systems to and within shoreline areas to assure efficient movement of goods and people where routes will have the least possible adverse effect on the shoreline environment, while contributing to the functional and visual enhancement of the shoreline.*

A principle purpose of the Project is to improve navigation and enhance navigational access for marine shipping. The Columbia River navigation channel benefits the national and regional economy and serves shippers located in Vancouver County and throughout the Pacific Northwest. The lower Columbia River is the second largest grain-shipping waterway in the world, surpassed only by the Mississippi River. Regional growers, producers, and manufacturers use Columbia River ports to transport their goods to world markets. By deepening the channel by three feet in selected locations, the Project will continue to support this vital section of the national and regional economy. By incorporating ecosystem restoration elements, the Project will further enhance the quality of life for residents.

4. *Protect, manage and enhance those characteristics of shoreline circulation corridors that are unique or have historic significance or great aesthetic quality, for the benefit and enjoyment of the public.*

Dredging and flowlane disposal will be restricted to the navigation channel and the adjacent area where similar activities have occurred in the past. The new upland disposal site at Gateway 3, will be located 300 feet beyond the river to minimize impacts to shoreline aesthetics.

Conservation/Restoration Element

5. *Manage, conserve, protect, and restore those shoreline areas necessary for the support of wild and aquatic life and those identified as having geological, hydrological or biological significance.*

In addition to maintaining the existing trade base, another purpose of the Project is to restore ecosystem function. This Project responds to a well-demonstrated need for ecosystem restoration and incorporates many restoration actions. These Project features include restored wetland and riparian habitat at Shillapoo Lake (CRM 91); fish gates for salmonid passage at selected locations along the lower Columbia River; connecting channels at the upstream end of Walker-Lord and Hump-Fisher Islands for improved fish access to embayments and rearing habitat for juvenile salmonids; the Lois Island Embayment Habitat Restoration; the Purple Loostrike Control Program, Miller/Pillar Habitat Restoration; the Tenasillahe Island Tidegate/Inlet Improvements and Dike Beach; the Cottonwood/Howard Island Columbia White-Tailed Deer Introduction; and the Bachelor Slough Restoration.

6. *Ensure that utilization of a resource takes place with the minimum adverse impact to natural systems and quality of the shoreline environment.*

Dredging and flowlane disposal will be done at depths of more than 40 feet, to minimize effects on natural systems.

7. *Ensure mitigation of adverse impacts to the greatest extent possible.*

The Project incorporates the following BMPs, among others, to protect shoreline resources during dredging:

- During hopper and pipeline dredging, maintain dragheads in the substrate or no more than 3 feet above the bottom with the dredge pumps running.
- The contractor shall not release any trash, garbage, oil, grease, chemicals, or other contaminants into the waterway. The Project also incorporates the following BMPs, among others, to protect shoreline resources during dredged material disposal:
 - For flowlane disposal, dispose of material in a manner that prevents mounding of the disposal material.
 - Maintain discharge pipe of pipeline dredge at or below 20 feet of water depth during flowlane disposal.
 - Berm upland disposal sites to maximize the settling of fines in the runoff water.
 - Grade shoreline disposal sites to a slope of 10 to 15 percent, with no swales, to reduce the possibility of stranding of juvenile salmonids.

The Project includes mitigation for lost riparian, agricultural and wetland habitat.

Economic Development Element

11. *Encourage the maintenance, operation, and enhancement of existing industrial and commercial activities along the shoreline in such a manner that the land-water interface is utilized for productive purposes while minimizing adverse effects to the environment.*

Project activities will occur in and adjacent to the channel in the same or similar locations as have been used previously.

12. *Ensure healthy, orderly economic growth by encouraging new economic activities which will be an asset to the economy of the area and which will result in the least possible adverse effect on the quality of the shoreline, the surrounding environment and downstream water.*

By deepening the channel by three feet in selected locations, the Project will improve the utility of the navigation channel.

14. *Protect economic activity that is consistent with the objectives of the Shoreline Management Master Program.*

A principle purpose of the Project is to enhance navigation and navigational access for marine shipping. Marine shipping and related navigational improvements are permitted water-dependent uses. Flowlane and upland disposal are necessary for the Project as discussed elsewhere in this analysis.

15. *Develop, as an economic asset, the recreational industry along shorelines in a manner that will enhance the public enjoyment of the shorelines.*

16. *Encourage new shoreline industrial and commercial development which is water-dependent, water-related, or water-enjoyment.*

A principle purpose of the Project is to enhance navigation and navigational access for marine shipping. Marine shipping and related navigational improvements are permitted water-dependent uses. Flowlane and upland disposal are necessary for the Project.

4.7.6. Conditional Use Criteria. See the discussion in Section 4.1.3.