

4.6 Aberdeen/Hoquiam North Shore Levee

The Aberdeen/Hoquiam North Shore Levee is larger in scale than the Chehalis-Centralia airport levee. It would be approximately 5.8 miles long, and could require in-water work within the Chehalis, Hoquiam, or Wishkah rivers. Short-term impacts from construction of this action element could include excavating, clearing, filling, and dewatering and/or water diversions to install upland earthen levees, concrete T-walls, stop-log closures, and, potentially, sheetpile walls, as well as to raise streets.

For a majority of the elements of the environment, the Aberdeen/Hoquiam North Shore Levee would not result in long-term adverse impacts. Adverse impacts would be primarily minor in nature, except for potential moderate to significant impacts on cultural resources and groundwater. The long-term beneficial effects include a reduction in coastal flooding for the Aberdeen and Hoquiam communities and a reduction in pollutant loading to surface waters from floods.

4.6.1 Water Resources

4.6.1.1 Short-term Impacts

Potential temporary impacts associated with construction of the Aberdeen/Hoquiam North Shore Levee are described in Table 4.1-1. Impacts on water resources include an increased potential for sedimentation and turbidity during upland and in-water work, risk of contamination to surface and groundwater, and interruptions to surface water quantity and groundwater (e.g., recharge and discharge and localized hyporheic exchange alterations) in areas of dewatering. Avoidance and minimization measures would be employed during construction to isolate work areas from surface waters and limit the potential for construction runoff from entering area receiving waters.

4.6.1.2 Long-term Impacts

4.6.1.2.1 Surface Water Quality

No adverse impacts on surface water quality are anticipated to occur as a result of implementing the Aberdeen/Hoquiam North Shore Levee. Installation of the levee would result in similar beneficial effects to surface water quality as the Airport Levee Improvements, due to reduced flooding of potential sources of pollution (locations that store hazardous or toxic materials and pollution-generating surfaces).

4.6.1.2.2 Surface Water Quantity

There is the potential for increases in flood extents and floodwater elevation upstream and adjacent to the levee improvements along the Wishkah, Hoquiam and Chehalis rivers, resulting in a minor adverse impact. Because this action element is in the preliminary planning and design stages, elevations and extents of changes to flooding conditions are not available.

Potential beneficial effects to surface water quantity could occur due to the reduction in the extent of flooding in Hoquiam and Aberdeen as a result of coastal floods. The levee could provide protection

from flooding for up to 2,715 structures, based on estimates prepared using FEMA Hazus software (Franklin 2016). The exact extent of flood protection and number of structures protected would be determined during project-level design and environmental review.

No adverse impacts on water use and water rights are anticipated with the Aberdeen/Hoquiam North Shore Levee because this levee placement would not affect the ability of area water users to divert their water right.

4.6.1.2.3 *Groundwater*

The potential adverse impacts on groundwater quantity are due to shallow groundwater regime modifications with placement of the subsurface (toe) levee and sheetpile wall, and include potential impacts on the hyporheic exchange due to placement of the levee toe. These potential adverse impacts on groundwater quantity are considered moderate due to their localized area of impact. Installation of the levee would result in similar types of groundwater quality benefits as the Airport Levee Improvements, but would be increased due to the larger area of development protected from flooding. This would result in a potential beneficial effect on groundwater quality from reduced flooding of pollutant-generating land uses (e.g., roads and developed areas), which could seep into groundwater.

4.6.1.3 *Mitigation*

Potential mitigation measures for short-term impacts on water resources associated with construction of the Aberdeen/Hoquiam North Shore Levee are described in Table 4.1-1.

Potential mitigation measures for long-term impacts on surface water quantity would be analyzed during project-level design and environmental review. No compensatory mitigation has been identified for potential impacts on flood levels or shallow groundwater flow regime impacts.

4.6.2 **Geology and Geomorphology**

4.6.2.1 *Short-term Impacts*

The potential short-term impacts on geology and geomorphology are described in Table 4.1-1, and are similar to those described for the Airport Levee Improvements and I-5 Projects as they relate to excavating, filling, dewatering, water diversion, and isolating work areas (if in-water work were to occur).

4.6.2.2 *Long-term Impacts*

Similar to the Airport Levee Improvements and I-5 Projects, potential adverse impacts on geology would occur as a result of increased settlement of land, and are considered minor because they are isolated to the area of the levee. Liquefaction of the ground during an earthquake would be a concern in the area of the Aberdeen/Hoquiam North Shore Levee. The potential effects of liquefaction and earthquake-induced ground motion on the levees would need to be evaluated. Measures to accommodate the

effects of liquefaction and earthquake ground motion through post-seismic event repair or to reduce the associated settlement, instability, and lateral spread could be designed into the levee and would depend on established performance criteria.

Potential moderate adverse impacts on geomorphology could result from placement of levees and floodwalls along the Wishkah, Hoquiam, and Chehalis rivers, potentially increasing the velocity in the river and restricting channel migration. With placement of the levee, there is the potential to redirect high-velocity flows downstream or to an adjacent or opposite bank, causing erosion or damage to aquatic habitats. These impacts would be local to the Aberdeen/Hoquiam North Shore Levee area, and would not have Basin-scale impacts on geomorphic function because the site is located at the bottom of the Chehalis Basin.

4.6.2.3 Mitigation

Potential mitigation measures for short-term impacts on geology and geomorphology are described in Table 4.1-1. Liquefaction of the ground during an earthquake would be a concern in the area of the Aberdeen/Hoquiam North Shore Levee (Slaughter et al. 2013). Potential avoidance and mitigation measures would be evaluated during project-level design and environmental review. Other potential mitigation measures for long-term impacts related to geology and geomorphology would be the same as those described for the I-5 Projects.

4.6.3 Wetlands and Vegetation

4.6.3.1 Short-term Impacts

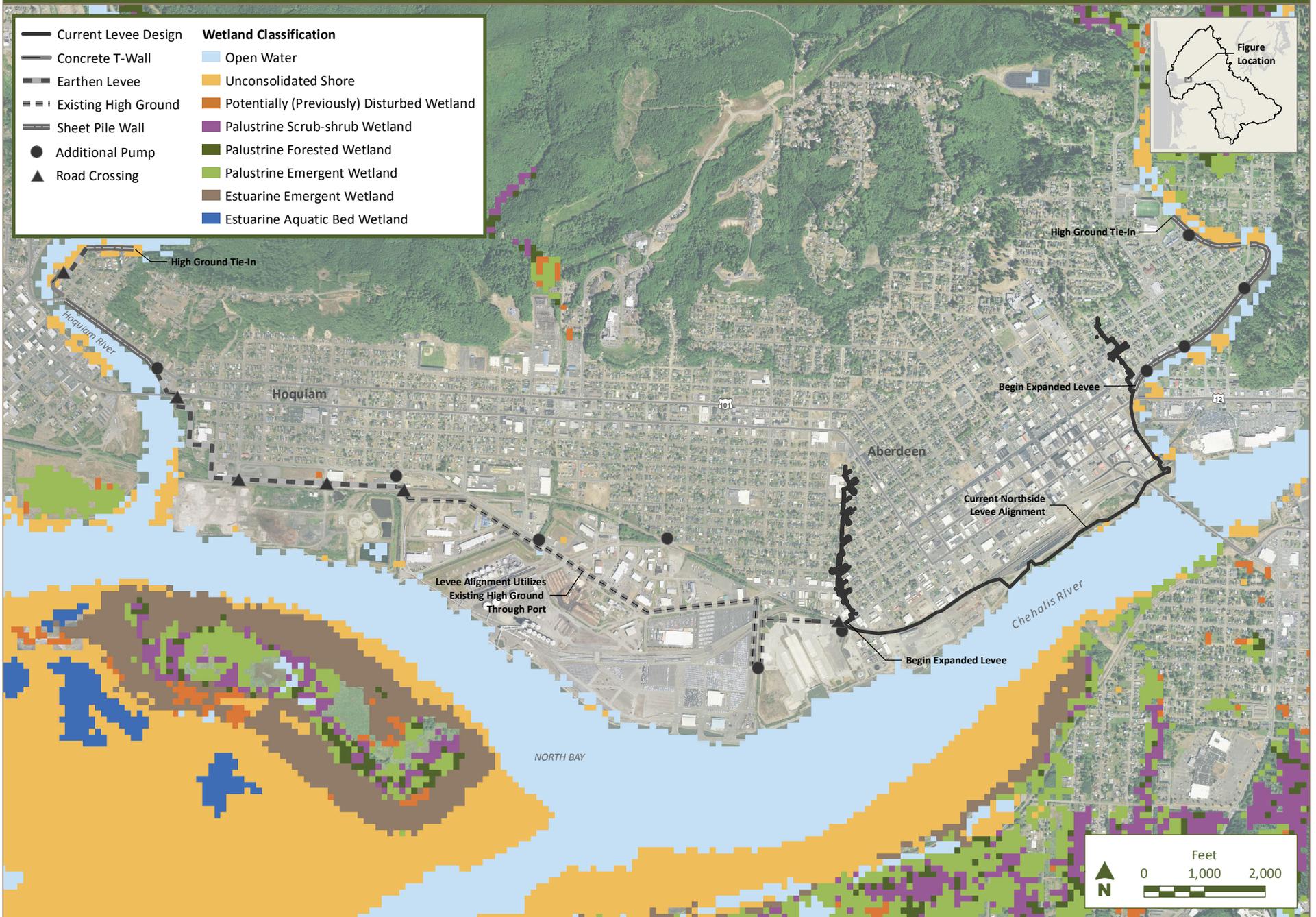
The potential short-term impacts on wetlands and vegetation would occur during construction and are similar to those described for the Airport Levee Improvements. These impacts would be limited in nature and extent given the limited existing vegetation and lack of wetlands due to previous disturbance from urban development and activities. Temporarily disturbed areas would be restored to pre-construction status and/or function following construction.

4.6.3.2 Long-term Impacts

The potential adverse impacts of implementation of the Aberdeen/Hoquiam North Shore Levee on wetlands and vegetation include the placement of fill material into potential wetlands and the removal of woody vegetation that could exist along portions of the proposed levee footprint along the Hoquiam, Chehalis, and Wishkah rivers. Following construction, adverse impacts on vegetation from the routine maintenance of the earthen portions of the levee could also occur. Impacts from such activities could include conversion, disturbance, and/or reduction of existing wetland, riparian, and vegetation communities. These potential adverse impacts of the Aberdeen/Hoquiam North Shore Levee would have a moderate effect on wetlands and a minor effect on vegetation. The proposed work is not anticipated to affect more than 0.5 acre of wetlands (see Figure 4.6-1) or native vegetation, because much of the area has already been affected by past and current development.

Figure 4.6-1

Wetland Areas Mapped near the Aberdeen/Hoquiam North Shore Levee



4.6.3.3 Mitigation

Potential mitigation measures for short-term impacts on wetlands and vegetation are described in Table 4.1-1 as they relate to excavating, clearing, filling, and construction staging. Potential mitigation measures for long-term impacts would be the same as those described for the Airport Levee Improvements and I-5 Projects.

4.6.4 Fish and Wildlife

4.6.4.1 Short-term Impacts

4.6.4.1.1 Fish

The potential short-term impacts on fish from construction of the Aberdeen/Hoquiam North Shore Levee are described in Table 4.1-1. These impacts would occur during the construction of the levee and other associated projects that are immediately adjacent to the Chehalis River and tributaries, especially if construction requires in-water work and use of barges, restructuring of adjacent riverbank areas, or water diversions. The potential short-term impacts related to construction would primarily be from the following:

- Reduced water quality due to turbidity increases, pollutant-laden stormwater runoff, or pollutants entering the water
- Temporarily dewatering of part of the river channels, reducing habitat available to fish in the immediate vicinity of the Aberdeen/Hoquiam North Shore Levee, including species like salmon and steelhead, and ESA-listed bull trout, eulachon, and Southern green sturgeon during their migrations between freshwater and saltwater.
- Construction noise in or near the stream channel and removal of bank vegetation, which would reduce the function of riparian habitat for fish (e.g., shading and input of terrestrial nutrients and food)

4.6.4.1.2 Wildlife

Construction, including noise impacts, could temporarily disturb habitat used by native wildlife species to breed, forage, rest, and overwinter. Temporary impacts would be the same as those described for the Airport Levee Improvements and I-5 Projects, and would occur in areas currently developed or that have been previously disturbed by past industrial and commercial activities.

4.6.4.2 Long-term Impacts

4.6.4.2.1 Fish

The potential adverse impacts from implementation of the Aberdeen/Hoquiam North Shore Levee on fish include reductions in coastal floodplain extents, reduction in channel migration potential, and changing flood extents and elevations upstream and downstream of the levees during coastal flooding. In addition, contaminants carried by stormwater runoff from urban areas behind the levees during large precipitation events could become concentrated at outflow areas of levee pump stations. The

magnitude of these potential adverse impacts would be minor, although the impacts have not been quantified. Developed areas that would be behind the levee are not likely providing quality floodplain habitat for fish currently, due to their relatively intensively developed character. Preventing the river from inundating urbanized areas of Aberdeen and Hoquiam could result in a beneficial effect on fish, by reducing fish stranding in developed areas and by reducing pollutant loading during floods from urban-industrial areas behind the levees.

The levee would reduce flood extents in urban areas, but would shift flood extents in other areas of the lower Wishkah River, lower Hoquiam River, and lower Chehalis River estuary floodplains. The potential for river channels to migrate in these areas is already highly constrained by urban infrastructure, and further constraints on floodwater extents created by the levee are likely to increase flooding extents and force changes in the river channel upstream. Constraints on river migration and floodplain inundation in these areas reduces habitat function for fish by reducing areas of refuge from high-velocity flows. Redistribution of floodwater could result in redistribution of fish in newly flooded areas upstream, resulting in a minor adverse impact on fish.

This reach of the lower Chehalis River and estuary is a migratory pathway for salmon, steelhead, bull trout, lamprey, and eulachon (listed as threatened under ESA) in fall and winter when flooding is most likely to affect fish in the vicinity of the levees. Other saltwater-tolerant species (e.g., stickleback) and marine species (e.g., surf smelt, shiner perch, Pacific staghorn, sculpin, English sole) are likely to occur in the transition zone between freshwater and saltwater. The area adjacent to the levees could provide rearing habitat for juvenile Chinook salmon, chum salmon, and eulachon during the transition from freshwater to saltwater in spring. Southern green sturgeon (listed as threatened under ESA) occur in the lower Chehalis River and Grays Harbor during the summer. However, these life stages are not likely to be affected by impacts associated with the levees that are largely related to winter flooding events.

4.6.4.2.2 *Wildlife*

The potential adverse impacts on wildlife are similar to those described for the Airport Levee Improvements and I-5 Projects, and would be minor due to the limited vegetation and wetland systems in this area, as well as limited potential disturbance.

4.6.4.3 ***Mitigation***

Potential mitigation measures for short- or long-term impacts on fish and wildlife are similar to those described for the Airport Levee Improvements and I-5 Projects (see Sections 4.4.4.3 and 4.5.4.3).

4.6.5 **Tribal Resources**

4.6.5.1 ***Short- and Long-term Impacts***

The potential construction-related impacts on tribal resources would be similar to those discussed for the Airport Levee Improvements and I-5 Projects. In-water work is not anticipated, but has the potential

to occur. Construction-related equipment such as cranes, barges, and tugboats could restrict the Quinault Indian Nation's treaty right of access to the Wishkah, Chehalis, and Hoquiam rivers during construction—all of which are within the Quinault Indian Nation's usual and accustomed fishing areas.

The potential long-term impacts on tribal resources are those effects to fish that result from reductions in the floodplain extent, reduction in channel migration potential, and changing coastal flood extents and elevations upstream and downstream of the levees during coastal flooding (see Section 4.6.4). This could affect estuarine habitat and functions adjacent to the Aberdeen/Hoquiam North Shore Levee. The impacts on estuarine habitat would diminish the productivity and abundance of juvenile salmon and steelhead. This impact would result in fewer fish available for harvest by tribal fishers. Access to tribal fisheries would also be affected if the Quinault Pride Seafood pier is removed as part of this action element. The extent of potential impacts on tribal resources from changing flood extents will be determined through additional coordination with tribes and continued government-to-government consultations.

The levee would be placed within the urban landscape of Aberdeen and Hoquiam and is not anticipated to affect culturally significant plants or wildlife. No long-term impacts on tribal use and availability of plants and wildlife are anticipated.

4.6.5.2 Mitigation

Avoidance and minimization measures for potential short-term impacts on tribal resources could be similar to those described for the Airport Levee Improvements and I-5 Projects. In addition, coordination on the timing and location of construction activities that could affect tribal fishers' access to boat launches or other locations (including the Quinault Pride Pier) used to access the fisheries or other treaty-reserved rights could help to avoid or minimize potential impacts on access. This coordination could result in adjustments to the timing of construction activities to avoid periods when fisheries could be open, and when access to the river is critical to target a particular opening. Other periods would include openings when multiple fish deliveries to Quinault Pride Seafood could occur in a day (e.g., during the fall salmon fishery).

The coordination process could mean establishing and communicating to the Quinault Indian Nation and Chehalis Tribe, through meetings and notices, the timing of construction activities and identification of alternative access points to the river or Bowerman Basin. Mitigation of impacts on treaty rights is subject to consideration and agreement by the Quinault Indian Nation.

4.6.6 Air Quality

4.6.6.1 Short-term Impacts

The potential short-term impacts on air quality are similar to those described for the Airport Levee Improvements, but vehicle emissions from truck trips, mechanized construction equipment, and dust would be greater due to the larger scale of construction activities. Construction would occur near residences and commercial areas; therefore, fugitive dust would be noticeable and a potential nuisance.

The impacts would be localized, limited to the construction period, and would not cause an overall decrease in regional air quality.

4.6.6.2 Long-term Impacts

No adverse impacts on air quality are anticipated because the completed Aberdeen/Hoquiam North Shore Levee would not generate dust or emissions.

4.6.6.3 Mitigation

Potential mitigation measures to reduce short-term impacts on air quality would be the same as those described in Table 4.1-1 as they relate to excavating, clearing, filling, and construction staging. No long-term adverse impacts on air quality are anticipated, so no mitigation is proposed.

4.6.7 Climate Change

4.6.7.1 Short-term Impacts

The potential short-term impacts from GHG emissions contributing to climate change would occur from construction and are the same as those described for the Airport Levee Improvements. Climate change is not anticipated to have any short-term impact on construction of the Aberdeen/Hoquiam North Shore Levee due to the temporary nature of the construction activities.

4.6.7.2 Long-term Impacts

4.6.7.2.1 Effects of the Aberdeen/Hoquiam North Shore Levee Contributing to Climate Change

The potential effects that would contribute to the effects of climate change are similar to those described for Airport Levee Improvements, and would result in no adverse impact.

4.6.7.2.2 Effects of Climate Change on the Aberdeen/Hoquiam North Shore Levee

No adverse impacts from climate change on the Aberdeen/Hoquiam North Shore Levee are anticipated. Even though the potential effects of climate change on coastal flooding include an increased frequency and intensity of flooding events, the levee design height would be increased wherever feasible to account for future potential sea level rise (City of Aberdeen 2016). More intense heavy winter rains combined with high tides could increase flooding behind the levee. Pumps used to pump out water trapped behind the levee into Grays Harbor may be used more often as major flooding from the effects of climate change occurs more frequently. These measures would provide additional resiliency to changing climate conditions.

4.6.7.3 Mitigation

4.6.7.3.1 Mitigation to Address Effects of the Aberdeen/Hoquiam North Shore Levee Contributing to Climate Change

No adverse effects of the Aberdeen/Hoquiam North Shore Levee contributing to climate change are anticipated, so no mitigation is proposed.

4.6.7.3.2 Mitigation to Address Effects of Climate Change on the Aberdeen/Hoquiam North Shore Levee

Climate change is not anticipated to have an adverse effect on the Aberdeen/Hoquiam North Shore levee, so no mitigation is proposed.

4.6.8 Visual Quality

4.6.8.1 Short-term Impacts

The potential short-term impacts on visual quality would occur during construction and include lower visual quality due to construction equipment and activities, particularly in areas where the construction activity would visually contrast with the surrounding area. Construction adjacent to residences and near existing parks, open space, and other natural settings would typically visually contrast with the construction activities. These impacts would be limited in duration.

4.6.8.2 Long-term Impacts

The Aberdeen/Hoquiam North Shore Levee would visually contrast with its location in low, flat topography where no levee currently exists. Views of Grays Harbor and the Hoquiam and Wishkah rivers could be partially blocked from areas behind the levee. These potential adverse impacts are considered minor due to their localized area.

4.6.8.3 Mitigation

Potential mitigation measures for short- and long-term impacts on visual quality are similar to those described for the Airport Levee Improvements and I-5 Projects.

4.6.9 Noise

4.6.9.1 Short-term Impacts

The potential short-term impacts on noise would occur during construction and include heavy equipment and construction activities. Construction equipment would primarily consist of earth-moving, materials-handling, hauling, and impact equipment with noise levels ranging from 76 to 110 dBA at 50 feet from the source (see Table 4.2-10). Noise levels would decrease with distance from the source and decrease to safe levels.

The Aberdeen/Hoquiam North Shore Levee is located within residential and commercial areas of Aberdeen and Hoquiam. Some construction would occur immediately adjacent to homes, and those residents would likely be disturbed by noise. Pile driving for sheetpile walls could occur along the Hoquiam and Wishkah rivers adjacent to residential areas, and would be localized and limited to daytime hours. Noise from pile driving (110 dBA) would cause impacts on residents.

4.6.9.2 Long-term Impacts

No adverse impacts are anticipated because the completed Aberdeen/Hoquiam North Shore Levee would not generate noise.

4.6.9.3 Mitigation

Potential mitigation measures for short-term noise impacts would be the same as those described for the Airport Levee Improvements and I-5 Projects. Additional mitigation measures could include noise barriers during pile-driving activities. No long-term noise impacts are anticipated, so no mitigation is proposed.

4.6.10 Land Use

4.6.10.1 Short-term Impacts

No short-term impacts on land use are anticipated as a result of construction of the Aberdeen/Hoquiam North Shore Levee.

4.6.10.2 Long-term Impacts

The potential adverse impacts on land use include the loss of access to and use of private structures, due to the placement of the levee, particularly along the Wishkah River. This adverse impact would be minor due to the anticipated limited number of properties affected.

The levee could separate existing structures from one another (e.g., homes, docks, storage buildings). If residences on these properties are included behind the levee, owners are likely to lose access to any structures located on or extending out over/into the water. If the levee is located behind those properties, no flood protection would be provided.

The levee is proposed to protect structures behind the levee from coastal flooding within Aberdeen and Hoquiam along Grays Harbor. While the exact extent of flood protection and number of structures protected would be determined during project-level design and environmental review, the increased level of protected structures would be a beneficial effect on land use.

4.6.10.3 Mitigation

Avoidance and minimization measures to address potential adverse impacts on property access and use could include locating the levee to limit the number of affected properties during design. Where adverse impacts are unavoidable, property acquisition and/or relocation efforts could be implemented.

4.6.11 Recreation

4.6.11.1 Short-term Impacts

The potential short-term impacts on recreation would occur during construction and include disruptions to parks in Aberdeen and Hoquiam that are located near the Aberdeen/Hoquiam North Shore Levee due to noise, dust, and traffic. If construction requires in-water work or barges, recreational users could temporarily experience limited or restricted access to the rivers during construction. The impacts would be temporary and localized in nature.

4.6.11.2 Long-term Impacts

The Aberdeen/Hoquiam North Shore Levee would protect parks and recreation areas behind the levee during coastal and tidally influenced flooding. This effect is considered to be beneficial because flood damage at parks and recreation areas would be reduced. The levee could block access to land and private docks along some stretches of the levee. Public access to public shoreline areas would be maintained, except during coastal floods. This adverse impact is considered to be minor because loss of access to recreational facilities would be localized.

4.6.11.3 Mitigation

Potential mitigation measures for short- or long-term impacts on recreation would be similar to those described for the Airport Levee Improvements and I-5 Projects. In addition, coordination with property owners could occur during development of project-specific design to avoid and minimize impacts on docks and other private recreational structures extending into the water.

4.6.12 Historic and Cultural Preservation

4.6.12.1 Short- and Long-term Impacts

Potential short- and long-term impacts on historic and cultural resources could occur during construction with the ground disturbance associated with building the new levee. More than 40 historic structures and selective research indicates that water-related resource procurement sites, such as fish weirs, have been found in current or historical tidal zones along the coast in areas near the levee site. Although none of these resources are currently recorded or known to exist at the Aberdeen/Hoquiam Northshore Levee site, the levee location does include current or historic tidal zones and as such, has the potential to contain these types of archaeological resources.

The extent of impacts would depend on the nature of cultural resources that could be disturbed, which would be determined through coordination with DAHP and affected tribes during project-level environmental review, including continued government-to-government consultations. Potential impacts on tribal cultural resources or graves, Indian human remains, or traditional cultural properties may also occur and would be determined in coordination with tribes, and government-to-government consultations.

Based on WSAPM, this area is considered to have a very high to moderate potential for archaeological deposits, and potential adverse impacts are considered moderate to significant.

The potential impacts on cultural resources following construction would be similar as those described under the Airport Levee Improvements (see Section 4.4.12).

4.6.12.2 Mitigation

Mitigation measures for potential impacts on cultural resources would be determined during project-specific evaluations of the Aberdeen/Hoquiam North Shore Levee, and would include consultation with DAHP, interested and affected tribes, as well as other consulting parties (see information on addressing potential impacts on cultural resources in Section 4.2.12).

The potential compensatory mitigation measures would be the same as those described for the Flood Retention Facility (see Section 4.2.12.2).

4.6.13 Transportation

4.6.13.1 Short-term Impacts

The potential short-term impacts on transportation related to construction of the Aberdeen/Hoquiam North Shore Levee would include temporary disruptions to local roads, US 12, and US 101, including potential closures to raise the bridge approaches over the Wishkah River. Construction could also cause temporary disruptions to the Puget Sound & Pacific Railroad. These impacts would be limited to the construction period and access would be maintained to the extent possible.

4.6.13.2 Long-term Impacts

The Aberdeen/Hoquiam North Shore Levee would protect local roadways within the levee from coastal flooding on the lower (tidally influenced) reaches of the Chehalis, Wishkah, and Hoquiam rivers. The levees and walls would include stop log closures or similar devices, which would close during floods, but would open to maintain public access to roads and streets when there is no flooding. For these reasons, the potential effects are considered beneficial.

4.6.13.3 Mitigation

Potential mitigation measures for short-term impacts on transportation would be the same as those described for the Airport Levee Improvements and I-5 Projects. In addition, construction would be coordinated with WSDOT, the Puget Sound & Pacific Railroad, and local road departments.

No long-term adverse impacts on transportation are anticipated, so no mitigation is proposed.

4.6.14 Public Services and Utilities

4.6.14.1 Short-term Impacts

The potential short-term impacts on public services and utilities would occur during construction and include the following:

- Short-term disruptions to roadways, potentially affecting public services such as garbage collection if access to customers is restricted
- Temporary disruptions of utilities near the levees and floodwalls (proposed levees and floodwalls would be located within developed areas along street corridors)
- Potential effects on overhead electrical, sewer, water, and cable and internet lines

These impacts would be limited to the construction period.

4.6.14.2 Long-term Impacts

The Aberdeen/Hoquiam North Shore Levee would not increase demand for public services and utilities and would result in beneficial effects due to the protection of multiple public services and utilities inland of the levee from coastal and tidally influenced riverine flooding. Public services in the area include: Aberdeen Fire Department, Aberdeen Park Timberland Library, Aberdeen Police Department, Alexander Young Elementary School, A.J. West Elementary School, Harbor High School, Central Elementary School, Grays Harbor Beauty College, Grays Harbor Community Hospital, Grays Harbor PUD, Hoquiam Fire Department, KGHO-AM, Miller Junior High School, Polson Museum, and Techline the Technology People Computer Training School. The levee could require localized relocation of public services and utilities, resulting in minor adverse impacts.

4.6.14.3 Mitigation

Potential mitigation measures for short- and long-term impacts on public services and utilities would be the same as those described for the Airport Levee Improvements (see Section 4.4.14.3). Minor long-term impacts associated with utility relocations could be mitigated by coordination with service providers and property owners.

4.6.15 Environmental Health and Safety

4.6.15.1 Short-term Impacts

The potential short-term impacts on environmental health and safety would include disruptions to roadways, which can delay emergency response during construction. These impacts would be relatively short in duration and would be coordinated with emergency responders.

4.6.15.2 Long-term Impacts

The Aberdeen/Hoquiam North Shore Levee would reduce coastal flooding and provide flood protection along the low, tidally influenced portions of the Wishkah and Hoquiam rivers, resulting in beneficial

effects on environmental health and safety through the reduced demand for emergency response and better access during floods. Reduced flooding in urban areas would also reduce the risk of contamination of floodwaters. Some local streets would be blocked when the levees are in operation, making them inaccessible for emergency response. However, the lack of access would be short term, and emergency plans would be developed for emergency response to those areas when the gates are closed. Overall, the levee would reduce threats to human health and safety in Aberdeen and Hoquiam.

4.6.15.3 Mitigation

Similar to the Airport Levee Improvements and I-5 Projects, potential mitigation measures for short-term impacts on environmental health and safety could include coordinating construction with emergency services, scheduling construction to minimize impacts, and notifying the public of construction. For long-term mitigation measures, reductions in emergency response time in the area outside the levee would be planned as part of the county's natural hazard preparedness planning process.