



This chapter provides a summary of the direct, indirect, and cumulative impacts associated with the proposed project, and describes the mitigation measures that would address impacts on environmental resources. Detailed descriptions of impacts can be found in Chapters 3 and 4 of this EIS. This chapter also identifies potential unavoidable adverse environmental impacts.

INTRODUCTION

The State Environmental Policy Act (SEPA) requires that an environmental impact statement (EIS) analyze the adverse environmental impacts of a proposal and identify possible mitigation measures that will reduce or eliminate those impacts. SEPA defines mitigation as avoiding, minimizing, rectifying, reducing, eliminating, compensating, or monitoring environmental impacts (WAC 197-11-768).

Mitigation may be suggested by the applicant; mandated through local, state, and/or federal regulations; or required through conditions of approval of permits for the proposed action (WAC 197-11-660). The intended environmental benefits of mitigation measures for significant impacts should be described in the EIS and considered by decision makers. Identification of mitigation measures in the EIS alone does not provide a mechanism for enforcement. Mitigation measures must be reasonable and capable of being accomplished. The applicant may be required to implement mitigation measures only to the extent attributable to the identified adverse impacts of the proposal. Additional voluntary mitigation may occur.

The proposed project could result in impacts from construction, operational impacts associated with activities at the rail unloading facility, or contribute to the ongoing operational impacts associated with the transport of crude oil by rail. This chapter also includes a summary of the potential impacts associated with an accident occurring during rail transport to or from the Shell Puget Sound Refinery (PSR).

As defined by SEPA, mitigation may include the following measures:

- Avoiding the impact altogether by not taking a certain action or parts of an action.
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation by using appropriate technology or by taking affirmative steps to avoid or reduce impacts.
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- Compensating for the impact by replacing, enhancing, or providing substitute resources or environments.
- Monitoring the impact and taking appropriate corrective measures.

This chapter:

- Summarizes the proposed impacts by resource.
- Identifies the design features and operational measures that Shell has incorporated into the proposed project to minimize potential impacts.
- Identifies the regulations and subsequent permits from which *best management practices* (BMPs) and conditions of approval are intended to minimize potential impacts.
- Identifies the measures that are needed to mitigate remaining impacts.
- Identifies the potential significant adverse impacts that cannot be reasonably mitigated.

Specific best management practices (BMPs) and minimization measures would be developed during the preparation of the permits required for the proposed project.

The potential significant adverse impacts and the proposed mitigation measures are summarized in Table 5-1 at the end of this chapter.

SEPA Requirements for Mitigation Measures

The co-lead agencies reviewed the proposed project, the potential impacts, and possible mitigation measures in accordance with the SEPA Rules (WAC 197-11). The following excerpt from WAC 197-11-448(1) provides context for this process:

SEPA contemplates that the general welfare, social, economic, and other requirements and essential considerations of state policy will be taken into account in weighing and balancing alternatives and in making final decisions. However, the environmental impact statement is not required to evaluate and document all of the possible effects and considerations of a decision or to contain the balancing judgments that must ultimately be made by the decision makers. Rather, an environmental impact statement analyzes environmental impacts and must be used by agency decision makers, along with other relevant considerations or documents, in making final decisions on a proposal. The EIS provides a basis upon which the responsible agency and officials can make the balancing judgment mandated by SEPA, because it provides information on the environmental costs and impacts. SEPA does not require that an EIS be an agency's only decision making document.

The “primary purpose of an environmental impact statement is to ensure that SEPA’s policies are an integral part of the ongoing programs and actions of state and local government (WAC 197-11-400(1)).” An EIS “shall provide impartial discussion of significant environmental impacts and shall inform decision makers and the public of reasonable alternatives, including mitigation measures, that would avoid or minimize adverse impacts or enhance environmental quality (WAC 197-11-400(2)).” WAC 197-11-330 specifies a process, including criteria and procedures, for determining whether a proposal is likely to have a significant adverse environmental impact.

Under WAC 197-11-060(4)(b), the lead agency shall not limit **its consideration of a proposal’s** impacts only to those aspects within its jurisdiction, including local or state boundaries. In



addition, the range of impacts to be analyzed in an EIS (direct, indirect, and cumulative impacts) may be wider than the impacts for which mitigation measures are required of applicants (WAC 197-11-060(4)(e)). This will depend upon the specific impacts, the extent to which the adverse **impacts are attributable to the applicant's proposal, and the capability of applicants or agencies** to control the impacts in each situation (WAC 197-11-060(4)(e)). Applicable study areas for this proposal are described in more detail in Chapters 3 and 4. For more information about the required contents of an EIS, see WAC 197-11-440.

Mitigation measures identified in the EIS shall be related to specific, adverse environmental impacts. (WAC 197-11-660(1)(b)). An EIS should briefly indicate the intended environmental benefits of mitigation measures for significant impacts under WAC 197-11-440(6). SEPA requires the decision makers to judge whether possible mitigation measures are likely to protect or enhance environmental quality (WAC 197-11-660(2)).

The EIS process also enables government agencies and interested citizens to review and comment on proposed government actions, including government approval of private projects and their environmental effects (WAC 197-11-400(4)). This process is intended to assist the agencies and applicants to improve their plans and decisions, and to encourage the resolution of potential concerns or problems prior to issuing a final statement (WAC 197-11-400(4)).

The co-lead agencies will seek comments on the draft EIS and proposed mitigation from agencies, tribes, local communities, organizations, and the public during a 60-day comment period from October 4 to December 2, 2016. The co-lead agencies may refine or augment the mitigation in the final EIS based on the comments received. See Chapter 1 – Introduction, of this EIS or visit the project website, www.shellraileis.com, for more information about opportunities to comment on the draft EIS.

SUMMARY OF IMPACTS AND PROPOSED MITIGATION

The potential impacts of the proposed project that are described in Chapters 3 and 4 would be mitigated through implementation of a range of mitigation measures. A summary for each environmental resource evaluated in Chapters 3 and 4 is provided below.

Chapter 3.1 – Earth Resources

Potential Impacts

Construction activities would alter topography, soils and, in some locations, the underlying sedimentary materials at the proposed project and mitigation sites. Substantial amounts of soil would be moved to and from the proposed project and mitigation sites (see Chapter 2 – Proposed Project and Alternatives, for additional detail). Potential construction-related impacts include erosion, loss of topsoil, soil compaction, soil mixing, revegetation, and changes to groundwater hydrology. Removal of large soil volumes would indirectly affect the soil's capacity to support native vegetation or future agricultural uses.

Operation and maintenance of the proposed project would not require additional excavation or disturbance of ground surfaces and no direct or indirect impacts are anticipated. Geologic hazards would be present during construction and operation activities and include seismic



hazards, ground motion/shaking, soil liquefaction, tsunamis and seiches, volcanic activity, and landslides.

Cumulative Impacts

Within the study area, there has been significant agricultural, industrial, commercial, and residential development. It is assumed that with this growth, earth resources have been affected to accommodate new construction. In addition, construction and operation of the proposed Tesoro Clean Products Upgrade Project (Tesoro 2015) (see Table 3.0-2 in Chapter 3.0 – Introduction, for additional project details) has the potential to impact earth resources. The Tesoro project and the proposed project could have cumulative impacts on earth resources. These impacts would be minimized by construction BMPs and localized to the Tesoro Anacortes Refinery site and the proposed project and mitigation sites.

Mitigation Measures

Avoidance and Minimization

Impacts to earth resources would be minimized by implementation of the BMPs required as part of the National Pollutant Discharge Elimination System (NPDES) Construction Stormwater Permit, Clean Water Act (CWA) Section 404 Individual Permit, Skagit County Grading Permit, and Shoreline Substantial Development Permit. For example, soils would be tested for **contamination and disposed of properly per Skagit County's Grading permit. In addition**, to minimize disturbance during construction, Shell would be required to mark the boundaries of the project ahead of time and maintain those boundaries throughout construction. These "no work" areas would be off limits to construction personnel during non-work activities (e.g., breaks and walks). Construction workers would receive "Environmental Awareness Training," emphasizing the avoidance of adjacent natural areas (i.e., no-work areas).

Mitigation

No additional mitigation measures are proposed beyond the avoidance and minimization measures that would be developed and enforced as part of the permitting processes.

Unavoidable Significant Adverse Impacts

No unavoidable significant adverse impacts were identified.

Chapter 3.2 – Groundwater

Potential Impacts

Construction impacts to groundwater include the potential release of hazardous materials to groundwater, construction stormwater, and construction dewatering. Construction equipment would require refueling and maintenance that poses a risk of contaminant releases to the ground (e.g., fuel, hydraulic fluid, oil, etc.). Excavation equipment would likely encounter groundwater where cut depths exceeded 10 feet along most of the proposed project alignment.

Potential impacts to groundwater from proposed project operations could occur from permanent subsurface modifications, stormwater, and oil leaks and spills. Permanent subsurface modifications at the proposed project site would require collection and conveyance of groundwater that seeps into the cut. Stormwater from the proposed project site has the potential



to accumulate hydrocarbons from fuels used on site and other contaminants that seep into local groundwater. Groundwater seepage in the cut slopes of the proposed project site could indirectly affect local groundwater levels and movement.

Cumulative Impacts

Within the study area, there has been significant agricultural, industrial, commercial, and residential development. It is assumed that with this growth and new construction, groundwater has been affected. In addition, construction and operation of the proposed Tesoro Clean Products Upgrade Project has the potential to impact groundwater. The Tesoro project and the proposed project could have cumulative impacts on groundwater. These impacts would be minimized by construction BMPs and localized to the Tesoro Anacortes Refinery site and the proposed project and mitigation sites.

Mitigation Measures

Avoidance and Minimization

Impacts to groundwater would be minimized by implementation of the BMPs required as part of the NPDES Construction Stormwater Permit, CWA Section 404 Individual Permit, CWA Section 401 Water Quality Certification, Skagit County Grading Permit, and Shoreline Substantial Development Permit. For example, all waste oils and machinery fluids would be stored, handled, and disposed of in accordance with appropriate regulations and permit conditions.

In addition, Shell has incorporated engineering and operational measures into the design of the proposed project to avoid and minimize impacts to groundwater. Specific design measures that would minimize the potential for impacts from a release of oil at the proposed rail unloading facility are described in Chapter 3.3 – Surface Water.

Mitigation

No additional mitigation measures are proposed beyond the avoidance and minimization measures that would be developed and enforced as part of the permitting processes.

Unavoidable Significant Adverse Impacts

No unavoidable significant adverse impacts were identified.

Chapter 3.3 – Surface Water

Potential Impacts

During construction, direct impacts to stormwater patterns and water quality could occur from flows that cause erosion and sedimentation downstream of soil disturbance activities, runoff that has been in contact with uncured concrete that may have high pH values, or release of pollutants from equipment. During operations, contamination of surface water from leaks or spills from tank cars or petroleum products, lubricants, and chemicals from locomotive engines could occur. Above-ground leaks that occur within the area of the rail unloading facility would be captured by a concrete platform with curbs and drains. These leaks would then be routed to the oil/water separation pond system for treatment. If any leaks occur on site at the unloading facility, but outside of the unloading platform, they would be routed into the North and South stormwater ponds. The oil/water separation vaults designed as part of the stormwater pond system are



intended to capture any releases that could occur during daily operations. Direct impacts from stormwater runoff from additional impervious surfaces could cause a reduction in water quality.

The proposed development of the mitigation site would restore a tidal connection between the 73-acre site and Padilla Bay, which would have a beneficial impact on the wetland mitigation site. Because no construction would take place along the Anacortes Subdivision, there would be no direct or indirect impacts to surface water flows or water quality. Increased train traffic on the Anacortes Subdivision has the potential to increase accidents involving trains traveling along the corridor, and would require continued maintenance of the rail corridor. There could also be leaks or spills from tank cars or leaks of petroleum products, lubricants, and chemicals from locomotive engines along the subdivision from daily operations. These releases are not treated along the Anacortes Subdivision.

Cumulative Impacts

Within the study area, there has been significant agricultural, industrial, commercial, and residential development. It is assumed that with this growth and construction, surface water resources have been affected. In addition, construction and operation of the proposed Tesoro Clean Products Upgrade Project has the potential to impact surface water resources. The Tesoro project and the proposed project could have cumulative impacts on surface water resources. These impacts would be minimized by construction BMPs and localized to the Tesoro Anacortes Refinery site and the proposed project and mitigation sites.

Mitigation Measures

Avoidance and Minimization

Impacts to surface water would be minimized by implementing the BMPs required as part of the NPDES Construction Stormwater Permit, CWA Section 404 Individual Permit, CWA Section 401 Water Quality Certification, Hydraulic Project Approval, Skagit County Grading Permit, and Shoreline Substantial Development Permit. For example, to minimize a possible release of turbid or alkaline waters, water would be sampled for both turbidity and pH. This activity would occur at both the discharge points for the stormwater ponds and the exit points of the culverts under **East March's Point Road. This monitoring and reporting of water quality would be conducted** during construction.

In addition, Shell has incorporated engineering and operational measures into the design of the proposed project to avoid or minimize the potential for impacts on surface water, including:

- The proposed project would restore an estimated total of 700 linear feet of stream S and eight acres of riparian area.
- Several ditches currently contribute flow to Stream S near its point of origin. Flow from these ditches would be redirected into the newly constructed channel segment of Stream S originating slightly upslope (west) of its current headwaters.
- A new fence would be installed to maintain the new riparian buffer on Stream S that would be planted with native trees and shrubs. This buffer is expected to improve stream temperature, reduce erosion, improve channel structure, and benefit resident and migrating fish, including nonnatal Chinook salmon and Puget Sound steelhead.



- As described in Chapter 3.3 – Surface Water, the rail unloading facility has been designed to contain and capture leaks or spills associated with operations to prevent the release of any material into nearby waterbodies.

Mitigation

No additional mitigation measures are proposed beyond the avoidance and minimization measures that would be developed and enforced as part of the permitting processes.

Unavoidable Significant Adverse Impacts

No unavoidable significant adverse impacts were identified.

Chapter 3.4 – Fish and Aquatic Species and Habitat

Potential Impacts

Construction at the proposed project site would impact fish and aquatic resources through the loss or reconfiguration of drainage channels, streams, and riparian habitat. The project would result in the reconfiguration of all drainages crossing the project area. Changes to available fish habitat, introduction of turbid water, and fish handling associated with site isolation and in-water construction activities in Stream S may temporarily affect fish during construction.

Construction at the proposed wetland mitigation site would impact fish and aquatic resources. By removing portions of the perimeter dike and supporting tidal exchange within the site, fish would gain access to habitat previously unavailable to them. The entire extent of habitat that would develop on the wetland mitigation site is presumed to be accessible to fish from Padilla Bay, as well as support a diverse mix of estuarine wetland habitats and vegetation. A tidal channel would be constructed within the site to support flow and fish access. These restored habitats would contribute prey resources and organic matter to Puget Sound and valuable nursery habitat for juvenile salmon.

During operations, water from ditches (except water directed to Stream S) would be captured and conveyed across the study area by either a culvert or stormwater system to one of the two new stormwater ponds. The ponds include pre-treatment oil/water separation systems and provide for detention and controlled release into Padilla Bay. Discharge from the stormwater ponds would be through spreaders that could allow for infiltration during appropriate levels of inundation. When the ground is saturated, the discharge is presumed to form sheet flow into a drainage ditch, wetland, or stream. The reconfiguration of Stream S would provide long-term beneficial impacts to fish through the creation of new habitat.

Cumulative Impacts

Within the study area, there has been significant agricultural, industrial, commercial, and residential development. It is assumed that with this growth and new construction, fish and aquatic resources have been affected. Construction and operation of the proposed Tesoro Clean Products Upgrade Project has the potential to impact these resources. The Tesoro project and the proposed project could have cumulative impacts on fish and aquatic species and habitat. These impacts would be minimized by construction BMPs and localized to the Tesoro Anacortes Refinery site and the proposed project and mitigation sites.



Mitigation Measures

Avoidance and Minimization

Impacts to fish and aquatic species and habitat would be minimized by the implementation of the BMPs required as part of the NPDES Construction Stormwater Permit, CWA Section 404 Individual Permit, CWA Section 401 Water Quality Certification, Skagit County Grading Permit, Hydraulic Project Approval, and Shoreline Substantial Development Permit. For example, stormwater and erosion control BMPs would be implemented to reduce sediments discharging into surface waters. The measures would also be implemented at the proposed restoration site to reduce sediments discharging into ditches and wetlands. Stockpiled soils would be covered to reduce erosion during precipitation events.

In addition, Shell has incorporated engineering and operational measures into the design of the proposed project to avoid and minimize the potential for impacts on fish and aquatic resources. The upper portion of Stream S would be moved away from the existing rail embankment and approximately 700-linear feet of channel would incorporate sinuosity and in-channel habitat. This new channel segment would include a 75-foot-long fish-passable culvert that would allow the stream segment to cross under the new rail spur. The current channel would not be filled; however, most of the flow would be diverted to the newly constructed stream segment.

Specific design measures would also minimize the potential for impacts to fish and aquatic species and habitat from a release of oil at the proposed rail unloading facility. They are described in detail above and in Chapter 3.3 – Surface Water.

Mitigation

No additional mitigation measures are proposed beyond the avoidance and minimization measures that would be developed and enforced as part of the permitting processes.

Unavoidable Significant Adverse Impacts

No unavoidable significant adverse impacts were identified.

Chapter 3.5 – Wetlands

Potential Impacts

The proposed project would permanently fill and/or excavate six of the 23 wetlands identified on the proposed project site. In total, 21.21 acres of wetlands would be filled. This would include 0.19 acre of Category II wetlands, 20.71 acres of Category III wetlands, and 0.31 acre of Category IV wetlands.

The project would also convert approximately 1.22 acres of the forested and scrub-shrub wetlands into emergent habitats. The conversions would occur due to the relocation and construction of underground natural gas and water pipelines and be considered permanent impacts. These areas would have a temporal loss of habitat function because it may take some time to reestablish the functional levels lost during the conversions. However, after the new emergent

The Emergent Wetland Class is characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants.



habitats are established, the capacity of these areas to treat runoff would likely be increased from their previous functions.

Both short- and long-term temporary impacts would result from clearing to allow for construction access and the rerouting and installation of underground gas and water pipelines

Short-term impacts would occur in portions of seven wetlands, totaling 8.10 acres. The affected areas in the wetlands would consist mostly of pasture grasses. Following construction, these areas would be restored to pre-construction conditions and be reseeded with pasture plant species. *Long-term temporary impacts* would occur in approximately 0.23 acre. This area would be restored with native woody vegetation after construction; however, there would be a temporal loss (over a year) of wetland functions until planted woody vegetation became established. Compensation for these long-term temporary impacts would occur at the proposed wetland mitigation site.

Long-term temporary impacts are construction impacts that will last for a duration of greater than one year. They are considered temporary as the area impacted will be restored following construction. However, because of the long-term duration of the impact, compensatory mitigation is required through the U.S. Army Corps of Engineers (USACE) permitting process.

Permanent impacts to buffers generally result from the loss of vegetated buffer areas. The proposed project would permanently remove 5.2 acres of forested buffers at five wetlands and 7.38 acres of grazed pasture wetland buffers at eight wetlands.

Temporary buffer impacts would occur in 11 wetlands as a result of clearing to allow for construction access and the rerouting and installation of underground gas and water pipelines. The temporary affected area totals 6.76 acres, which includes 1.88 acres of forested and shrub buffers and 4.88 acres of grazed pasture dominated by nonnative grasses. These temporary cleared areas would be restored to pre-construction contours and planted with native species to comply with the U.S. Army Corps of Engineers (USACE) permit requirements.

Cumulative Impacts

In the cumulative impacts study area, reasonably foreseeable future actions with the potential to impact wetlands include the Tesoro Clean Products Upgrade Project, which would impact about 0.0105 acre, and the Old Highway 99 N Overpass of BNSF Railroad (see Table 3.0-2 in Chapter 3.0 – Introduction, for additional project details), which would impact 0.071 acre. Together, the proposed project and these reasonably foreseeable future actions would contribute to a cumulative impact on wetlands due to filling of wetlands and the permanent loss of wetland functions.

Historically, there has also been significant agricultural, industrial, commercial, and residential development in the study area. It is assumed that with this growth and construction, wetlands have been affected. Impacts from the proposed project would be mitigated by the creation of an approximately 73-acre wetland mitigation site. Mitigation would also be required for the impacts from the reasonably foreseeable future actions through mitigation plans. Because the mitigation plans are required to achieve the goal of no net loss of wetlands, the potential cumulative impacts would be minimized.



Mitigation Measures

Avoidance and Minimization

Impacts to wetlands would be minimized by the implementation of the BMPs required as part of the NPDES Construction Stormwater Permit, CWA Section 404 Individual Permit, CWA Section 401 Water Quality Certification, Hydraulic Project Approval, Skagit County Grading Permit, and Shoreline Substantial Development Permit. For example, erosion control mats, silt fences, and straw bales would be installed as part of the NPDES Construction Stormwater Permit. They will help to stabilize exposed soils to prevent sediment runoff into adjacent wetlands.

In addition, Shell has incorporated engineering and operational measures into the design of the proposed project to avoid and minimize wetland impacts including:

- The proposed project has been designed to avoid direct impacts to Padilla Bay and its adjacent wetlands by shifting the alignment of the rail spur to the south. The original design for the facility would have impacted Padilla Bay and the adjacent salt marsh. However, the project has been redesigned for the remaining unavoidable impacts to occur to Category 4 (low quality, grazed pasture) wetlands. Seventy-nine percent of permanent impacts and 97 percent of temporary impacts would occur in 27.6 acres of pastured and grazed wetlands.
- Upon completion of construction at the proposed project site, herbaceous wetland and upland areas would be replanted with native grass and forb species. To accommodate rerouted pipelines and retaining walls, approximately 1.22 acres of temporarily affected forested and scrub-shrub wetlands would be converted to emergent wetlands. Approximately 0.23 acre of forested wetland and approximately 2.11 acres of forested wetland buffers would be restored with native trees and shrubs.
- In the buffer surrounding wetland I1 (see Figure 3.5-1 in Chapter 3.5 – Wetlands), where Stream S flows into a salt marsh, the fence below the ordinary high water mark would be moved to provide protection from future disturbance and to create a 200-foot-wide buffer. Within that new buffer, approximately four acres would be planted with native trees and shrubs. Buffer plantings are anticipated to improve water quality by reducing erosion and water temperatures, and by providing food inputs for organisms in the wetland.
- Access roads planned to serve the unloading tracks would be located, where possible, to coincide with existing access roads to minimize soil disturbance, avoid wetlands, and minimize impacts to terrestrial wildlife. The original design for the facility included additional impacts to these resources that were avoided through design revisions.
- Rail track spacing at the facility has been minimized and the facility has been designed with an overhead platform to reduce soil disturbance, avoid wetlands, and minimize impacts to terrestrial wildlife.



Mitigation

As described in Chapter 3.5 – Wetlands, Shell would provide compensatory mitigation for 25.83 acres of permanent wetland impacts, 0.23 acre of long-term temporary impacts, and 12.58 acres of permanent wetland buffer impacts at the wetland mitigation site approximately 2 miles east of the project site at the south end of Padilla Bay. The total area for the mitigation site is 100 acres, of which approximately 73 acres would be restored to tidal estuary.

The site is expected to reestablish a range of estuarine habitats from mud flats to salt marsh to marine riparian zone. Out of approximately 73 acres, approximately 40.06 acres of the site would be used as compensatory mitigation for the current proposal, and the remaining approximately 32.94 acres would be available for unanticipated wetland or buffer impacts during or after construction of the project. These acreages are preliminary and will be finalized in consultation with Washington Department of Ecology (Ecology) and USACE. Construction at the mitigation site would begin concurrently with that of the rail unloading facility and is expected to take approximately four years to complete. The mitigation site would be monitored and maintained by Shell for approximately 15 years after construction is complete.

Shell proposes to compensate for the loss of wetland functions through off-site and out-of-kind mitigation. A joint guidance from Washington Department of Ecology (Ecology), USACE, and the U.S. Environmental Protection Agency (USEPA) provides typical mitigation ratios for compensatory mitigation projects, but these ratios are only to be used for in-kind wetlands. Because the proposed mitigation compensates for freshwater wetland impacts with the re-establishment of estuarine wetland (out-of-kind), there are no recommended ratios provided by the guidance. As a result, Shell is proposing mitigation ratios that are specific for this project. These ratios are currently under review by Ecology and USACE.

Unavoidable Significant Adverse Impacts

If mitigation is implemented as proposed there would be no unavoidable significant adverse impacts.

Chapter 3.6 – Vegetation and Terrestrial Wildlife

Potential Impacts

Vegetation

Removal of vegetation would be required to construct the project. The overall permanent impacts of construction on vegetation are not anticipated to be significant because the primary impacts to pasture vegetation are small-scale in the context of the larger contributing Telegraph Slough-Padilla Bay watershed, which is predominantly agriculture and pasture. Forest stands that would be permanently affected comprise a fraction of forest stands identified in the study area.

Construction of the wetland mitigation site would require removal of vegetation. However, in accordance with the wetland mitigation plan nearshore ecosystem processes would be reestablished and are anticipated to develop into nearshore habitats over time (mudflats, salt marshes, tidal channels, and upland transition zones).



Because special-status plant species are not known to occur on the project or wetland mitigation sites, it is unlikely that construction would directly affect these species. Construction of the proposed project and mitigation sites may increase the risk of introducing or contributing to the spread of noxious weed species.

Operation of the rail unloading facility is not anticipated to disturb vegetation communities. Creation of the wetland mitigation site would increase the extent, connectivity, and integrity of native vegetation communities and land cover in the watershed.

Terrestrial Wildlife

Construction of the proposed project and wetland mitigation sites would temporarily disturb and permanently alter wildlife habitat in some vegetation communities. Construction-related water quality impacts may alter foraging opportunities for waterfowl and other aquatic birds because of disturbances to sediments through in-water work.

Impacts might include water clouding, which could obscure prey for waterfowl and other aquatic birds. Noise and light associated with construction activities could cause stress to wildlife and alter behavior patterns. For example, noise and light could interfere with normal reproduction and feeding. Construction impacts from vegetation removal and earthwork are not anticipated to be significant. These disturbances could result in mortality of some individual animals and permanent loss of breeding habitat such as freshwater wetlands. The overall impact is not anticipated to adversely affect the population viability of any species near the project.

Construction would not directly alter marbled murrelet habitat; however, marbled murrelets could be disturbed by construction activities. Construction would permanently remove two active bald eagle nests: one near the Anacortes Subdivision in the southern portion of the proposed project site, and a second within the wetland mitigation site. A third bald eagle nest near the proposed project site would be retained. Because other special-status species or habitats are not known to occur on the project or wetland mitigation sites, it is unlikely that construction would directly affect these species or their habitat.

Operation of the rail unloading facility may result in direct, long-term disturbance to wildlife. Such impacts could include increased degradation of habitat quality, increased animal-train collisions, light and glare impacts, **disruption of species' social structures**, avoidance or abandonment of previously occupied areas adjacent to the facility, and obstructions to wildlife movement. Operational noise from the project may result in wildlife avoidance in the immediate vicinity. However, this impact is anticipated to be negligible, given the current noise levels from existing operations at the Shell PSR site and other surrounding development.

Operation of the proposed project has the potential to affect behavior of bald eagles at the retained nest near the proposed project site. Operation and maintenance of stormwater facilities near the retained bald eagle nest would increase human activity within 200 feet of the existing nest, and forested vegetation surrounding the nest would be permanently removed, making human activity visible. The retained bald eagle nest and proposed nest platforms would be at least 400 feet away from the proposed new rail spur, and are not anticipated to be significantly affected by noise from rail operations.



Operation of the proposed project may also affect behavior of great blue herons at the March Point Heronry. Light and noise pollution has the potential to affect behavior; however, impacts to herons from additional light pollution are expected to be negligible. The existing heron colony is surrounded by industrial and transportation development and is acclimated to noise from existing train traffic as evidenced by the sustained productivity of the colony. Therefore, noise impacts would be minimal.

Cumulative Impacts

Within the study area, there has been significant agricultural, industrial, commercial, and residential development. It is assumed that with this growth and construction, vegetation and terrestrial wildlife have been affected. The Tesoro Clean Products Upgrade Project is anticipated to have minimal impacts on vegetation and terrestrial wildlife as the project would be constructed within a previously developed area of the refinery. The proposed project, and to a minimal extent, the Tesoro project, could contribute to a cumulative impact on vegetation and terrestrial wildlife. These impacts would be minimized by construction BMPs and localized to the Tesoro Anacortes Refinery site and the proposed project and mitigation sites.

Mitigation Measures

Avoidance and Minimization

Impacts to vegetation and terrestrial wildlife would be minimized by the implementation of the BMPs required as part of the NPDES Construction Stormwater Permit, CWA Section 404 Individual Permit, CWA Section 401 Water Quality Certification, Hydraulic Project Approval, Skagit County Grading Permit and Shoreline Substantial Development Permit. For example, BMPs could include confining construction activities to daylight hours to minimize potential light and noise impacts to wildlife, implementing stormwater and erosion control BMPs, and restoring all temporarily disturbed areas with native vegetation appropriate to site conditions.

In addition, Shell has incorporated engineering and operational measures into the design of the proposed project to avoid and minimize vegetation and terrestrial wildlife impacts including:

- The North Stormwater Pond would be located away from the mid-peninsula eagle nest that would be retained.
- Most of the fish-accessible mid-to-lower reaches of Stream S, which parallels the existing BNSF Railway tracks, would be avoided. All of the wooded riparian area and the salt marsh portion of Wetland I1 adjacent to Stream S would be avoided.
- Retaining walls would be used rather than sloped sides for the bridge on 4th Street to minimize permanent wetland impacts.
- Although not statutorily required, the lights at the proposed facility would be shielded and directed downward to minimize light pollution that could affect wildlife.
- Shell would restrict asphalt cutting near Padilla Bay to occur during low tides (5-foot tidal elevation or less) to reduce noise disturbance in potential marbled murrelet foraging habitat.



Mitigation

Construction of the proposed project would permanently remove two active bald eagle nests: one near the Anacortes Subdivision in the southern portion of the proposed project site, and a second within the wetland mitigation site. In accordance with the conditions of the U.S. Fish and Wildlife Service (USFWS) bald eagle take permit, Shell would mitigate for the loss of two bald eagle nests through design and development of two new bald eagle nesting platforms at least 400 feet from the new rail unloading facility, and two new bald eagle nesting platforms within the wetland mitigation site. These platforms are expected to maintain or increase overall nesting opportunities on the project site and wetland mitigation site. One existing bald eagle nest on the project site would be retained. Per the permit conditions, Shell would monitor the nest for eagle use during critical months and report activity to USFWS.

Unavoidable Significant Adverse Impacts

If mitigation is implemented as proposed there would be no unavoidable significant adverse impacts to vegetation and terrestrial wildlife.

Chapter 3.7 – Cultural Resources

Potential Impacts

The proposed project would disturb previously recorded historic-era archaeological sites located within the proposed project site boundaries. However, the sites have been determined not eligible for listing in the National Register of Historic Places (NRHP) by the USACE and the Washington Department of Archaeology and Historic Preservation (DAHP). No previously documented historic-era buildings, structures, or objects are located within the footprint of the proposed project site.

At the proposed wetland mitigation site, an archaeological site would likely be disturbed by project activities. However, this site has been determined not eligible for listing in the NRHP. Three previously documented historic-era buildings, structures, or objects are located within the proposed wetland mitigation site. However, these three resources have been determined not eligible for listing in the NRHP by the USACE and DAHP.

No archaeological sites, other cultural resources, or historic-era resources have been documented within the immediate vicinity of the potential spoils disposal sites. Because these locations are operating pits and no expansion is planned for this project, no environmental consequences are anticipated.

Since the March Point area is important for Native American land use, there is a possibility that archaeological sites exist within the proposed project site but were not observed during cultural resource inventory work. These sites may range from occupation locations to fishing or resource procurement and processing locations. Such resources would be an important discovery and would help to better illustrate Native American subsistence, land use, and settlement practices. If resources are made known during the course of project development, the impacts and mitigation would be reassessed.



Cumulative Impacts

Within the study area, there has been significant agricultural, industrial, commercial, and residential development. With this development, there is the potential that NRHP-listed or eligible archaeological sites, historic-era buildings, or objects have been disturbed. However, impacts would have been mitigated. Therefore, no cumulative impacts are anticipated.

Mitigation Measures

Avoidance and Minimization

In the inventory work for both the proposed project and wetland mitigation sites, archaeological monitoring was recommended during construction. Archaeological monitoring would take place where subsurface inventory work does not reach the depth of proposed ground disturbance and where subsurface inventory work cannot be performed. Shell would develop a monitoring plan to be approved by DAHP and the tribes prior to initiation of ground disturbing activities.

Mitigation

No mitigation is necessary for the impacts that the project would have on the previously recorded archaeological sites or historic-era resources because those within the area of potential effects as defined by the USACE have been determined not eligible for listing in the NRHP by the USACE and DAHP. No NRHP-eligible historic resources are found within the wetland mitigation site; therefore, no mitigation measures are required.

Shell would develop and implement an Unanticipated Discovery Plan for use during construction when archaeological monitors are not present. If archaeological deposits were encountered during construction, the provisions of the Unanticipated Discovery Plan would be followed. Consultation with local law enforcement authorities, the DAHP, tribes, and other interested stakeholders would be initiated to determine proper treatment and/or mitigation. In such cases, Shell would provide for a site inspection and evaluation by a professional archaeologist to ensure that all possible valuable archaeological data are properly salvaged or mapped.

Unavoidable Significant Adverse Impacts

If no additional cultural resources are discovered and mitigation is implemented as proposed, there would be no unavoidable significant adverse impacts.

Chapter 3.8 – Treaty and Traditionally Used Resources

Potential Impacts

No Traditional Cultural Properties, Cultural Landscapes, specific gathering areas or plants important to tribes, or specific hunting areas or certain terrestrial animals have been identified in the study area to date; therefore, no impacts from the proposed project were identified.

The study area is located near tribal fisheries. The impacts to tribal fisheries would be the same as those described for fish and aquatic resources in Chapter 3.4 – Fish and Aquatic Species and Habitat. Impacts to tribal fisheries could include loss of or changes to riparian habitat, or changes in water quality that could impact fish. Depending on the degree of direct impacts, treaty resources, traditional lifeways, health, and the culture of tribes could be affected due to degradation of their fisheries.



Cumulative Impacts

The proposed project would not disturb any known Traditional Cultural Properties or Cultural Landscapes; specific gathering areas or plants important to tribes; or specific hunting areas or certain terrestrial animals important to tribes; therefore, the proposed project would not contribute to cumulative impacts on these resources. Tribal fisheries are located near the study area. The cumulative impacts would be the same as described for fish and aquatic resources in Chapter 3.4 – Fish and Aquatic Species and Habitat.

Mitigation Measures

Avoidance and Minimization

Measures to avoid or minimize potential impacts to fisheries resources are described in Chapter 3.4 – Fish and Aquatic Species and Habitat. These avoidance and minimization measures would apply to tribal fisheries, as well.

The identification of specific Traditional Cultural Properties and Cultural Landscapes important to the tribes require the assistance and knowledge of those tribal governments and members. Receiving additional input from tribes would allow for the identification, proper treatment, and mitigation of impacts from the proposed project. Skagit County and Ecology respect the rights of tribal sovereigns to engage on their terms with local, state, and federal governments as appropriate.

Mitigation

No additional mitigation measures are proposed at this time beyond the avoidance and minimization measures described in Chapter 3.4 – Fish and Aquatic Species and Habitat. Should any additional tribal resources be made known, Skagit County and Ecology may reassess potential impacts and mitigation.

Unavoidable Significant Adverse Impacts

No unavoidable significant adverse impacts were identified based on available information.

Chapter 3.9 – Noise and Vibration

Potential Impacts

Construction of the proposed project and wetland mitigation sites would not exceed thresholds for noise impacts at any sensitive noise receptors; therefore, there would be no adverse noise impacts during construction. Also, construction activities at the proposed project and wetland mitigation sites would not exceed the thresholds for vibration that could result in structural damage to nearby buildings, or the thresholds for annoyance from vibration at nearby residences. Therefore, there would be no adverse vibration impacts during construction.

Operation of unit trains at the proposed project site would produce ground-borne vibration and noise; however, it would not exceed the thresholds for impacts. Operational noise from the unit trains along the Anacortes and Bellingham subdivisions is predicted to result in moderate or severe impacts in residential areas within the study area. The primary cause of these noise impacts would be the use of train horns at public at-grade crossings. Some 168 residential



receptors are predicted to be impacted by noise that exceeds the moderate impact threshold; and 44 would experience noise that exceeds the severe impact threshold.

Operation of unit trains would produce ground-borne vibration and noise along the Anacortes and Bellingham subdivisions. However, the levels produced would not exceed the thresholds for impacts.

Cumulative Impacts

The proposed project, combined with past, present, and reasonably foreseeable future actions, would result in a cumulative impact on noise levels. One identified reasonably foreseeable future action would add a total of 18 train trips per day to rail traffic on the Bellingham Subdivision. This action, combined with the proposed project, would add a total of 20 train trips per day, increasing the number of trains from 21 to 41, primarily due to the greater frequency of train horns that would result. The doubling of the train traffic would be expected to increase future noise levels on the Bellingham Subdivision by approximately 3 dBA relative to existing L_{dn} sound levels. For context, a 3 dBA increase is considered the minimum amount of change in sound level that is perceptible to humans.

Mitigation Measures

Avoidance and Minimization

Impacts from noise and vibration would be minimized by the implementation of the BMPs that could be required as part of the Skagit County Grading Permit and the Shoreline Substantial Development Permit. For example, a complaint resolution procedure could be developed to address any noise issues that develop during construction.

Mitigation

Noise mitigation was evaluated to identify potential measures that could be implemented to reduce project-related operational noise along the Anacortes and Bellingham subdivisions. As described in Appendix D of this EIS, a number of specific measures were evaluated to mitigate operational noise, including establishment of Quiet Zones, installation of sound barriers, and a combination of both options. The evaluation indicated that the most reasonable option would be the establishment of Quiet Zones.

Skagit County Planning Department staff considered the possibility of implementing Quiet Zones at three at-grade crossings along the Anacortes Subdivision to mitigate for potential noise impacts. However, upon consultation with Skagit County Public Works Department staff, it was determined that the establishment and implementation of such Quiet Zones would not be feasible or recommended by the County Engineer.

Unavoidable Significant Adverse Impacts

All of the moderate and severe impacts along the Anacortes and Bellingham subdivisions would remain.



Chapter 3.10 – Air Quality and Greenhouse Gases

Potential Impacts

During construction, the primary sources of emissions would be nonroad construction equipment exhaust, fugitive dust from earthmoving operations, and on-road truck exhaust from hauling away and delivering materials to the project and wetland mitigation sites. Emissions **would also result from workers' motor vehicles traveling to and from the construction site.**

The direct emissions associated with operation of the rail unloading facility would include a small amount of volatile organic compounds (VOCs) due to equipment leaks and wastewater treatment. No emissions of other criteria air pollutants are anticipated. The operational air emissions from the proposed project would not contribute enough air pollutant emissions to result in an exceedance of the National Ambient Air Quality Standards/Washington Ambient Air Quality Standards (NAAQS/WAAQS). As the levels of the NAAQS and WAAQS are tied to public health, no impacts to public health are anticipated because no exceedances are anticipated. Emissions associated with delays at at-grade railroad crossings would be well below one ton per year for criteria pollutants. No direct emissions during operations are anticipated from the wetland mitigation site.

The proposed project would not increase greenhouse gas (GHG) emissions from the Shell PSR. Emissions resulting from the refinement and consumption of products from the Shell PSR were not assessed because the **refinery's operating capacity** would not change with implementation of the proposed project. The crude oil shipped to the proposed unloading facility would replace deliveries from the Alaska North Slope currently delivered via marine vessel.

The transport of crude oil from the mid-continent area would result in a 93-percent increase of GHG emissions resulting from changing delivery of oil from tanker ships to rail. The annual emissions from oil tankers delivering oil to the Shell PSR is about 48,224 metric tons per year. The annual emissions from train delivery oil to the Shell PSR would be about 93,211 metric tons per year. The net increase in GHG emissions as a result of this change would be 44,987 metric tons per year.

Cumulative Impacts

The proposed project, combined with past, present, and reasonably foreseeable future actions, would have a cumulative impact on GHG and nitrogen oxide (NO_x) emissions. Reasonably foreseeable future actions that would increase rail traffic would also increase the NO_x emissions for all counties traversed by the trains. However, as of 2008, the U.S. Environmental Protection Agency (USEPA) has revised its emission standards for new and rebuilt locomotives that will lower emissions as older locomotives are replaced or rebuilt. Therefore, the emissions from each locomotive will decrease over time and overall NO_x emissions would be anticipated to decrease.

GHG emissions as a result of proposed project operations would relate only to changes in the transport of materials to the facility, as throughput capacity of the Shell PSR is anticipated to remain the same. The change associated with the proposed project would increase GHG emissions by approximately 44,987 metric tons per year. Because GHGs are a global issue that are transmitted within and beyond the state line, this increase in GHGs may need to be offset in **other sectors to reach the state's goals.** Therefore, from both global and state perspectives, the



proposed project, combined with past, present, and reasonably foreseeable future actions, would contribute to a cumulative impact on GHG emissions.

Mitigation Measures

Avoidance and Minimization

Impacts to air quality at the project and wetland mitigation sites could be minimized by the implementation of the BMPs recommended as part of the Shoreline Substantial Development Permit. For example, during construction haul roads would be sprayed with water to reduce dust and particulate matter emissions.

The VOCs from the direct operational emissions are governed by local, state, and federal regulatory requirements; therefore, no further mitigation is planned for such emissions. The emissions from construction would be temporary, localized, and mitigated via BMPs. The emissions from individual locomotive operations are decreasing due to the revised USEPA emissions standards. Relative to the addition of trains for the project, these emissions standards would offset some, or all, of the increase in emissions depending on how USEPA finalizes the standards.

Mitigation

Shell would assess and update its facility-wide anti-idling policy, as necessary, to include the rail unloading facility to reduce GHG emissions from construction and operation of the proposed project. Shell would provide equipment operators training on best practices for reducing fuel consumption. The anti-idling policy could include:

- Measures like reduced idling times for older vehicles and effective maintenance programs.
- Various technologies such as idle management systems or automatic shutdown features.
- Alternative fuels and other fluids.

The policy would define any exemptions where idling is permitted for safety or operational reasons, such as when ambient temperatures are below levels required for reliable operation. The plan would **be submitted to Ecology's Air Program for review** and approval.

Unavoidable Significant Adverse Impacts

No unavoidable significant adverse impacts were identified.

Chapter 3.11 – Energy and Natural Resources

Potential Impacts

Construction activities for the proposed project and wetland mitigation site would require fuel consumption for construction activities and to transport materials, equipment, and workers to the project sites. The scope of construction at the project and wetland mitigation sites is similar to other large projects in Skagit County, and would not have an adverse impact on energy supplies. Once constructed and operating, electrical power would be used to run the equipment associated with the rail unloading facility; however, impacts on energy from operations at the proposed project site would be minimal. The wetland mitigation site would require minimal



energy use, and be mainly in the form of fuel used by vehicles or equipment for monitoring and maintenance.

Transporting crude oil by rail from the mid-continent area to the Shell PSR would result in a net increase in diesel fuel use over the existing method of transporting crude oil by marine vessel from Valdez, Alaska. Transporting crude oil by rail would require approximately 9.1 million gallons of diesel fuel annually; transporting it via marine vessel would require approximately 4.8 million gallons annually. This increase would have a minimal impact on energy supplies.

Cumulative Impacts

The proposed project would contribute to a cumulative impact on energy and natural resources; however, the fuel and electricity use required for the proposed project and past, present, and reasonably foreseeable future actions would not exceed available supply.

Mitigation Measures

Avoidance and Minimization

Impacts to energy and natural resources could be minimized by the implementation of the BMPs recommended as part of the Shoreline Substantial Development Permit. For example, construction workers would be encouraged to carpool, and delivery of construction materials would be scheduled during off-peak hours to allow trucks to travel to the site with less congestion and at fuel-efficient speeds.

Mitigation

No additional mitigation measures are proposed beyond the avoidance and minimization measures that would be developed and enforced as part of the permitting process.

Unavoidable Significant Adverse Impacts

No unavoidable significant adverse impacts were identified.

Chapter 3.12 – Land Use and Social Elements

Potential Impacts

Land Use

Construction and operation of the proposed project and wetland mitigation sites would be compatible with surrounding heavy industrial, light industrial, agricultural, and commercial land uses. It is anticipated that current housing levels would be adequate to support any workers coming from outside the area during construction and operations.

Recreation

Construction and operation of the proposed rail unloading facility would not directly affect recreational resources. Construction of the wetland mitigation site would temporarily limit access to duck hunters in the Swinomish Duck Club. Following construction, however, the duck hunters would be permitted to enter hunting areas that can be accessed via the wetland mitigation site, but would not be able to hunt within the wetland mitigation site boundaries.



Transport of crude by rail to the proposed facility along the Anacortes Subdivision would have direct impacts on recreational facilities from increased noise and vibration and traffic delays. The added trains would generally result in an increase in overall average noise levels, but would not increase maximum noise levels associated with a single train passing through the area.

Utilities

Construction activities at the proposed project and wetland mitigation sites would result in a temporary increase in water use and the generation of solid waste, including trees cut down at the wetland mitigation site that would require disposal. Operation of the proposed project would result in increased electricity and water use and solid waste generation. Operation of the wetland mitigation site would require negligible electricity, but would not require water use or generate solid waste. No impacts on the supply of any utilities are anticipated. Construction activities for the proposed project site would interrupt operation of the BP Olympic pipeline, Kinder Morgan Puget Sound pipeline, and Puget Sound Energy power lines for up to two days while they were relocated.

Community services

No increases in demand for hospitals, schools, libraries, community centers, or religious facilities are expected during construction or operation of the proposed project and wetland mitigation sites; therefore, no impacts are anticipated.

Minority, Low-Income, and Limited English Proficiency (LEP) Populations

Construction and operations would not disproportionately impact minority or low-income populations. Construction of the proposed project would temporarily increase air emissions from use of construction equipment; however, they would not be anticipated to result in public health effects. Operation of the proposed project would not contribute enough air pollutants to result in an exceedance of the NAAQS/WAAQS and, therefore, are not anticipated to result in public health effects.

Cumulative Impacts

Land Use

The proposed project is not anticipated to contribute to a cumulative impact on land use or social elements. In the study area, there has been significant agricultural, industrial, commercial, and residential development. Land uses have changed with this growth; however, development has been compatible with applicable Skagit County and City of Anacortes land use designations and surrounding uses. Construction and operation of the proposed Tesoro Clean Products Upgrade Project (Tesoro 2015) (see Table 3.0-2 in Chapter 3.0 – Introduction, for additional project details) would be compatible with existing land uses. No cumulative impacts are anticipated.

Recreation

The proposed project would temporarily impact recreational resources during construction. This would not contribute to a cumulative impact as the effect would be temporary; therefore, no long-term impacts are anticipated. Past development in the study area has not adversely affected



recreational resources and the Tesoro Clean Products Upgrade Project is not anticipated to adversely affect recreational resources; therefore, no adverse impacts to recreational resources are anticipated. No cumulative impacts are anticipated.

Utilities

The proposed project would temporarily increase demand for utilities during construction and result in a negligible increase in demand for utilities during operations. Past development in the study area has not adversely impacted the supply of any utilities and the Tesoro Clean Products Upgrade Project would not adversely affect future supplies. No cumulative impacts are anticipated.

Minority, Low-Income, and LEP Populations and Community Services

The proposed project would not affect demand for community services or disproportionately impact minority or low income populations, or affect public health. Neither past development in the study area nor the Tesoro Clean Products Upgrade Project are expected to adversely affect these resources. No cumulative impacts are anticipated.

Mitigation Measures

Avoidance and Minimization

To minimize potential for barriers to access for LEP populations, online open house content was made available during the scoping and draft EIS comment periods in multiple languages. The SEPA EIS Fact Sheet and materials prepared for the draft EIS public hearings are available in English and Spanish formats, and interpretation services will be made available at the draft EIS public hearings upon request. Additional information about accommodations for LEP populations is available at the project website: www.shellraileis.com.

Mitigation

No mitigation measures are proposed beyond the minimization measures described above.

Unavoidable Significant Adverse Impacts

No unavoidable significant adverse impacts were identified.

Chapter 3.13 – Visual Resources

Potential Impacts

Construction and operation of the proposed project would take place in an area with existing industrial development and activities; therefore, visual impacts from construction and operation would be minimal. Operation of the rail unloading facility would produce minor light and glare impacts. The construction of the wetland mitigation site would be largely shielded from the surrounding area by existing stands of trees; therefore, visual impacts during construction would be minimal. The wetland mitigation site would be similar in character to the surrounding area and would not attract the attention of viewers. After construction, viewers would not notice a change to the visual resources at the wetland mitigation site.

A retaining wall would be built along an approximately 1,000 foot-long stretch of the Anacortes Subdivision. Construction activities would result in minor visual impacts from the presence of



construction equipment along the rail line. After construction, the retaining wall would be **similar in height to the existing tracks, but close to South March's Point Road. This change in the visual environment would result in a moderate impact.**

Additional trains traveling along the Anacortes Subdivision would result in an increase in the frequency and the length of time that trains transporting crude oil were running and in view, but would not add a new type of visual impact to the existing rail corridor. Visual impacts from trains associated with the proposed project would therefore be minor.

Cumulative Impacts

Within the study area, there has been significant agricultural, industrial, commercial, and residential development. It is assumed that with this growth and new construction, visual resources have been affected. Construction and operation of the Tesoro Clean Products Upgrade Project has the potential to impact these resources. Together, these projects would contribute to a cumulative impact on visual resources. However, given their proximity, the impacts would be localized to the Tesoro Anacortes Refinery site and the proposed project and mitigation sites.

Mitigation Measures

Avoidance and Minimization

Impacts to visual resources would be minimized by the implementation of the BMPs required as part of the Shoreline Substantial Development Permit and in accordance with Skagit County Code, which states that:

- Building materials with high light-reflective qualities shall not be used in construction of buildings where sunlight would throw intense glare on an adjacent area.
- Artificial lighting shall use full cut-off fixtures so that direct light from high-intensity lamps would not result in glare.
- Lighting shall be directed away from adjoining properties so that not more than 1 foot candle of light leaves the property boundaries.

In addition, Shell would minimize the impacts of light on neighboring properties in accordance with recommendations from the International Dark Sky Association (IDA), which includes installing full cut-off light boxes, adjusting light direction, and providing additional screens with supplemental light shields.

Mitigation

No additional mitigation measures are proposed beyond the avoidance and minimization measures that would be developed and enforced as part of the permitting processes.

Unavoidable Significant Adverse Impacts

No unavoidable significant adverse impacts were identified.



Chapter 3.14 – Economics

Potential Impacts

The construction effort for the proposed project would create a short-term stimulus for the Washington State economy through purchases of materials, supplies, equipment, and services; and labor wages for construction workers. After the proposed project becomes operational, the Shell PSR would experience a change in net employment and payroll, as well as some general operational expenditures, such as energy and office supplies. These impacts are considered minimal.

Cumulative Impacts

Construction of the proposed project and reasonably foreseeable future projects would create a short-term stimulus for the Washington State economy through purchases of materials, supplies, equipment, and services; and labor wages for construction workers. During operations, the proposed projects and reasonably foreseeable future projects would create economic benefits for local economies through the creation of jobs and operational expenditures.

Mitigation Measures

Avoidance and Minimization

No avoidance or minimization measures are proposed.

Mitigation

No mitigation measures are proposed.

Unavoidable Significant Adverse Impacts

No unavoidable significant adverse impacts were identified.

Chapter 3.15 – Rail Traffic and Transportation

Potential Impacts

Rail access to the unloading facility would be provided by a new connection to the existing Anacortes Subdivision located to the southeast, which would require modifications to the Anacortes Subdivision configuration. Short segments of the existing Anacortes Subdivision and a siding track would be realigned slightly to the south. Temporary construction impacts to rail traffic could occur as the new alignment is brought into operation. The majority of the construction would be done adjacent to the existing rail line and the only disruption to rail traffic would occur when the formal rail line connection is made. BNSF Railway would manage the timing, testing, and opening of the new alignment and maintain current rail operations to the extent possible to minimize delay.

During operation, the proposed project would increase traffic along the Anacortes Subdivision by up to six unit trains per week, or two trips per day on average (one in each direction). Intersection occupancy time by a Shell unit train would be approximately 8 minutes. Marine boat traffic would experience approximately 12-minute delays at the Swinomish Channel Swing Bridge to allow for the closing of the bridge, the passing of a train, and the re-opening of the bridge.



Cumulative Impacts

The direct impact of the proposed project would be additional train traffic on the Anacortes Subdivision. As no other reasonably foreseeable future actions were identified for the Anacortes Subdivision, the cumulative impact would be the same as the direct impact.

The proposed project, combined with the past, present, and reasonably foreseeable future actions, would have a cumulative impact on the rail transportation network in Washington State. In the Washington State Rail Plan, the Washington State Department of Transportation (WSDOT) indicates that five of the nine subdivisions used by proposed project unit trains are projected to be overcapacity by 2035 (WSDOT 2014). Although they would represent a small portion of existing and projected traffic, the six additional proposed Shell unit trains per week would contribute to a cumulative impact on the capacity of the rail transportation network. BNSF Railway would likely address key capacity issues as they arise.

Mitigation Measures

Avoidance and Minimization

No avoidance or minimization measures are proposed for the addition of six unit trains per week in each direction to existing traffic.

Mitigation

No mitigation measures are proposed for the addition of six unit trains per week in each direction to existing traffic.

Unavoidable Significant Adverse Impacts

No unavoidable significant adverse impacts were identified.

Chapter 3.16 – Vehicle Traffic and Transportation

Potential Impacts

Short-term impacts on vehicular transportation would occur during proposed project construction. Construction activities would result in up to an additional 652 vehicles per day on local roads for the seven-month excavation period, and up to an additional 203 vehicles per day on local roads for the 15-month nonexcavation period. These additional vehicles would degrade the level of service at the SR 20 / Oak Harbor / SR 20 Spur intersection at Sharpes Corner.

During operations, the proposed project would add six unit trains in each direction per week, on average, through the study area. This would result in delays at at-grade crossings. However, no significant impacts are anticipated because the crossing blockage time of 8 minutes is less than the maximum allowed blockage time of 10 consecutive minutes (WAC 480-62-220).

Cumulative Impacts

The proposed project, combined with the past, present, and reasonably foreseeable future actions, would have a cumulative impact on traffic delays at at-grade crossings along the Bellingham Subdivision. One identified reasonably foreseeable future action would add an estimated total of 18 train trips per day along to rail traffic on the Bellingham Subdivision. Combined with the proposed project, this would increase the daily train volume from 21 to 41 trains per day, which would lead to additional delays at at-grade crossings. Although they would



represent a small portion of existing and projected traffic, the additional proposed Shell unit trains would contribute to a cumulative impact on traffic delays.

On the Anacortes Subdivision, no other reasonably foreseeable future actions are associated with specific crossings or intersections. The direct impact of the proposed project is additional intersection traffic delays at crossings. There are no other reasonably foreseeable future actions on the Anacortes Subdivision that would impact vehicle delays; therefore, the cumulative impact to intersection delays would be the same as the direct impact.

Mitigation Measures

Avoidance and Minimization

Impacts to vehicle traffic and transportation during construction would be minimized by the implementation of the BMPs recommended as part of the Shoreline Substantial Development Permit. For example, degradation of the level of service at the SR 20 / Oak Harbor / SR 20 Spur intersection at Sharpes Corner would be minimized by the following measures:

- Making arrangements for vanpools, or providing incentives for carpools among construction employees.
- Encouraging construction employees to arrive and depart at variable times.
- Switching start and end shift times for construction workers to time periods outside of the AM and PM peak periods.

In addition, Shell has incorporated engineering and operational measures into the design of the proposed project to avoid and minimize impacts to vehicle traffic and transportation including:

- The configuration of the new rail spur and unloading facility has been designed to allow an incoming unit train to quickly clear the Anacortes Subdivision during arrival and departure without blocking any public at-grade crossings.
- To the extent feasible with BNSF train schedules, Shell would request that BNSF Railway schedule trains to arrive and depart during non-peak vehicle traffic hours.

Mitigation

The proposed project, when considered with other reasonably foreseeable future projects, would increase delays at at-grade crossings along the Anacortes and Bellingham subdivisions. This potential cumulative impact would be mitigated by:

- Shell would fund a study to evaluate the feasibility of implementing signal timing revisions at the at-grade crossings listed below along the Bellingham and Anacortes subdivisions in Skagit County. Revisions to the timing of traffic signals can reduce the time for trips through the intersection, thereby reducing overall delays. If the revisions are feasible, and the jurisdiction agrees, Shell would provide the funding for implementation. The following crossings would be analyzed if the jurisdictions agree:
 - Christianson Road / SR 20.
 - LaConner Whitney Road / SR 20.
 - Avon Allen Road / SR 20.



- Pulver Road / SR 20.
- Old Hwy 99 North / Cook Road.
- Garrett Road / I-5 Southbound Ramp / SR 20.
- North Burlington Boulevard / SR 20 / Fairhaven Avenue.
- South Burlington Boulevard / SR 20 / Rio Vista Avenue.
- I-5 Southbound Ramps / SR 538. I-5 Northbound Ramps / SR 538.
- Riverside Drive / SR 538.
- 3rd Street / Kincaid Street.
- I-5 Northbound Ramps / East Kincaid Street.

Recommended signal timing revisions to the intersections would be prepared in a report format and would be submitted to WSDOT and the appropriate local jurisdictions for review and comment. Staff at these agencies would provide comments and decide upon implementation.

Unavoidable Significant Adverse Impacts

Implementation of signal timing revisions would not completely mitigate traffic delays at at-grade crossings. However, this is not considered an unavoidable significant adverse impact from the proposed project as Shell unit trains would only represent a small portion of the existing and projected rail traffic that would lead to the additional traffic delays.

Chapter 3.17 – Public Services and Incident Response

Potential Impacts

Construction of the proposed project and wetland mitigation sites would increase the potential for injuries or accidents that may require public services. Increased worker and truck traffic during construction would cause delays on access roads, including SR 20, which could affect the response times of fire, police, or emergency medical response teams. However, this impact would be temporary and would subside following construction. Operation of the proposed project and wetland mitigation sites would not create a substantial new demand for public services locally.

During operation, the transport of crude oil by rail to the proposed project site could have impacts on police, fire, and emergency medical response times. Service response times could increase because of additional delays at at-grade railroad crossings on the BNSF Railway main line throughout Washington due to passing unit trains going to and from the project site. There is also the potential for increased demand for emergency services due to a rail accident.

Cumulative Impacts

On the Anacortes Subdivision, there are no other reasonably foreseeable projects that would increase rail traffic. Therefore, the potential for cumulative impacts is the same as direct impacts identified for the proposed project. On the Bellingham Subdivision, the proposed project, when considered with other reasonably foreseeable future projects, would increase delays at at-grade crossings, which could lead to increased police, fire, and emergency medical response times.



Mitigation Measures

Avoidance and Minimization

Minimizing potential impacts that could result from an accident associated with crude-by-rail trains begins with prevention measures. Shell, BNSF Railway, emergency responders, and federal, state, and local governments would continue to work together to coordinate personnel and resources in the case of an accident. The unloading facility would be added to the emergency response procedures of BNSF Railway, Shell, and local providers, which would enhance the response to an accident.

In addition, Shell has incorporated operational measures into the design of the proposed project to avoid and minimize impacts to emergency response time including:

- To the extent feasible with BNSF train schedules, Shell would request that BNSF Railway schedule trains to arrive and depart during non-peak vehicle traffic hours.

Mitigation

Potential impacts to emergency response from increased train traffic and associated delays at at-grade crossings would be minimized by:

- Shell would fund a study to evaluate the feasibility of implementing signal timing revisions at at-grade crossings along the Bellingham and Anacortes subdivisions in Skagit County, as described in Chapter 3.16 –Vehicle Traffic and Transportation.

In addition, Shell would support measures to enhance incident planning and response and mitigate the potential risks associated with a release of oil in Skagit County and along the proposed project rail transport route throughout Washington State. These measures include:

- Shell would provide funding to create or augment existing oil and hazardous spill response equipment caches along the proposed project rail transport route throughout the state. The caches would contain oil spill response equipment specifically to help respond to spills on land. The co-lead agencies would determine the number and location of caches to be provided.
- Shell would coordinate and fund a deployment drill for a crude-by-rail spill scenario with BNSF Railway and invite the local emergency responders and the tribes to participate.
- Shell would update its existing Puget Sound Refinery oil spill contingency plan to reflect operations of the new crude by rail unloading facility. The updated plan would demonstrate financial responsibility for the potential costs of response and cleanup of oil spills, natural resource damages, and costs to state and affected jurisdictions for response actions to reduce the risks and impacts from an oil spill at the facility. Shell would update the PSR contingency plan in two steps:
 - Shell would submit a draft update to their existing oil spill contingency plan that fully integrates the rail operations into the plan and addresses all factors listed in RCW 88.40.025. The update must be submitted at least 60 days prior to commencing rail operations and include an appropriate level of financial responsibility for a reasonable worst-case spill at the refinery.



- Once the draft update is reviewed and approved by Ecology, the plan would be updated again to include documentation of financial responsibility. Ecology would then manage a 30-day public review process. Once all requirements have been met, Ecology would grant final approval of the plan update.

Unavoidable Significant Adverse Impacts

Implementation of signal timing revisions would not completely eliminate delays for emergency vehicles at at-grade crossing; however, this is not considered an unavoidable significant adverse impact from the proposed project as Shell unit trains would only represent a small portion of the existing and projected rail traffic that would lead to the additional traffic delays.

Chapter 4 – Environmental Health and Risk

Potential Impacts

If an oil release were to occur from a train traveling to or from the Shell PSR, many environmental resources and sensitive areas could be affected. Biological resources potentially impacted by surface and shoreline oiling include waterfowl, aerial and diving birds, wetland and terrestrial wildlife, fur-bearing marine mammals, pinnipeds (seals and sea lions), and cetaceans (whales and dolphins). Biota potentially impacted by water column toxicity include mobile and stationary bottom-dwelling fish and invertebrates, small fish, bottom-dwelling organisms, and plankton that drift with the currents.

There is also the risk of fire or explosion associated with an accident involving a crude-by-rail train. The probability of a fire or explosion in the event of a release is low, but could have significant impacts on many human, built, and environmental resources were such an accident to take place.

Mitigation Measures

The findings described in Chapter 4 – Environmental Health and Risk, indicate that the probability of an accident involving a Shell PSR unit train in Washington State resulting in a release of oil is low; however, should such an accident occur, the consequences could be substantial. The co-lead agencies considered these findings in the development of the mitigation measures presented below. These measures are intended to achieve two goals: 1) to minimize the probability of a release from a Shell PSR unit train occurring, and 2) to augment response capabilities if an accident were to occur.

From a SEPA perspective, the impacts of an accident resulting from transport of crude by rail are considered potential indirect impacts. In other words, a proposed project train could be involved in an accident in the future, but it is not possible to determine exactly where or when the potential consequences may occur, or to define their extent. This situation affects the types of mitigation that may be applied. Some of the mitigation measures proposed with respect to potential rail accidents are intended to minimize the risk of an accident occurring (see Chapter 4 – Environmental Health and Risk); others are intended to enhance ongoing efforts to prepare for or respond to such an accident (see Chapter 3.17 – Public Services and Incident Response).



Avoidance and Minimization

If a release of oil were to occur, response measures governed by regulatory agencies and provided by first responders, regulatory agencies, Shell, and BNSF Railway would offer a targeted intervention to minimize the potential impacts. The full list of response plans is outlined in Chapter 3.17 – Public Services and Incident Response.

Along with local emergency responders, BNSF Railway is the first responder for fires, releases, or other accidents involving the railroad. The company maintains equipment and a network of contracted first responder teams. BNSF Railway coordinates with fire departments and fire districts and provides incident response training along its entire rail network. In addition, BNSF Railway, Shell, and other entities must comply with multiple guidelines and requirements when conducting activities related to the transport and handling of crude oil.

First responders and their broad response networks have benefited from the advancement of oil spill response technologies. Also, enhanced planning measures have followed the Oil Pollution Act of 1990. Existing regulations govern the movement of crude oil by train including federally mandated oil spill response plans (49 CFR 130.31[a] for transport of volumes of oil greater than 1,000 barrels [42,000 gallons]). These regulations require that preparation and response measures be in place to address potential releases of oil.

In addition, Washington State has two recently adopted rules for crude-by-rail projects: one addresses contingency planning and the second addresses notification. The contingency rule requires state contingency plans to be developed by railroads for the shipment of oil through the state by rail. The notification rule requires specific procedures for crude-by-rail train activity in the state. This rule requires advance notification prior to transport of crude by rail to emergency responders and planners. This will allow them to better prepare for and respond to an accident.

The National Contingency Plan, the Northwest Area Contingency Plan, local response plans, facility plans, and transportation regulations provide additional coordinated preparation for an oil or hazardous substance release. These contingency plans establish roles and responsibilities, and identify resources and response procedures to protect life. They reduce and mitigate the impacts of a pollutant discharge on the environment and property. The applicable plans are described in Chapter 3.17 – Public Services and Incident Response.

Mitigation

As described in Chapter 3.17 – Public Services and Incident Response, there are numerous regulations and policies currently in place designed to minimize the potential occurrence of crude-by-rail accidents.

The risk of a spill occurring during an accident would be minimized by using DOT-117 Specification tank cars that meet enhanced safety standards issued by the Pipeline and Hazardous Materials Safety Administration (PHMSA) and the Federal Railroad Administration (FRA). The Shell PSR would accept delivery of crude oil and petroleum products only in tank cars meeting or exceeding DOT-117 specifications.

Shell would fund the purchase of hand-held VOC monitors for local responders. The co-lead agencies would determine the number and location of monitors to be provided. Shell would provide training to ensure that local responders know how to use and maintain air monitors.



Unavoidable Significant Adverse Impacts

An accidental release of oil resulting in a spill, fire, or explosion, could have unavoidable significant adverse impacts.



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Table 5-1 Summary of Impacts and Proposed Mitigation

Resource	Potential Impacts Requiring Mitigation	Proposed Mitigation	Unavoidable Significant Adverse Impacts Following Mitigation
Earth Resources	None	No mitigation proposed at this time.	None
Groundwater	None	No mitigation proposed at this time.	None
Surface Water	None	No mitigation proposed at this time.	None
Fish and Aquatic Species and Habitat	None	No mitigation proposed at this time.	None
Wetlands	Some 25.83 acres of permanent wetland impacts, 0.23 acre of long-term temporary impacts, and 12.58 acres of permanent wetland buffer impacts.	Shell would provide compensatory mitigation for wetland impacts at a wetland mitigation site approximately 2 miles east of the project site at the south end of Padilla Bay.	None if mitigation is implemented and performs as proposed.
Vegetation and Terrestrial Wildlife and Habitat	Construction of the proposed project would permanently remove two active bald eagle nests: one near the Anacortes Subdivision in the southern portion of the proposed project site, and a second found within the wetland mitigation site.	Shell would mitigate for impacts to bald eagle nests by creating two new nesting platforms at the proposed project site and two nesting platforms at the wetland mitigation site.	None if mitigation is implemented as proposed.



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Resource	Potential Impacts Requiring Mitigation	Proposed Mitigation	Unavoidable Significant Adverse Impacts Following Mitigation
Cultural Resources	<p>No NRHP-eligible archaeological site or historic-era resources are found within the Area of Potential Effects.</p> <p>Because the March Point area is important for Native American land use, there is a possibility that archaeological sites exist within the proposed project site but were not observed or known during cultural resource inventory work. Engagement with tribes would help to inform if such sites exist.</p>	<p>Shell would develop and implement an Unanticipated Discovery Plan for use during construction when archaeological monitors are not present.</p>	<p>None if mitigation is implemented as proposed.</p>
Treaty and Traditionally Used Resources	<p>No Traditional Cultural Properties, Cultural Landscapes, specific gathering areas or plants important to tribes, or specific hunting areas or certain terrestrial animals have been identified in the study area to date. No impacts to treaty or traditionally used resources from the proposed project were identified.</p>	<p>No additional mitigation measures are proposed at this time beyond the avoidance and minimization measures described in Chapter 3.4 – Fish and Aquatic Species and Habitat. Should any additional tribal resources be made known, Skagit County and Ecology may reassess potential impacts and mitigation.</p>	<p>None identified at this time.</p>
Noise and Vibration	<p>Operational noise from unit trains along the Anacortes and Bellingham subdivisions is predicted to result in moderate or severe impacts to residential land uses. The primary cause of noise impacts would be the use of train horns at the at-grade crossings. Some 168 residential receptors are predicted to exceed the moderate impact threshold and 44 would exceed the severe impact threshold.</p>	<p>No mitigation measures proposed beyond the avoidance and minimization measures that would be developed and enforced as part of the permitting process.</p>	<p>All of the moderate and severe impacts along the Anacortes and Bellingham subdivisions would remain.</p>



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Resource	Potential Impacts Requiring Mitigation	Proposed Mitigation	Unavoidable Significant Adverse Impacts Following Mitigation
Air Quality and Greenhouse Gases	The transport of crude oil from the mid-continent area would result in a 44,987 metric tons per year net increase of GHG emissions. This 93-percent increase over current shipment operations results from changing delivery of oil from tanker ships to rail.	Shell would assess and update, as necessary, its facility-wide vehicle anti-idling policy to include the rail unloading facility to reduce GHG emissions from construction and operation of the proposed project.	None
Energy and Natural Resources	None	No mitigation proposed at this time.	None
Land Use and Social Elements	None	No mitigation proposed at this time.	None
Visual Resources	None	No mitigation proposed at this time.	None
Economics	None	No mitigation proposed at this time.	None
Rail Traffic and Transportation	None	No mitigation proposed at this time.	None
Vehicle Traffic and Transportation	The proposed project, when considered with other reasonably foreseeable future projects, would increase vehicular traffic delays at at-grade crossings.	Shell would fund a study to evaluate the feasibility of implementing signal timing revisions at specified at-grade crossings along the Bellingham and Anacortes subdivisions in Skagit County.	Implementation of signal timing revisions would not completely mitigate traffic delays at at-grade crossings; however, this is not considered an unavoidable significant adverse impact from the proposed project as Shell unit trains would only represent a small portion of the existing and projected rail traffic that would lead to the additional traffic delays.



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Resource	Potential Impacts Requiring Mitigation	Proposed Mitigation	Unavoidable Significant Adverse Impacts Following Mitigation
<p>Public Services and Incident Response</p>	<p>The impacts of transporting crude oil by rail to the proposed project site would have impacts on police, fire, and emergency medical response times. Service response times could increase because of delays at at-grade railroad crossings.</p> <p>There would be the potential for increased demand for emergency services due to an accident occurring during rail transport.</p> <p>There would be an increased risk of a release of oil in Skagit County and along the proposed project rail transport route through Washington State.</p>	<p>Shell would fund a study to evaluate the feasibility of implementing signal timing revisions at at-grade crossings along the Bellingham and Anacortes subdivisions in Skagit County.</p> <p>Shell would provide funding to create or augment existing oil and hazardous spill response equipment caches along the proposed project rail route throughout the state.</p> <p>Shell would coordinate and fund a deployment drill for a crude-by-rail spill scenario with BNSF Railway and invite the local emergency responders and tribes to participate.</p> <p>Shell would update their existing PSR oil spill contingency plan to reflect operations of the new rail unloading facility. The updated plan would demonstrate financial responsibility for the potential costs of response and cleanup of oil spills, natural resource damages, and costs to the state and affected jurisdictions for response actions to reduce the risks and impacts from an oil spill at the facility.</p>	<p>Implementation of signal timing revisions would not completely mitigate delays for emergency vehicles at at-grade crossings; however, this is not considered an unavoidable significant adverse impact from the proposed project as Shell unit trains would only represent a small portion of the existing and projected rail traffic that would lead to the additional traffic delays.</p>



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Resource	Potential Impacts Requiring Mitigation	Proposed Mitigation	Unavoidable Significant Adverse Impacts Following Mitigation
Environmental Health and Risk	The proposed project would result in an increased probability of rail accidents that could result in a release of oil to the environment and a subsequent fire or explosion.	<p>The risk of a spill occurring during an accident would be minimized by using tank cars that meet or exceed the enhanced safety standards of DOT-117 specification tank cars.</p> <p>Shell would fund the purchase of hand-held VOC monitors for local responders.</p>	A release resulting in a spill, fire, or explosion, could have unavoidable significant impacts.



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