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320.01 General

This chapter provides an overview of potential environmental impacts and environmental regulatory obligations as they relate to ferry terminal design. This chapter does not provide National Environmental Policy Act (NEPA) or State Environmental Policy Act (SEPA) level analysis, but rather provides a qualitative assessment of the major environmental elements that could pose substantial issues for future ferry terminal development. Refer to the *Environmental Manual* M 31-11 and *WSF Terminal Engineering Environmental Approvals and Permitting Procedures Manual* for a more detailed discussion of environmental issues and requirements.

This chapter briefly discusses potential environmental impacts including land use, air quality, noise, water quality, propwash, vessel wakes and sedimentation, ecosystems and protected species, earth, traffic, Tribal resources and treaty rights, cultural, historical and archaeological resources, park and recreational lands, and Department of Natural Resources Lands. Further environmental impact analysis will be required on a project-by-project basis.

This chapter is included in the *Terminal Design Manual* for use as a reference throughout the design process to ensure that:

- Environmental conditions are complied with (all required permits are obtained and all permit conditions, such as in-water work windows or construction BMPs, are adhered to).
- Environmental commitments that have been made to agencies, local governments, or Tribes (mitigation assurances for specific impacts) are captured in project design.
- There is an understanding that design changes could result in additional environmental conditions or commitments, which in turn could impact permitting, scheduling and project costs.

320.02 References

Unless otherwise noted, any code, standard, or other publication referenced herein refers to the latest edition of said document.

(1) **Federal/State Laws and Codes**

16 USC Chapter 31 *Marine Mammal Protection*

16 USC Chapter 35 *Endangered Species*

[23 CFR 771.117](#) *FHWA Categorical exclusions*

[40 CFR 1508.4](#) *Categorical exclusion*

Directional Memo ESO-2011-01, Complete Permit Application Drawing Guidance
National Historic Preservation Act, Archaeological and cultural resources Executive Order 05-05, Archeological and cultural resources

Executive Order 13186, Responsibilities of federal agencies to protect migratory birds
National Environmental Policy Act (NEPA), U.S. Environmental Protection Agency

[RCW 27.34.200](#) *Archaeology and historic preservation – Legislative declaration*

State Environmental Policy Act (SEPA), Washington State Department of Ecology
[WAC 25-12](#) *Advisory council on historic preservation*

(2) **Design Guidance**

Environmental Manual M 31-11

Traffic Noise Analysis and Abatement Policy and Procedures, WSDOT, 2006

Noise Policy and Procedures, WSDOT 2011

(3) **Supporting Information**

WSDOT *Ferries Division Final Long-Range Plan* (Long-Range Plan), WSDOT, 2009

Greenhouse Gas Inventory, WSDOT, 2007

The Washington Climate Change Impacts Assessment, the Climate Impacts Group, University of Washington, 2009

Terminal Engineering Environmental Approvals and Permitting Procedures Manual, WSF

WSF Environmental Compliance Plan

320.03 Determining the Environmental Documentation

The Environmental Review Summary (ERS) provides the first indication of what form the project environmental documentation will take. The ERS is generally developed as part of the Project Summary, which is prepared during the scoping phase of all projects in the construction program. However, the environmental section should be consulted during the design process in case any rules, regulations, or laws have changed since initial scoping. The *Environmental Manual* M 31-11 has detailed instructions on how to prepare the ERS. The ERS allows environmental staff and designers to consider, at an early stage, potential impacts and mitigation, and required permits. Refer to [Chapter 200](#) for more information regarding the ERS.

Based on the environmental considerations identified during preparation of the ERS, WSDOT projects are classified for NEPA/SEPA purposes to determine the type of environmental documentation required. Projects with a federal nexus (using federal funds, involving federal lands, or requiring federal approvals or permits) are subject to NEPA and SEPA. Projects that are state-funded only follow SEPA guidelines. Since many WSDOT projects are prepared with the intent of obtaining federal funding, NEPA guidelines are usually followed. The *Environmental Manual* M 31-11 provides detailed definitions of the classes of projects. It lists the types of work typically found in each class, FHWA/federal agency concurrence requirements, and procedures for classifying and, if necessary, reclassifying the type of environmental documentation for projects.

Projects subject to NEPA are classified as Class I, II, or III as follows:

- Class I projects require preparation of an EIS because the action is likely to have significant adverse environmental impacts.
- Class II projects are Categorical Exclusions (CE) or Documented Categorical Exclusions that meet the definitions contained in [40 CFR 1508.4](#) and [23 CFR 771.117](#). These are actions that are not likely to cause significant adverse environmental impacts. Per [40 CFR 1508.4](#) these projects do not require an environmental assessment or an environmental impact statement. [23 CFR 771.117](#) defines which actions meet criteria for CEs and the level of NEPA approval required by the Administration.
- Class III projects require an Environmental Assessment (EA) because the significance of the impact on the environment is not clearly established.

SEPA has a similar, but not identical, system. SEPA recognizes projects that are categorically exempt, projects that require an EIS, and projects that do not require an EIS. WSF projects that are CEs under NEPA (Class II) may not be categorically exempt under SEPA.

If the project is not exempt under SEPA, WSF must issue a threshold determination and then prepare a SEPA Checklist or EIS. The threshold determination may be a Determination of Non-significance (DNS) or a Determination of Significance (DS) requiring an EIS. WSDOT may adopt a NEPA EA Finding of No Significant Impact (FONSI) to satisfy the requirements for a DNS.

320.04 Design Process and Permit Interaction

WSF projects are subject to a variety of federal, state, and local environmental permits and approvals that might be required based on the information known at that stage. As a project design develops, additional permits and approvals may be identified.

Environmental permits and approvals require information prepared during the design phase to demonstrate compliance with environmental rules, regulations, and policies. Typically the designer provides design information for permit submittals at the 30 percent Design milestone. To avoid delays in project delivery, it is necessary for the designer to understand and anticipate this exchange of information. The timing of this exchange often affects design schedules, while the permit requirements can affect the design itself. In complex cases, the negotiation over permit conditions can result in iterative designs as issues are raised and resolved. Environmental permits and approvals can be determined, and application started with 15 percent design information.

The interaction of design and permitting increases in complexity as the project type becomes more complex. Table 500-1 of the *Environmental Manual* M 31-11 provides a comprehensive list of the environmental permits and approvals that may be required for WSDOT projects. For each permit or approval, the responsible agency is identified, the conditions that trigger the permit are listed, and the statutory authority is cited. Consult the region or HQ Environmental Office at each stage of the project design to review the permits and approvals that might be required based on the project design. *WSF Terminal Engineering Environmental Approvals and Permitting Procedures Manual* provides a comprehensive step-by-step approach to environmental permitting and approvals.

320.05 Environmental Commitments Meeting

WSDOT [Project Delivery Memo #09-01](#), *Incorporating Environmental Commitments into WSDOT Contracts*, requires that an Environmental Commitments Meeting take place at the 60 percent Design milestone with Construction, Environmental and Plan Review Offices and any other support group deemed necessary by the Design Office. The intent of this memorandum is to:

1. Recommend steps for a successful Environmental Commitments Meeting
2. Describe deliverables resulting from the Environmental Commitments Meeting
3. Identify resources Regions can use during the Environmental Commitments Meeting
4. Identify roles and responsibilities so regions can successfully incorporate environmental commitments into contracts.

WSF maintains an environmental compliance plan to ensure projects are designed, constructed and maintained in accordance with environmental commitments made through the environmental documentation and permitting process. As part of this compliance plan, the Terminal Engineering environmental staff will work collaboratively with the Terminal Engineering Design and Construction staff to ensure that all permit conditions are incorporated into contract provisions and copies of all permits are included in the contracts. Permits are typically included as an appendix to the special provisions. For additional information, refer to the *WSF Environmental Compliance Plan* in Appendix N.

320.06 Environmental Review and Permitting

(1) Environmental Review

The environmental review process for WSF projects is guided by provisions of the NEPA and the SEPA, and guidance by the United States Department of Transportation (USDOT) and the WSDOT with regard to those laws. Understanding and anticipating what permits and approvals may be required for a particular project, along with how long it is likely to take to obtain said permits/approvals, will assist the designer in project delivery. The following paragraphs summarize some of the common federal, state and local permits and approvals that may apply to ferry terminal projects. Refer to the *Environmental Manual* M 31-11 for a comprehensive discussion of permits and approvals.

(2) Federal Permits and Approvals

[Exhibit 320-1](#) identifies some of the federal permits and approvals commonly required for WSF projects along with their responsible agencies. Where quantifiable, a typical time range to obtain these permits/approvals is provided.

Permits/Approvals with Timelines	Responsible Agency
National Environmental Policy Act (NEPA)	Federal Highway Administration/Federal Transit Administration, WSDOT
Endangered Species Act (ESA): 3 to 9 months	NOAA Fisheries, U.S. Fish and Wildlife Service
National Historic Preservation Act – Section 106	Department of Archaeology and Historic Preservation/State Historic Preservation Officer
Clean Water Act – Section 404: 6 to 12 months	U.S. Army Corps of Engineers, Environmental Protection Agency, U.S. Coast Guard
Rivers and Harbors Act - Section 10: 6 to 12 months	U.S. Army Corps of Engineers
Section 4(f) of USDOT Act – See NEPA	United States Department of Transportation
Marine Mammal Protection Act (MMPA): 6 to 12 months	NOAA

Federal Permits and Approvals
Exhibit 320-1

(3) State Permits and Approvals

[Exhibit 320-2](#) identifies some of the state permits and approvals commonly required for WSF projects along with their responsible agencies. Where quantifiable, a typical time range to obtain these permits/approvals is provided.

Permit	Responsible Agency
State Environmental Policy Act (SEPA): 30 days to 2 years	Department of Ecology
Clean Water Act – Sections 401 and 402	Department of Ecology
Coastal Zone Management Certificate: 30 days	Department of Ecology
Aquatic Lands Use Authorization	Department of Natural Resources
Hydraulic Project Approval: 45 days	Department of Fish and Wildlife
National Pollution Discharge Elimination System Construction Stormwater Permit	Department of Ecology
National Pollution Discharge Elimination System Industrial and/or Municipal Permits	Department of Ecology
Governor's Executive Order 05-05	Department of Archaeology and Historic Preservation and the Governor's Office of Indian Affairs

State Permits and Approvals
Exhibit 320-2

(4) Local Permits and Approvals

Exhibit 320-3 identifies some of the local permits and approvals commonly required for WSF projects. Local permits and approvals will vary by ferry terminal depending on the statutory authority for the terminal location.

Permits and Approvals
SMP Shoreline Substantial Development Permit: 120 days
SMP Conditional Use Permit or Variance
Special Use Permit
SMP Exemption
Clearing and Grading Permits
(not required within WSF right of way)
Building Permit
Land Use Permit
Street Use Permit
Noise Variance
Height Variance
Detour and Haul Road Agreements
Well Decommissioning
Local Permits and Approvals <i>Exhibit 320-3</i>

(5) Local Programmatic Shoreline Permit Exemptions

WSF has several existing programmatic shoreline permit exemptions with local jurisdictions at existing WSF terminals. As these permit exemptions change over time, coordinate with the WSF Environmental Manager for current permits and additional details.

(6) Federal /State Systemwide and Programmatic Permits

WSF has several existing systemwide and programmatic permits with the U.S Army Corps of Engineers (Corps), the Washington Department of Fish and Wildlife (WDFW), and Washington State Department of Ecology (Ecology) that cover certain activities at WSF facilities. The activities covered under these permits change as existing permits expire and new permits are obtained. Activities covered by these permits at the time of the *Terminal Design Manual* publication, along with the corresponding permitting agencies, are included in Exhibit 320-4.

Coordinate with the WSF Environmental Manager for current information on systemwide and programmatic permits along with their conditions and expiration dates.

(7) Permit Drawing Requirements

Many permits have associated permit drawings that are required as part of the permit package. These often include type, size and location (TS&L) information for various design features.

Permit drawings and their requirements differ from standard WSF design drawing requirements. Refer to Directional Memo ESO-2011-01, Complete Permit Application Drawing Guidance, for additional information.

Permitted Activities	Permitting Agency		
	CORPS	WDFW	ECOLOGY
Repair/Replace Rub Timbers	X	X	X
Repair/Replace Polyethylene Panels	X	X	X
Repair/Replace Cross-bracing, Stringers, Other Overwater Wood	X	X	X
Repair/Replace Dolphin Panels	X	X	X
Repair/Replace Hanger Bars	X	X	X
Repair/Replace Dolphin-Fender Pile Lashing	X	X	X
Repair/Replace Anchor Chains	X	X	X
Repair/Replace Counterweights/Cables	X	X	X
Repair/Replace Pontoons	X	X	X
Repair/Replace Transfer Spans and Parts Thereof	X	X	X
Repair/Replace Components of Floating Dolphins	X	X	X
Repair/Replace Cathodic Protection Anodes		X	X
Replace Piles	X	X	X
Sediment Test Boring	X	X	X
Deck and Drain Cleaning		X	X
Deck Overlay Replacement		X	X
Cleaning, Washing, Marine Growth Removal		X	X
Painting, Prep. Cleaning, Washing, Abrasive Blasting, Marine Growth Removal		X	X
Special Provisions			
Fish Windows	X	X	X
Saltwater Vegetation Protection Window		X	
Filtered Paint Prep Washing Window		X	
Pre-construction Notification		X	
Post-construction Notification	X		
Annual Reporting Date		X	

Systemwide and Programmatic Permits
Exhibit 320-4

320.07 Environmental Considerations

[Exhibit 320-5](#) provides guidance to the designer regarding potential environmental impacts to be considered during the design process. This matrix provides a checklist of environmental issues commonly related to the design of each terminal element. An “X” on the matrix indicates that the noted environmental issue should be considered in the design of the corresponding terminal element. A blank cell indicates that the noted environmental issue typically is not linked to (or impacted by) the design of the corresponding terminal element. This matrix is intended as a design aid only. No design documentation is required in connection with this matrix.

Note that improving conditions for one environmental element may have a negative impact on other elements. For example, increasing the percentage of terminal development on land will likely have a positive influence on overwater coverage, but may have a negative impact on such constraints as waterfront access, traffic, noise, and visual quality. Environmental improvements may also have a significant impact on cost and/or operations.

The paragraphs that follow describe in more detail some of the key issues and mitigation strategies associated with the environmental considerations in [Exhibit 320-5](#) and how they may pertain to WSF projects.

↓ Environmental Considerations	General Design Criteria			Terminal Building Design			Site Design								Waterside Development													
	Site Layout / Location	Site Preparation, Grading and Erosion Control	Roadway Design & Channelization	Paving	Traffic Control	Operations & Maintenance	Construction	Buildings & Enclosures	Architecture	Landscaping	Public Art	Access, Approaches & Exits	Toll Plaza	Vehicle Holding & Support Areas	Parking	HOV & Transit	Circulation	Site utilities	Stormwater	Signage & Wayfinding	Trestle	Bulkhead	Vehicle Transfer Span	Passenger Overhead Loading	Wingwalls	Fixed Dolphins	Floating Dolphins	
Design Elements ⇄																												
Land Use																												
Compliance with local comprehensive plans, zoning maps and shoreline master programs	X		X	X				X					X	X	X	X			X	X		X						
Change in land use	X					X							X	X	X	X			X									
Benefit or detriment to local economy	X		X		X								X	X	X	X												
Air Quality																												
Number of idling vehicles (ferry traffic backup/queuing)	X		X		X								X	X	X	X								X				
Construction BMPs (dust control, diesel engine emissions, etc.)		X							X																			
Use of vessels that maximize fuel efficiency and minimize vessel emissions						X																						
Noise																												
Compliance with local noise ordinances (limit construction noise levels on nights and weekends)				X		X																						
Pile driving (pile material, installation method, use of pile driving pads and noise attenuators)							X																	X	X	X	X	
Ferry operations (noise from loading/unloading & vessel engines)				X		X																	X	X	X	X	X	
Proximity of terminal to residential areas	X																											

X = Environmental issue commonly linked to noted design element.

Environmental Considerations Matrix
Exhibit 320-5

↓ Environmental Considerations	General Design Criteria			Terminal Building Design				Site Design								Waterside Development											
	Site Layout / Location	Site Preparation, Grading and Erosion Control	Roadway Design & Channelization	Paving	Traffic Control	Operations & Maintenance	Construction	Buildings & Enclosures	Architecture	Landscaping	Public Art	Access, Approaches & Exits	Toll Plaza	Vehicle Holding & Support Areas	Parking	HOV & Transit	Circulation	Site utilities	Stormwater	Signage & Wayfinding	Trestle	Bulkhead	Vehicle Transfer Span	Passenger Overhead Loading	Wingwalls	Fixed Dolphins	Floating Dolphins
Design Elements ⇄																											
Water Quality																											
Construction BMPs																											
Erosion control																											
LIDs (e.g. pervious pavement, vegetated strips/swales, etc – refer to Chapter 580)																											
Area of upland disturbance																											
Increase in impervious area																											
Dredging / filling																											
Propwash, Vessel Wakes, and Sedimentation																											
Impact on intertidal aquatic habitat																											
Impact on beach as recreation resource																											
Impact on ability of beach to dissipate wave energy																											
Ecosystems and Protected Species																											
Loss of habitat																											
Overwater coverage (shading impacts)																											
Distance in shadow for migrating fish																											
LIDs (e.g. light-emitting glass blocks & grating, solar tubes, minimize nearshore overwater coverage, etc – refer to Chapter 580)																											

X = Environmental issue commonly linked to noted design element.

Environmental Considerations Matrix
Exhibit 320-5

↓ Environmental Considerations	General Design Criteria				Terminal Building Design			Site Design								Waterside Development											
	Site Layout / Location	Site Preparation, Grading and Erosion Control	Roadway Design & Channelization	Paving	Traffic Control	Operations & Maintenance	Construction	Buildings & Enclosures	Architecture	Landscaping	Public Art	Access, Approaches & Exits	Toll Plaza	Vehicle Holding & Support Areas	Parking	HOV & Transit	Circulation	Site utilities	Stormwater	Signage & Wayfinding	Trestle	Bulkhead	Vehicle Transfer Span	Passenger Overhead Loading	Wingwalls	Fixed Dolphins	Floating Dolphins
Design Elements ⇄																											
Ecosystems and Protected Species (continued)																											
Changes to harbor line																											
Underwater noise impacts from steel pile driving																											
Length of shoreline used by ferry terminal																											
Distance from ferry operations to nearshore (wake-wash and propeller scour)																											
Dredging / filling																											
Earth (Geology and Soils)																											
Identification of geologically hazardous areas and risks																											
• Erosion																											
• Liquefaction																											
• Storm surges																											
Hazardous Materials																											
Identified hazardous materials in project area (type, location and extent)																											
Likelihood of additional unidentified hazardous materials																											
Risks associated with known and anticipated hazardous materials (added cost, construction delays, etc)																											

X = Environmental issue commonly linked to noted design element.

Environmental Considerations Matrix
Exhibit 320-5

↓ Environmental Considerations	General Design Criteria										Terminal Building Design				Site Design								Waterside Development					
	Site Layout / Location	Site Preparation, Grading and Erosion Control	Roadway Design & Channelization	Paving	Traffic Control	Operations & Maintenance	Construction	Buildings & Enclosures	Architecture	Landscaping	Public Art	Access, Approaches & Exits	Toll Plaza	Vehicle Holding & Support Areas	Parking	HOV & Transit	Circulation	Site utilities	Stormwater	Signage & Wayfinding	Trestle	Bulkhead	Vehicle Transfer Span	Passenger Overhead Loading	Wingwalls	Fixed Dolphins	Floating Dolphins	
Design Elements ⇄																												
Traffic / Congestion																												
Implementation of reservation system to reduce traffic																												
Adequate holding sizing (vehicle holding area, shoulder holding lanes, off-site parking)																												
Coordination of signals and operational measures / ITS																												
Affect on access to residences and businesses																												
Loading and offloading procedures (pedestrians & vehicles)																												
Visual Quality																												
Compatibility of terminal with surrounding area's character																												
Blockage of waterfront views (building height/location; tree height)																												
Incorporation of landscaping to screen/soften views of structures and help reduce scale																												
Incorporation of public art																												
Visibility of lighting from surrounding areas																												
Tribal Resources and Treaty Rights																												
Cultural, Historical, and Archaeological Resources																												
Impact on cultural, historical, and archaeological resources																												
Impact on fishing for Tribes with U&A rights (negotiate MOA with Tribes as needed)																												

X = Environmental issue commonly linked to noted design element.

Environmental Considerations Matrix
Exhibit 320-5

↓ Environmental Considerations	General Design Criteria				Terminal Building Design				Site Design								Waterside Development											
	Site Layout / Location	Site Preparation, Grading and Erosion Control	Roadway Design & Channelization	Paving	Traffic Control	Operations & Maintenance	Construction	Buildings & Enclosures	Architecture	Landscaping	Public Art	Access, Approaches & Exits	Toll Plaza	Vehicle Holding & Support Areas	Parking	HOV & Transit	Circulation	Site utilities	Stormwater	Signage & Wayfinding	Trestle	Bulkhead	Vehicle Transfer Span	Passenger Overhead Loading	Wingwalls	Fixed Dolphins	Floating Dolphins	
Design Elements ⇄																												
Park and Recreation Lands																												
	X		X	X		X	X	X	X		X		X	X	X	X	X		X		X							
Impact on existing park and recreation lands																						X						
Area available for open space/restoration	X			X															X									
Department of Natural Resources Lands																												
Revisions to harbor lines	X																					X	X	X	X	X	X	X
Resource Agency and Tribal Coordination																												
Consistency/conformity with existing agency & Tribal plans	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

X = Environmental issue commonly linked to noted design element.

Environmental Considerations Matrix
Exhibit 320-5

320.08 Land Use

(1) Existing Land Use

Land uses at ferry terminal locations include recreational, residential and commercial. The communities in which the ferry terminals reside are linked in varying degrees to the economic conduit that the ferry system provides. In some cases this economic relationship has been an important factor in the land use development of the community.

Local comprehensive plans, zoning maps and shoreline master programs designate the ferry terminals as ferry terminal facility, commercial, industrial or urban waterfront that allow the location of the terminal facilities. The establishment of ferry terminal facilities predates the Growth Management Act and Shoreline Management Act.

(2) Changes in Land Use

Improvements and operation of the ferry system can affect land uses in several ways. When there is a change in the size or location of a terminal facility, there would be near-term changes to properties being used. There may also be medium term changes in the local area, if the economy realizes benefit or detriment from the changes to the terminals. In addition, changes in ferry service can also affect local land use to the extent that the ferry service provides access to properties, facilitating movement of money and goods in the local economy.

The WSF ferry system plan, the Long-Range Plan, takes account of the critical interaction between local land use and the provision of ferry services. This is accomplished by:

- Relying on adopted comprehensive plans as the land use basis for ferry planning;
- Using local and regional data sets and tools in technical analyses;
- Developing ferry strategies and programs to align with adopted State and local transportation and land use goals; and
- Involving local and regional entities in plan-making.

Strategies that have been developed in the Long-Range Plan are not expected to change the land uses of any of the ferry communities with possible exception of Mukilteo, where the terminal may be relocated. At Mukilteo, if feasible, the terminal will be relocated to an abandoned industrial property to allow active, urban waterfront commercial uses at the current terminal location.

320.09 Air Quality

(1) Regulation

Air quality in the Puget Sound region is regulated by the U.S. Environmental Protection Agency (EPA), Ecology, and the Puget Sound Clean Air Agency (PSCAA). Under the Clean Air Act, EPA has established the National Ambient Air Quality Standards (NAAQS), which specify maximum concentrations for carbon monoxide, particulate matter (PM10 and PM2.5), ozone, sulfur dioxide, lead, and nitrogen dioxide. In addition, the state has recently established statutory requirements regarding green house gas emission reductions for state agencies. The Puget Sound Clean Air Agency's 2005 Air Quality Data Summary indicates that, with the exception of fine particulate matter (PM2.5) and ozone, criteria air pollutants concentrations are well below levels of concern for the region. Particulate matter includes small particles of dust, soot, and organic matter suspended in the atmosphere. Particulates less than 100 micrometers in diameter are measured as total suspended particulates. Most diesel engine emissions are in the PM2.5 size range, while road and construction dust is often in the larger PM10 range. Most transportation related fine particulate emissions come from diesel engine emissions, which release fine particulates both directly, mostly as carbon compounds and indirectly in the form of sulfur dioxide, a gas that reacts in the atmosphere to form sulfate particulates.

Near the Puget Sound, PM2.5 and PM10 concentrations tend to be highest in fall and winter during periods of air stagnation and high use of wood for heat. Current monitored levels of PM2.5 violated recently adopted (2006) federal standards in Pierce County. Other air pollutants of concern for transportation projects include mobile source air toxics and greenhouse gases.

Ozone is a highly toxic combination of oxygen atoms and is a major component of the complex chemical mixture that forms photochemical smog. Ozone is not produced directly, but is formed by a reaction between sunlight, nitrogen oxides (NOx), and volatile organic compounds (VOCs). Ozone primarily is a product of regional vehicular traffic, point source emissions, and fugitive emissions of the ozone precursors. Tropospheric (ground-level) ozone, which results from ground-level precursor emissions, is a health risk, while stratospheric (upper-atmosphere) ozone, which is produced through a different set of chemical reactions that only require oxygen and intense sunlight, protects people from harmful solar radiation.

In the Puget Sound area, the highest ozone concentrations occur from mid-May until mid- September, when urban emissions are trapped by temperature inversions followed by intense sunlight and high temperatures. Approximately thirty percent of nitrogen oxides and volatile organic compounds come from mobile sources. Maximum ozone levels generally occur between noon and early evening, after nitrogen oxides and volatile organic compounds have had time to mix and react under sunlight, and at locations several miles downwind from the sources. Light northeasterly winds producing these conditions contribute to high ozone concentrations near the Cascade foothills, to the south and southeast of the Seattle-Tacoma Metropolitan Area.

Automobiles, ferry vessels, and other vehicles using fossil fuel also emit greenhouse gases, primarily carbon dioxide. Greenhouse gases trap solar energy in the atmosphere, warming the earth's surface. While greenhouse gases occur naturally in the atmosphere

(without them the average temperature of the earth would be below freezing), human activities over the last century have released additional greenhouse gases.

Currently, approximately 49 percent of all greenhouse gas emissions in Washington State are from transportation, including on-road and off road vehicles, ferry vessels, rail transport, and air travel. WSF vessels burn approximately 17 million gallon of diesel fuel annually. Based on the *2007 WSDOT Greenhouse Gas Emissions Inventory*, these 17 million gallons account for approximately 69 percent of WSDOT's greenhouse gas emissions. In the 2009-11 biennium, this amount is expected to be reduced to about 15 million gallons as a result of fuel conservation efforts.

(2) Effects on Air Quality

The operation of the ferry system affects air quality and greenhouse gas emissions through both the emissions of passenger vehicles using the system and through the operation of the system itself.

(a) Potential Emissions Reductions from Passenger Vehicles

Air quality improvements are anticipated in the communities near terminals where the proposed reservation system will be implemented. Emissions from passenger vehicles using the ferry system will be reduced by shortening the cues of idling vehicles.

Currently, vehicle cues frequently extend far beyond the toll booths at many terminals during peak travel periods. Vehicles beyond the toll booths are encouraged, but not required, to shut-off vehicle engines. It is unknown whether passengers will modify their sailing time to use the reservation system or will choose to drive around to travel at their preferred time. Air emissions will be affected if travelers elect to drive around southern Puget Sound to reach their destination.

In addition to the savings from passenger vehicles, implementation of the reservation system is expected to reduce the number of vessels needed to meet projected demand, and consequently avoid fleet emissions that would occur if vessels and vessel sailings were added to meet projected demand, as proposed under previous long range system planning efforts.

(b) Potential Emissions Reductions from the Ferry System

The Long-Range Plan delays the installation of transit-related improvements to the terminals until increased walk-on ridership is realized, and maintains the current cost pricing ratio between vehicles and passengers. The delay to terminal transit improvements, and not changing the pricing strategy, will likely delay the shift of ferry ridership from single occupancy vehicles to alternative modes of transit. This assumption is based on the ease of use, accessibility and cost factors that affect transportation choices. If this assumption is accurate, then it may be difficult for the ferry system to contribute to statutory per capita vehicle miles traveled and greenhouse gas reduction targets. Delaying a greater shift to transit will also delay the realization of potential reductions in criteria pollutants associated with transit use. The proposed new vessels are designed to maximize fuel efficiency and will meet new EPA standards for emissions control. The replacement of the fleet's oldest vessels with vessels that meet current EPA standards is expected to reduce emissions of criteria pollutants from the fleet.

320.10 Noise

(1) Noise Regulation

As more people choose to live along the shores of the Puget Sound, noise from the loading of ferries and their engines has become a greater concern for residents near ferry terminals. The regulation of noise typically is the responsibility of state and local governments through noise limits established by local ordinances and state regulations. For example, many cities and counties have established ordinances that limit construction noise levels at night and on weekends. It may be possible to obtain a noise variance from the jurisdictional authority in cases where the existing regulations would have a major detrimental impact on the project (note that Island County does not issue noise variances). WSDOT also evaluates traffic and transit noise as part of the NEPA/SEPA process when new terminals are constructed or substantial improvements are made. The Federal Highway and Federal Transit Administrations provide criteria for evaluating noise impacts from transportation sources. Refer to the *2006 WSDOT Traffic Noise Analysis and Abatement Policy*; *2011 WSDOT Traffic Noise Policy and Procedures*; and *Environmental Manual* Section 446.07(2). WSDOT uses these and other applicable criteria to evaluate proposed projects during project-level environmental reviews.

(2) Noise Effects

Terminal preservation and improvements identified in the Long-Range Plan may have significant noise related impacts during construction (e.g. pile driving, demolition, materials hauling, etc).

During project development and implementation, it is WSDOT's practice to work with the applicable cities and counties to minimize noise related construction impacts, as is practicable, and ensure compliance with local ordinances. Implementation of the Long-Range Plan is unlikely to cause noticeable changes to the noise levels associated with system operations. WSDOT studies indicate that the loudest source of noise at the terminals during operations is from passenger vehicle loading and unloading. Reducing vehicle noise may require noise barriers in front of homes (blocking scenic views) or converting the fleet to different vessel types, which is beyond the resources of the department. Noise compatible land use is another approach and involves cities and counties limiting new building permits and remodel approvals near ferry terminals, or requiring the incorporation of noise reduction standards in new or remodeled homes, thus transferring potential noise mitigation responsibility to owners and developers. Consider placement of speakers for terminal PA systems and their effect on noise levels in the vicinity of the terminal.

320.11 Water Quality

(1) Water Quality Issues

Stormwater runoff from highways and other paved surfaces (such as ferry terminals) has been shown to contain a range of pollutants including particulates and solids, nitrogen and phosphorus compounds, heavy metals, and oil and grease. These pollutants are directly related to vehicular use of the paved facilities and have the potential for adverse impacts on water resources that they drain into. Potential impacts resulting from these pollutants depend on a number of variables including: rainfall duration and intensity, the number of dry days preceding intense rainfall, surrounding land uses, air quality, vegetation types, spills on roadways, improperly disposed waste and fluids, maintenance activities, and health of the surrounding ecosystem.

Additional threats to water quality at WSF terminals include: hydraulic fluid leaks/spills; sewage line cracks; contamination from fecal coliform/pet waste areas; and uncontrolled runoff from garbage and hazardous waste areas. Implement designs that address these environmental concerns. Provide containment around hydraulic lines and terminal hydraulics. Provide designated pet areas which either biologically treat pet waste or drain runoff to a treated stormwater outlet. This is necessary due to increasing Total Maximum Daily Load (TMDL) requirements with respect to fecal matter. Equip pet areas with pet waste collection stations (trash receptacles and plastic baggies for pet waste). Cover garbage, recycle and hazardous waste areas; collect runoff from these areas and route to a treated stormwater outlet. Refer to [Section 560.07](#) for information on stormwater design.

(2) Water Quality Regulation

Several policies and regulations directly affect water quality and focus on the impacts of growth and development. These include the Federal Clean Water Act, the state's Water Pollution Control act, the Growth Management Act and Shoreline Management Act. Washington State Department of Ecology has established detailed water quality criteria ([Chapter 173-201A WAC](#)) intended to protect a variety of designated uses of state waters. Stormwater is regulated by Ecology through stormwater management regulations for construction and operations of facilities, and Ecology is responsible for implementing the National Pollutant Discharge Elimination System (NPDES) for shoreside actions. In addition, the WDFW have regulatory authority over specific activities such as ferry terminal cleaning, painting, general maintenance and repair, piling removal or replacement and marine geotechnical sediment test boring, through Hydraulic Project Approvals (HPA).

Ecology has issued a new WSDOT Municipal Stormwater General Permit that covers stormwater discharges from ferry terminals, and is scheduled to issue a new Industrial Stormwater General Permit that will cover stormwater discharges from ferry maintenance facilities. These permits have or will increase the performance requirements over the previous permits.

(3) **Water Quality Impacts**

Proposed demand management strategies are expected to minimize the holding area needed at the terminals. Consequently, this is expected to reduce or avoid the need for addressing additional pollution loading surfaces in the system.

During construction, implementation of a Temporary Erosion and Sediment Control (TESC) plan will typically be required. A Stormwater Pollution Prevention Plan (SWPPP) will outline the details of the proposed TESC measures and personnel responsible for their implementation.

Construction work will incorporate measures to reduce the potential for soil erosion and offsite sediment transport, risk of accidental spills, and risk of surface water contamination resulting from dewatering of excavations. A Spill Prevention, Control, and Countermeasures (SPCC) Plan will be implemented during construction to reduce and control any accidental spills or leaks from construction equipment. Include an SPCC Plan bid item in all contracts. BMPs will need to be implemented during construction of onshore terminal facilities, to prevent adverse impacts on surface water or ground water from the spill or leaching of hazardous materials, and for construction of in-water facilities.

320.12 Propwash, Vessel Wakes, and Sedimentation

Human activities on and near the shoreline can affect coastal sediments in a number of ways. Bulkheads and other shoreline armoring, and modifications to rivers and creeks, can cut off sources of sediment to the beach. Structures built out into and beyond the intertidal zone can affect the transport of sediment along the beach. Propwash and vessel wakes can cause shoreline erosion and affect nearby bottom slope and bottom sediments. These and other effects can lead to several adverse consequences:

- The availability of the beach as valuable intertidal aquatic habitat can be reduced.
- The value of the beach as a recreational resource can be reduced.
- The performance of the beach in dissipating wave energy can be reduced, leading to the potential for increased storm wave damage to upland infrastructure.

For this reason, it is important to consider the effect of any proposed project on the sources and transport of coastal sediments. Vessels slips should be located so as to avoid any adverse impacts due to propwash and vessel wakes.

All Waterside Development structural foundations shall be designed taking into account the impacts of erosion or scour, sediment transport and sediment deposition. See [Chapter 330](#) for additional discussion regarding scour due to propeller wash.

320.13 Ecosystems and Protected Species

(1) *Ferry System Ecosystem and Habitat*

Puget Sound contains a wide variety of deepwater and nearshore habitats. These include rocky shores, sandy beaches, coastal lagoons, kelp and seagrass beds, large estuaries and salt marsh wetlands. Where sunlight penetrates the nearshore environment eelgrass, seaweed and plankton grow (typically from 0 feet MLLW to -30 feet MLLW with the most productive area between 0 feet MLLW and -20 feet MLLW). The eelgrass, seaweed and plankton provide important shelter and food for numerous invertebrates, herring, juvenile salmon and other fish, and diving birds.

The upland habitats adjacent to the terminals include urban city center, small towns, suburban and rural environments. A few of the more rural terminals still have remnant second or third generation stands of the Puget Trough coniferous forests that historically dominated the region.

(2) *Protected Species*

(a) **Endangered Species Act**

The Endangered Species Act (ESA) of 1973 provides a program for the conservation of threatened and endangered plants and animals and the habitats in which they are found. The lead federal agencies for implementing ESA are the U.S. Fish and Wildlife Service (FWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS).

Species listed as endangered or threatened under the Endangered Species Act (ESA) in Puget Sound, and that could occur at WSF ferry terminals or along routes include the Puget Sound Chinook salmon (*Oncorhynchus tshawytscha*), bull trout (*Salvelinus confluentus*), Steller sea lion (*Eumetopias jubatus*), marbled murrelets (*Brachyramphus marmoratus marmoratus*), and Southern Resident Puget Sound killer whale (*Orcinus orca*). The other listed whale and sea turtle species are typically found in off-shore coastal areas and are rare or absent in the ferry terminal areas.

ESA consultation is conducted on projects that are federally funded, permitted or on federal lands. Almost all WSF terminal construction projects entail either federal funding or federal permitting. Permitting by the Corps under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbor Act is required when projects involve some level of dredging or filling of navigable waters.

(b) **Marine Mammal Protection Act**

The Marine Mammal Protection Act (MMPA) of 1972 calls for an ecosystem approach to natural resource management and conservation. The MMPA prohibits the take (i.e., hunting, killing, capture, and/or harassment) of marine mammals, and enacts a moratorium on the import, export, and sale of marine mammal parts and products. The primary authority to manage the Act belongs to the FWS and the U.S. National Oceanic and Atmospheric Administration (NOAA). The two agencies may issue permits under MMPA to persons, including federal agencies, that authorize the taking or importing of specific species of marine mammals.

In 1994, MMPA was amended to establish an expedited process by which citizens and agencies of the U.S. can apply for an authorization to incidentally take small numbers of marine mammals by “harassment”, referred to as Incidental Harassment Authorizations or IHAs. WSF has obtained IHAs for relatively short-term activities that might inadvertently harass marine mammals. Most IHAs to date have involved the incidental harassment of marine mammals by noise.

(c) Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 enacted legislation making it unlawful to pursue, hunt, take, capture, kill or offer for sale native migratory birds. The responsibilities of Federal agencies to protect migratory birds are set forth in Executive Order 13186. The U.S. Fish and Wildlife Service is the lead agency for migratory birds.

(3) In-Water Work Windows

In-water work windows are established by the WDFW. The dates are dependent on endangered species indigenous to the vicinity of the project site, which are to be identified by the U.S. Fish and Wildlife Service and others, in compliance with the Endangered Species Act together with permit conditions to be determined.

The time during which in-water demolition may occur may be as much as 7 months or as little as 1 month during a given year and typically falls between mid-July and mid-February. The start and end dates of the in-water work window are to be determined prior to the start of project construction.

WSF currently holds general HPAs which allow for minor maintenance activities at the existing ferry terminals. Projects falling under these current HPAs would not require additional approval from the WDFW.

(4) Ecosystem and Protected Species Impacts

Implementation of a reservation system may reduce the terminal area “foot-print” requirements of the ferry system both on land and over water, thereby reducing the quantity and scale of terminal improvements projected for the future. The result is a reduction of likely impacts to aquatic and terrestrial natural and cultural resources. Typical impacts from improvements to terminals include shading from overwater structures, underwater noise impacts from steel pile driving, and changes to the harbor line.

WSF follows a tiered approach for minimizing adverse impacts to protected wildlife, fish and their habitats. Through project design, construction scheduling and implementation planning, WSF first seeks to avoid potential adverse impacts to protected species and their habitat. If impacts are unavoidable, WSF works to minimize the magnitude and duration of the impacts to the extent feasible. Remaining impacts that are considered significant and adverse are mitigated to the extent feasible and in accordance with local, state and federal regulations.

WSF conducts in-water pile driving to maintain the safety of key facilities at ferry terminals. WSF/WSDOT is performing independent research and working jointly with other states and resource agencies to identify how noise works underwater, how fish, marine mammals and diving birds are affected by the noise, and what mitigation, if any, may be warranted. WSF/WSDOT also analyzes wake-wash and propeller scour of new vessels to identify and minimize impacts to the shore and nearshore habitat. Maximum vessels speeds are identified for transit near shorelines identified as sensitive to erosion.

320.14 Earth (Geology and Soils)

(1) Geologic Hazards

The Puget Sound region is geologically active. Numerous small earthquakes occur in the region annually. Periodically, larger earthquakes occur which, like the Nisqually earthquake of 2001, have the potential to damage manmade structures. The region also has areas with naturally occurring steep slopes or saturated unconsolidated soils. The steep bluffs along Puget Sound are susceptible to erosion from gravity, storm surges, and stormwater runoff. Liquefaction occurs when water-saturated sandy or silty soil loses strength during earthquake shaking (similar to quicksand). A related phenomenon, lateral spreading, occurs when liquefied soil moves laterally imparting additional forces on structure foundations. These can cause major structural failure if not properly accounted for. Liquefaction and lateral spreading only occur in water-saturated cohesionless soil of a particular gradation and composition. They can have a significant impact on bridges and other large structures, which may require expensive retrofitting or replacement to meet current seismic (earthquake) standards.

The Washington State Department of Natural Resources (DNR) has developed *Liquefaction Susceptibility and Site Classification Maps* which outline areas where liquefaction is most likely to happen. State and local governments develop hazard mitigation plans and delineate geologically hazardous areas as required by the Growth Management Act.

How climate change may affect the likelihood or impact of erosion and liquefaction is not yet well understood. However, with an expected rise in sea-level and increase in frequency of severe storm events, as described in *The Washington Climate Change Impacts Assessment* (The Climate Impacts Group, University of Washington, 2009), erosion along the shoreline would be expected to increase.

(2) Geologic Risks and Mitigation

Terminals already identified as having erosion related problems include Fauntleroy (erosion) and Southworth (bluff erosion). Terminals that may be susceptible to seawall problems from storm surges include Mukilteo, Seattle and Fauntleroy.

The current DNR maps indicate that several WSF terminals are within moderate to high liquefaction susceptibility areas. And, based on the age of the facilities, some of the ferry terminal structures do not meet current design standards for earthquake or liquefaction. The susceptibility of the area to erosion, storm surge damage, liquefaction and sub-standard design of existing structures will have to be taken into consideration during development of any terminal improvement project. Soils that are susceptible

to liquefaction may require retrofit measures such as ground stabilization, selection of deeper foundations, different types of foundations, and/or selection of appropriate structural systems to accommodate anticipated displacements.

For the construction of new terminals, relocated terminals, and relocated terminal elements, geologic risks (and associated cost impacts) can be mitigated by conducting geotechnical borings and other subsurface investigation during the preliminary design phase.

320.15 Hazardous Materials

(1) Regulations

Procedures for reporting, handling, removing, treatment, and/or disposal and transport of contaminated soil, ground water, and marine sediment will follow guidance in the *Environmental Manual* M 31-11 and all other appropriate regulations. Workers are required to have special training to handle hazardous materials. Special handling procedures and disposal locations are required depending on the type and classification of the hazardous material.

(2) Potential Effects

The presence of hazardous materials within the project area will increase exposure to risk and potential liability associated with site cleanup. The encounter of contaminated materials may increase project costs and/or result in construction delays.

Potential hazardous materials include but are not limited to the following:

- Underground and above ground storage tanks
- Electrical transformers and other oil-filled equipment containing regulated substances
- Petroleum products in the soil and groundwater
- Asbestos-containing materials
- Lead-based paint
- Polychlorinated biphenyls (PCBs)
- Heavy Metals
- Mercury
- Creosote-treated timber and piles

(3) Mitigation

Identify areas of environmental concern located within and adjacent to the project area and assess the potential effects of construction on contaminants that may be present. Conduct subsurface investigations and pre-characterization of potentially contaminated soil, groundwater and marine sediments as warranted. This will enable designers to anticipate project impacts and to factor in the potential need to address hazardous materials into project development decisions.

Where feasible, minimize construction in and disturbance of areas of known and suspected contaminated materials. This may involve relocating certain terminal elements and/or modifying the design and construction techniques (foundation type, utility depth, extent of over-excavation, etc.) to reduce the amount of disturbance of contaminated materials.

Where contaminated materials are encountered, employ the following strategies as applicable and as required:

- Develop a site specific health and safety plan with regard to contaminated material exposure.
- Utilize 40-hour trained personnel in the vicinity of the proposed work.
- Develop and implement TESC, SWPP, and SPCC plans to ensure proper control of surface and ground water during construction.
- Implement site specific measures to minimize risks of exposure to contaminated materials. These may include use of construction zone setbacks, restricting public access, and prompt removal of any contaminated material.
- Conduct a comprehensive survey of on-site structures to determine the presence of hazardous building materials including asbestos and lead-based paint in accordance with applicable federal, state, and local requirements.
- Remove underground storage tanks, including oil/water separators in accordance with Ecology requirements; similarly, remove any contaminated soils associated with the tanks in accordance with applicable requirements.
- Stockpile suspected contaminated materials on-site for sampling, testing and appropriate analyses for profiling and disposal.
- Store, sample and treat dewatering fluids in temporary storage tanks as required.
- Line and cover stockpiles to prevent runoff or drainage to the surface.
- Remove pilings preserved with creosote according to WSF BMPs and DNR standard practices.
- Conduct hauling of any contaminated material by licensed transport.
- Provide hazardous materials lockers for storage of waste oil and other hazardous materials. See [Section 440.06](#) for more information on hazardous materials lockers.

320.16 Traffic/Congestion

Normal operation of auto ferries has an effect on congestion and circulation on local streets, and access to residents and businesses as a result of queuing on road shoulders, vehicle off-loading, parking, pedestrians and traffic safety measures in the communities where the terminals are located. Inadequate terminal sizing and configuration negatively affects traffic related impacts to the community.

(1) **Potential Effects**

The proposed reservation system is expected to reduce the traffic impacts on the local communities of vehicles queuing for the ferries. Implementation of the plan will result in minor increases in system capacity and efficiency. This will be accomplished by replacing some of the retiring vessels with vessels that are slightly larger. This vessel substitution increases normal vehicle carrying capacity on the Anacortes/

San Juan Islands route, Mukilteo/Clinton, Seattle/Bremerton, Fauntleroy/Vashon/Southworth, and Point Defiance/Tahlequah routes. The increase in vessel offload traffic of the replacement vessels is expected to be minimal on most routes. On routes with potentially significant increases in offload traffic, WSF will evaluate the potential traffic impacts to determine if mitigation measures are necessary.

To reduce the current traffic congestion and safety concerns caused by vehicles queuing on Fauntleroy Avenue near the Fauntleroy terminal, a reservation system is being considered for the route pending future legislative action.

In the project development process, WSF works with the communities where the terminals are located to identify potentially significant traffic related impacts. WSF minimizes traffic related impacts to the communities by adequate sizing of terminals and their holding areas, configuring terminals to maintain pedestrian and vehicle safety, and by coordinating signalization and operational measures.

320.17 Visual Quality

Visual perception and experience are important components of environmental quality. It is important to consider the visual resources of the affected environment and the degree of change in those visual resources that would occur as a result of the proposed project. The affected visual environment contains multiple landscape components that include topographic features (e.g. mountains and valleys) and land cover. Land cover includes water, vegetation, and the constructed environment. Landscapes can be categorized in distinctive units of similar visual resources based on patterns created by dominance, scale, diversity, and the continuity of elements in the landscape. The terminal design should be compatible with the surrounding area's character by sensitive consideration of scale, building materials, and landscaping. Landscaping may be incorporated to screen and/or soften views of structures and help reduce the scale of the proposed improvements. Locate lighting to avoid direct visibility from surrounding neighborhoods and public streets. Where this cannot be avoided, provide screening to shield or filter the light source.

320.18 Tribal Resources and Treaty Rights

(1) Tribal Treaty Rights and Access to Harvest

Almost all WSF terminal construction projects entail either federal funding or federal permitting. Permitting by the Corps under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act is required when projects involve some level of dredging or filling of navigable waters. All terminal projects are also located in or adjacent to the Usual and Accustomed (U&A) fishing grounds of one or more treaty Tribes. Tribal treaty fishing rights consist of several components, including a right to share in the allowable harvest of fish with non-Tribal fishers (*USA v. Washington 1974*), and rights to fish, gather and hunt in the traditional U&A areas of each Tribe – a right to engage in specific activities in specific places.

The federal courts have decided that where the issuance of a 404 permit has more than a de minimis or discountable effect on the exercise of the right to fish, gather or hunt in a U&A area, the affected Tribe(s) may object to the issuance of the permit on the grounds that the Tribe(s) has a superior right to fish or gather in the area and

may not be displaced by the dredging or filling of that area without their consent (*Muckleshoot, Suquamish v. Hall 1988*). A project may not have significant impact on the environment, no adverse effect, may be NEPA/SEPA exempt, and not covered by a nationwide permit or a programmatic permit, but it may still have more than de minimis effect on the right to fish because a Tribal fisher may have fished in the area one time in the past as asserted by a Tribe or group of Tribes.

As a federal agency, the Corps has a fiduciary obligation to honor Treaty Rights. This relationship has resulted in the Corps requiring extensive analysis of adverse impact(s) to federally adjudicated Treaty rights. When the impact(s) cannot be successfully mitigated the Corps has required a mitigated settlement to be negotiated with the Treaty Tribe(s). The successful mitigated settlement agreement has taken the form of a Memorandum of Agreement (MOA). If required, an MOA would be negotiated with the Treaty Tribe(s), and could include funding for fisheries enhancement, salt water environment enhancement, or a cash settlement. When the Corps is given evidence of such agreement it then will move forward with issuance of a permit. An increase in overwater coverage at any of the existing terminals could also result in the same requirements.

(a) Potential Effects (Mukilteo Terminal Example)

The proposed terminal improvement at Mukilteo, which would involve a relocation of the terminal, may have the potential to impact Treaty U&A fishing grounds, and to relocate the Mukilteo terminal from its current location would require a Corps permit. Under these conditions the project team would need to determine if potential for impacts exists. If this is the case, then mitigation options would need to be assessed and it determined if a MOA is required.

320.19 Cultural, Historical, and Archaeological Resources

(1) Regulations

Cultural, historical and archaeological resources are regulated under federal, state and local laws. Section 106 of the National Historic Preservation Act requires any project that has a federal nexus (involves federal funding, federal permits or is on federal lands) to consider the effects of the project on historic or cultural resources. [Section 106](#) also requires consultation with Federally Recognized Tribes, the State Historic Preservation Officer, Certified Local Governments, interested stakeholders, and the public. The Department also affords protection to historic sites, and requires that they be avoided unless the impact of the project is determined to be de minimis or there is no prudent or feasible alternative to using the site.

In Washington State, [WAC 25-12](#), [RCW 27.34.200](#), and [Governor Executive Order 05-05](#) provide protection to historic sites and specify requirements for obtaining archaeological excavation permits. SEPA and NEPA require that impact to historic and cultural resources be evaluated in the environmental review process. In addition, local governments often maintain historical and cultural resource lists within their jurisdictions, and commonly have ordinances protecting these resources.

(2) Potential Effects

WSDOT completed an inventory of all WSF terminal buildings in 2009, and found none eligible for inclusion on the National Register of Historic Places under [Section 106](#) of the National Historic Preservation Act of 1966. Based on this inventory proposed terminal projects that involve modifying the existing structures are not anticipated to impact any significant historical structural resources, such as docks, dolphins, or terminal structures. However, such construction may impact the integrity of significant historic properties adjacent to or near ferry terminals, and such impacts must be considered during the planning process.

Ground disturbing activities may impact unknown archaeological properties, even at previously developed terminal locations. All WSF projects require review by the WSF Cultural Resources Specialist. The WSF CRS is the qualified person in the agency to make decisions as to the level of review necessary for any project.

320.20 Park and Recreation Lands

(1) Regulations

Park and recreation resources are valued and vital to the health and livability of communities. [Section 4\(f\) of USDOT Act of 1966](#) requires that transportation projects avoid, minimize or mitigate impacts to public parks and recreation areas as well as historic sites. Compliance with Section 4(f) is ensured in the SEPA/NEPA process of projects.

(2) Potential Effects

Some of the ferry terminals are located in or adjacent to parks and recreation lands, and therefore improvement projects at the terminals could have the potential to impact these areas. Actual impacts to and mitigation for parks recreational lands will be evaluated at the individual project level.

320.21 Department of Natural Resources Lands

(1) Operation Effects on Aquatic Land Management

State aquatic lands are under the jurisdiction of the Department of Natural Resources. The aquatic lands that have been reserved for landings, wharves, streets, and other conveniences of navigation and commerce are demarcated by harbor lines. A change in shape or size of the aquatic land used for ferry terminals operations could require revisions to the harbor line. Article XV of the [Washington State Constitution](#) describes the requirements for harbor line revisions. It takes between 12 and 18 months and three public hearings to revise a harbor line.

Implementation of the plan may require harbor line revisions at terminals where preservation or capital improvements are programmed. Identification of needed harbor line revisions will occur at the individual project level.

320.22 Resource Agency and Tribal Coordination

(1) Development Process

In addition to the groups and processes used in the public outreach section of the WSF *Long Range Plan* 2009, Federal and State resource agencies with jurisdictions and funding authorities were briefed on the plan in a letter and meeting to take their comments and input. The resource agencies agreed that WSF should include a planning level environmental analysis in the plan. The agencies that were represented at the meeting were the Federal Transit Administration, National Marine Fishery Services, WDFW, Washington Department of Natural Resources, Puget Sound Clean Air Agency, and Washington Department of Ecology.

Letters were also sent to Puget Sound Tribes to brief them about the plan. Each participating agency and Tribe received a copy of the draft plan for review and comment. In addition, meetings were held with the Swinomish tribe, Suquamish Tribe, and Lummi Nation, to solicit comments and input.

The *Long-Range Plan* must demonstrate consistency with or conformity to any of the following existing plans:

- Terminal master plan documents
- Referenced Biological Assessment
- Project Specific Biological Assessments for ferry terminals
- Clinton Eelgrass Mitigation and Monitoring
- Eelgrass Surveys at ferry terminals
- Tribal U&A in the Puget Sound
- Local or Regional land use or comprehensive plans
- Local Shoreline Master Programs
- Regional Transportation Plans
- TIP/SIP (Transportation Improvement Program/State Implementation Plan
- WSDNR harbor lines
- Edmonds Crossing EIS and ROD
- Mukilteo Multimodal Final EIS
- New 144 Auto Ferry, SEPA Checklist
- Environmental Discipline Reports and Technical Memoranda for various ferry terminal projects.