
MUKILTEO MULTIMODAL PROJECT

DRAFT

ENVIRONMENTAL IMPACT STATEMENT

CULTURAL RESOURCES DISCIPLINE REPORT

MUKILTEO, SNOHOMISH COUNTY, WASHINGTON



October 2, 2012
Revised April 1, 2013



Northwest
Archaeological
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SWCA
ENVIRONMENTAL CONSULTANTS

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MUKILTEO, SNOHOMISH COUNTY, WASHINGTON

By

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and
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CONTAINS CONFIDENTIAL INFORMATION – NOT FOR GENERAL DISTRIBUTION

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The Cultural Resources Discipline Report contains some sensitive cultural resources information that is exempt from public disclosure. This information has been redacted to protect the resources in accordance with provisions of the Public Records Act (RCW 42.56.300).

EXECUTIVE SUMMARY

Washington State Ferries (WSF) plans to renovate, rebuild, or relocate the existing Mukilteo Ferry Terminal in Mukilteo, Snohomish County, Washington—a project referred to as the Mukilteo Multimodal Project (MMP). The consideration of alternatives through the various drafts of this EIS have resulted in the selection of the Preferred Alternative (Elliot Point 2). This alternative proposes construction of new facilities on the currently United States Air Force (USAF)-owned Tank Farm property east of the existing ferry terminal.

This document is prepared in compliance with the National Historic Preservation Act (NHPA) and its implementing regulations (36CFR800) with the Federal Transit Administration (FTA) as the lead federal agency. The assessment identifies five cultural resources within the MMP area of potential effects (APE), listed in, determined eligible, or recommended eligible for listing in the National Register of Historic Places (NRHP). These properties are:

- Mukilteo Shoreline Site (45SN393), stratified pre-contact shell midden deposits;
- Old Mukilteo Townsite (45SN404), archaeological remains of the early Mukilteo business district;
- Japanese Gulch Site (45SN398), archaeological deposits associated with early twentieth century Japanese mill workers;
- Point Elliott Treaty Site (45SN108), the site where the 1855 treaty between the U.S. government and Puget Sound Native American tribes was signed; and the
- Mukilteo Light Station (45SN123), a NRHP listed early twentieth century lighthouse complex.

In addition, Native American tribes have identified the project vicinity as a significant traditional cultural property. Consultation regarding traditional cultural properties within the project area is on-going.

Nine cultural resources within the APE are recommended not eligible for NRHP listing: the Mukilteo Explosive Loading Terminal (MELT) Barracks (MM-04), MELT Pier (MM-02), MELT Firehouse (MM-01), MELT Superintendent's Office (MM-06), Defense Fuel Supply Point (DFSP) Tank Farm (MM-03), SR 525 Overpass, Diamond Knot Ale House, Ivar's at Mukilteo, and the existing Mukilteo Ferry Terminal (31-339). One resource adjacent to the APE, the Japanese Gulch Community Site (45SN575), remains unevaluated.

The Mukilteo vicinity, with a Salish name meaning “a good place to camp,” was well known historically as a gathering place for local Native American people. The importance of the area to Native American groups is reflected in its selection as the site for the signing of the Point Elliott Treaty in 1855. Earlier, pre-contact use of the area as a base for hunting, fishing, and gathering activities is demonstrated by discovery of the Mukilteo Shoreline Site (45SN393). Euroamerican settlement of the site vicinity began soon after signing of the treaty, with J. D. Fowler and Morris Frost filing the first land claims. By 1858 Fowler and Frost had established a post for trading with local Native American residents, and a store, saloon, hotel, and a post office soon followed. In 1903 the Mukilteo Lumber Company established a mill on the Mukilteo waterfront, within the project APE, which was acquired in 1909 by the Crown Lumber Company. This mill, which employed both Euroamerican and Japanese workers, operated until 1930. The last of its buildings were destroyed by fire in 1938. The mill site was subsequently acquired by the U.S. Army and an ammunition shipping facility was built in the early 1940s. Ownership of this facility was transferred to the U.S. Air Force in 1951 for construction of a fuel supply depot and tank farm.

The first cultural resources study completed for an earlier iteration of the MMP assessed the potential for both pre-contact and historic cultural resources within the APE and reviewed the regional and local environment, prehistory, and history (Kaehler et al. 2006). In 2006 WSDOT contracted with the Northwest Archaeological Associates, Inc./Environmental History Company (NWAA/EHC) team to conduct further archaeological and historical investigations in the project APE (Miss et al. 2008). These additional investigations had three goals: to determine eligibility of the Mukilteo Shoreline Site (45SN393) for listing in the National Register of Historic Places, to determine if additional NRHP eligible resources existed in the APE, and to assess the potential for the various project alternatives to adversely affect these historic properties. In 2007, additional subsurface exploration was conducted related to design changes then under study, as well as archival research and oral history interviews to provide Native American perspectives on the historic events of the Point Elliott Treaty signing.

The presence of deep fill, placed in the APE prior to the 1960s, required the team to test the area with four-inch diameter solid cores, mud rotary bores, and backhoe trenches to acquire information about the original landform configuration and the archaeological deposits. A total of 16 trenches and 135 boreholes were excavated across the study area during 2006-2007 studies. The three types of excavation provided stratigraphic profiles with exposures from the ground surface down to pre-occupation basal sediments as well as information about the condition and physical parameters of the archaeological sites.

Following the 2006-2007 investigations, the boundary of the Mukilteo Shoreline Site (45SN393) was enlarged to encompass newly discovered portions of the site. The shell midden, covered by one to six feet of fill, was found to vary from an inch to well over three feet in thickness. Although the midden has been disturbed in places by historic and modern construction, most trench and core profiles within the site indicate intact stratigraphy. Eight radiocarbon dates on charcoal obtained from the trench profiles suggest that the site was initially occupied about 1,000 years ago and more widespread human activity commenced around 600 years ago. The radiocarbon dates indicate human use of the site continuing into effectively historic times.

Screened backhoe spoils yielded numerous artifacts and faunal and botanical remains. These specimens provide information about the culture history and lifeways of the Native Americans who occupied Point Elliott prior to Euroamerican settlement of Mukilteo. Several technological strategies were used at the site to make stone and bone implements for a variety of functions. Other artifacts show fine workmanship applied to more exotic materials, including a projectile point made of petrified wood and a ground nephrite adze blade. Ground bone and tooth artifacts reflect sea mammal hunting, fishing, and tool- or implement-making activities. Faunal and botanical remains are evidence of diverse subsistence pursuits that occurred at the site throughout the year. Shellfish found in the midden are locally available and were collected in large numbers. Fish remains are primarily salmon, although other near-shore and deeper-water species are also represented. Bird bones reflect a focus on marine species, including ducks, loons and grebes, while mammal bones are evidence of a hunting effort balanced between terrestrial game and sea mammals. Charcoal and seeds recovered from botanical samples are primarily of locally common coniferous and hardwood tree species, grasses, and fruit-bearing plants such as blackberry and elderberry.

The 2006-2007 test excavations also explored historical remains associated with early Euroamerican settlement of Mukilteo, the later town, and the lumber mills. These tests provided information that enlarged the boundaries of previously identified archaeological site 45SN404, and expanded its

characterization from the Crown Lumber Company store to a portion of early Mukilteo's commercial district. Several of the test trenches and boreholes yielded structural remains of buildings, wooden decking from the mill, and artifacts from domestic and commercial contexts including ceramics, glassware, metal and leather items, and butchered meat bones. Diagnostic artifacts within the assemblage and the context of some artifacts above and below the mill decking allowed division of the site into two components: pre- and post-mill Old Mukilteo.

The 2006-2007 assessment also included in-depth historical research regarding the Point Elliott Treaty of 1855 and treaty-related activities. The nature of the landform of Point Elliott, its ethnographic stature as an important camping and gathering place, and the historic record all suggest that a broader geographic definition of site 45SN108, which was initially created as a surrogate for the actual treaty-signing location, is warranted. The 45SN108 site boundary was consequently expanded to reflect this new information.

All three sites were recommended eligible for listing in the National Register of Historic Places. Site 45SN393 was shown to contain data useful in addressing important research questions regarding pre-contact and proto-historic Native American settlement, subsistence, and technology, and was recommended eligible under NRHP Criterion D. Site 45SN404 was also recommended eligible, under Criterion D, for its ability to answer research questions regarding the economic and social development of early Mukilteo. The Washington State Historic Preservation Office (Department of Archaeology and Historic Preservation) concurred with the NRHP eligibility recommendations for both 45SN393 and 45SN404 in January 2011. The Point Elliott treaty site, 45SN108, is also recommended NRHP eligible, under Criterion A, for its association with the treaty-era and patterns of settlement in the Pacific Northwest and with the history of Indian-white relations both regionally and nationally. The treaty site is also recommended eligible under National Register Criterion B, for its association with the first governor of Washington Territory, Isaac Ingalls Stevens, and with the prominent Native American leaders Seattle, Patkanim, Goliah, and Chowitshoot. Potential for archaeological deposits associated with the treaty suggests significance under Criterion D as well.

Studies undertaken in 2007 for non-WSF projects investigated a fourth cultural resource bisected by the MMP APE boundary, the Japanese Gulch Site (45SN398). Testing and data recovery excavations at the site yielded a great variety of cultural materials, shedding light on the early twentieth-century Mukilteo Japanese community. This site, also, was shown to contain information valuable in addressing important historical research questions, and was recommended eligible for listing in the NRHP under Criterion D. The State Historic Preservation Officer concurred with the eligibility recommendation for 45SN398 in January 2011. The Mukilteo Light Station (45SN123), a property already listed in the NRHP under Criteria A and C, was reassessed in 2008 during City of Mukilteo development projects and its NRHP status reaffirmed. The Japanese Gulch Community Site (45SN575), a cultural resource adjacent to the MMP APE, was identified in 2010 during archaeological monitoring of another non-WSF project; the NRHP status of this site currently remains unevaluated.

Based on construction information available at this time direct adverse effects are expected to the Old Mukilteo Townsite (45SN404) from the construction of retaining walls on the First Street extension, installation of stormwater ponds and other facilities, and installation of utilities and foundation footings for retaining walls. WSF intends to avoid adverse effects to the Mukilteo Shoreline Site (45SN393) by avoiding ground disturbance within the known horizontal and vertical limits of the site and by placing engineered fill to further separate construction elements from the site deposits. No adverse effects

have been identified to the Point Elliott Treaty Site (45SN108), the Japanese Gulch Site (45SN398), or the Mukilteo Light Station (45SN123). Placement of the engineered fill would also help avoid any damage to archaeological resources related to the Treaty signing.

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Cover: Oblique air photo of Mukilteo, 1946. Museum of History and Industry, *Seattle Post-Intelligencer* Collection, Image No. 1986.5.5836.2

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1 INTRODUCTION

Washington State Ferries (WSF), a division of the Washington State Department of Transportation (WSDOT), and the Federal Transit Administration (FTA) propose to upgrade, expand, and perhaps relocate the existing Mukilteo Ferry Terminal. The Mukilteo-Clinton ferry link is part of State Route (SR) 525, a major transportation corridor between the Puget Sound mainland and Whidbey Island. The route is currently one of the busiest in the state and usage is expected to increase 73 percent over the next 20 years. The proposed Mukilteo Multimodal Project (MMP) would allow WSF to replace the aging and inadequate terminal buildings and loading structures, increase the facility's vehicle holding capacity, and improve safety and security. The project is designed to link the ferry with Sound Transit's Mukilteo Commuter Rail Station, providing multimodal transit capabilities. Preliminary environmental studies were initiated more than six years ago for a similar undertaking in the same area, but in 2007 the project was placed on hold due to funding and feasibility issues. WSF and FTA recently reinstated environmental review and planning for the MMP (Washington State Department of Transportation [WSDOT] and Federal Transit Administration [FTA] 2011). Four alternatives are currently being considered: a No-Build alternative and three Build alternatives. Under two of the Build alternatives, the Mukilteo Ferry Terminal would be moved to the Department of Defense (DOD), United States Air Force (USAF) Tank Farm property immediately east of the existing ferry terminal.

A draft cultural resources discipline report was prepared in 2006 for the proposed ferry terminal project, documenting efforts undertaken to complete the identification and evaluation component of Section 106 of the NHPA and to determine if construction or operation of the facility would adversely affect any historic property (Kaehler et al. 2006). This study identified the Mukilteo Shoreline Site (45SN393), a pre-contact period shell midden; the Mukilteo Explosive Loading Terminal (MELT) Barracks (Field Number MM-04), a residential facility in a 1942 Army installation; and the previously recorded Mukilteo Light Station (45SN123), a 1906 lighthouse complex, as historic properties, eligible or potentially eligible for listing in the NRHP. Ten additional historical buildings and structures were deemed not eligible for listing in the NRHP. (The MELT Barracks was later altered, leading to the current not eligible recommendation.)

Subsequent to this assessment, archaeological monitoring of utility line trenching on the Tank Farm, unrelated to the ferry terminal project, identified two historical archaeological sites in the MMP APE, the Japanese Gulch Site (45SN398) and the Old Mukilteo Townsite (45SN404) (Shong 2006a, 2006b). In addition, consulting Native American tribes raised concerns regarding the historic significance of the MMP area, based on its association with signing of the 1855 Point Elliott Treaty. Additional investigations by the NWAA/EHC team in 2006 and 2007 were directed at assessing the extent and significance of archaeological sites 45SN393 and 45SN404 within the MMP APE, as well as the historical significance of the location in relation to the 1855 Treaty. During these investigations, the boundaries of archaeological sites 45SN393 and 45SN404 were enlarged to encompass newly discovered cultural material, and site 45SN108, originally one of the Point Elliott Treaty markers, was expanded to include the entire Point Elliott landform (Miss et al. 2008; White et al. 2009).

Cultural resource investigations for the City of Mukilteo in 2007, 2008, and 2009, for Reid Middleton/Buzz Inn Landing, Inc. in 2009, and for WSF in 2010 provided additional information regarding previously identified cultural sites 45SN123 and 45SN108 and again expanded the boundaries of 45SN393 and 45SN404 (Ferland et al. 2010; Gillis 2007; Rinck 2009, 2010; Rinck and Heideman 2008).

Another archaeological site, the Japanese Gulch Community Site (45SN575), was identified adjacent to the APE in 2010 during archaeological monitoring for construction of a City of Mukilteo fish ladder (Valentino 2011). In 2011 the Mukilteo Ferry Terminal (31-339) was formally recorded and evaluated. All of these studies and sites will be further addressed in the present report.

This document revises the 2008 Northwest Archaeological Associates, Inc./ Environmental History Company (NWAA/EHC) draft cultural resources technical report, which detailed additional investigations of 45SN393, 45SN404, and 45SN108 within the MMP (Miss et al. 2008). In addition to reporting those 2006-2007 investigations, the present document updates cultural resource conditions, adds the results of other cultural resource investigations in the area, and assesses possible adverse effects from construction of each of the alternatives, to create a comprehensive cultural resources discipline report. The report proceeds from the introductory material, through pertinent regulatory, environmental, and historical background information, to the methods and results of the research projects, and their management implications. In this report, the spelling of Point Elliott follows the original designation given by the Wilkes Exploring Expedition of 1841 and the subsequent Point Elliott Treaty, except when referring to the Elliot Point 1 and Preferred (Elliot Point 2) project alternatives.

1.1 PROJECT LOCATION AND DESCRIPTION

The MMP is in Snohomish County in Section 4 of Township 28 North, Range 4 East and Sections 33 and 34 of Township 29 North, Range 4 East, Willamette Meridian (Figure 1). The project extends east from Point Elliott along the shores of Possession Sound and includes the existing Mukilteo ferry terminal and a former Tank Farm owned by the USAF. Although a large pier remains at the Tank Farm site, the fuel tanks, numbered 1 to 10 from west to east, have been removed leaving only the concrete pads. The Burlington Northern Santa Fe (BNSF) railroad borders the MMP on the south, separating the low lying industrial/commercial shorelands from the sloping residential areas above. The greater part of the project APE, including areas of proposed construction, is within the Mukilteo city limits. The City of Mukilteo-City of Everett boundary passes between the former locations of tanks 9 and 10 near the eastern edge of the USAF Tank Farm.

The project alternatives have been narrowed to the No-Build alternative, the Preferred Alternative (Elliot Point 2), the Existing Site Improvements Alternative, and the Elliot Point 1 Alternative.

1.2 ALTERNATIVES

This chapter describes the alternatives being evaluated in this EIS, and summarizes how they were developed. It discusses each alternative's permanent facilities and operations, as well as temporary construction activities. It also reviews alternatives that are no longer being considered. The chapter concludes with a discussion of separate projects that are in this project's vicinity, and the next steps in the project's development.

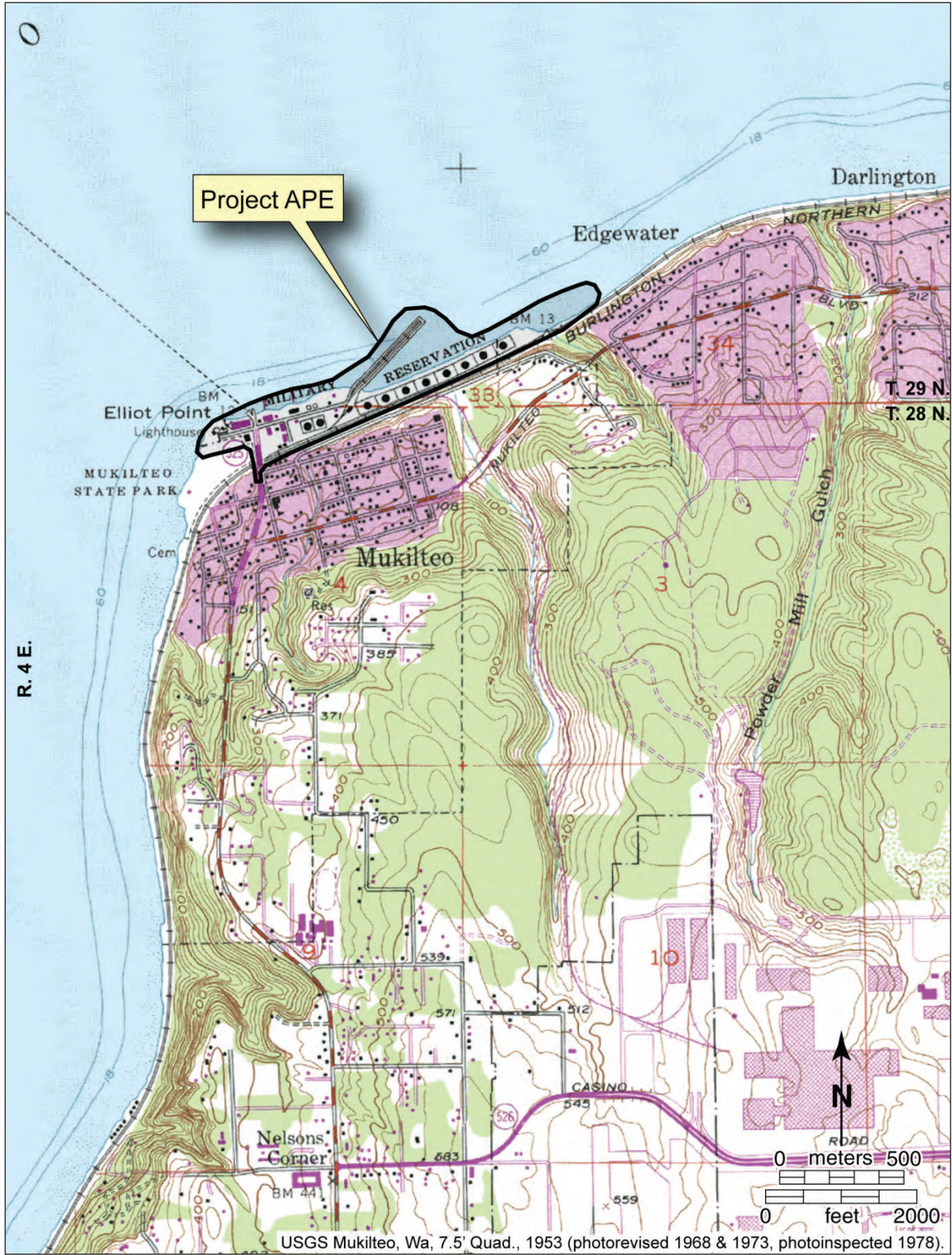


Figure 1. Project APE.

Proposed Alternatives

The project is considering four alternatives, as shown on Figure 2:

- The No-Build Alternative, which maintains the existing facility but does not improve it; this alternative provides a basis against which to compare the effects of the “Build” alternatives.
- The Preferred Alternative (a modified Elliot Point 2 Alternative), which would relocate the terminal to the western portion of the Mukilteo Tank Farm as part of an integrated multimodal center and remove the existing terminal.
- The Existing Site Improvements Alternative, which would construct an improved multimodal facility by replacing the existing Mukilteo ferry terminal with an expanded terminal and multimodal center at the current site.
- The Elliot Point 1 Alternative, which would relocate the terminal to the eastern portion of the Mukilteo Tank Farm as part of an integrated multimodal center and remove the existing terminal.

No-Build Alternative

The No-Build Alternative provides a baseline against which to compare the effects of the Build alternatives. It includes what would be needed to maintain the existing ferry terminal at a functional level. Figure 3 shows the key parts of a typical ferry terminal. Maintenance and structure replacements would occur in accordance with legislative direction to maintain and preserve ferry facilities, but WSDOT would make no major investments for improvements. Figure 4 illustrates the elements replaced as part of planned maintenance activities.

Nearly all of the ferry docking, loading, and unloading facilities would need to be replaced because they will have reached the end of their lifespan by 2040. The existing vehicle holding area would remain at its current location. The terminal supervisor’s building, passenger and maintenance building, and the three existing toll booths would be replaced at their current locations. This alternative would not improve conditions related to congestion, vehicular and pedestrian conflicts, poor sight distance, and security.

Preferred Alternative (Elliot Point 2)

The Preferred Alternative is a slightly modified version of the Elliot Point 2 Alternative that was studied in the Draft EIS. This alternative would develop the project on the western portion of the Mukilteo Tank Farm. It would have a more compact footprint than the Elliot Point 1 Alternative due to the deeper water near the shore where the ferry would berth. Its key features are shown on Figure 5.

The Preferred Alternative would construct in-water facilities that include the features needed for the ferry berth, including wingwalls and fixed dolphins. A floating dolphin would be relocated from the existing ferry terminal. The alternative will construct a new transfer span, including hydraulic-lifting mechanisms and structures and a bridge seat foundation, as well as a new concrete trestle and bulkhead. Because there is no beach and the water is deeper at this location, the ferry slip is near to the shore, which allows the trestle to be shorter than other alternatives, including fewer piles to support the trestle. The Tank Farm Pier, which includes approximately 3,900 piles, would be removed. A channel about 500 feet wide by 100 feet long would be dredged through part of the area currently occupied by

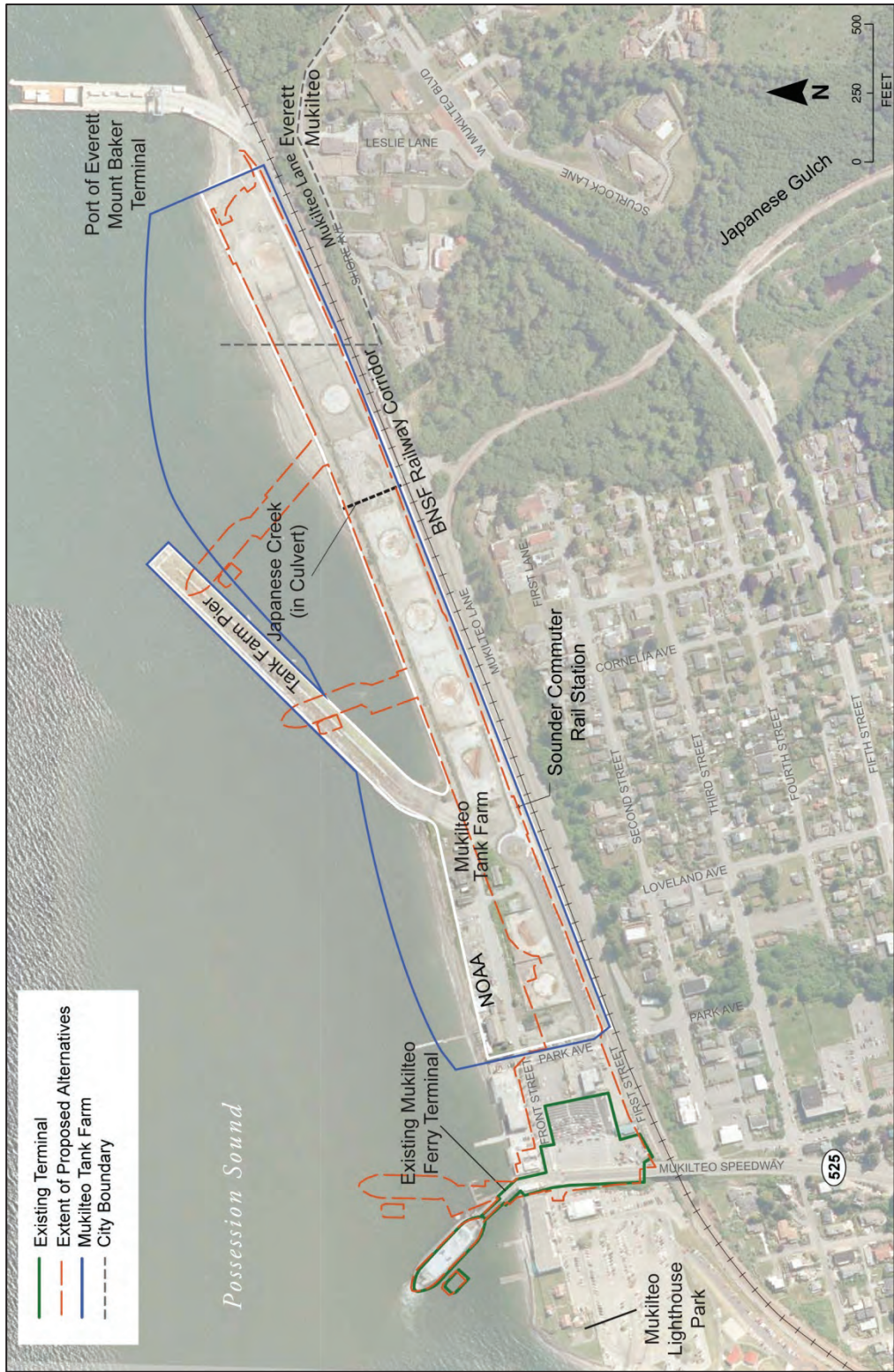


Figure 2. Project vicinity.

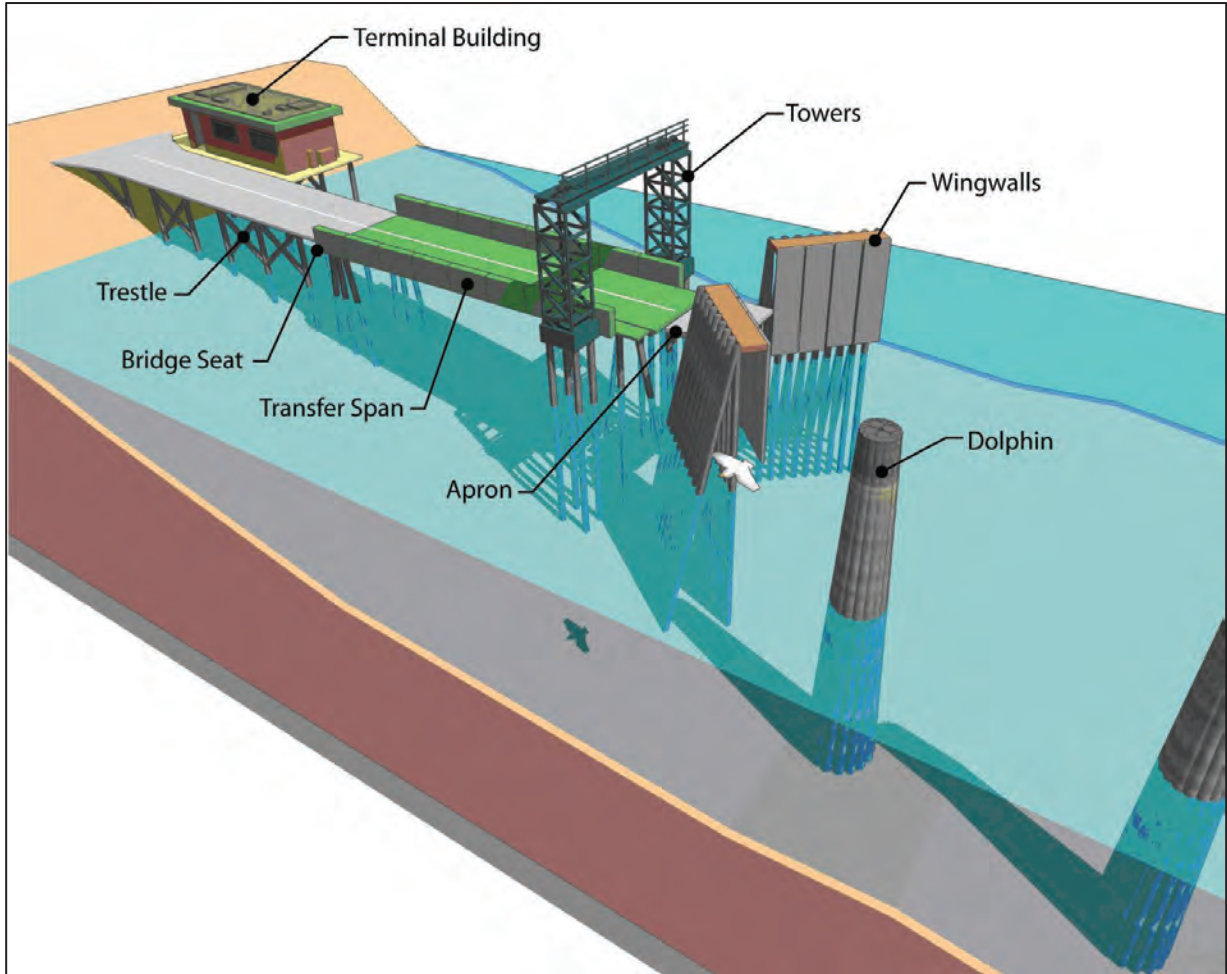


Figure 3. Key Parts of a Typical Ferry Terminal.

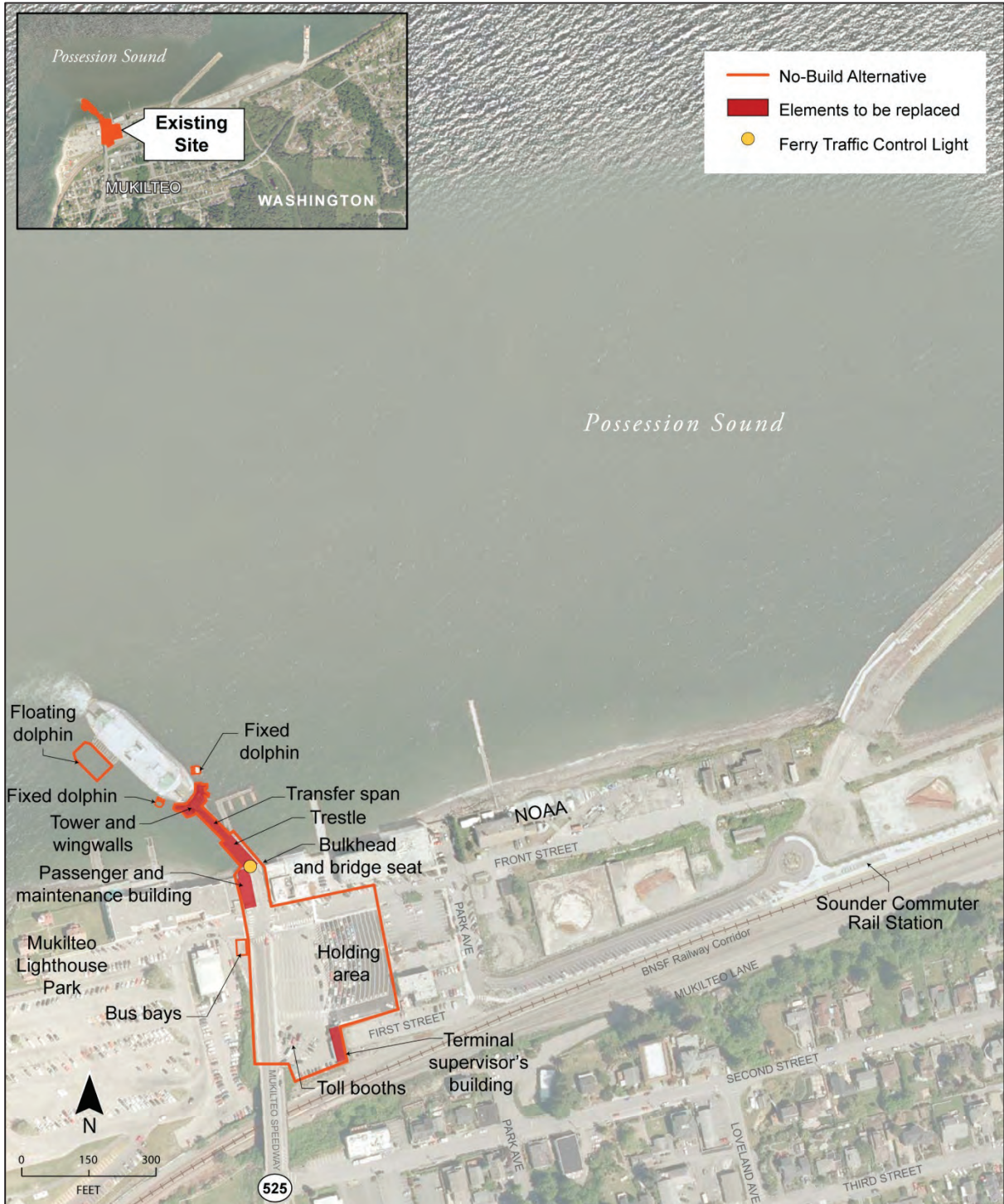


Figure 4. No-Build Alternative.



Figure 5. Preferred Alternative (Elliot Point 2)

the pier to provide a navigation depth of -28 feet at an average lowest tide, which would require dredging to a depth of -30 feet. Under the pier, current depths are -15 to -35 feet. Approximately 19,500 cubic yards of material would be dredged for the channel.

The existing ferry berth and all of its marine structures would be removed, including the Port of Everett fishing pier and day moorage. The Preferred Alternative would reconstruct the fishing pier and day moorage as part of the new multimodal facility.

A new passenger building and a maintenance building would be combined as a two-story structure and aligned parallel to the shoreline. The building would bridge over the vehicle driveway to the ferry trestle, and an overhead loading ramp would connect to the second story of the building.

The vehicle holding area would have a 266-vehicle capacity. The terminal supervisor's building would be west of the vehicle holding area, as the second floor of a building that would also house the new toll booths. A new transit center with six new bus bays and a transit passenger area would be on the eastern part of the site, and it would have an area for ferry employee parking.

First Street would be realigned and extended as a four-lane roadway, beginning on a retained fill structure from the new signalized intersection with SR 525, descending to near the existing grade at Front Street, and continuing to a signalized entrance to the new ferry terminal. First Street would continue as a two-lane road to a new bus transit and paratransit center. This alternative also develops a public parking area between the BNSF railroad and the new First Street extension, near SR 525, to replace some displaced street parking. It also would modify the access road and the parking for the Mukilteo Station. A stormwater treatment facility would be located between Front Street and the First Street extension east of Park Avenue.

The First Street improvements also would include a reconstructed intersection with Park Avenue. The extended roadway would generally be along the southern portion of the Mukilteo Tank Farm. First Street would feature sidewalks and bicycle lanes.

A pedestrian pathway from First Street would connect to a waterfront promenade and on to the passenger building, which would include a passage allowing continuous pedestrian access along the waterfront. Other sidewalks and crosswalks would link the Mukilteo Station and the transit center. This alternative would include new security fences and gates surrounding the holding area and terminal.

Existing Site Improvements Alternative

The Existing Site Improvements Alternative would construct an improved multimodal facility by replacing the existing Mukilteo ferry terminal with an expanded terminal on and around the current site. Its key features are shown on Figure 6.

All of the existing ferry facility marine and upland features would be replaced. The ferry dock and trestle would be rebuilt facing due north to provide a straighter alignment with SR 525. The Port of Everett existing fishing pier and seasonal day moorage would be removed and need to be relocated.

The existing vehicle holding area would remain at the same general location and would still store approximately 216 vehicles, the equivalent of one-and-one-half 144-vehicle vessels. Toll booths and a

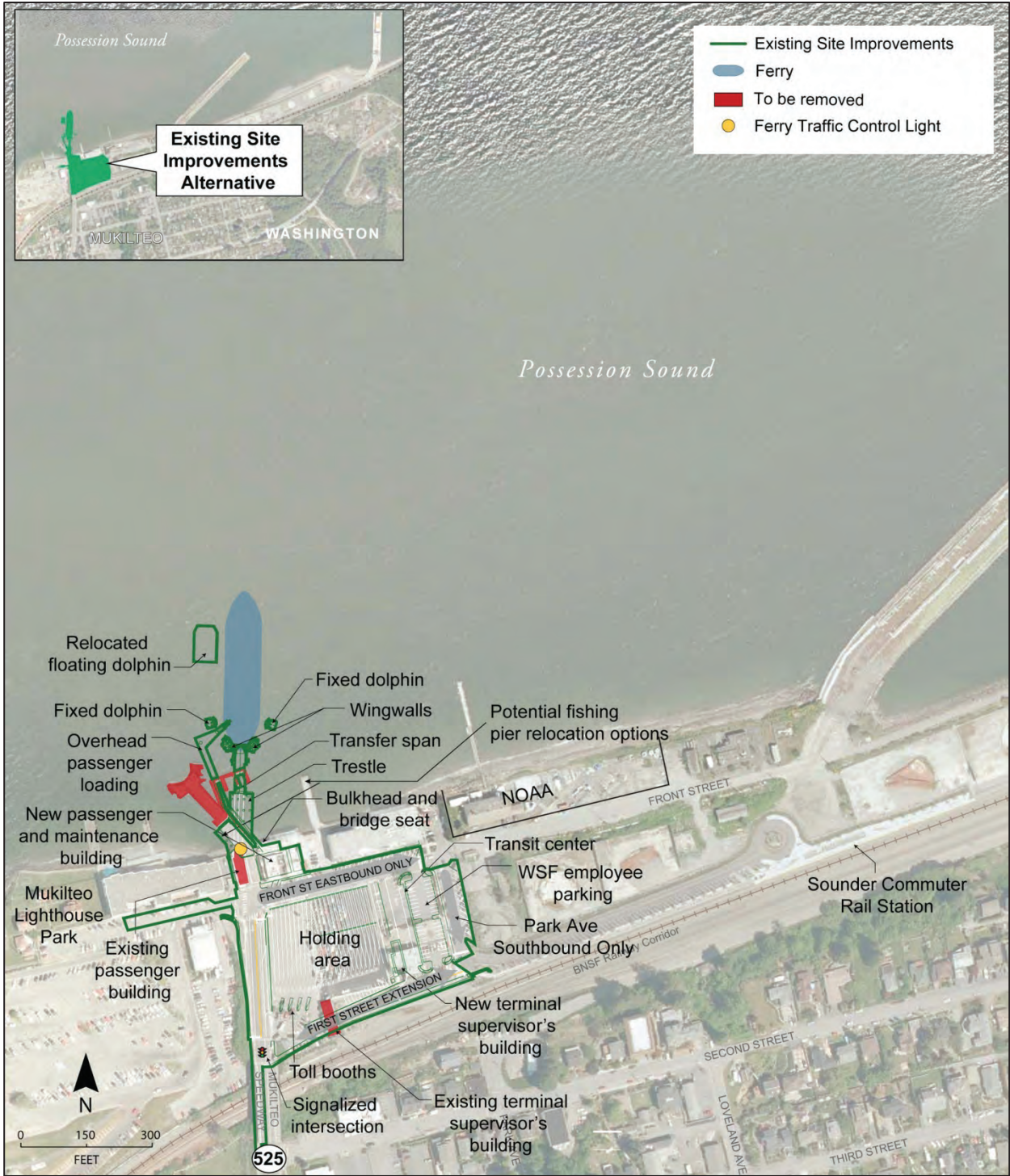


Figure 6. Existing Site Improvements Alternative.

supervisor's building would be constructed nearby. A new passenger and maintenance building would be constructed east of the ferry access driveway expanding into areas currently occupied by other uses. Overhead passenger loading ramps would connect to the second story of the new passenger building.

Front Street and Park Avenue would become one-way streets, and First Street would be extended west to a new signalized intersection with SR 525. A new transit center would be constructed east of the vehicle holding lanes, combined with a parking area for ferry employees.

Elliot Point 1 Alternative

The Elliot Point 1 Alternative would develop the Mukilteo Multimodal Project on the eastern portion of the Mukilteo Tank Farm. Its key features are shown on Figure 7.

Because the shoreline slopes more gradually in this location, the ferry slip would need to be located about 250 feet offshore, which would require a longer pier and trestle. A new passenger building and a maintenance building would be located over water on the new concrete trestle; this shortens walk distances and allows the nearby shoreline area to be developed for open space and stream restoration purposes. An overhead passenger loading ramp would connect to a second story of the new passenger building. A stormwater treatment facility would be located between Front Street and the First Street extension east of Park Avenue.

As with the Preferred Alternative, this alternative would remove the Tank Farm Pier and its piles, and would dredge a navigation channel approximately 500 feet wide under where the pier is now located.

WSDOT would remove the existing ferry terminal, including buildings and marine structures, and the Port of Everett fishing pier and day moorage would be relocated. The current vehicle holding area would be vacated.

The Elliot Point 1 Alternative would also provide parking for commuter rail, the Mount Baker Terminal shoreline access area, and ferry employees. The alternative includes toll booths, ferry vehicle holding areas, and shoreline promenades on each side of the new ferry dock. Japanese Creek, which currently runs in a pipe culvert below the Mukilteo Tank Farm, would be restored to an open stream north of the extended First Street, with a 50-foot buffer on either side. The stream would be crossed by a pedestrian bridge near the shoreline. New lighting would illuminate First Street and the terminal facilities, including the vehicle holding areas.

The vehicle holding areas would hold about 216 vehicles. A terminal supervisor's building would be constructed above four new toll booths east of the holding area. This 35-foot-high structure would be oriented north-south. New lighting would illuminate First Street and the terminal facilities, including the vehicle holding areas.

First Street would be realigned and extended as a four-lane roadway from SR 525 to the Port of Everett's Mount Baker Terminal, with sidewalks and bicycle lanes. A new signalized intersection with SR 525 would be constructed. A rebuilt First Street/Park Avenue intersection would provide access to a reconfigured parking and access area for Mukilteo Station.

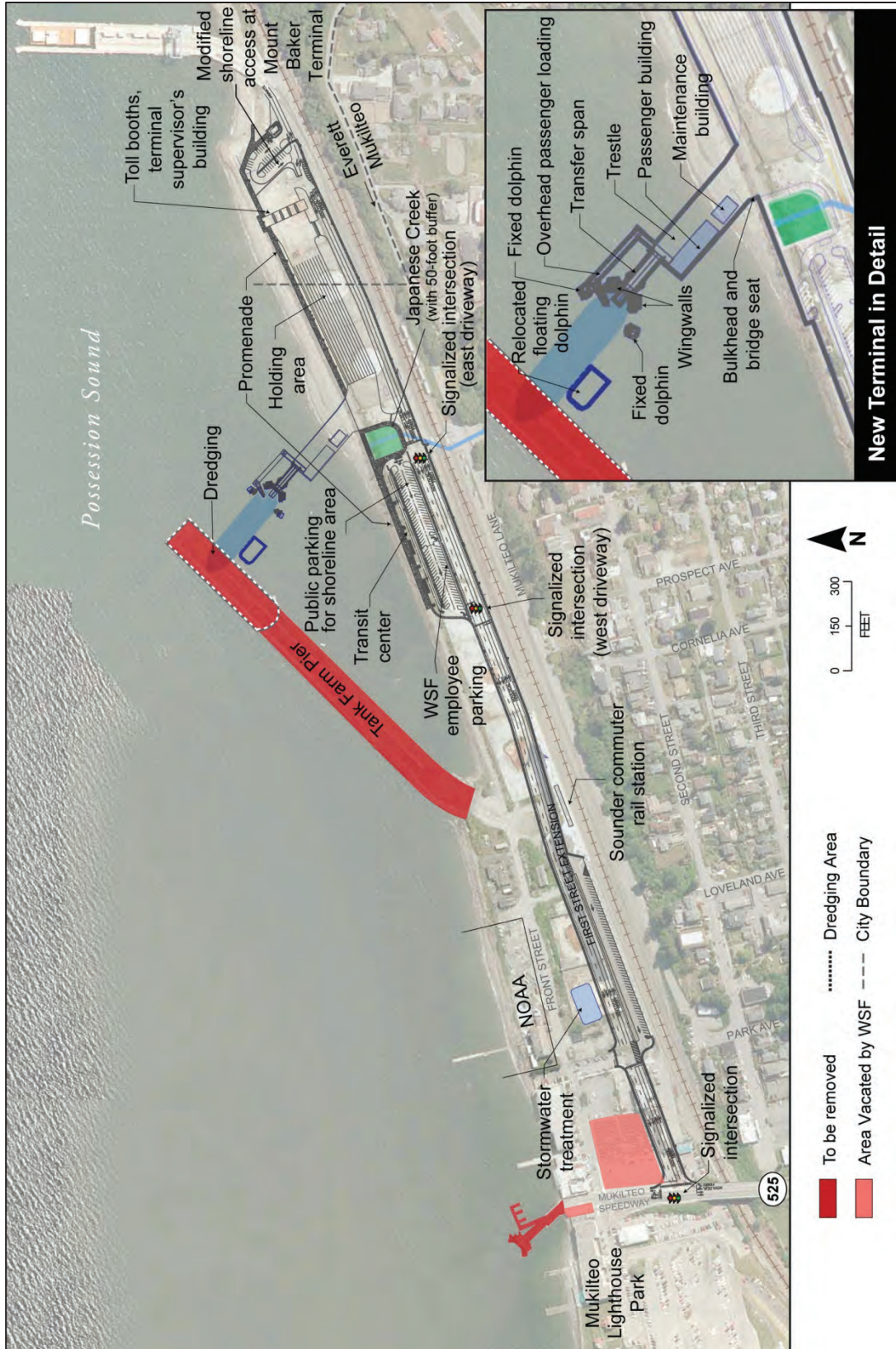


Figure 7. Elliot Point 1 Alternative.

A new transit center with six bus bays would be built west of the new terminal. Access and parking for Mukilteo Station would be configured to connect to the First Street extension. New security fences and gates would secure the holding and terminal area during periods of heightened security, as required by the U.S. Coast Guard.

Construction Approach and Activities

The construction of any of the project alternatives would be a major activity that could last several years.

Despite its name, the No-Build Alternative would still involve construction activities for the replacement of the terminal's aging infrastructure, as discussed above in *Section No Build Alternative*. All of the Build alternatives would remove the existing terminal, and would construct an improved terminal and supporting facilities with either a different layout (Existing Site Improvements Alternative) or at a new site (Elliot Point 1 and Preferred Alternatives). The Build alternatives would have more construction activities and the longest uninterrupted construction duration (up to 2 years), while the No-Build Alternative would have intermittent construction over a longer period, potentially decades. The length of construction could be either longer or shorter depending on design, permit conditions, phasing, and the contractor's construction approach. Other site development and site preparation activities such as property acquisition, demolition, and utility relocations could occur after completion of the environmental process, which is expected by 2013. Construction would also depend on the availability of funding and other approvals, but major activities could begin by 2016, and a terminal could begin operation in 2019.

All of the alternatives were designed to avoid or limit excavation in areas known to contain archaeological resources. In many areas, the approach emphasizes using fill rather than excavating. Excavation is needed for some types of construction, such as foundations or utilities, but features requiring excavation have been located outside of sensitive areas as much as possible.

Typical Construction Activities and Staging

Except for the No-Build Alternative, the major activities such as demolition of existing buildings and the construction of new buildings, roadways, and other facilities would occur for up to 2 years. In order to minimize disruption to the natural environment, transportation, businesses, and residences, construction that would affect access would be planned, staged, and completed in a manner that would minimize disruption. The duration of heavy civil construction in front of any particular property is not anticipated to exceed 6 to 12 months.

The most complex structures being removed and constructed for the project are the in-water facilities. Structures to be removed (varying by alternative) include the existing pile-supported trestle and bulkhead, as well as the Tank Farm Pier (Preferred Alternative and Elliot Point 1), and the Port of Everett fishing pier and day moorage. A variety of techniques could be used to remove the existing marine structural components, depending on their condition, permitting requirements, and environmental conditions. The piles could be removed using vibratory methods, direct pulling of the piles, or cut at the mudline. The deteriorating condition of some of the piles may also require capping or other methods for full or partial removal.

The alternatives involving the Mukilteo Tank Farm would require dredging or other sediment removal for navigation.

Other major construction activities include:

- Demolition and disposal of Mukilteo Tank Farm facilities (pavement and structures, including buildings and foundations, concrete slabs and paving, light poles, power poles, tank containment walls and footings, utility lines and structures, and steel tank bottoms)—Preferred Alternative and Elliot Point 1 Alternative
- Trenching for relocation or replacement of utilities, including power, gas, sewer, water, stormwater, and communications
- Clearing, grubbing, excavation, fill, grading, and disposal of materials
- Construction of temporary in-water structures
- Construction or reconstruction of structures, including retaining walls, bulkheads, and the terminal buildings (including associated footings)
- Pile driving
- Drilled shaft or stone column installation (could require temporary roads or fill in shoreline/beach areas)
- Concrete casting
- Roadway construction, including intersections, signal systems, sidewalks, bicycle facilities, and trails
- Landscaping
- Transport of workers, equipment, materials, and debris
- Storage of equipment, including heavy trucks, cranes, and bulldozers, as well as storage of construction materials and debris

1.3 APPLICABLE REGULATIONS AND GUIDELINES

The National Historic Preservation Act (NHPA), as amended, requires federal agencies, in this case the FTA, to identify and assess the effects of federally assisted undertakings on historic properties and to consult with others to find acceptable ways to avoid or mitigate adverse effects. Properties protected under Section 106 of the NHPA are those that are listed in or are eligible for listing in the National Register of Historic Places (NRHP). Eligible properties generally must be at least 50 years old, possess integrity, and meet at least one of four criteria of significance.

Historic properties may include archaeological sites, buildings, structures, districts, and objects. A 1992 amendment to Section 101 of the NHPA also explicitly allows properties of traditional religious and cultural importance to be eligible for inclusion in the NRHP. Such properties are referred to as traditional cultural properties (TCPs), properties eligible for inclusion in the National Register of Historic Places because of their association with the cultural practices or beliefs of a living community that (1)

are rooted in that community's past and (2) are important in maintaining the community's continuing cultural identity (National Park Service 1998:1).

The NHPA Section 106 review process consists of four steps. The first is initiation of the process, which involves determining if the action meets the definition of an undertaking, determining whether that action has the potential to affect historic properties, and identifying consulting parties. The second step is identifying historic properties. In order to complete this step, the project Area of Potential Effects (APE) must be identified, the scope and results of previous identification efforts must be reviewed, and appropriate studies to identify and evaluate historic properties must be completed. The third step is application of the criteria of adverse effect to determine if such effects are likely to occur. An adverse effect is found when an undertaking alters any of the characteristics that qualify the historic property for inclusion in the National Register of Historic Places in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. The fourth step, implemented if historic properties will be adversely affected, is resolution of adverse effects, including consideration, through consultation with the state historic preservation officer (SHPO), tribal historic preservation officers (THPOs), concerned tribes or other consulting parties, of measures to avoid, minimize, or mitigate such effects. Regulations implementing Section 106 (36 CFR Part 800) encourage maximum coordination with the National Environmental Policy Act (NEPA) review process and with other statutes.

1.4 AREA OF POTENTIAL EFFECTS

FTA determined the project Area of Potential Effects for archaeological resources and historic buildings and structures, in consultation with the SHPO at the Washington State Department of Archaeology and Historic Preservation (DAHP). The APE encompasses an area beginning west of SR 525 at Point Elliott and extending 0.75 miles (1.2 kilometers) east along the shoreline, well beyond the end of the Tank Farm property. The BNSF railroad and the SR 525 BNSF overpass mark the southern boundary of the APE (Figure 1). Although the project's direct, physical impacts will be limited to a smaller area, the APE was drawn large to accommodate potential indirect effects to cultural resources, such as visual and auditory changes and vibration. The vertical APE for archaeological resources extends from the ground surface to a maximum of 5 feet (1.5 meters) below surface in land and shore portions of the project, while off-shore structures (pilings) may extend to depths of 150 feet (46 meters) below the sea floor.

1.5 TRIBAL COORDINATION

According to the NHPA implementing regulations, certain people or groups are automatically entitled to consulting party status, including appropriate federally recognized Indian tribes (36CFR800.2). The FTA initiated consultation for the MMP with a number of groups, including all tribes signatory to the Point Elliott Treaty and other potentially interested federally recognized tribes. Formal consultation with those tribes was initiated in 2004. From the period of 2005 through 2007, the project focused on conducting cultural resources assessment efforts, with draft reports completed in 2006 and 2007. Based upon tribal and other comments regarding the 2007 cultural resources report, additional heritage studies were undertaken to address the Point Elliott Treaty signing and other significant aspects of the Mukilteo project area. The results of that effort were added to the draft report and distributed in 2008 as the Results of Additional Heritage Resources Investigations at the Mukilteo Multimodal Ferry

Terminal Project Site, prepared by Northwest Archaeological Associates and The Environmental History Company (Miss et al. 2008).

In 2010, the FTA, working with the Mukilteo Multimodal Tribal Liaison, formally contacted potentially affected tribes to determine whether they continued to have interest in the Mukilteo Multimodal Project. Through this outreach, the following tribes were contacted: Lummi Tribe of the Lummi Reservation, Muckleshoot Indian Tribe of the Muckleshoot Reservation, Nooksack Indian Tribe of Washington, Samish Indian Tribe, Sauk-Suiattle Indian Tribe of Washington, Snoqualmie Tribe, Stillaguamish Tribe of Washington, Suquamish Indian Tribe of the Port Madison, Swinomish Indians of the Swinomish Reservation, Tulalip Tribes of the Tulalip Reservation, and Upper Skagit Indian Tribe of Washington; Two non-federally recognized tribes were also contacted: Duwamish Tribe, and Snohomish Tribe of Indians.

In addition to being invited to the NEPA/SEPA Reinitiation Meeting on February 10th, the Workshop on June 10th, and the Scoping Meeting on September 29th, FTA offered to meet individually with all potentially affected tribes. The Suquamish, Swinomish, Stillaguamish, Lummi, and Samish Tribes met with FTA and the project team between February 10th and June 10th. The Snoqualmie and Tulalip Tribes met with FTA and the project team in September prior to the September 29th Scoping Meeting. On December 10th, FTA reviewed the alternatives that would be analyzed in the EIS with the tribes. The Nooksack Tribal Chair indicated that they are not interested in the Mukilteo Multimodal Project as it is outside of the Usual and Accustomed (U&A) area.

FTA and WSF have also invited all potentially interested tribes to act as participating agencies throughout the development of the Environmental Impact Statement (EIS) (WSDOT and FTA 2011).

The effort to identify and record existing or possible traditional cultural properties (TCPs) within the area of potential effects is in its early stages (the definition of traditional cultural property is given in section 1.2 of this report.) FTA and WSF have been involved with formal cultural resources consultation for this project for a number of years. The results of that consultation in regard to traditional cultural properties are summarized below.

In 2007, FTA received a letter from the Tulalip Tribes, describing substantial traditional cultural significance placed upon the project area. The Tulalip Tribes stated:

The project site at Point Elliott is culturally and spiritually significant to the Tulalip Tribes. Both the pre-treaty site, which was extensively used by our ancestors for at least a thousand years, and the site of the treaty signing are important cultural, spiritual and historic sites of our people. They should be treated not only as historic sites, but as sites eligible for inclusion on the register as traditional cultural properties. See 16USC§470a(d)(6), National Register Bulletin 38, *Guidelines for Traditional Cultural Properties*.

To the Tulalip people, this is not an archaeological site, and its value is not in scientific analysis. This is a living site of our ancestors, and it has immeasurable cultural and spiritual values. Many, if not most, of our important off-reservation cultural and historic sites have been decimated or destroyed by non-Indian development. The investigation done at the site reveals a good portion of this site, although impacted by prior development, remains intact under previously placed fill. Places where the remains of our villages and gathering places remain intact must be preserved, in order to preserve the living culture of the Tulalip Tribes.

In 2010, during a formal consultation meeting between the Suquamish Tribe, FTA, and WSF, a Suquamish representative stated, “The site is a traditional cultural property...” although additional details outlining the importance of the area to the Suquamish have not yet been disclosed. More recently, FTA met with the Tulalip Tribes and were advised that additional work was necessary to assess cultural resources within the Tank Farm property.

FTA and WSF will continue to consult with interested and affected Tribes regarding any additional archaeological investigations for the project. Consultation is also ongoing regarding any possible effects upon properties of religious and cultural significance by the project.

2 SETTING

The following sections review environmental factors that influenced pre-contact and historical period people in their selection of habitation and activity sites, as well as factors that affected subsequent preservation of the resulting archaeological deposits. The sections also provide discussions of patterns, themes, and trends in regional prehistory and history through which a property's meaning and significance can be understood.

2.1 NATURAL SETTING

The structure of the natural environment largely determines human use of any landscape, conditioning the availability of food and shelter. Locations and kinds of resources are dependent on geologic substrates, topography, geographic relationships among landscape features, solar exposure, rainfall, and a host of other factors. Environmental changes have consequences for the archaeological record in terms of the numbers of sites and their type, distribution, visibility, and preservation.

Geologic and Geomorphological Setting

The study area is on Point Elliott along the shore of Puget Sound. Puget Sound lies within a large north-south elongated structural trough between the Olympic Mountains to the west and the Cascade Range to the east. This trough, known as the Puget Lowland, extends from southwestern British Columbia to the interior valleys of western Oregon. The Puget Lowland was subjected to multiple glaciations during the 1.8 million years of the Pleistocene Epoch. The last glaciation, known in the Pacific Northwest as the Vashon Stade of the Fraser Glaciation, originated as glaciers in the mountains of British Columbia coalesced and spread southward into the Puget Lowland as a broad, continental sheet called the Cordilleran ice sheet (Easterbrook 2003). At the Olympic Peninsula the ice sheet separated into the Puget lobe, which continued south into the Puget Lowland, and the Juan de Fuca lobe, which extended west into the Strait of Juan de Fuca north of the Olympic Mountains. The Puget lobe reached its maximum southern extent near the town of Centralia, south of Seattle, about 14,500 years before present (BP) (Kovanen and Slaymaker 2004; Porter and Swanson 1998). The Juan de Fuca lobe terminated about 60 miles (100 kilometers) west of Washington's present coast.

Retreat of the Juan de Fuca and the Puget ice lobes at the end of the Vashon Stade was rapid. The Puget lobe reached Whidbey Island by about 13,400 years ago while the Juan de Fuca lobe probably began recession earlier and retreated more rapidly than the Puget lobe due to a combination of rising global sea level and isostatic depression of the land (Dethier et al. 1995; Easterbrook 2003; Mosher and Hewitt 2004). As the ice sheet thinned and retreated north of Seattle, marine water entered from the Strait of Juan de Fuca to flood the lowland now containing Puget Sound. The remaining ice, floating on sea water, rapidly disintegrated northward to Canada except for a narrow band along the eastern margin of the lowland (Easterbrook 2003).

When the ice sheets began their retreat, global sea level, which had lowered considerably during the glacial maximum because of the tremendous amounts of water locked up in the ice sheets, began to rise. Initial rates of sea level rise were rapid; between 13,000 and 6,000 years ago, sea level rose from

about 390 feet below present sea level (bpsl) to about 30 feet bpsl. After 6,000 years ago the rate of sea level rise slowed so that by 5,700 years ago sea level was about 16 feet bpsl (Dragovich et al. 1994).

Local sea level change, that is, change in relative sea level as experienced at local shorelines, varied from the overall trend exhibited by the global rise in sea level during the postglacial period. The changing relationships of sea level and shoreline in Puget Sound during the early Holocene was a function of land rebounding after the weight of the ice sheet was removed; and the amount and rate of rebound, in turn, was a function of the thickness of the overlying ice sheet. For example, the amount of rebound was less at the outer, thinner limits of the ice sheet relative to the thicker more northerly sections in the central and northern Puget Sound basin. There is an overall trend of increasing rebound going north under the thicker portions of the Puget lobe, and in the north-central and northern Puget Lowland differences in the amount of rebound range between 197 and 262 feet. Rebound appears to have halted by 9,000 years ago, at which time global sea-level rise began to overtake the uplift created by isostatic rebound and marine waters drowned the early Holocene shorelines (Dragovich et al. 1994).

Point Elliott is a triangular-shaped shoreline landform in the northern Puget Lowland on the east shore of Possession Sound. These landforms, known as cusped forelands, are accretionary shore features typically bounded by a barrier berm enclosing a small wetlands or lagoon. Cusped forelands are formed, and subsequently maintained, by longshore transport and angle outward from the generalized plane of the shoreline directional trend (Collins and Sheikh 2005).

Puget Sound shorelines are low-energy environments composed of mixed sand and gravel beaches. A two-part beach profile is typical, characterized by a steep foreshore often composed of coarse sand or gravel and a lower-gradient sand or mud low-tide terrace. Most of the sediment on the upper foreshore of a typical beach is too large to be moved by suspension in wave or tidal currents, and instead is transported as bedload in the swash zone, making its way along the beach a little bit with each successive wave. The major source of sediment coming to the shore is probably derived from erosion of coastal bluffs, and as a result, the erosion and reworking of coastal exposures of till, outwash sediments, and glaciomarine and glaciolacustrine deposits leads to large variation in beach sediments.

Recent geological research has shown the project is in a tectonically active area of the northern Puget Lowland and lies adjacent to and just north of the active Southern Whidbey Island fault zone. Other faults in the region include the Utsalady Point, Strawberry Point, and Devils Mountain fault zones. There is evidence for movement on the Southern Whidbey Island fault during Quaternary times, but Holocene activity seems subdued (Johnson et al. 1994). Because of the lack of damaging historic earthquakes in this region, less is known about the location, number, and magnitude of Holocene earthquakes than for the Seattle and Tacoma fault zones farther south, but recent coring in two salt marshes on Whidbey Island indicate that the last major known rupture along the Southern Whidbey Island fault was about 2,800-3,200 years ago (Kelsey et al. 2004). Trenching on the Utsalady fault, on the northern tip of Camano Island, showed that one, and possibly two, ground-rupturing earthquakes occurred along this fault (Johnson et al. 2003) about 100-400 calibrated years before present (cal BP) and between 1100-2200 cal BP.

The Snohomish delta just north of the town of Everett preserves evidence for a number of earthquake events (Bourgeois and Johnson 2001). Radiocarbon ages from buried contexts show the delta was affected by a tsunami and portions of the delta experienced liquefaction dating from around A.D. 800 to 980, close to the time that a large earthquake occurred on the Seattle fault, 30 miles (50 kilometers) to

the south. Bourgeois and her colleagues also recorded evidence for at least three episodes of liquefaction, at least one episode of abrupt subsidence, and at least one tsunami that have affected the delta since A.D. 800. Localized subsidence, accompanied by abrupt surface lowering, was generated by earthquake-induced compaction and liquefaction, with variable changes in elevation across the delta ranging between 20-30 inches (50-75 centimeters).

Just north of the project, a newly discovered fault may underlie the coastal plain between Mukilteo and Everett. Though research is ongoing, linear features visible on the postglacial surface suggest the fault has been active during the Holocene (Molinari and Burk 2003).

Point Elliott is also in the Whidbey Island sub-basin in northern Puget Sound, which has one of the greatest concentrations of tidal wetlands in Puget Sound (Collins and Sheikh 2005). The river estuaries feeding into this portion of Puget Sound are larger and more diverse than elsewhere in the Sound, and recent research has shown tidal wetlands associated with accretionary landforms such as spits, cusped forelands, tombolos, and barrier wetlands account for about 25% of the total wetlands complexes in northern Puget Sound (Collins and Sheikh 2005). The accretionary and barrier shore landforms support more than half the wetlands outside of the river valleys in Puget Sound as a whole, and account for considerably more in the northern region (Collins and Sheikh 2005).

The delta of the Snohomish River lies about five miles (eight kilometers) north-northeast of Point Elliott. Maps from the period 1884-85 show that almost the entire Snohomish delta plain was wetland, totaling 15 square miles (39 square kilometers), making it the largest of the delta areas in the Whidbey sub-basin (Bortleson et al. 1980). Most of the wetland has now been converted to other land uses through diking, drainage ditches, or landfill, with the result that only about 3.8 square miles (10 square kilometers) of the delta remains in wetlands. The lower margin of the intertidal wetlands along the delta front formerly extended southward along Port Gardner Bay to the vicinity of the Naval Reservation about four miles (seven kilometers) north of the present project (Bortleson et al. 1980).

A small fan delta formed at the mouth of Japanese Gulch partially within the present APE. Fan deltas are unique environments where the fluvial processes typical of alluvial fans interact with shoreline processes, and are characterized by active, frequently high-energy, sedimentation. The subaerial (above-ground) portion of a fan delta is an alluvial fan, and in humid environments the dominant sedimentary processes appear to be debris-flows and other types of mass wasting events triggered by intense rainfall, which results in depositional sequences dominated by poorly-sorted, mud-supported gravels (Wescott et al. 1990).

Point Elliott is backed on the south by an inactive coastal bluff and to the east and southwest by actively eroding bluffs. The coastal bluffs of Puget Sound are relatively recent, and probably have only developed after sea level stabilized about 5,000 years ago (Downing 1983; Shipman 2004). Bluff retreat is typically a cyclic process in which wave action removes material accumulated at the toe of the slope creating an unstable bluff profile that eventually leads to renewed erosion and accumulation of new material at the base of the slope. Because of the large amounts and variety of glacial sediments on Puget Sound, this process is complex (Downing 1983; Komar 1998; Shipman 2004). Wave-induced erosion directly attacks the toe of the bluff and is controlled by the width and height of the beach and berm in front of the bluff. Berm width depends primarily on sediment availability, whereas berm height depends on tide range, wave exposure, and sediment type. For waves to directly attack the base of the

bluff, water levels must either exceed the height of the berm, which requires storm waves to coincide with unusually high tides, or the berm itself must be eroded away (Shipman 2004).

Faunal and Floral Resources

Point Elliott is ideally situated for access to a wide variety of animals and plants. Prior to extensive Euroamerican settlement and development, the wooded uplands to the south and east of the point hosted elk, deer, black bear, coyote, bobcat, and mountain lion. Small mammals, including rabbit, squirrel, chipmunk, raccoon, weasel, beaver, and river otter were also resident (Ingles 1965). Species of ducks, geese, swans, loons, and other migratory waterfowl are seasonally abundant in saltwater bays, lakes, sloughs, and river deltas. Other birds found in the vicinity of Point Elliott include cormorants, owls, and raptors such as eagles and ospreys, and woodland birds such as ruffed grouse (Angell and Balcomb 1982; Larrison and Sonnenberg 1968).

The protected bays, inlets, and open waters of Puget Sound and Possession Sound provide ideal habitats for resident and migratory marine mammals (Angell and Balcomb 1982). Large cetaceans observed near Point Elliott in modern times include minke whales and occasional wayward gray whales. Orcas, or killer whales, are found in both resident and migratory pods that prey on salmon, birds, and smaller marine mammals. Other cetaceans more commonly found in Puget Sound are harbor and Dall's porpoises and Pacific white-sided dolphins, which are most abundant while rearing their young in the summer months. Harbor seals are resident and ubiquitous throughout Puget Sound, and spend July through September pupping and rearing their young. Elephant seals and northern California sea lions are migratory and more commonly observed in the winter and spring months. The closest modern haul-out sites to Point Elliott are Gedney Island to the north for harbor seals, Possession Point on Whidbey Island to the southwest for California sea lions, and Everett Harbor to the northeast and Edmonds to the south for both harbor seals and California sea lions (Jeffries et al. 2000).

The variety of shellfish and fish found near Point Elliott is a reflection of diverse local habitats in Possession Sound (Kozloff 1996; Miller and Borton 1980). Substrates in the intertidal and subtidal zones range from fine silty sand to gravel, brought to shore by moderate wave energy and providing an ideal environment for bivalves, gastropods, and other invertebrates such as crabs and sea urchins (Anchor 2005; Kozloff 1983). The abundant eelgrass beds in the narrow sandy sub-tidal margin along the shore of Possession Sound near Point Elliott quickly give way to much deeper water just a few hundred feet from the shore. Species of small flatfish, sculpin, surfperch, and other kinds of fish that prefer the protected eelgrass beds are abundant along the shores of Possession Sound. Other fish taxa can be found near-shore and in deeper water off the subtidal shelf, including rockfish, dogfish, skate, and greenling (Anchor 2005). Herring congregate in many near-shore shallows throughout Puget Sound in the spring to spawn. Several runs of salmon pass Point Elliott on their way to the Snohomish, Stillaguamish, and Skagit Rivers and smaller nearby streams to spawn. Returning Chinook salmon can be caught near Point Elliott usually between late April and early June (FTA and WSDOT 2006:10-7; Haring 2002; Smith 2003; Washington State Conservation Commission 1999). In September and October, Coho salmon enter Japanese Gulch Creek which is one of the few mainland streams within several miles of Point Elliott that currently supports an anadromous fish population (Haring 2002).

Native vegetation across most of the Puget lowlands consists of forests of the *Tsuga heterophylla* (western hemlock) zone, which is characterized by western hemlock, western red cedar, and Douglas fir with a dense shrub and herbaceous understory (Franklin and Dyrness 1988). These plants include

bracken fern, salmonberry, oceanspray and red and evergreen huckleberry. Parklands and prairies were common into the early historic period. Many of these were created or maintained by Native Americans who used controlled burning to enhance the productivity of certain plant foods and forage that would attract animals such as deer (Norton 1979; White 1980). Along stream courses red alder, black cottonwood, bigleaf and vine maple, and other riparian taxa predominate. Wetlands supported taxa such as cattail, reeds, and wapato. Plants useful for food found near the site include blackberry, serviceberry, cranberry, thimbleberry, huckleberry, ferns (bracken, wood, and sword), wild carrots, rose hips, tiger lilies, hazelnuts, camas, wapato, acorns, and crab apple (Gunther 1945). Numerous other plants, shrubs, and trees provided fuel, medicines, and materials for making tools, shelter and transportation. Ravines leading to the bluff-tops south of Point Elliott host typical *Tsuga heterophylla* zone vegetation.

2.2 CULTURAL SETTING

The cultural history of the Mukilteo vicinity covers thousands of years representing primarily Native American occupation and only about 200 years of Anglo-American presence. This history is one of changing economic strategies, residence patterns, and population growth for each entity.

Pre-Contact Record

Human occupation of the Puget lowlands began sometime after glacial retreat, possibly as early as 12,000 years before present (Carlson 1990; Nelson 1990). The earliest well-established cultural period in North America, designated the Paleoindian period, is poorly defined and poorly dated based on the few archaeological sites found across the region. Distinctive fluted projectile points characterize this time period, and have been recovered as isolated finds in upland settings as close as Whidbey Island and the Kitsap Peninsula (Avey n.d.; Meltzer and Dunnell 1987; Stein et al. 2004). Lacking anything more than isolated finds of stone implements and their rare association with large mammal remains, explanations about Paleoindian lifeways are highly speculative. Given the rapid region-wide rise in relative sea-level after the retreat of Pleistocene glaciation, coastal Paleoindian settlements were likely inundated.

During the early and middle Holocene, when rising relative sea-level began to stabilize, occupation of the region is understood in terms of several archaeological sites found mainly in upland settings in the Puget basin and Strait of Juan de Fuca. Although this culture-historical period is given different names under different prehistoric sequences that have been constructed over the past several decades, it is generally referred to as the Early period, a span from about 8000 BP to about 5000 BP. Artifacts found in the region attributed to this period were originally called "Old Cordilleran" (Butler 1961) but are now usually termed "Olcott" when found in the Puget lowlands, named after the type site along the Stillaguamish River approximately 35 miles (56 kilometers) northeast of Mukilteo (Kidd 1964). Olcott assemblages may include large leaf-shaped and stemmed points, scrapers, and flake tools, often of heavily weathered volcanic rock such as basalt or dacite (Carlson 1990). Olcott sites have usually been found on older fan-delta settings or on river or lake terraces (e.g., Mattson 1985; Morgan 1999). Features such as hearths or structural remnants, or plant and animal remains that would offer a better picture of subsistence economy or settlement patterns, are absent from Olcott sites investigated to date.

During the Middle period, from approximately 5000 BP to 2500 BP, the human population across western Washington grew and socio-economic organization of communities became more complex (Ames and Maschner 1999). Social groups utilized a wider range of marine resources, including sea mammals, fish, and shellfish, and the kinds of archaeological sites that date to this period are more diversified with respect to setting and inferred function, suggesting an established seasonal round of economic pursuits. Intensified use of specific local environments such as prairies and salmon streams is apparent from site distributions and artifact types. Ground stone implements appear in both coastal and inland sites after 5000 BP. Bone and antler tools, including toggling harpoons, found in shell midden sites suggests marine mammal hunting.

By the Late prehistoric period, from about 2500 BP until widespread Euroamerican contact in the early nineteenth century, three distinct cultural patterns were found in the region: marine-oriented cultures on the Pacific coast, a mixed marine and terrestrial economy along the shores of Puget Sound, and inland terrestrial mammal hunting and riverine fishing traditions (Ames and Maschner 1999). More populous communities apparently congregated at river confluences and along tidewater shorelines in permanent or semi-permanent winter villages, while seasonal use of upland and lowland camps that could focus on harvesting of particular resources, such as salmon, shellfish, and camas, increased as well. Archaeological evidence for these settlement and subsistence patterns can be seen in greater diversity of hunting, fishing, plant processing, and woodworking tools found in Late period sites. Cedar plank houses occupied by a large semi-sedentary population are well-represented in this period (Blukis Onat 1987), in which Matson and Coupland (1995) view the final development of the broad cultural patterns observed at the time of initial Euroamerican contact. This contact in the late 18th century led to drastic changes in Native American populations and community structures, primarily caused by disease pandemics (Boyd 1998).

Ethnohistory

Point Elliott and 45SN393 lie within the area that was traditionally known as *beka'ltiu*. The lifeways of the Native American peoples in the area were oriented primarily towards the sea and the Snohomish River, which served as means of transport and sources for food and raw material. The prominence of Point Elliott as a landmark would have made it an area that likely witnessed interaction between Native American peoples in the region. These groups included the Snohomish who lived in the area surrounding the nearby delta of the Snohomish River; the Snoqualmie who lived inland and upstream along the Snohomish and Snoqualmie Rivers and their tributaries; the Suquamish, who traditionally occupied northern Kitsap peninsula; the Duwamish, who lived further south near present-day Seattle and the Duwamish River valley; and the Swinomish, Lummi, Skagit, and other tribal communities living on the islands and mainland to the north (Figure 7). Although dependence on a marine economy varied somewhat among these people, Puget Sound was a fundamentally important means of transportation, communication, and subsistence for all of them (Tweddell 1974:25).

During the ethnohistoric period, the Snohomish lived along the Snohomish River, from present-day Monroe to the mouth of the river near Everett, and along the shoreline of Possession Sound northward to the Stillaguamish River, along much of Camano Island, and on the southern half of Whidbey Island (Ruby and Brown 1992:212). Four major Snohomish winter villages, several camp sites, and other geographic place names are known from this period. The villages were at *He'bolb* near Everett, at Priest Point, at Sandy Point on Whidbey Island opposite Tulalip Bay, and on the southern tip of Whidbey Island

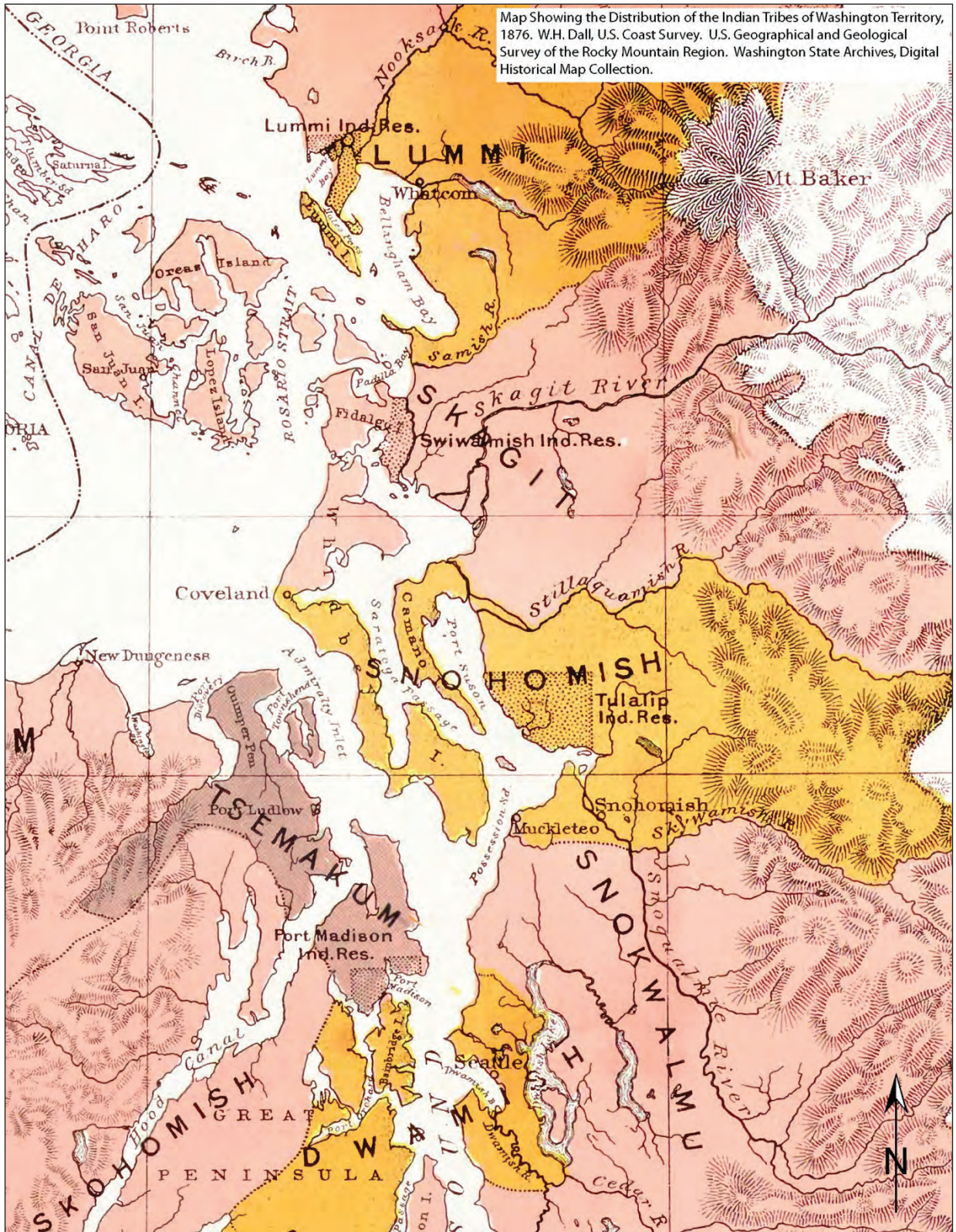


Figure 8. Distribution of Native American tribes and reservations, 1876.

(Haeberlin and Gunther 1930:7). Waterman noted three traditional place names near Point Elliott: 1) *Beka'ltiu* corresponds with Point Elliott and was anglicized as Mukilteo when the town site was named in 1862 (Phillips 1971:94). Waterman noted it was an excellent fishing locale and frequently used as a camp site (Waterman 2001:344). Tweddell recorded the meaning of the name as "to swallow" or "narrow passage" (Tweddell 1974:622). 2) *Sklels*, or "dirty rocks," was the name used to describe a part of the shoreline very close to Point Elliott where the beach cobbles looked dirty and muddy. 3) *HuxuktL!á³al* (*hwEtL* meaning "broken") was the name used to describe the shoreline between Everett and Point Elliott where the tops of the trees had broken off (Waterman 2001:343-344).

Subsistence of Puget Sound Native Americans focused heavily on marine resources, including salmon, herring and other fish, shellfish, birds, and marine mammals. Shellfish were both eaten as food and used for bait to catch fish (Lane 1975a:28). Plant foods, including berries and camas, along with terrestrial animals and birds supplemented the diet (Tweddell 1974:56). At the time of Euroamerican contact, the Snohomish, like other Puget Sound Salish-speaking groups, lived in permanent villages of cedar plank houses during the winter and traveled to seasonal camps in the spring, summer, and fall to fish, hunt, and gather shellfish and plants.

Spanish and English explorers were the earliest known Europeans to visit the Puget Sound region. Among them was Captain George Vancouver, who led an expedition that surveyed the area, mapping and naming a number of its land and water features in 1792. The seamen who first sailed throughout Puget Sound were part of a broader worldwide competition to claim new territories that could enhance the influence of major European nations. Maritime traders soon followed these explorers as worldwide attention began to focus on the economic potential of the Northwest's vast natural resources. Initially, the valuable pelts of the sea otter were the most sought-after commodity, and British merchantmen vied with their American counterparts, known as Boston men, to trade with coastal tribes. In the early nineteenth century the high prices paid for other fur-bearing animals like the beaver also drew overland explorers, who were generally representatives of large trading companies in both Canada and the United States. Most dominant along the Northwest coast was the Hudson's Bay Company, which established forts at strategic locations and set up far-reaching networks of exchange with Indian people throughout the region. These trade relationships brought changes to Native American socio-economic patterns without significant loss of autonomy. More damaging was the role Europeans played in the spread of disease throughout the area, and a number of major epidemics, including smallpox and malaria, had a devastating effect on Native populations by the early nineteenth century (Scott and DeLorme 1988:15; Whitebrook 1959:65-67; 76-78; Carpenter 1986:25, 26, 30, 35-38; 64-66; Crooks 2001:12; Cole and Darling 1990:128-133; Boyd 1999:4-5, 262-263).

American interest in the Pacific Northwest grew substantially following the publication of information gathered by the 1804-1806 Lewis and Clark expedition. Congress authorized naval exploration of the Pacific in 1828, but another decade elapsed before the United States Exploring Expedition under the command of Lieutenant Charles Wilkes began its four-year voyage along the West Coast. As Wilkes and his men sailed throughout Puget Sound in 1841, they mapped and named many of the geographic features of the area. The flood of American settlers who headed to the Pacific Coast soon after the Wilkes expedition caused tensions with the indigenous residents as well as with the Hudson's Bay Company traders. In 1850 the U.S. Congress passed a measure called the Donation Land Law, which provided very generous land grants to current residents of the territory and encouraged even more migration to the region. Settlers quickly moved onto land that was important for the subsistence patterns of Native peoples. When Washington Territory was created out of the northern portion of

Oregon in March of 1853, Isaac Ingalls Stevens was appointed as the first territorial governor and also named *ex officio* Superintendent of Indian Affairs. Stevens had a mandate to make treaties with the Indian peoples of Washington and extinguish their title to lands American settlers had claimed (Richards 1993: 194-195).

Stevens held a series of treaty-making sessions with various tribal groups throughout Western Washington in the winter of 1854-1855. Point Elliott, the jutting piece of land named for the Wilkes expedition crew member, Samuel Elliott, was chosen as the site for one of these meetings. On January 22 and 23, 1855, Governor Stevens and his aides met with over 2,000 Indians of the northeast Puget Sound region, including representatives of the Snohomish as well as the Snoqualmie, Skopahmish (Muckleshoot), Stillaguamish, Kikiallus, Skagit, Lummi, Suquamish, Sauk-Suiattle, Duwamish, and other tribes (Appendix A). This treaty promised payment to the tribes, retention of hunting, fishing, and shellfish gathering rights, and services in exchange for aboriginal lands. The treaty also proposed several reservations. The Snohomish were to join the Snoqualmie, Stillaguamish, and Skykomish on the new Tulalip Reservation, while the Sammamish were to move either to the Port Madison Reservation or the Tulalip Reservation. Smaller reservations were established for the Swinomish and Lummi on the Skagit and Nooksack Rivers (Figure 7) (Haskett 1974:1-3; Hitchman 1985:233; Records of the Proceedings of the Commission to Hold Treaties with Indian Tribes in Washington Territory, microfilm, UW, Seattle; Lane 1975b:3-4).

The combined tribes, who became known as the Tulalip Tribes of Washington, were assigned to a mainland reservation with Tulalip Bay, west of the town of Marysville, as its geographical center. In recent times, the Snoqualmie and Stillaguamish have split from the Tulalip Tribes and have gained federal recognition. The remnants of Native American occupation of Point Elliott are no longer visible, having been covered in successive layers by late nineteenth century historic development of the Mukilteo waterfront, early twentieth century construction and expansion of the Mukilteo Lumber Company/Crown Lumber Mill, and mid-twentieth century military use.

History

Anglo-American settlement at Mukilteo began soon after the Point Elliott Treaty council. Morris Frost, who held the position of customs collector at Port Townsend and was active in territorial politics, made the first claim, in 1857 according to some sources (Phipps 1965; Whitfield 1926). Frost had traveled throughout the region and noted that Point Elliott was a prime site for trading because of its location on the Sound between Bellingham and Seattle, and its proximity to the mouth of the Snohomish River and large Indian populations in the area (Cameron et al. 2005:62).

Frost encouraged Jacob Fowler, a fellow New York native who was running a store and hotel on Whidbey Island, to move to Point Elliott. Fowler filed a claim to the north of Frost's along the waterfront and the partners established their own store and saloon, primarily under Fowler's management. In 1862 Fowler also applied for a permit to establish a post office at the site, which he called Mukilteo. Mukilteo was the only trading post between Seattle and Penn's Cove on Whidbey Island at this time, and initially Indians of the region were probably their primary customers (Figure 8). Most additional activity in the area was limited to small-scale agricultural enterprises that sustained the few homesteaders who had settled there.

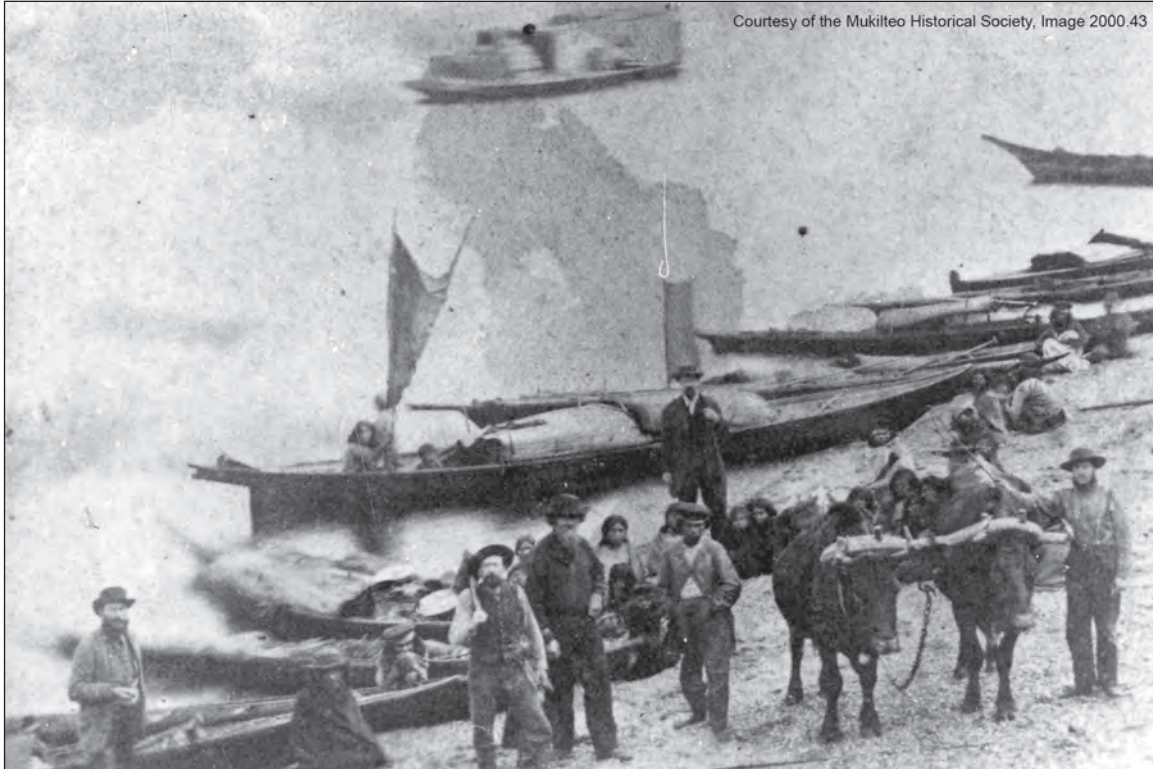


Figure 9. Photo showing Indians, canoes, early settlers, and J.D. Fowler with his oxen at Mukilteo.

Sources apparently based on Fowler's early diaries indicate that the very first commercial and residential buildings of the Mukilteo settlement were located on the southwest side of Point Elliott on land that would later become part of the state park (Figure 9). This exposed location was subject to bad weather and tides and thus the partners quickly moved their buildings to a more protected area along a rough trail that eventually became Front Street. As logging developed in importance, newcomers began to have sufficient interest in the region for Frost and Fowler to develop a hotel as well as their store and saloon at the intersection of Park Avenue and Front Street and to plan for other ventures to build a more substantial community. Mukilteo was the first town of any size in what became Snohomish County and later historians noted that it also established many other "firsts," including first county seat, first manufacturing center, first post office, first telegraph station, and the first real estate partnership (Interstate Publishing 1906:369; McConnell 1977:4-8; Whitfield 1926:1-584-587). For a short period after its founding, Mukilteo was the major trading point in Snohomish County. Fowler and Frost developed several businesses that involved harvesting, manufacturing, and shipping local products. A diary kept by Fowler evidently indicated that the pair started a saltery sometime prior to September 1867 and sold barrels of salted salmon to individuals and businesses around the Sound. They also were involved in shipping other local products, including berries, flour and ice, on several sailing vessels they had purchased: the Tibbals, the Pigeon, and the Gazelle (Interstate Publishing Company 1906: 258, 369; Phipps 1965: 2-4; McConnell 1977:8).

The area's rich forests also provided logs that could be sold to large sawmills operating around Puget Sound at Port Ludlow, Port Gamble, and Utsalady. The first sawmill near the mouth of the Snohomish River was built in 1853 on land along Tulalip Bay. Closer to Mukilteo, a small sawmill began operations



Figure 10. The original Frost and Fowler store location on the south side of the point, no date.

in the mid-1860s on the Livingston claim, a short distance from the settlement. It lasted only a few years because it was unable to compete with the bigger mills across the Sound. The valleys of the Snohomish and Stillaguamish rivers were logged most intensively during these early years, and Frost and Fowler's Mukilteo hotel quickly became a home for woodsmen during the winter months. A few individuals also ran logging operations in the immediate vicinity of Mukilteo, including Morris Frost, who employed a crew of ten men with eight oxen in 1876 (Whitfield 1926:I-678; Dilgard 2007:1; Interstate Publishing 1906: 256, 258, 259, 261, 586).

Fowler's and Frost's enterprises sustained Mukilteo, but the partners hoped that new transportation access to a transcontinental rail link would enhance its growth. The Northern Pacific Railroad evidently sent a surveyor, General James Tilton, to stake out a potential terminus at Mukilteo in 1871, setting off speculative activity in the buying and selling of town lots. One of the earliest maps of the Mukilteo area, drafted in 1872 for the US Coast Survey, shows a structure and fenced yard at the southeast corner of the intersection of Front Street, Park Avenue and the city dock, corresponding to the location of Bay View Hotel, owned by Frost and Fowler (Figure 10). An early photograph includes the hotel and a few other buildings along Front Street with only an empty field to the south, bordered by Park Avenue and a picket fence (Figure 11). When in 1873 Tacoma was selected as the terminus and a financial panic gripped the nation as a result of the default of Northern Pacific financier Jay Cooke, area businesses soon felt serious financial constraints. The partnership of Mukilteo's founders, Frost and Fowler, went into receivership in 1876, and V. B. Stacy of Seattle began to handle the company's land holdings and other affairs (Armbruster 1999:30, 36, 37; Whitfield 1926: 587; Interstate Publishing 1906:370).

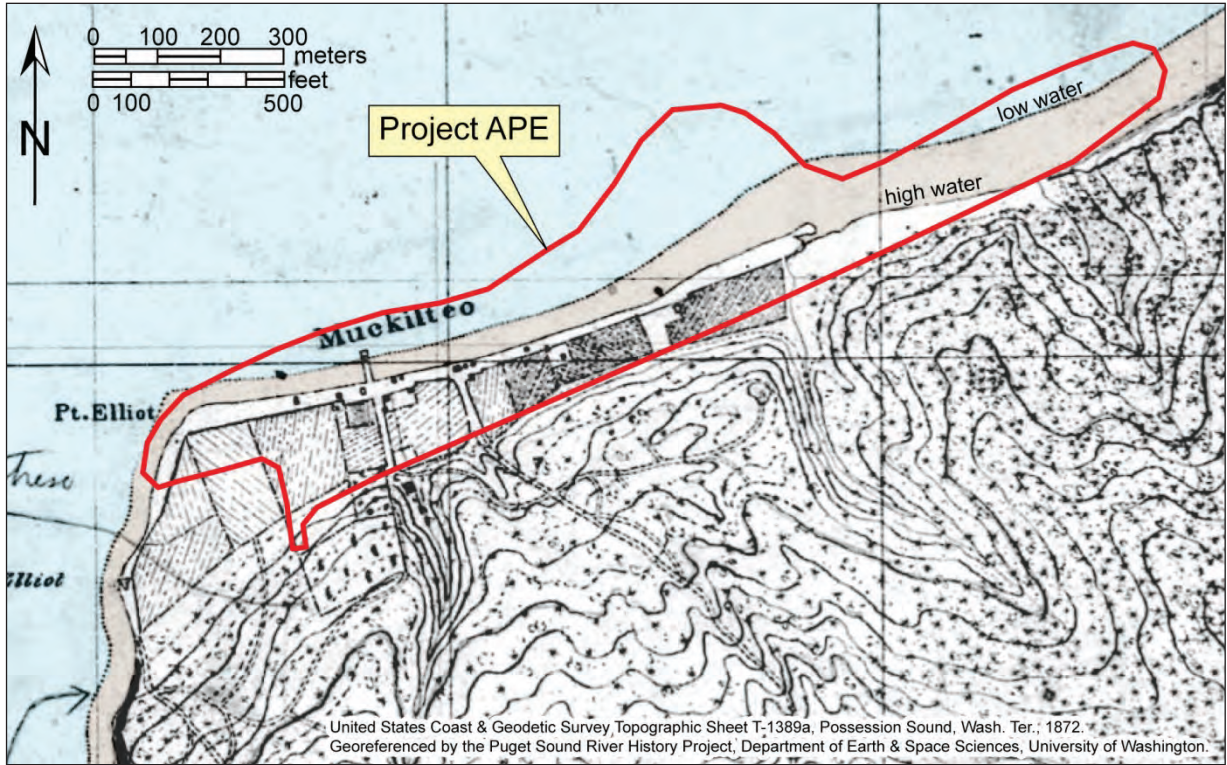


Figure 11. Map showing early Mukilteo, 1872.

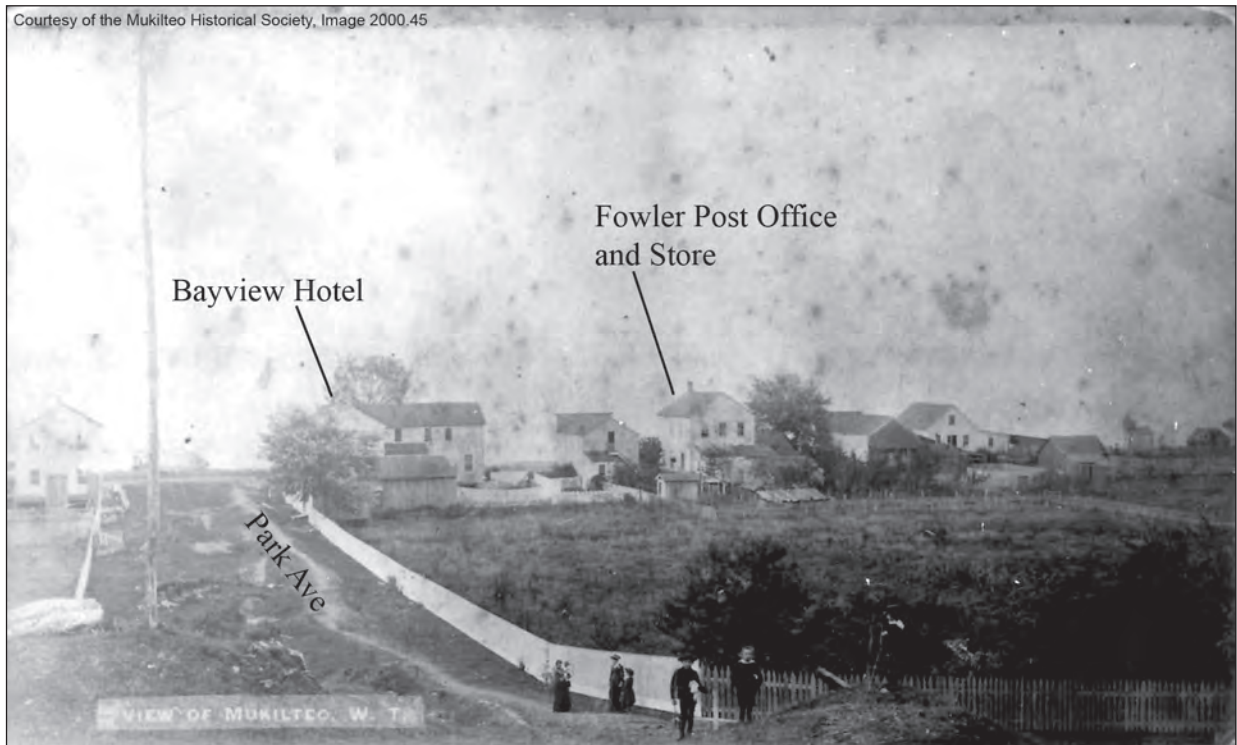


Figure 12. Early Mukilteo looking north from approximately Park Avenue and Second Street, c. 1878.

As a result of these financial difficulties, the Bay View Hotel closed for a short period of time, but was soon purchased by P. Trana and continued to be the focus of the Mukilteo townsite. A photograph from 1878 shows that in addition to the hotel, several other businesses had been added along the south side of Front Street during this period (Figure 12). The town also became the site of a brewery as early as 1875, although sources differ on who was involved in these early efforts. According to some historians, Joseph Butterfield founded the Eagle Brewery in that year, selling it a year later to Frost and Fowler. Another source indicates that George Cantrini built the town's first brewery in 1878, selling 240 barrels his initial year of operation and nearly doubling his production the following year. S. N. Snyder was said to have rebuilt the brewery in 1882 after it had burned down, and he operated it until 1884 (Phipps 1965: 4; Interstate Publishing 1906:370; Whitfield 1926:588; Meier 1991:90).

Along the waterfront, fish processing also became an important industry in Mukilteo during this period. The partnership of Rheinbrunner and H. C. Vining picked up the salting business that Frost and Fowler had begun and shipped barrels of their product to the East Coast in 1875. Vining evidently continued the business on his own for several years, primarily hiring Indians to bring in the salmon. The first cannery on Puget Sound was established at Mukilteo in July 1877 by George Myers and Company (sometimes called Jackson, Myers, and Company), which also operated another cannery on the Columbia River. The Mukilteo facility, according to newspaper accounts, was built on the wharf, and boats drew up underneath and unloaded their catch, which was processed there. H. C. Vining, who was one of the townspeople who evidently encouraged the company to develop a cannery at the site, directed a crew that provided some of the fish for the enterprise. Another crew, which was primarily composed of Chinese fishermen, was run by a Mr. Tull. Any fish that were not used by the cannery were



Figure 13. Looking east down Front Street from Park Avenue, showing the Bay View Hotel, 1878.

salted by the two men. Although newspapers suggested that the company might also can fruits and vegetables grown by area farmers, there is no information that any other kind of canning actually occurred (*Northern Star*, July 28, 1877:4; Sept. 8, 1877:4; Whitfield 1926:I-588; *Northern Star*, September 22, 1877:4).

Myers was said to have taken a ten-year lease on his cannery site in 1879. In 1887 a new cannery and wharf were built by a man named Coleman, who used Chinese labor despite strong anti-Chinese sentiment in the region. In the following year, Frank L. Tuttle ran this cannery and evidently made a number of improvements to the plant, built some fish traps and added to the fishing fleet. Sources vary but evidently Tuttle remained there for at least two seasons and possibly until the mid-1890s, when an economic downturn led to the closure of Mukilteo's canneries (Whitfield 1926:590).

Aside from its canning industry, Mukilteo experienced little economic growth during the 1880s, and its population evidently peaked at about 75 residents. The town did have regular steamboat service during this period, so its waterfront location made it a possible tourist destination. In the late 1880s entrepreneurs attempted to establish vacation resorts in the area. Walter Keyes and his wife brought property at Mukilteo to build what he called the "Long Branch of Puget Sound," a resort community probably patterned after Long Branch, New Jersey, which was a popular celebrity vacation spot in the nineteenth century. Keyes dedicated the facility in May 1887 with picnics and music by a National Guard band and encouraged excursions from Snohomish, Seattle, and other Puget Sound towns. The Long Branch did not appear in city directories by 1893, so it is likely that it was a short-lived venture. In contrast, the Bay View Hotel, which was remodeled in 1888 and initially boasted a dance pavilion, croquet court and other amenities, remained a Mukilteo landmark for many years. Located at the center of community activity on the corner of Front and Park Avenue, the Bay View eventually served as a boarding house for local workers (Whitfield 1926:I-589; Polk 1893:281-283).

When Washington achieved statehood in 1889, the economy of the region experienced a brief revival and Mukilteo followed suit. The town's renewed prospects were based on the possibility of a long-awaited transcontinental rail link. Mukilteo, like most other towns on the Sound, was eager to welcome James J. Hill of the Great Northern Railroad. Hill and his associates secured a foothold on the Seattle waterfront in 1890 and oversaw construction of a railroad, called the Seattle and Montana, which ran northward to Bellingham and provided a link with lines running south from the Canadian Pacific. The 78 miles of track constructed in 1891 primarily followed the shoreline of the Sound and passed through Mukilteo, which became one of its stops (Hidy et al. 1988:78; Cameron et al. 2005:106-108).

In anticipation of growth because of its railroad connection, Mukilteo was platted in 1890 and another flurry of sales in town lots began. In addition to the construction of several buildings that housed real estate offices, stores, restaurants and another hotel, a new telegraph office also opened in the town. Lower Park Avenue was the site of a railroad depot, transfer station, drugstore, restaurant, barber shop, confectionary, butcher shop and a general store. Residents expected even more growth and bonded themselves for \$10,000 to build an elaborate new school. The building was completed in 1893, but initially served only 29 students (Whitfield 1926:I-589-590; McConnell 1977:144).

Several other towns along the Seattle and Montana were platted at the same time, but it was Everett that experienced the greatest growth at the end of the nineteenth century. The prospect that the Great Northern's transcontinental line, which crossed the Cascade Mountains to the coast over Stevens Pass, would use Everett as its terminus fueled even more speculative interest. When the line was completed

in 1893, James J. Hill chose Seattle instead, but Everett continued to expand as the center of the burgeoning lumber industry. Demand for wood products from the Puget Sound area was also boosted by the rush to the Klondike gold fields beginning in 1897. Investments by the Rockefeller interests and later the Weyerhaeuser Company helped to continue this growth so that soon after the turn of the century Everett had nine sawmills and thirteen shingle mills (Cameron et al. 2005: 11-112, 119, 135-136; Interstate Publishing 1906:283-284).

Mukilteo was initially overshadowed by this phenomenal development, and by 1899, steamer service even bypassed the declining town. Eventually, however, some of Everett's success spilled over into other towns on the railroad and helped to revive Mukilteo. Sawmilling became the primary source of jobs and income for the town after 1903 with the construction of the Mukilteo Lumber Company. Investors in this enterprise included several former Midwest lumbermen who also owned a couple of Everett mills. As soon as the new mill's foundation was in place, the company also began work on a dock to replace the deteriorating structure that had long been Mukilteo's main shipping access. When completed, the plant included both a shingle and a lumber mill, which was said to include "a double band, with resaw, edgers, slashers and trimmers" (*Pacific Lumber Trade Journal* April 1903:52). These new facilities once more made Mukilteo a desirable port, and the Seattle-Everett steamship line reinstated regular service along with other transportation companies (*Everett Daily Herald*, April 17, 1903:4; April 24, 1903:3; May 28, 1903:7; Sept. 4, 1903:2; September 24, 1903:5; Nov. 11, 1903:1).

As many as 100 construction workers helped to build the mill and most evidently came to Mukilteo from Everett by ferry and returned home by train. On November 1, 1903, the Great Northern added a new Mukilteo station, which provided better access to the mill. By that time much of the machinery was in place and crews had erected a new burner as well as a smokestack 100 feet in height and eight feet in diameter. In addition, five dry kilns were built from concrete blocks manufactured on the site. The company had also begun construction of a company store near the wharf and company housing on the bluff above the tracks (*Everett Herald*, Sept. 28, 1903).

The 1904 city directory lists only 34 residents living in Mukilteo in addition to the mill owners and supervisors, most of whom made their homes in Everett or out of state. By 1907, however, the population of Mukilteo was 350 and it had grown to a reported 600 by 1909. Of the residents enumerated in 1907, at least 53 worked directly for the Mukilteo Lumber Company, while others were employed by the small Ira Heath mill, the Doucette and Sons and Mukilteo Shingle Company operations, and the Elliott Bay Logging Company. A number of longshoremen who loaded and unloaded the lumber vessels were also involved in the industry and lived in Mukilteo. In addition, the town had four hotels and two general stores as well as a saloon, meat market, real estate company and boat building concern. Other residents included a few fishermen and Great Northern Railway workers, ranchers, and a chicken producer (Polk 1904:392-394; 1907:445-450; 1909: 597-603; 1912:537).

The early city directories did not include the Japanese workers, who were evidently employed by the Mukilteo Lumber Company from the beginning of its operation. Newspaper accounts indicate that the mill had hired at least 30 laborers of Japanese ancestry to work in the yard by February of 1904, and reported that other Japanese crews were planned. Caucasian workers initially threatened to leave the company if the Japanese workers were not dismissed, but their protest had little effect. The numbers of Japanese employed at Mukilteo Lumber Company continued to rise and later historical accounts suggest that the number had increased to 150 by 1905 (*Everett Herald*, Feb. 15, 1904:8; March 1, 1904:1; March 28, 1904:1; Interstate Publishing 1906:370).

The Mukilteo mill's entire workforce grew to well over 200 after 1909, when California investors purchased the facility and renamed it the Crown Lumber Company. The new ownership group, which included A. A. Baxter and James Tyson of San Francisco and H. W. Jackson of Eureka, California, had long experience in the industry. Primary control appeared to be in the hands of Tyson, who was the nephew of Charles Nelson, a Danish ship captain who built the Nelson Steamship Company and the Nelson Lumber Company into some of the most successful corporations on the West Coast. The sale included the Mukilteo mill property and employee housing as well as interests in three boats, a lumber yard in San Francisco and approximately 2,400 acres of the company's timber lands. Newspapers of the period reported that the mill machinery included "three large bandsaws, one roller band, two edgers and a gang, besides automatic trimmer, slab slasher and a lath mill" with a capacity of over 200,000 board feet of lumber and 40,000 board feet of lath per day (*Pacific Lumber Trade Journal* Sept. 1909:36; *Everett Herald*, Aug. 26, 1909:1; Kaiser 1990:3-4).

The Crown Mill was classified as a cargo facility, and its main products included untreated lumber and timbers, which were primarily in demand for export (Figure 13). The mill also had dry kilns and planers, which gave the company flexibility to produce specialty products like railroad ties and flume stock as well as finished lumber for domestic markets. Statistics recorded by timber industry publications suggest that in the first decade after its purchase, the Crown Lumber Company expanded its foreign exports, shipping to markets in Mexico, the West Indies, the Cook Islands, Hawaii, and Australia. Later in the 1920s it also sent lumber to South American and East Coast destinations (*The Timberman* Jan. 1912:29; May 1913:55; May 1913:63; Nov. 1929:202).

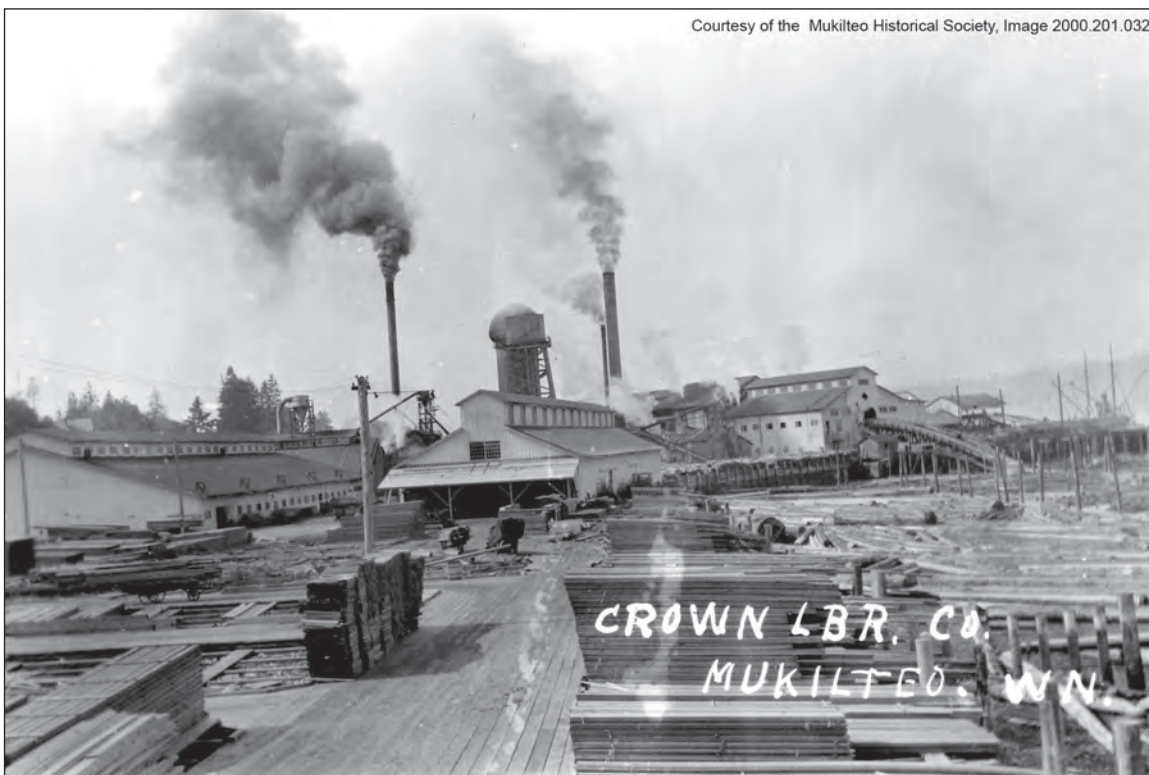


Figure 14. The Crown Mill during operations, no date.

Most of the mill's foreign shipments were carried by large steamship lines or tramp steamers that could pick up partial loads. During the early years, much of its lumber production bound for Pacific ports was also carried on sailing schooners. The company eventually operated its own small fleet of steam vessels that transported lumber to California. After World War I, several steel-hulled ships that had been owned by the government were purchased for use as lumber carriers (Kaiser 1990:14-17).

During peak periods of operation, Crown Lumber employed between 200 and 240 mill workers. Most skilled jobs were held by Caucasians, but the company continued the Mukilteo Lumber Company's policy of hiring Japanese workers for most of the other positions at the plant. The 1910 census figures for Mukilteo precinct indicate that there were at least 86 men of Japanese descent listed as sawmill employees and ten years later the number was only slightly higher at 94. Many of these men were single while working at the mill, although the number of families living in the mill's Japanese community had grown considerably by 1920. Crown's Japanese workers had their own settlement, which included single-family residences, boarding houses, a community hall, boy's club, and a small store (Kaiser 1990:4; Thirteenth Census 1910; Fourteenth Census 1920). The Crown Mill continued to operate in Mukilteo and was its primary employer for more than twenty years (Kaiser 1990:4, 27-30; McConnell 1977:29).

In addition to the Crown plant, several other timber-related businesses were also important employers in Mukilteo during this period. Shingle-making in Snohomish County had begun as a small cottage industry for local ranchers who need extra income, but the introduction of more sophisticated machinery totally changed the business. With new demand in the Midwest after good rail connections were established, Snohomish County had 97 shingle mills on its tax rolls by 1903, with a third of those built after 1900. Mukilteo accounted for several shingle mills during this era, including one operated by the Doucette brothers, the Mukilteo Lumber Company's shingle-making facility, and the Mukilteo Shingle Company, incorporated in 1907 and run by G. A. Bergstrom and E. A. Haynes. At least one or two shingle mills continued to operate along the Mukilteo waterfront during the next few decades, including Haynes Floyd shingle manufacturers, the Yukon Lumber and Shingle Company, and later the Superior Lumber Company, which was incorporated in 1915, but does not appear in city directories until the late 1920s (Figure 14) (Whitfield 1926: I-687 Ficken 1987:105; *Everett Daily Herald*, April 20, 1903:1; Polk 1906:326-328; Polk 1908:646; Polk 1910:764; Polk 1928-29: 697; Secretary of State, Domestic Corporations For-Profit History Cards, Washington State Archives, Olympia).

Another local enterprise that had ties to the timber industry was the Puget Sound and Alaska Powder Company. The plant, which was organized in 1909 by Peter David, produced dynamite and other types of explosives for use in railroad logging and land clearing as well as railroad construction and mining . Puget Sound and Alaska Powder employed about 30 men, many of whom lived in a nearby boarding house owned by the company (Kaiser 1990:3; McConnell 1977:111).

The growth of new industries also led to increased shipping traffic both to Mukilteo and to Everett and the need for construction of a lighthouse and fog signal at Point Elliott by the federal government. The land was surveyed and then plans and specifications prepared in 1904-1905. The station was completed in 1906 and became an important landmark for Mukilteo (US Army Corps to Engineers to Lighthouse Board, March 29, 1904; Coast Guard chronology of Mukilteo Point lighthouse in Lighthouse File, Mukilteo Historical Society, Mukilteo).



Figure 15. Mills along the beach at Mukilteo, c. 1915, looking west.

As a result of continuing development, the town's population had expanded to approximately 800 by 1910. An Anderson map of this year indicates the Bay View hotel was vacant, but the 1912 Sanborn Fire Insurance Company map shows the hotel in greater detail and thus possibly in use once again. The hotel was later converted to a barracks for soldiers during World War I, and then evidently served as temporary accommodations and the site of occasional boxing matches. Other business in the downtown core along Park during this period included a general store, meat market, and warehouse at the south end of the block; and a small vacant building between the hotel and store (Kaiser 1990:12-13).

By 1920, Mukilteo was home to over 1,100 people, most of whom were employees of Crown Lumber Company. The Crown Lumber Company supported a working community centered on housing along Second Avenue, south of the mill and railroad tracks. A second community of company housing for Japanese mill workers existed near the mouth and lower portion of Japanese Gulch, southeast of the mill (Figure 15). The company store and butcher shop supplied mill workers of various socioeconomic and ethnic backgrounds with groceries, meat, and other necessities (Kaiser 1990:27-30).

Business in Mukilteo remained fairly steady until the end of the decade. Then the effects of the Great Depression and a declining lumber market led to the closure of the Crown Lumber Company plant on September 10, 1930. Problems for Mukilteo were compounded when just a few days after later, an explosion heavily damaged the powder company. Over time, most of the lumber mill machinery was sold or removed, but in August 1938 the remaining mill buildings burned down (McConnell 1977: 93, 111; Kaiser 1990:4)



Figure 16. Aerial view of Mukilteo, looking west, c. 1935.

Sometime after 1940, Park Avenue and the surrounding vicinity (former tidal marsh) were filled with local sand and gravel to its current elevation. During World War II, the mill property was sold to the United States Army, which established the Mukilteo Explosive Loading Terminal (MELT) (Figure 16). The United States Air Force acquired the Army property in 1951 and constructed the Tank Farm for jet fuel storage as well as facilities for fuel transport and experimentation. The Tank Farm ceased operations in the late 1980s and the tanks have since been removed.

In the late 1960s Boeing constructed its manufacturing center for assembling jetliners three miles from Mukilteo at Paine Field. A railroad spur was built from the Mukilteo waterfront to the Boeing plant up through Japanese Gulch to transport parts shipped by water and rail. The current Port of Everett Rail-Barge project at the extreme east end of the Tank Farm is intended to update and continue this supply function (McConnell 1977:72).

2.3 STATUS OF CULTURAL RESOURCES RESEARCH IN THE PUGET SOUND REGION

Despite a relatively high Native American population density in the Puget Sound region at the time of Euroamerican contact and an abundance of pre-contact archaeological sites found over the past 100 years, very few sites have been investigated in any detail. Most investigations have been limited to identification, boundary definition, and occasionally further testing to determine content and chronology. Pre-contact patterns of Native American settlement have been reasonably well-defined based on these investigations and the somewhat biased data from the few shoreline sites which were excavated because of their susceptibility to damage from development. Extrapolation from the



Figure 17. Overview of project area, 2006, showing Rail-Barge pier, pads from fuel tanks, and the MELT Pier.

archaeological record of neighboring areas, particularly the Gulf of Georgia, is a third contributor to formulations about the Puget Sound region's past. Many broad culture-historical schemes have benefited from this data set with respect to placing the pre-contact archaeology of Puget Sound within the larger context of the Pacific Northwest (e.g., Ames and Maschner 1999; Carlson 1990; Matson and Coupland 1995).

The first archaeological investigations in the Puget Sound were those by Harlan I. Smith and his colleagues with the Jesup North Pacific Expedition led by Franz Boas in the 1890s (Smith 1907). Although the surveyors did not mention any "shell-heaps" in the vicinity of Point Elliott, they were the first to characterize Puget Sound shell middens in the region in terms of their dimensions, matrix, and cultural contents. The descriptive paradigm was the main focus of archaeological research in central Puget Sound through much of the twentieth century, in both systematic surveys (e.g., Bryan 1963; Mattson 1971) and more intensive site-level investigations (e.g., Gaston and Jermann 1975). The increasing volume of archaeological data generated from cultural resource management contexts has been applied, however, to more lines of inquiry as culture-historical frameworks become more refined.

Over the past several decades, archaeological data from Puget Sound have been increasingly directed toward questions regarding cultural and natural processes, both from a broader geographic scale such as subsistence and resource depression throughout the Northwest (e.g., Butler and Campbell 2004), and on local scales such as the interplay of tectonic processes and cultural adaptation in particular locations along Puget Sound (e.g., Troost and Stein 1995). Adequate treatment of these questions requires

sufficiently large samples of archaeological material and intact exposures of archaeological deposits. To date these data have come from just a few sites.

The West Point site (45KI428/429) has provided one of the largest archaeological samples in Puget Sound, spanning over 5,000 years (Larson and Lewarch 1995), and has consequently been used as an interpretive guide for much regional archaeological research over the past 10 years. Data recovery excavations at the Duwamish No. 1 site (45KI23) have also yielded a large amount of information, pertaining to settlement in a more estuarine setting than West Point (Campbell 1981). Further upstream, a complex of sites in the Renton area provides data on Native American settlement in a riverine setting in the Puget lowland (Lewarch 2006).

Cama Beach Shell Midden (45IS2), located 15 miles northwest of Mukilteo on the west shore of Camano Island, represents intensive Native American use of a landform comparable to the Mukilteo Point Elliott spit. Between 2004 and 2006, data recovery excavations were conducted at the Cama Beach site, one of the most extensive shell middens in the Puget Sound-Gulf of Georgia region (Schalk and Nelson 2010). These investigations documented the complex evolution of the landform and changing human use of the area's resources. Native American occupation of the beach berm and foreshore and backshore sides of the spit began around 1600 radiocarbon years BP, as soon as the landform was above the reach of the tides. The extensive artifact assemblage from the site as well as 47 radiocarbon dates indicates that, prior to approximately 1100 rcybp, the site served as a spring/summer fishing and shellfish gathering camp, probably used by people resident along mainland rivers. After that date, a more permanent settlement apparently developed on the spit, which had, by that time, expanded to the north enclosing a sheltered lagoon. According to authors of the excavation report, evidence suggests that this settlement was associated with a saltwater-based winter village somewhere in the vicinity (Schalk and Nelson 2010). The change in settlement pattern from riverine-based villages to saltwater-based villages is believed to have accompanied population growth in the region and the resulting trend toward resource intensification that occurred in the 2,000 years preceding European contact. Counter to the current view of that period as a time of cultural stability, however, the Cama Beach assemblage shows evidence of ongoing culture and subsistence change. Faunal remains indicate increasing dependence on marine resources over time, including exploitation of greater numbers of fish species, and decreasing dependence on terrestrial fauna. Additional evidence of subsistence and culture change is the lithic assemblage, which shifts from hunting tools such as projectile points, large utilized flakes, and choppers to woodworking tools such as adze blades (Schalk and Nelson 2010).

Recent decades have seen an increasing use of archaeological field methods in historical period (post-contact) Puget Sound research. Excavations conducted at historical archaeological sites have provided valuable information regarding the lifestyles of little-known segments of historical period populations, including Euroamerican, Native American, and other ethnic groups.

Knowledge of human use of the Puget Sound region increased following passage of the National Historic Preservation Act of 1966. This legislation requires cultural resource studies prior to implementation of federally assisted undertakings, and has resulted in identification and documentation of thousands of pre-contact and historical period sites.

3 INVESTIGATIONS AND RESULTS

The goal of the cultural resource investigations undertaken for the MMP was to determine whether significant historic properties are present within the APE and, if present, whether they would be damaged by construction or subsequent operation of the ferry terminal. In the context of a federal undertaking, such as this project, significance is measured against the National Register of Historic Places evaluation criteria (36 CFR 60.4).

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and meet one or more of four criteria of significance (National Park Service [NPS] 1997:2):

- A. The property is associated with events that have made a significant contribution to the broad patterns of our history.
- B. The property is associated with the lives of persons significant in our past.
- C. The property embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D. The property has yielded, or is likely to yield, information important in prehistory or history.

During previous cultural resources assessments within the MMP APE, six cultural sites were identified as significant or potentially significant historic properties, that is, resources eligible or potentially eligible for listing in the National Register of Historic Places. These properties are the Mukilteo Shoreline Site (45SN393), Point Elliott Treaty Site (45SN108), Old Mukilteo Townsite (45SN404), Japanese Gulch Site (45SN398), Mukilteo Light Station (45SN123), and Mukilteo Explosive Loading Terminal (MELT) Barracks (Field No. MM-04). Ten cultural sites in this area were recommended not eligible for the NRHP—the MELT Pier (Field No. MM-02), MELT Firehouse (Field No. MM-01), MELT Superintendent’s Office (Field No. MM-06), DFSP Tank Farm (Field No. MM-03), SR 525 Overpass, Diamond Knot Ale House, Buzz Inn, the Seahorse Owner’s House, Multi-family Dwelling, and Ivar’s at Mukilteo, while one property—the Mukilteo Ferry Terminal (31-339)—remained unevaluated. One recorded property, McConnell’s Boat House (31-244), was demolished prior to the 2003 survey.

During the present phase of the project updated information was obtained for five buildings/building complexes in the MMP APE. The MELT Barracks one of the properties originally identified as potentially significant, has been altered and is no longer recommended eligible for the NRHP. The Mukilteo Ferry Terminal was determined to be over 50 years old. The complex is documented in this report and recommended not eligible for NRHP listing. Three buildings have been demolished since the 2003 cultural resources survey: Buzz Inn, the Seahorse Owner’s House, and the Multi-family Dwelling.

All of these cultural resources are addressed below. The properties are arranged by type—the pre-contact archaeological site first, followed by historical period archaeological sites, the historical event location, and historical period buildings and structures. The Mukilteo Shoreline Site (45SN393), Old

Mukilteo Townsite (45SN404), and Point Elliott Treaty Site (45SN108) are described in greater detail than the other resources since this document revises the earlier report (Miss et al. 2008).

3.1 MUKILTEO SHORELINE SITE (45SN393)

Site 45SN393, the Mukilteo Shoreline Site, was identified in 2005 during initial cultural resource studies for the Mukilteo ferry terminal project (Kaehler et al. 2006). The project area is an urbanized environment, with most original landforms obscured by pavement and buildings or buried beneath deep fill. Due to lack of ground visibility, archaeological monitoring of geotechnical boreholes was used to supplement traditional visual surveys of the APE. [REDACTED] the archaeological monitor observed intact, stratified shell midden deposits in two bore holes. The positive bores were about 575 feet (175 meters) apart, in areas corresponding to the beach berm that, prior to historic infilling, separated a tidal marsh from the open waters of Possession Sound. The midden was found beneath historic fill ranging from 2.9 feet (0.9 meters) to 13.1 feet (4.0 meters) in depth, suggesting substantial variability in the original topography and/or historic ground surface modification. The archaeological midden deposit in one borehole was 2 feet (0.6 meters) thick, and in the other 8 feet (2.4 meters) thick. Because the archaeological deposits are buried beneath deep fill, the site could only be characterized in preliminary terms. The horizontal site dimensions, 575 feet (175 meters) by 100 feet (30 meters), were based on the distance between the two positive boreholes and the negative evidence of a series of bores across what had been the tidal marsh. Following these initial studies, the extent of the site remained unknown (Kaehler et al. 2006).

In 2006 WSDOT, on behalf of WSF, commissioned additional studies of the Mukilteo Shoreline Site (45SN393) in an effort to determine the site's extent and eligibility for listing in the National Register of Historic Places. Significance, that is, National Register eligibility, of archaeological properties is generally judged under NRHP Criterion D, the property's potential to provide information important in understanding history or prehistory. Importance of the information is measured by relevance to identified research questions that can be addressed through analysis of particular data types. A property, therefore, is judged on the basis of the availability or potential availability of specific data classes necessary to address particular research questions and domains. Five research domains, each with supporting research questions, were formulated during the initial phase of the investigations. These research questions guided the subsequent archaeological and geoarchaeological fieldwork and served as the basis for the National Register eligibility recommendations. These domains and questions are summarized below.

Research Domains and Questions

Site Structure - the Lithostratigraphic Framework: The geoarchaeological component of investigations concentrates on establishing the presence of adequate data to provide a preliminary lithostratigraphic sequence for understanding the physical sequence of geomorphic events in the site and its immediate area. The specific questions and goals of the research include:

- Determination of the range of lithofacies types for both archaeological and sedimentary deposits;
- Construction of lithofacies assemblages;
- Definition and description of environments of deposition;

- Establishment of a chronostratigraphic framework based on relative or absolute chronometric data;
- Relation of the sedimentary bodies to the archaeological deposits;
- Description of the internal structure and character of the archaeological deposits.

Data classes from the site that may be applied to these questions include the stratigraphy of deposits, datable materials, and the character of the archaeological deposits.

Landform History: Reconstruction of the landscape is carried out on several scales and relates site microenvironmental interpretations to local environmental characteristics, and ultimately, to broad landscape changes. At this higher scale, analysis focuses on topographic setting and landforms used directly for subsistence and makes use of bioarchaeological evidence to examine the relationship of the site to the surrounding landscape mosaic. The specific questions and goals of the research include:

- When did the modern cusped foreland begin to emerge above the tidal limit?
- After supratidal emergence, what was the rate and character of lateral growth and vertical accumulation of the spit?
- Are there periodicities in spit growth and stability?
- Are there related in-tandem changes in the character of archaeological deposits?
- Is there evidence for earthquake-induced changes to the configuration of the landform?
- Is there evidence for buried paleo-shoreline features and associated archaeological deposits?

Data classes from the site that may be applied to these questions include the stratigraphy of deposits, character of the archaeological deposits, datable material, artifacts, and faunal and botanical remains.

Site Formation: The study of site formation is critical for understanding the context of archaeological materials (Stein and Farrand 2001; Wood and Johnson 1978), and is used to generate formation histories for archaeological sites based on the physical sequence of sediments and archaeological deposits. Since site formation processes operate in both the natural and cultural realms (Schiffer 1987), a site formation history includes identifying and interpreting archaeological materials in terms of 1) transport and transformation by human activities; 2) the effects of post-occupation, pre-burial taphonomic processes; and 3) changes imposed by post-depositional alterations.

Considerable variability exists in size, internal composition, function, and occupational history of shoreline archaeological sites. Since the specific history and function of shoreline archaeological sites may vary across both space (function of location) and time (function of landform evolution), this facet of the geoarchaeological analysis will use aspects of site structure, internal constituents, and spatial distribution to address the following issues:

- What are the horizontal and vertical boundaries of the site within the Air Force property?
- What is the range of internal stratification expressed within the archaeological deposit?
- How much place-to-place variability is exhibited by the archaeological deposits, and can this be related to micro-habitat substrates on the cusped foreland?
- Are potential habitat substrate changes represented through time in the archaeological record?
- How old is the site and for how long was it occupied?
- What post-depositional processes have occurred at the site?

Data classes from the site that may be applied to these questions include physical site parameters, the stratigraphy of deposits, the character and content of the archaeological deposits, datable materials, and the historic record.

Cultural Processes: Aspects of the site occupants' lifeways include such parameters as demography and cultural processes such as economy, subsistence, and cultural continuity. Answers to questions about the people who lived at the site require adequate samples of the implements they made and used, the remains of food they ate, and evidence of their dwellings or other structure or features they built. Additional information about the times of the year that the site was occupied can be found in seasonally diagnostic animal and plant remains and microscopic analysis of seasonal indicators on shells. How the lifeways of the pre-contact occupants of 45SN393 compared to the Indian communities living in the vicinity of Mukilteo after contact can be investigated by comparison of archaeological data with ethnohistoric and ethnographic observations, Native American oral tradition, and information from contemporary tribal members. The specific questions and goals of the research include:

- How many people lived at the site? Is there evidence of the intensity of human occupation at the site, or that it changed over time?
- Is there evidence for dwellings or other structures at the site?
- Is there evidence for particular seasons of occupation?
- Can specific site activity areas be differentiated at the site?
- What were the economy and subsistence of the occupants, and did they change over time?
- Is there evidence for continuity in occupation from pre-contact occupants, to the Native American communities recorded by ethnographers, to modern Tribal communities?

Data classes from the site that may be applied to these questions include structural remains, activity areas, features, faunal and botanical remains, artifacts, artifact residues, oral testimony, and data from previous investigations.

Regional Syntheses: Site 45SN393 is part of a larger settlement pattern that was used by its occupants, and also part of the larger network of settlements in which different Native American communities interacted. Placing this site into a larger temporal-spatial framework involves addressing questions of culture history and exchange. Quantitative and qualitative comparison of data from other sites in the region provides information on how 45SN393 relates chronologically and culturally to the rest of Puget Sound.

- Do the data collected from this site allow it to be placed within larger patterns of Native American occupation of the Puget Sound region, including existing culture-historical frameworks?
- Is there evidence of exchange or other external relationships?

Data classes from the site that may be applied to these questions include structural remains, activity areas, features, faunal and botanical remains, artifacts, artifact residues, oral testimony, and data from previous investigations.

Geoarchaeological and Archaeological Field Studies

Geoarchaeological investigations in 2006-2007 focused on retrieving data pertinent to establishing the physical framework of the site deposits, identifying the extent and context of the archaeological deposits, and constructing a preliminary landform history. Goals of the archaeological studies overlapped the geoarchaeological goals, and included finding archaeological material beneath historic fill; establishing site boundaries, content, and integrity; and evaluating research potential. The study area for these investigations was the portion of the APE extending from approximately Tank Pad 1 to Tank Pad 4 and from the shoreline to First Street (Figure 17).

Archaeological Testing Methods – Trenching and Coring

Initial archaeological field methods were designed to accomplish the goal of testing archaeological deposits within the project APE for eligibility to the National Register of Historic Places. Testing involved defining the site boundaries and assessing the data potential and integrity of the deposits. The field methods were somewhat unconventional for archaeological testing given that, 1) much of the ground surface across the APE is impermeable (e.g., concrete tank pads and the pavement of Front Street), 2) the archaeological deposits are under one to four meters (three to 13 feet) of modern and earlier historic fill in most places, 3) the likelihood of encountering sediments contaminated with petroleum and other hazardous materials during the investigation was considered high, and 4) the effects of tides on ground water elevations was difficult to predict. The impermeability of the ground surface and inaccessibility of the underlying archaeological deposits precluded hand-excavation techniques, and the presence of contaminated sediments required close monitoring of all field activity and samples taken.

Field work was scheduled to coincide with the lowest possible tides. A combination of backhoe trenches and solid four-inch diameter cores were excavated throughout the APE to accomplish the goals of testing. Data from eight previously excavated geotechnical boreholes reported by Anchor Environmental, L.L.C. (2006) in the study area and off-shore immediately north were also reviewed. The trench profiles provided quantitatively comparable midden samples, radiocarbon dates, and an indication of the integrity of the site deposits. The spoils from archaeological layers in the trenches provided a source of archaeological material that would possibly have been missed in small midden bulk samples, such as artifacts and larger mammal bone. Stratigraphic sequences from solid cores provided geological information about the landform on which the site is situated and presence-absence data on the spatial extent of site deposits.

Fieldwork was conducted by WSDOT backhoe and mud-rotary drill operators and sub-contracted sonic core operators, supervised by NWAA archaeologists. Prior to the commencement of fieldwork and several times during the project, a representative from Herrera Environmental Consultants, Inc. oriented the field crew to potential on-site hazards and monitored all of the trenches and many of the cores with a Photo Ionization Detector (PID), a portable vapor and gas detector that can sense organic compounds. All WSDOT safety protocols were followed. Standard daily work record forms were completed by NWAA archaeologists, along with photograph logs and artifact and sample bag catalogs. Mapping of features and test units was completed using a Trimble GeoExplorer hand-held global positioning system (GPS) receiver.

Figure 18. Location of boreholes, trenches, and cross sections contains sensitive cultural resources information that is exempt from public disclosure pursuant to provisions of the Public Records Act (RCW 42.56.300).

Figure 18. Location of boreholes, trenches, and cross sections (see Appendix B for core and trench numbers).