

**SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT
and SECTION 4(F) EVALUATION
SR 520 BRIDGE REPLACEMENT AND HOV PROGRAM**

DECEMBER 2009

SR 520: I-5 to Medina Bridge Replacement and HOV Project

Cultural Resources Discipline Report

**SR 520: I-5 to Medina Bridge
Replacement and HOV Project
Supplemental Draft EIS**

**Cultural Resources Discipline
Report**



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Executive Summary

The I-5 to Medina: Bridge Replacement and High-Occupancy Vehicle (HOV) Project limits extend from I-5 in Seattle to 92nd Avenue NE in Yarrow Point, where this project transitions into the Medina to SR 202: Eastside Transit and HOV Project. The overall geographic area contains three study areas: Seattle, Lake Washington, and Eastside transition area. The Seattle study area includes the I-5, Portage Bay, Montlake, and West Approach areas (Exhibit 7). The Lake Washington study area extends from near 47th Avenue NE east across Lake Washington to Evergreen Point Road. The Eastside transition area study area begins at Evergreen Point Road and extends east to 92nd Avenue NE. This report also evaluates effects that might occur from the transport of pontoons that would be used to build the new floating bridge, as well as from the production and transport of supplemental pontoons.

Washington State Department of Transportation (WSDOT) initiated the Section 106 process for this undertaking in April and May, 2009, coordinating with the State Historic Preservation Officer (SHPO), Advisory Council on Historic Preservation (ACHP), affected Indian Tribes, and other consulting parties. As the lead federal agency, Federal Highway Administration (FHWA) conducts government-to-government consultations with the Tribes. WSDOT has assisted FHWA with previous consultations in this study area, beginning with the Trans-Lake Washington Study and continuing through the Draft Environmental Impact Statement (EIS). (The Introduction on pages 1-2 explains the environmental documentation process for the project.) The consultations will continue through project design and construction.

The study area, which contains many historic properties, is considered to have a high level of archaeological sensitivity. The study area lies within lands and waters once occupied by Lakes Duwamish Indians whose descendants are enrolled into several federally recognized Indian Tribes including the Muckleshoot Indian Tribe, Suquamish Tribe, Snoqualmie Tribe, the Tulalip Tribes, and the Yakama Nation, as well as the non-federally recognized Duwamish Tribal Services.

The Area of Potential Effects (APE) is the geographic area within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties (36 CFR Section 800.16[d]). For this project, the APE consists of three components:



1. The known or anticipated construction limits that include staging and laydown areas
2. A buffer area (one property deep or 200 to 300 feet from the construction limits, as appropriate) that includes sufficient area to encompass historic structures, commercial buildings and residences, historic districts, and public facilities (including parks and bridges) that might be directly or indirectly affected by demolition, change of land use, noise, dust, vibration, visual quality, or other effects
3. Additional areas outside the construction footprint such as the entire Roanoke Park Historic District, the entire Washington Park Arboretum, and all the navigable waters of Portage Bay

WSDOT determined the APE for the project in consultation with the SHPO, and also sought comments from the identified concerned Tribes and other consulting parties. The SHPO concurred with the initial APE in April 2009. Further comments from consulting parties resulted in an expanded APE, and the SHPO concurred with this revised APE in August 2009.

Seattle

The cultural resource investigation identified one known archaeological site, the Miller Street Landfill (45KI760) and a culturally sensitive landform on Foster Island. If the Miller Street Landfill is determined eligible for listing in the National Register of Historic Places (NRHP) and project-related activities adversely affect the site, mitigation would be required. No formally documented Traditional Cultural Properties (TCPs) currently exist within the Seattle study area; however, FHWA is considering Foster Island (located within the Washington Park Arboretum) to be a TCP and is treating it as eligible for the NRHP although a formal determination of eligibility for this property is yet to be completed. Further documentation and analysis will be undertaken to identify TCP boundaries. All of the design options affect this property to varying degrees, and appropriate mitigation measures will be developed in consultation with WSDOT, FHWA, the SHPO, and interested tribes to mitigate any potential adverse effect.

In the Seattle study area, there are 12 previously identified historic built environment properties: 8 properties listed in the NRHP, including 1 historic district; 1 property listed in the Washington Heritage Register



(WHR) (2009) but not in the NRHP; and 3 designated Seattle landmarks that are not listed in either the NRHP or the WHR. (There are actually nine designated Seattle landmarks in the Seattle study area, but five of them are also listed in the NRHP, and one of them is listed in the WHR.)

The cultural resources analysts surveyed 217 built environment properties in the Seattle study area. Of these, 141 are eligible for the NRHP, either individually or as contributing elements to a historic district, and 76 are not eligible for the NRHP. The SHPO concurred with these determinations of eligibility in August and October, 2009.

There are two NRHP historic districts in the APE. The Roanoke Park Historic District was listed in the NRHP in July 2009. The survey identified one NRHP-eligible historic district, known as Montlake.

- The entire Roanoke Park Historic District is within the APE, with 101 properties. Eighty of these are contributing resources to the district, including Roanoke Park itself and the individually listed Parsons House.
- The Montlake Historic District is only partially located within the APE. There are 145 properties from the Montlake Historic District in the APE; 109 of the properties are contributing to the district, including 35 that are individually eligible (that is, eligible independent of the district) and the individually listed Seattle Yacht Club, and 36 properties are not contributing to the district.

Excluding those properties that are located in historic districts, the survey identified 33 individually eligible properties within the Seattle study area of the APE. The SHPO concurred with these determinations of eligibility in August and September, 2009. In summary, the Seattle study area in the APE contains 231 historic properties that are either listed in, or eligible for, the NRHP, including two historic districts.

Not all of the potential effects to historic properties from construction of the project are known at this time. This report discusses potential construction effects that might occur where they have been identified. Once a preferred alternative has been selected and more detailed construction effects can be evaluated, additional effects determinations on historic properties specific to construction can be made.

Based on available information, several effects to historic properties of the built environment were identified from both construction and



operation of the 6-Lane Alternative options. Some of these effects would be considered adverse (all effects determinations are preliminary, pending SHPO concurrence), as noted below. This list is not intended to be exhaustive, and additional adverse effects determinations might be added once all construction effects are known.

- National Oceanic and Atmospheric Administration (NOAA) Northwest Fisheries Science Center (property identification number [ID] 56) – would experience an adverse effect under design Option A
- Montlake Bridge (property ID 54) – would experience an adverse effect under design Option A
- 2111 East Shelby Street (property ID 90) – would experience an adverse effect under design Option A
- Montlake Historic District (property ID 238) – would experience an adverse effect under design Options A and L
- 2158 East Shelby Street (property ID 79) – would experience an adverse effect under design Option L
- 2159 East Shelby Street (property ID 80) – would experience an adverse effect under design Option L
- Pavilion Pedestrian Bridge (property ID 216) – would experience an adverse effect under design Option L
- Montlake Boulevard Pedestrian Overpass South (property ID 221) – would experience an adverse effect under design Option L
- Montlake Boulevard Pedestrian Overpass North (property ID 222) – would experience an adverse effect under design Option L

At this time, WSDOT, on behalf of FHWA, has not made a definitive Section 106 effect determination for the project. Once a preferred alternative has been selected and all effects can be fully evaluated, a determination of effect for the project will be made. As noted earlier, all effects determinations are preliminary, pending SHPO concurrence. WSDOT has made every attempt to identify all foreseeable effects to historic properties and has disclosed them in this document for review and comment. This will help the public and decision-makers understand the range of potential effects for each option and suboption of the 6-Lane Alternative. Ongoing consultation with the state Department of Archaeology and Historic Preservation (DAHP), affected



Tribes, and other Section 106 consulting parties will also help WSDOT make a determination of effects after the preferred alternative is selected. If the project is determined to have an adverse effect on historic properties, Section 106 of the National Historic Preservation Act (NHPA) requires consultation to resolve the adverse effect, usually culminating in a Memorandum of Agreement (MOA).

Lake Washington

The Lake Washington study area contains no known prehistoric or historic archaeological resources. Additional investigations are recommended near the eastern Lake Washington shoreline north of the Evergreen Point Bridge and where the replacement approach structure would be built. No TCPs were identified for this area.

There is one identified built environment historic property in the Lake Washington study area, the Governor Albert D. Rosellini/Evergreen Point Bridge. The bridge has been determined eligible for the NRHP. Although it has not yet reached 50 years of age, it was accepted under Criteria Consideration G for its exceptional importance. DAHP concurred with this eligibility in December 2008. The Governor Albert D. Rosellini/Evergreen Point Bridge (property ID 202) is the bridge proposed for replacement as a part of this project. As a result, the bridge would experience an adverse effect from the project, and Section 106 consultation culminating in an MOA would be necessary.

Eastside Transition Area

A.R. Blukis Onat, R.A. Kiers, and P.D. LeTourneau (BOAS) (2007) identified three high-probability areas for cultural resources in the Eastside transition area study area. Subsurface testing was conducted for these locations; however, no cultural resources were identified. Although the investigation in this area resulted in negative findings, the eastern Lake Washington shoreline north of the Evergreen Point Bridge has potential for prehistoric archaeological resources. No TCPs were identified for this segment.

The Eastside transition area contains two previously identified historic built environment properties. One historic property, known as the James Arntson House, has been determined eligible for the NRHP. One property, known as the Helen Pierce House, has been determined not eligible for the NRHP, but eligible for the WHR. Both of these properties are located in Medina, along Evergreen Point Road. DAHP



concluded with these determinations of eligibility in April 2009. Nine additional properties were surveyed in the Eastside transition area. Of these, one (the Dixon House at 3267 Evergreen Point Road [property ID 227]) is eligible for the NRHP. The SHPO concurred with these determinations of eligibility on August 27, 2009.

No adverse effects to historic properties of the built environment were identified in the Eastside segment. However, once construction effects can be fully evaluated, these properties will be analyzed further for potential adverse effects from construction activities.

Pontoon Production and Transport

Pontoon production would have no effects on historic properties for this project. Pontoon transport would occur across Portage Bay and through the historic Montlake Cut (property ID 53) for both longitudinal pontoons and supplemental stability pontoons. Portage Bay and the Montlake Cut are active navigational channels and would not be affected by the towing of pontoons through them. The Montlake Bridge is an active bascule bridge that accommodates marine traffic and would not be affected by the towing of pontoons underneath it.

The channel width of the Montlake Cut is 100 feet, so it is likely that when the pontoons are being towed through the cut, there would be little room for other vessels. The Seattle Yacht Club (property ID 55), listed in the NRHP under Criterion A for its association with the social and maritime history of Seattle, traditionally holds Opening Day ceremonies through the Montlake Cut at the beginning of May. The project would have no pontoon towing in the Montlake Cut area on Opening Day, so the traditional ceremonies might take place unimpeded by pontoon towing. Therefore, the transport of pontoons would not be considered an adverse effect on the Seattle Yacht Club or on any other historic built environment properties.



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Acronyms and Abbreviations

AASHTO	American Association of State Highway and Transportation Officials
ACHP	Advisory Council on Historic Preservation
AIA	American Institute of Architects
APE	Area of Potential Effects
BMP	best management practice
BOAS	A.R. Blukis Onat, R.A. Kiers, and P.D. LeTourneau
BP	before present
ca.	circa
Canoe House	Naval Military Hangar – University Shell House
CENPA	Center for Experimental Nuclear Physics and Astrophysics
CFR	Code of Federal Regulations
DAHP	Department of Archaeology and Historic Preservation
dba	decibel (A-weighted scale)
DOCOMOMO	Documentation and Conservation of buildings, sites and neighborhoods of the Modern Movement
DOE	U.S. Department of Energy
EIS	Environmental Impact Statement
Evergreen Point Bridge	Governor Albert D. Rosellini/ Evergreen Point Bridge
FHWA	Federal Highway Administration
GMA	Growth Management Act
GPR	Ground Penetrating Radar
GRCC	Greater Redmond Chamber of Commerce
HCT	high-capacity transit
HOV	high-occupancy vehicle
HPI	Historic Property Inventory
I-5	Interstate 5



I-5 to Medina project	I-5 to Medina: Bridge Replacement and HOV Project
ID	identification number
Medina to SR 202 project	SR 202: Eastside Transit and HOV Project
MOA	Memorandum of Agreement
MOHAI	Museum of History and Industry
NAC	noise abatement criterion
n.d.	no date
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOAA	National Oceanic and Atmospheric Administration
NRHP	National Register of Historic Places
PWA/WPA	Public Works Administration/Works Progress Administration
RCW	Revised Code of Washington
SECRET	Submerged Cultural Resources Exploration Team
SDEIS	Supplemental Draft EIS
SEPA	State Environmental Policy Act
SHPO	State Historic Preservation Officer
SMC	Seattle Municipal Code
SPUI	single-point urban interchange
SR	State Route
SR 520 Program	State Route 520 Bridge Replacement and HOV Program
TCP	Traditional Cultural Property
USC	United States Code
WHR	Washington Heritage Register
WSDOT	Washington State Department of Transportation



Introduction

What is the I-5 to Medina: Bridge Replacement and HOV Project?

The Interstate 5 (I-5) to Medina: Bridge Replacement and High-Occupancy Vehicle (HOV) Project is part of the State Route (SR) 520 Bridge Replacement and HOV Program (SR 520 Program) (detailed in the text box below) and encompasses parts of three main geographic areas—Seattle, Lake Washington, and the Eastside. The project area includes the following:

- Seattle communities: Portage Bay/Roanoke, North Capitol Hill, Montlake, University District, and Madison Park
- Eastside communities: Medina, Hunts Point, Clyde Hill, and Yarrow Point
- The Lake Washington ecosystem and associated wetlands
- Usual and accustomed fishing areas of tribal nations that have historically used the area’s aquatic resources and have treaty rights

The SR 520 Bridge Replacement and HOV Project Draft Environmental Impact Statement (EIS), published in August 2006, evaluated a 4-Lane Alternative, a 6-Lane Alternative, and a No Build Alternative.

What is the SR 520 Program?

The **SR 520 Bridge Replacement and HOV Program** will enhance safety by replacing the aging floating bridge and keep the region moving with vital transit and roadway improvements throughout the corridor. The 12.8-mile program area begins at I-5 in Seattle and extends to SR 202 in Redmond.

In 2006, WSDOT prepared a Draft EIS—published formally as the **SR 520 Bridge Replacement and HOV Project**—that addressed corridor construction from the I-5 interchange in Seattle to just west of I-405 in Bellevue. Growing transit demand on the Eastside and structure vulnerability in Seattle and Lake Washington, however, led WSDOT to identify new projects, each with a separate purpose and need, that would provide benefit even if the others were not built. These four independent projects were identified after the Draft EIS was published in 2006, and these now fall under the umbrella of the entire **SR 520 Bridge Replacement and HOV Program**:

- **I-5 to Medina: Bridge Replacement and HOV Project** replaces the SR 520 roadway, floating bridge approaches, and floating bridge between I-5 and the eastern shore of Lake Washington. This project spans 5.2 miles of the SR 520 corridor.
- **Medina to SR 202: Eastside Transit and HOV Project** completes and improves the transit and HOV system from Evergreen Point Road to the SR 202 interchange in Redmond. This project spans 8.6 miles of the SR 520 corridor.
- **Pontoon Construction Project** involves constructing the pontoons needed to restore the Evergreen Point Bridge in the event of a catastrophic failure and storing those pontoons until needed.
- **Lake Washington Congestion Management Project**, through a grant from the U.S. Department of Transportation, improves traffic using tolling, technology and traffic management, transit, and telecommuting.



Since the Draft EIS was published, circumstances surrounding the SR 520 corridor have changed in several ways. These changes have resulted in decisions to forward advance planning for potential catastrophic failure of the Evergreen Point Bridge, respond to increased demand for transit service on the Eastside, and evaluate a new set of community-based designs for the Montlake area in Seattle.

To respond to these changes, the Washington State Department of Transportation (WSDOT) and the Federal Highway Administration (FHWA) initiated new projects to be evaluated in separate environmental documents.

Improvements to the western portion of the SR 520 corridor—known as the I-5 to Medina: Bridge Replacement and HOV Project (the *I-5 to Medina project*)—are being evaluated in a Supplemental Draft EIS (SDEIS); this discipline report is a part of that SDEIS. Project limits for this project extend from I-5 in Seattle to 92nd Avenue NE in Yarrow Point, where it transitions into the Medina to SR 202: Eastside Transit and HOV Project (the *Medina to SR 202 project*). Exhibit 1 shows the project vicinity.



Exhibit 1. Project Vicinity Map

What are the project alternatives?

As noted above, the Draft EIS evaluated a 4-Lane Alternative, a 6-Lane Alternative (including three design options in Seattle), and a No Build Alternative. In 2006, following Draft EIS publication, Governor Gregoire identified the 6-Lane Alternative as the state's preference for the SR 520 corridor, but urged that the affected communities in Seattle develop a common vision for the western portion of the corridor. Accordingly,, a mediation group convened at the direction of the state legislature to evaluate the corridor alignment for SR 520 through Seattle. The mediation group identified three 6-lane design options for SR 520 between I-5 and the floating span of the Evergreen Point Bridge; these options were documented in a Project Impact Plan (Parametrix 2008). The SDEIS evaluates the following:

- No Build Alternative
- 6-Lane Alternative
 - Option A
 - Option K
 - Option L



These alternatives and options are summarized below. The 4-lane Alternative and the Draft EIS 6-lane design options have been eliminated from further consideration. More information on how the project has evolved since the Draft EIS was published in 2006, as well as more detailed information on the design options, is provided in the Description of Alternatives Discipline Report (WSDOT 2009a).

What is the No Build Alternative?

Under the No Build Alternative, SR 520 would continue to operate between I-5 and Medina as it does today: as a 4-lane highway with nonstandard shoulders and without a bicycle/pedestrian path (Exhibit 2 depicts a cross section of the No Build Alternative). No new facilities would be added to SR 520 between I-5 and Medina, and none would be removed, including the unused R.H.

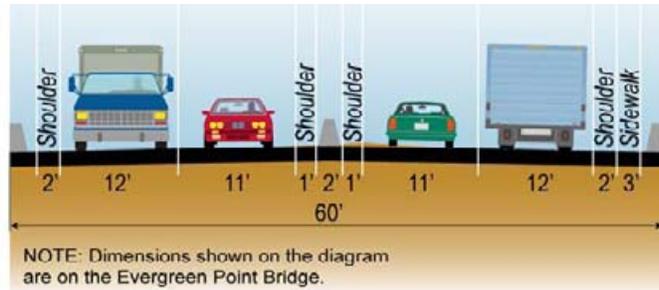


Exhibit 2. No Build Alternative Cross Section

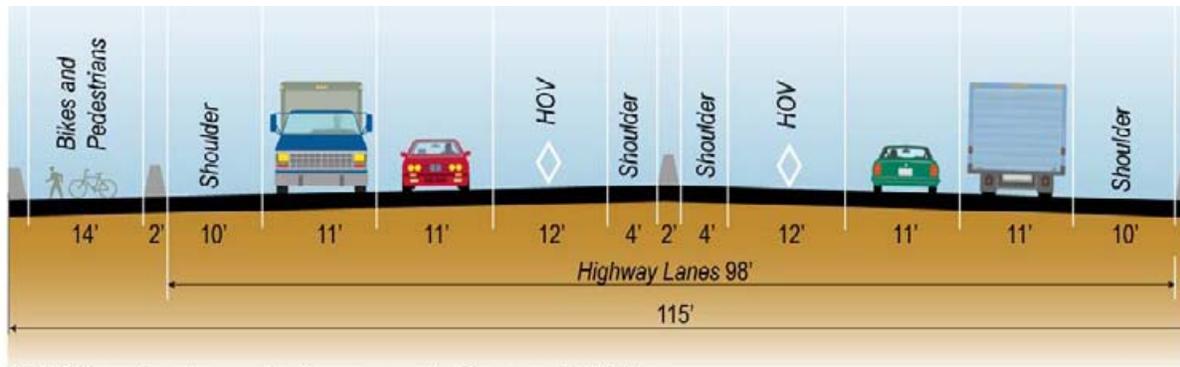
Thomson Expressway ramps near the Washington Park Arboretum. WSDOT would continue to manage traffic using its existing transportation demand management and intelligent transportation system strategies.

The No Build Alternative assumes that the Portage Bay and Evergreen Point bridges would remain standing and functional through 2030 and that no catastrophic events, such as earthquakes or extreme storms, would cause major damage to the bridges. The No Build Alternative also assumes completion of the Medina to SR 202 project as well as other regionally planned and programmed transportation projects. The No Build Alternative provides a baseline against which project analysts can measure and compare the effects of each 6-Lane Alternative build option.

What is the 6-Lane Alternative?

The 6-Lane Alternative would complete the regional HOV connection (3+ HOV occupancy) across SR 520. This alternative would include six lanes (two 11-foot-wide outer general-purpose lanes and one 12-foot-wide inside HOV lane in each direction), with 4-foot-wide inside and 10-foot-wide outside shoulders (Exhibit 3). The proposed width of the roadway would be approximately 18 feet narrower than the one described in the Draft EIS, reflecting public comment from local communities and the City of Seattle.





NOTE: Dimensions shown on the diagram are on the Evergreen Point Bridge.

Exhibit 3. 6-Lane Alternative Cross Section

SR 520 would be rebuilt from I-5 to Evergreen Point Road in Medina and restriped and reconfigured from Evergreen Point Road to 92nd Avenue NE in Yarrow Point. A 14-foot-wide bicycle/pedestrian path would be built along the north side of SR 520 through the Montlake area and across the Evergreen Point Bridge, connecting to the regional path on the Eastside. A bridge maintenance facility and dock would be built underneath the east approach to the Evergreen Point Bridge.

The sections below describe the 6-Lane Alternative and design options in each of the three geographical areas the project would encompass.

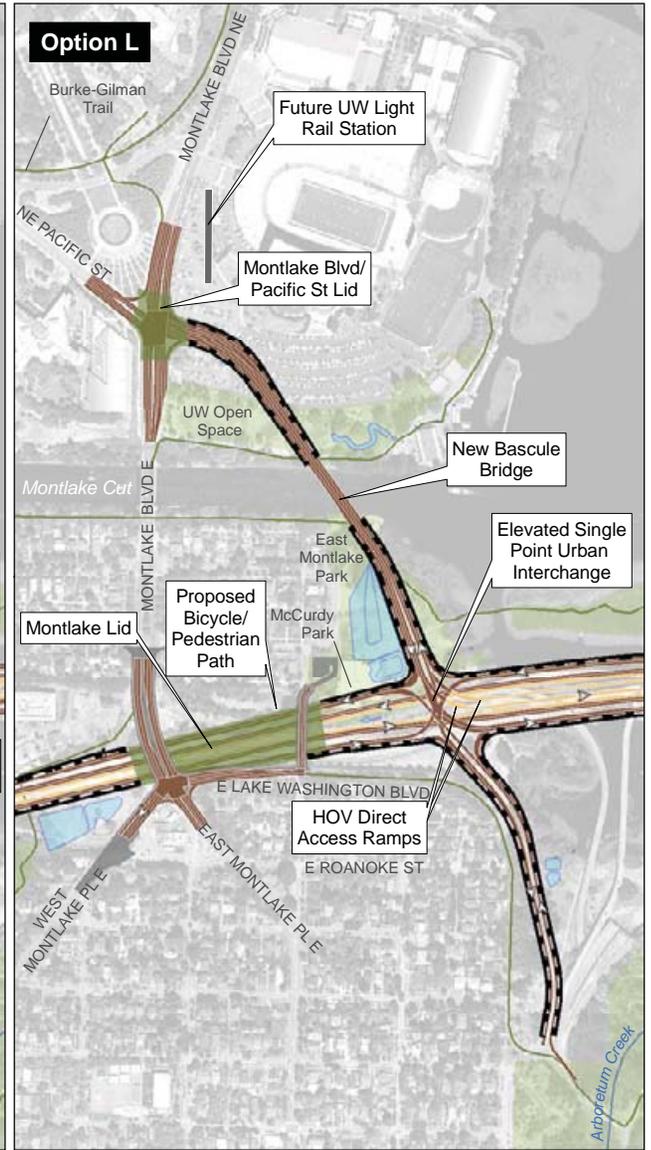
Seattle

Elements Common to the 6-Lane Alternative Options

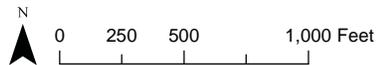
SR 520 would connect to I-5 in a configuration similar to the way it connects today. Improvements to the I-5/SR 520 interchange would include a new reversible HOV ramp connecting the new SR 520 HOV lanes to existing I-5 reversible express lanes. WSDOT would replace the Portage Bay Bridge and the Evergreen Point Bridge (including the west approach and floating span), as well as the existing local street bridges across SR 520. New stormwater facilities would be constructed for the project to provide stormwater retention and treatment. The project would include landscaped lids across SR 520 at I-5, 10th Avenue East and Delmar Drive East, and in the Montlake area to help reconnect the communities on either side of the roadway. The project would also remove the Montlake freeway transit station.

The most substantial differences among the three options are the interchange configurations in the Montlake and University of Washington areas. Exhibit 4 depicts these key differences in interchange configurations, and the following text describes elements unique to each option.





- Potential Sound Wall
- Existing Regional Bicycle/Pedestrian Path
- Tunnel
- Lid or Landscape Feature
- Proposed Bicycle/Pedestrian Path
- Stormwater Facility
- General-Purpose Lane
- HOV, Direct Access, and/or Transit-Only Lane
- Future UW Light Rail Station
- Park



Source: King County (2006) Aerial Photo, King County (2005) GIS Data (Streams), City of Seattle (1994) GIS Data (Bike/Ped Trail), Seattle Bicycle Map (2008) GIS Data (Bike/Ped Trail) CH2M HILL (2008) GIS Data (Park). Horizontal datum for all layers is NAD83(91); vertical datum for layers is NAVD88.



Exhibit 4. Options A, K, and L: Montlake and University of Washington Areas

I-5 to Medina: Bridge Replacement and HOV Project

Option A

Option A would replace the Portage Bay Bridge with a new bridge that would include six-lanes (four general-purpose lanes, two HOV lanes) plus a westbound auxiliary lane. WSDOT would replace the existing interchange at Montlake Boulevard East with a new, similarly configured interchange that would include a transit-only off-ramp from westbound SR 520 to northbound Montlake Boulevard. The Lake Washington Boulevard ramps and the median freeway transit stop near Montlake Boulevard East would be removed, and a new bascule bridge (i.e., drawbridge) would be added to Montlake Boulevard NE, parallel to the existing Montlake Bridge. SR 520 would maintain a low profile through the Washington Park Arboretum and flatten out east of Foster Island, before rising to the west transition span of the Evergreen Point Bridge. Citizen recommendations made during the mediation process defined this option to include sound walls and/or quieter pavement, subject to neighborhood approval and WSDOT's reasonability and feasibility determinations.

Suboptions for Option A would include adding an eastbound SR 520 on-ramp and a westbound SR 520 off-ramp to Lake Washington Boulevard, creating an intersection similar to the one that exists today but relocated northwest of its current location. The suboption would also include adding an eastbound direct access on-ramp for transit and HOV from Montlake Boulevard East, and providing a constant slope profile from 24th Avenue East to the west transition span.

Option K

Option K would also replace the Portage Bay Bridge, but the new bridge would include four general-purpose lanes and two HOV lanes with no westbound auxiliary lane. In the Montlake area, Option K would remove the existing Montlake Boulevard East interchange and the

Is it a highrise or a transition span?



A transition span is a bridge span that connects the fixed approach bridge to the floating portion of the bridge. The Evergreen Point Bridge has two transition spans, one at the west end of the floating bridge transitioning traffic on and off of the west approach, and one on the east end of the floating bridge transitioning traffic on and off of the east approach. These spans are often referred to as the "west highrise" (shown) and the "east highrise" during the daily traffic report, and the west highrise even has a traffic camera mounted on it.

Today's highrises have two characteristics—large overhead steel trusses and navigation channels below the spans where boat traffic can pass underneath the Evergreen Point Bridge. The new design for the floating bridge would not include overhead steel trusses on the transition spans, which would change the visual character of the highrise. For the SDEIS, highrise and transition span are often used interchangeably to refer to the area along the bridge where the east and west approach bridges transition to the floating bridge.



Lake Washington Boulevard ramps and replace their functions with a depressed, single-point urban interchange (SPUI) at the Montlake shoreline. Two HOV direct-access ramps would service the new interchange, and a tunnel under the Montlake Cut would move traffic from the new interchange north to the intersection of Montlake Boulevard NE and NE Pacific Street. SR 520 would maintain a low profile through Union Bay, make landfall at Foster Island, and remain flat before rising to the west transition span of the Evergreen Point Bridge. A land bridge would be constructed over SR 520 at Foster Island. Citizen recommendations made during the mediation process defined this option to include only quieter pavement for noise abatement, rather than the sound walls that were included in the 2006 Draft EIS. However, since quieter pavement has not been demonstrated to meet all FHWA and WSDOT avoidance and minimization requirements in tests performed in Washington State, it cannot be considered noise mitigation under WSDOT and FHWA criteria. As a result, sound walls could be included in Option K. The decision to build sound walls depends on neighborhood interest, the findings of the Noise Discipline Report (WSDOT 2009b), and WSDOT's reasonability and feasibility determinations.

A suboption for Option K would include constructing an eastbound off-ramp to Montlake Boulevard East configured for right turns only.

Option L

Under Option L, the Montlake Boulevard East interchange and the Lake Washington Boulevard ramps would be replaced with a new, elevated SPUI at the Montlake shoreline. A bascule bridge (drawbridge) would span the east end of the Montlake Cut, from the new interchange to the intersection of Montlake Boulevard NE and NE Pacific Street. This option would also include a ramp connection to Lake Washington Boulevard and two HOV direct-access ramps providing service to and from the new interchange. SR 520 would maintain a low, constant slope profile from 24th Avenue East to just west of the west transition span of the floating bridge. Noise mitigation identified for this option would include sound walls as defined in the Draft EIS.

Suboptions for Option L would include adding left-turn movement from Lake Washington Boulevard for direct access to SR 520 and adding capacity on northbound Montlake Boulevard NE to NE 45th Street.



Lake Washington

Floating Bridge

The floating span would be located approximately 190 feet north of the existing bridge at the west end and 160 feet north at the east end (Exhibit 5). Rows of three 10-foot-tall concrete columns would support the roadway above the pontoons, and the new spans would be approximately 22 feet higher than the existing bridge. A 14-foot-wide bicycle/pedestrian path would be located on the north side of the bridge.

The design for the new 6-lane floating bridge includes 21 longitudinal pontoons, two cross pontoons, and 54 supplemental stability pontoons. A single row of 75-foot-wide by 360-foot-long longitudinal pontoons would support the new floating bridge. One 240-foot-long by 75-foot-wide cross-pontoon at each end of the bridge would be set perpendicularly to the longitudinal pontoons. The longitudinal pontoons would be bolstered by the smaller supplemental stability pontoons on each side for stability and buoyancy. The longitudinal pontoons would not be sized to carry future high-capacity transit (HCT), but would be equipped with connections for additional supplemental stability pontoons to support HCT in the future. As with the existing floating bridge, the floating pontoons for the new bridge would be anchored to the lake bottom to hold the bridge in place.

Near the east approach bridge, the roadway would be widened to accommodate transit ramps to the Evergreen Point Road transit stop. Exhibit 5 shows the alignment of the floating bridge, the west and east approaches, and the connection to the east shore of Lake Washington.

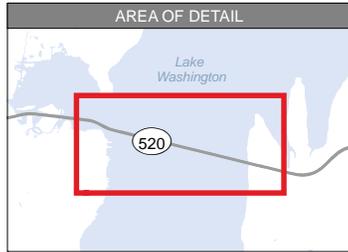
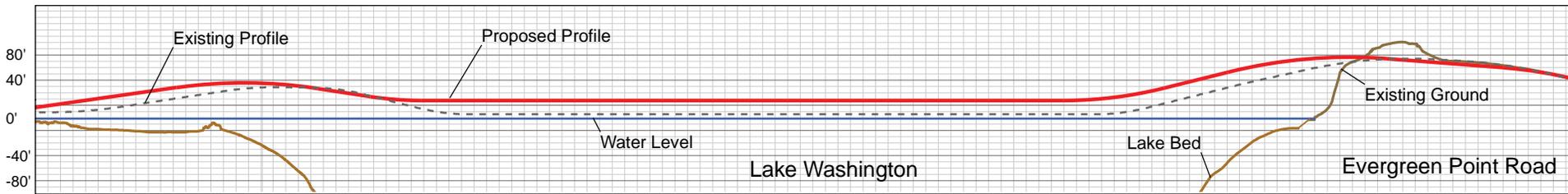
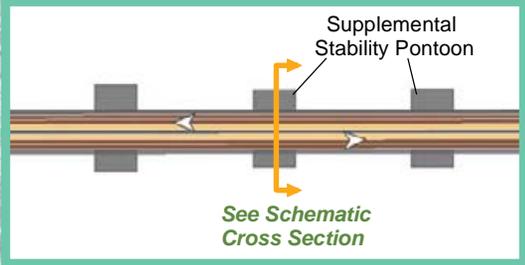
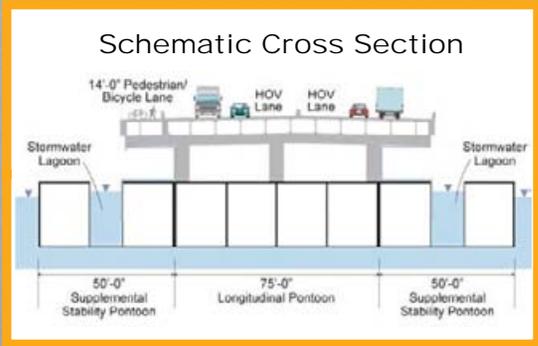
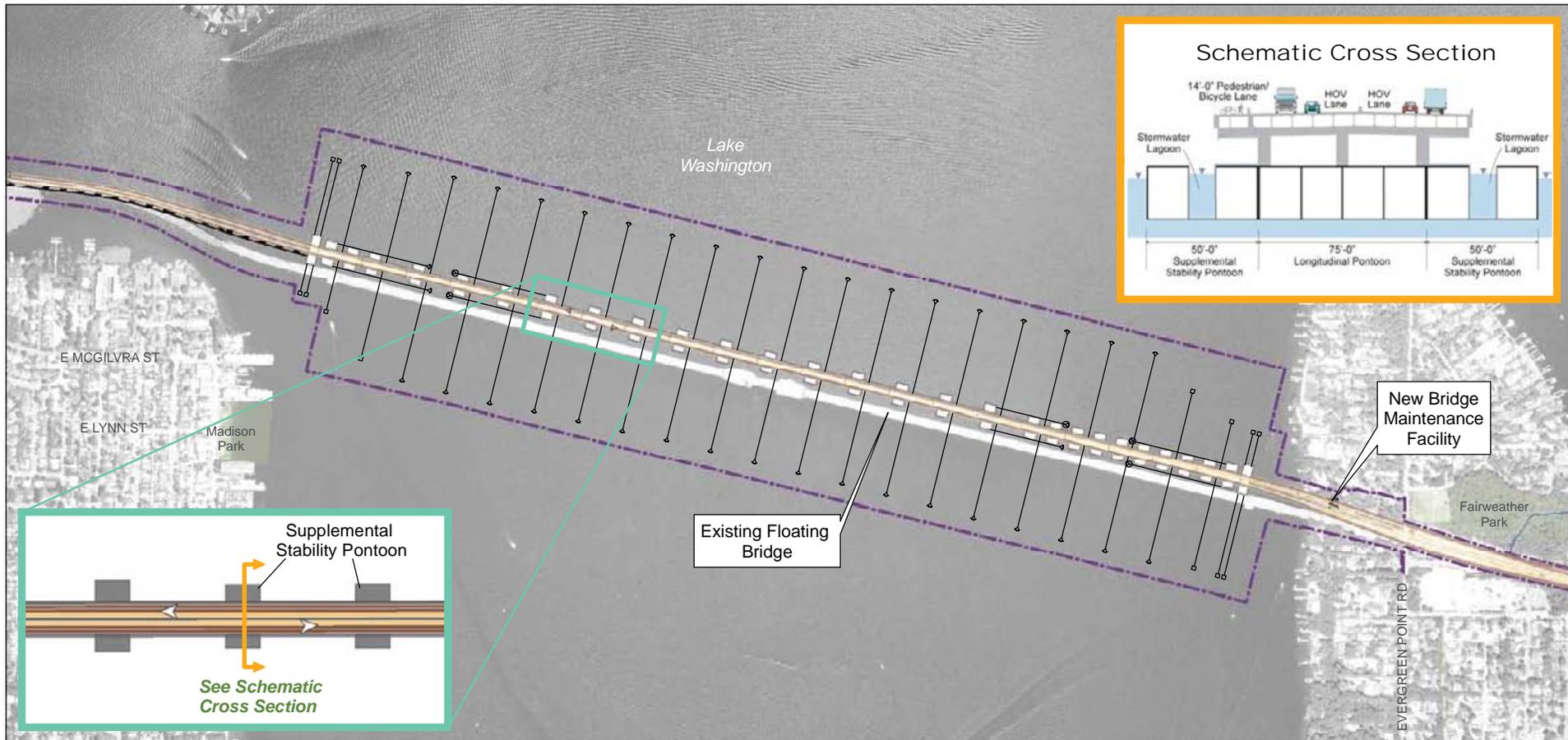
Bridge Maintenance Facility

Routine access, maintenance, monitoring, inspections, and emergency response for the floating bridge would be based out of a new bridge maintenance facility located underneath SR 520 between the east shore of Lake Washington and Evergreen Point Road in Medina. This bridge maintenance facility would include a working dock, an approximately 7,200-square-foot maintenance building, and a parking area.

Eastside Transition Area

The I-5 to Medina project and the Medina to SR 202 project overlap between Evergreen Point Road and 92nd Avenue NE in Yarrow Point. Work planned as part of the I-5 to Medina project between Evergreen Point Road and 92nd Avenue NE would include moving the Evergreen





- Anchor and Cable
- Pontoons
- Limits of Construction
- Proposed Bicycle/Pedestrian Path
- General-Purpose Lanes
- HOV, Direct Access, and/or Transit-Only Lane

Park



Source: King County (2006) Aerial Photo, CH2M HILL (2008) GIS Data (Park). Horizontal datum for all layers is NAD83(91); vertical datum for layers is NAVD88.

Exhibit 5. 6-Lane Alternative at the Evergreen Point Bridge (Common to All Options)

I-5 to Medina: Bridge Replacement and HOV Project

Point Road transit stop west to the lid (part of the Medina to SR 202 project) at Evergreen Point Road, adding new lane and ramp striping from the Evergreen Point lid to 92nd Avenue NE, and moving and realigning traffic barriers as a result of the new lane striping. The restriping would transition the I-5 to Medina project improvements into the improvements to be completed as part of the Medina to SR 202 project.

Pontoon Construction and Transport

If the floating portion of the Evergreen Point Bridge does not fail before its planned replacement, WSDOT would use the pontoons constructed and stored as part of the Pontoon Construction Project in the I-5 to Medina project. Up to 11 longitudinal pontoons built and stored in Grays Harbor as part of the Pontoon Construction Project would be towed from a moorage location in Grays Harbor to Puget Sound for outfitting (see the sidebar to the right for an explanation of pontoon *outfitting*). All outfitted pontoons, as well as the remaining pontoons stored at Grays Harbor, would be towed to Lake Washington for incorporation into the floating bridge. Towing would occur as weather permits during the months of March through October. Exhibit 6 illustrates the general towing route from Grays Harbor to Lake Washington, and identifies potential outfitting locations.

What is Outfitting?

Pontoon outfitting is a process by which the columns and elevated roadway of the bridge are built directly on the surface of the pontoon.



Exhibit 6. Possible Towing Route and Pontoon Outfitting Locations



The I-5 to Medina project would build an additional 44 pontoons needed to complete the new 6-lane floating bridge. The additional pontoons could be constructed at the existing Concrete Technology Corporation facility in Tacoma, and/or at a new facility in Grays Harbor that is also being developed as part of the Pontoon Construction Project. The new supplemental stability pontoons would be towed from the construction location to Lake Washington for incorporation into the floating bridge. For additional information about pontoon construction, please see the Construction Techniques Discipline Report (WSDOT 2009c).

Would the project be built all at once or in phases?

Revenue sources for the I-5 to Medina project would include allocations from various state and federal sources and from future tolling, but there remains a gap between the estimated cost of the project and the revenue available to build it. Because of these funding limitations, there is a strong possibility that WSDOT would construct the project in phases over time.

If the project is phased, WSDOT would first complete one or more of those project components that are vulnerable to earthquakes and windstorms; these components include the following:

- The floating portion of the Evergreen Point Bridge, which is vulnerable to windstorms. This is the highest priority in the corridor because of the frequency of severe storms and the high associated risk of catastrophic failure.
- The Portage Bay Bridge, which is vulnerable to earthquakes. This is a slightly lower priority than the floating bridge because the frequency of severe earthquakes is significantly less than that of severe storms.
- The west approach of the Evergreen Point Bridge, which is vulnerable to earthquakes (see comments above for the Portage Bay Bridge).

Exhibit 7 shows the vulnerable portions of the project that would be prioritized, as well as the portions that would be constructed later. The vulnerable structures are collectively referred to in the SDEIS as the Phased Implementation scenario. It is important to note that, while the new bridge(s) might be the only part of the project in place for a certain



period of time, WSDOT's intent is to build a complete project that meets all aspects of the purpose and need.

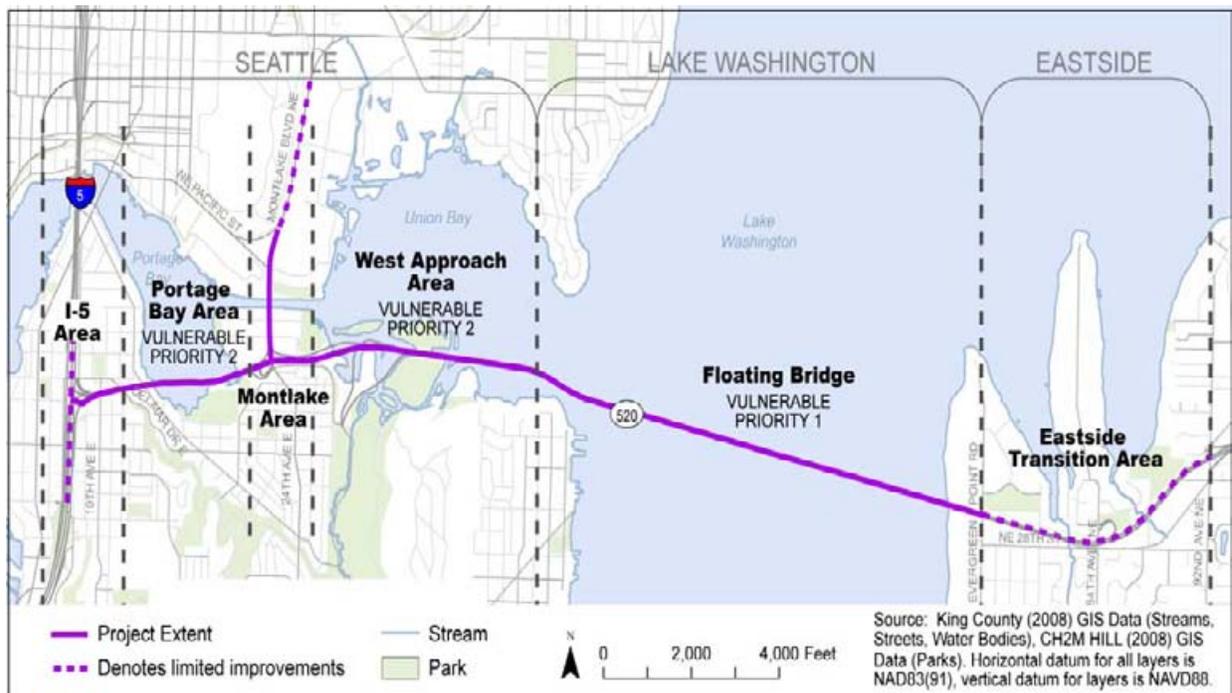


Exhibit 7. Geographic Areas along SR 520 and Project Phasing

The Phased Implementation scenario would provide new structures to replace the vulnerable bridges in the SR 520 corridor, as well as limited transitional sections to connect the new bridges to existing facilities. This scenario would include stormwater facilities, noise mitigation, and the regional bicycle/pedestrian path, but lids would be deferred until a subsequent phase. WSDOT would develop and implement all mitigation needed to satisfy regulatory requirements.

To address the potential for phased project implementation, the SDEIS evaluates the Phased Implementation scenario as a subset of the “full build” analysis. The evaluation focuses on how the effects of phased implementation would differ from those of full build and on how constructing the project in phases might have different effects from constructing it all at one time. Impact calculations for the physical effects of phased implementation (for example, acres of wetlands and parks affected) are presented alongside those for full build where applicable.



What are cultural resources?

The term “cultural resources” encompasses, but is not necessarily limited to, archaeological sites, Native American and other traditional cultural resources, historic buildings and structures, planned landscapes, and historic districts. The National Historic Preservation Act (NHPA) of 1966 (16 USC 470f) was passed as a reflection of the importance of these resources to our national, regional, and local culture. There is widespread public concern about the value and protection of our nation’s historic resources. Cultural resources represent “places where great American voices were heard, or where great acts of valor were performed... [and] connections between successive generations of Americans – concretely linking their ways of life” (Rains and Henderson 1983). Cultural resources embody our shared history and help to define us as a society. “The past is not the property of historians; it is a public possession. It belongs to anyone who is aware of it, and it grows by being shared. It sustains the whole society, which always needs the identity that only the past can give” (Dr. Walter Havighurst 1961, noted author from Miami University, as quoted in Rains and Henderson 1983, from the Special Committee on Historic Preservation).

The term “historic properties” is a technical term from the NHPA that denotes properties that have recognized public significance. Historic properties are places listed in or eligible for inclusion in the National Register of Historic Places (NRHP). These properties can include districts, sites, buildings, structures, objects, and landscapes significant in American history, prehistory, architecture, archaeology, engineering, and culture. They include properties that belong to the prehistoric era (before written history) as well as the historic era (after written history).

Different types of cultural resources are treated differently when inventorying and evaluating them to determine whether they are historic properties. For the purpose of this document, three main types are described briefly below – archaeological resources, traditional cultural resources, and resources of the historic built environment (including buildings, structures, landscapes, and districts).

- **Archaeological Resources.** Archaeological resources are places where past peoples left physical evidence of their occupation. Archaeological sites may include deposits of debris such as artifacts, food remains (shells and bones), or the ruins of dwellings



or other structures. These may date to the prehistoric era or to the historic era. Archaeological sites are often difficult to identify and are found by close examination of the ground surface for debris deposits or remnants of structural remains by an archaeologist. Sometimes they are discovered through exploratory excavation. Information about historic archaeological sites may be supplemented by historic archival research. Important archaeological sites may qualify as “historic properties” if, for example, they have the potential to yield valuable information about prehistory or history.

- **Traditional Cultural Resources.** Traditional cultural resources may include properties that define or exemplify the identity of a particular cultural group – for example, a group of Native Americans. Traditional cultural resources may include human skeletal remains, funerary items, sacred items, and objects of cultural patrimony. Areas where Native Americans traditionally gathered food and other resources, and culturally important regional landscapes may also be traditional cultural resources. Under the 1992 NHPA amendments, Traditional Cultural Properties (TCPs) can be eligible for inclusion in the NRHP as historic properties if they meet the NRHP eligibility criteria, for their association with cultural practices or beliefs (traditions, beliefs, practices, lifeways, arts, crafts, and social institutions) of a living community that are rooted in that community’s history and are important in maintaining the continuing cultural identity of the community. TCPs are generally identified and evaluated by anthropologists’ or ethnologists’ consultations with the members of a given cultural community, such as a Native American community.
- **Historic Built Environment.** The historic built environment can include buildings, structures that are not buildings such as bridges, objects, districts, landscapes, or even sites or locations of historic importance where no remains exist. The significance of such properties may be historical in that they are associated with “broad patterns in our history” or the lives of “persons significant in our past (36 CFR part 60.4).” Buildings and structures may also represent or exemplify a particular type or style of building, have aesthetic significance, or preserve the work of a master architect or engineer. To be considered for significance, resources of the historic built environment generally must be at least 50 years old, unless



they are considered exceptionally important. Resources of the historic built environment are identified through survey done by an architectural historian, and may be evaluated by researching archives and historical records to better understand the date of construction, architectural style, and historic context.

What is the Area of Potential Effects?

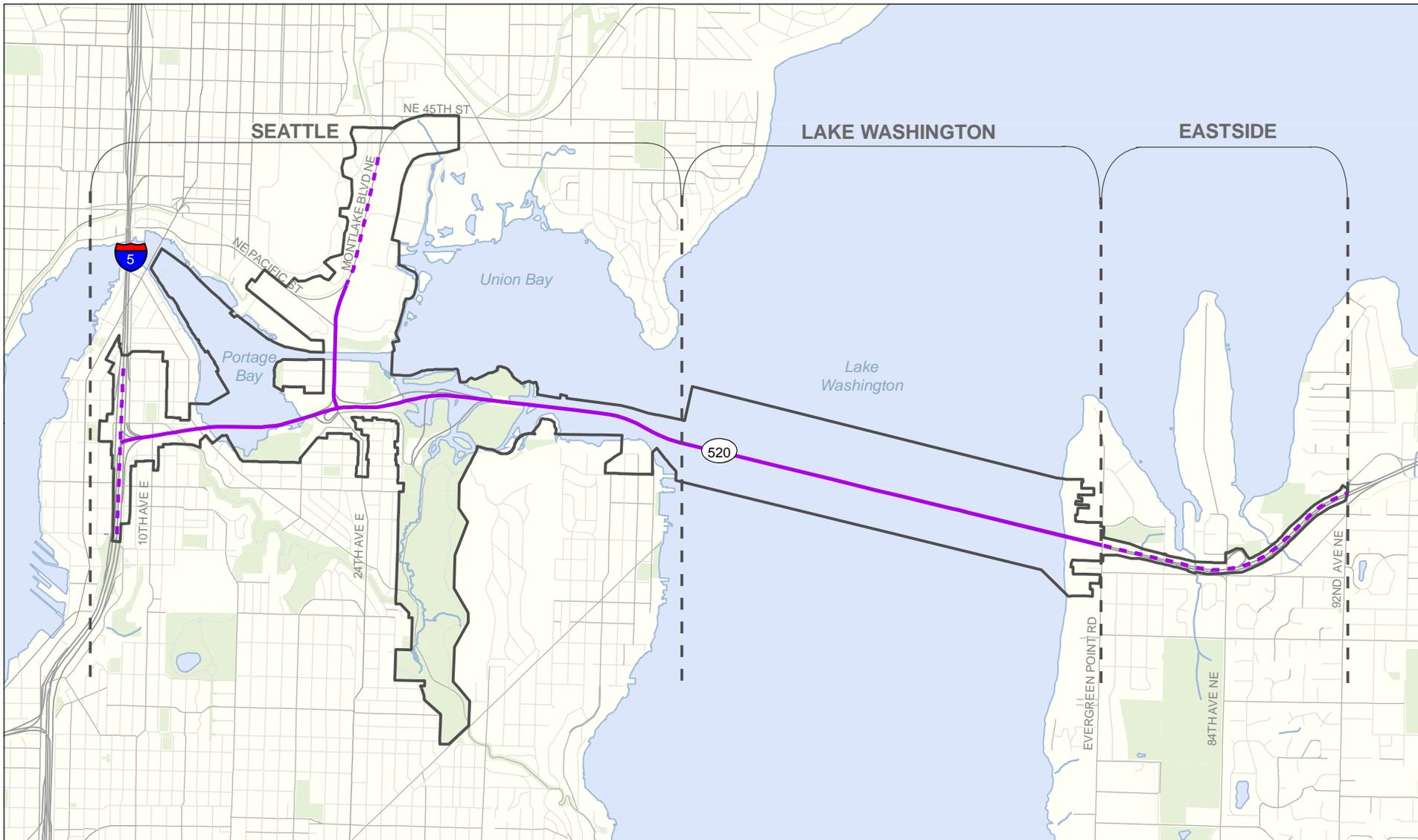
The Area of Potential Effects (APE) is the geographic area within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties (36 CFR Section 800.16[d]). For this project, the APE consists of three footprints:

1. The known or anticipated construction footprint that includes staging and laydown areas
2. A buffer area (one property deep or 200 to 300 feet from the construction footprint, as appropriate) that includes sufficient area to encompass historic structures, commercial buildings and residences, historic districts, and public facilities (including parks and bridges) that might be directly or indirectly affected by demolition, change of land use, noise, dust, vibration, visual quality, or other effects
3. Additional areas outside the construction footprint such as the entire Roanoke Park Historic District, the entire Washington Park Arboretum, and all the navigable waters of Portage Bay

WSDOT determined the APE for the project in consultation with the State Historic Preservation Officer (SHPO), and also sought comments from the identified concerned Tribes and other consulting parties. The SHPO concurred with the initial APE in April 2009. In accordance with 36 CFR 800.4 (a)(3), WSDOT sought comments on the APE from consulting parties through meetings and written correspondence. Comments from the consulting parties were received and taken into consideration, and the APE was amended to accommodate many of these concerns. Further comments from consulting parties resulted in an expanded APE, and the SHPO concurred with this revised APE in August 2009.

The APE map is included in the Methodology section of this report. Exhibit 8 shows the APE in the context of the geographic study areas for the project that were discussed above.





-  Amended Area of Potential Effects
-  Project Extent
-  Limited Improvement
-  Stream
-  Park



Source: King County (2005) GIS Data (Streams and Streets), King County (2007) GIS Data (Water Bodies), CH2M HILL (2008) GIS Data (Parks). Horizontal datum for all layers is NAD83(91); vertical datum for layers is NAVD88.



Exhibit 8. Geographic Areas along SR 520 Evaluated in SDEIS
I-5 to Medina: Bridge Replacement and HOV Project

Regulatory Context

Federal, state, and local regulations recognize the public's interest in cultural resources and the public benefit of preserving them. These laws and regulations require federal agencies to consider how this project might affect cultural resources in the study area and to take steps to avoid or reduce potential damage to them. Federal laws include the NHPA and its implementing regulations, Protection of Historic Properties (36 CFR 800). Section 106 of the NHPA requires federal agencies and others to consider the effects of proposed projects on historic properties. The NHPA defines historic properties as sites that are listed in the NRHP or that are eligible for listing in the NRHP.

What are the Criteria for Listing in the NRHP?

To qualify for listing in the NRHP, a property must have historic significance and integrity, and generally be at least 50 years old. Historic significance is the importance of a property to a community, state, or the nation. Historic significance in American history, architecture, archaeology, engineering, and culture may be present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, material, workmanship, feeling, and association. A property must demonstrate significance in at least one of the following areas:

- A Association with events that have made a significant contribution to the broad patterns of our history; or
- B Association with the lives of persons significant in our past; or
- C Embodiment of the distinctive characteristics of a type, period, or method of construction or representative of the work of a master, or possessing high artistic value, or representative of a significant and distinguishable entity whose components may lack individual distinction; or
- D Yielding, or likely to yield, information important in prehistory or history.

In addition to the above criteria, significance is defined by the area of history in which the property made important contributions and by the period of time when these contributions were made (National Register Bulletin 16 [National Park Service 1991]).

Section 106 also requires federal agencies to provide the Advisory Council on Historic Preservation (ACHP) and the SHPO with a reasonable opportunity to comment on any undertaking that would adversely affect properties listed in or eligible for the NRHP.

The Section 106 process as laid out by NHPA "seeks to incorporate historic preservation principles into project planning through consultation between a Federal agency and other parties with an interest in the effects of the Federal agency's action on historic properties" (AASHTO 2007). The Section 106 consultation process aims to: "identify historic properties that could be affected by a project, assess the project's potential effects to such properties, and seek ways to avoid, minimize or mitigate any adverse effects" to those identified historic properties (AASHTO 2007).



Cultural resources must also be given consideration under the National Environmental Policy Act (NEPA). According to NEPA regulations, in considering whether an action may “significantly affect the quality of the human environment,” an agency must consider unique characteristics of the geographic area such as proximity to historic or cultural resources (40 CFR 1508.27[b][3]), and the degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the NRHP (40 CFR 1508.27[b][8]). Section 106 encourages maximum cooperation with NEPA. For more information on NEPA, see the SDEIS.

The Washington State Environmental Policy Act (SEPA) (RCW 43.21C) is a state law that requires state and local agencies to consider the likely environmental consequences of a proposal before approving or denying the proposal. This includes evaluation of any places or objects listed on, or proposed for, national, state, or local preservation registers. Therefore, this report also includes identification of properties listed in or eligible for inclusion in the Washington Heritage Register (WHR), or properties designated as Seattle landmarks. The WHR is the Washington state version of the NRHP and follows similar criteria. It is administered by the state Department of Archaeology and Historic Preservation (DAHP) rather than the National Park Service. It emphasizes local and statewide significance and has a lower threshold for eligibility. Any building or site listed in the NRHP is automatically listed in the WHR. For more information on SEPA, see the SDEIS.

What are the criteria for listing in the Washington Heritage Register?

The WHR includes buildings, structures (such as irrigation systems and bridges), districts, objects (such as statues, grave markers, and vessels), cemeteries and burial sites, historic sites (sites of important events), archaeological sites, TCPs (spiritual or creation sites), and cultural landscapes (such as habitation, agricultural, industrial, and recreational). To be eligible for the WHR, a property must be at least 50 years old. If newer, the resource should have documented exceptional significance. The resource should have a high to medium level of integrity, i.e., it should retain important character-defining features from its historic period of construction. The property must meet at least one of the following areas of significance:

- The property belongs to the early settlement, commercial development, or original native occupation of a community or region.
- The property is directly connected to a movement, organization, institution, religion, or club, which served as a focal point for a community or group.
- The property is directly connected to specific activities or events, which had a lasting impact on the community or region.
- The property is associated with legends, spiritual or religious practices, or life ways, which are uniquely related to a piece of land or to a natural feature.
- The property displays strong patterns of land use or alterations of the environment, which occurred during the historic period (cultivation, landscaping, industry, mining, irrigation, recreation).
- The property is directly associated with an individual who made an important contribution to a community or to a group of people.
- The property has strong artistic, architectural or engineering qualities, or displays unusual materials or craftwork belonging to a historic era.
- The property was designed or built by an influential architect or reflects the work of an important artisan.

Archaeological investigation of the property has increased, or will increase, our understanding of past cultures or lifeways (WHR 2009).



The Seattle Landmarks Preservation Board may designate historic properties within the Seattle city limits as local landmarks or landmark districts. Once Seattle landmarks or landmark districts are designated by a City ordinance and approved by the Seattle City Council, they are protected under a Controls and Incentives Agreement from demolition and unsympathetic changes. Certificates of Approval are then necessary to permit specific changes to the landmark building or within the district. The steps necessary to permit demolition of a designated landmark are detailed in SMC 25.12.835. The eligibility of properties noted as “eligible Seattle landmarks” in this report is based on professional judgment of their potential eligibility; they are not officially designated.

City regulations support and relate to SEPA as detailed in Seattle Municipal Code 25.05. For projects involving structures or sites that have been designated as historic landmarks, compliance with the Landmarks Preservation Ordinance is required. For projects involving structures or sites that are not yet designated as historic landmarks but appear to meet the criteria for designation, the site or structure may be referred to the Landmarks Preservation Board for consideration. If the Board approves the site or structure for nomination as a historic landmark, consideration of the site or structure for designation as a historic landmark and application of controls and incentives will proceed as provided by the Landmarks Preservation Ordinance. If the property is rejected for nomination, the project will not be conditioned or denied for historic preservation purposes.

When a project is proposed adjacent to or across the street from a designated site or structure, the proposal must be referred to the City’s Historic Preservation Officer for an assessment of any adverse effects on the designated landmark and for comments on possible mitigating measures. Mitigation may be required to ensure the compatibility of the proposed project with the color, material, and architectural character of the designated landmark and to reduce effects on the character of the landmark’s site. Mitigating measures may be required and are limited to the following:

- Sympathetic facade treatment
- Sympathetic street treatment
- Sympathetic design treatment

What are the criteria for Seattle Landmarks?

To qualify as a Seattle landmark under the Seattle Landmarks Preservation Ordinance (SMC 25.12), a building, object, or site must be at least 25 years old and have “significant character, interest, or value as part of the development, heritage, or cultural characteristics of the city, state, or nation.” In addition, it must possess integrity and must meet at least one of the following criteria:

- It is the location of, or is associated in a significant way with, a historic event with a significant effect upon the community, city, state, or nation; or
- It is associated in a significant way with the life of a person important in the history of the city, state, or nation; or
- It is associated in a significant way with a significant aspect of the cultural, political, or economic heritage of the community, city, state or nation; or
- It embodies the distinctive visible characteristics of an architectural style, or period, or method of construction; or
- It is an outstanding work of a designer or builder; or
- Because of its prominence of spatial location, contrasts of siting, age, or scale, it is an easily identifiable visual feature of its neighborhood or the city and contributes to the distinctive quality or identity of such neighborhood or the City.



- Reconfiguration of the project and/or relocation of the project on the project site, provided that mitigating measures not include reductions in a project's gross floor area

For sites with potential archaeological significance, an assessment of the archaeological potential of the site may be required. Measures that may be required to mitigate adverse effects on an archaeological site include, but are not limited to:

- Relocating the project on the site
- Providing markers, plaques, or recognition of discovery
- Imposing a delay of as much as 90 days (or more than 90 days for extraordinary circumstances) to allow archaeological artifacts and information to be analyzed
- Excavating and recovering artifacts

According to the GMA, state and local governments must manage Washington's growth. To do so, they are required to identify and protect critical areas and natural resource lands, designate urban growth areas, prepare comprehensive plans, and implement those plans through capital investments and development regulations (Growth Management Hearings Boards n.d.). Title 18 of the Medina Municipal Code also incorporates the SEPA goals, but has no specific historic property or landmarks regulation or recognition.

For FHWA projects, Section 4(f) of the Department of Transportation Act of 1966 (49 USC 303) and its implementing regulations (23 CFR 774) is another federal regulation that protects historic properties.

Section 4(f) resources include any significant publicly owned park, recreation area, or wildlife refuge, or any publicly or privately owned historic property in, or eligible for inclusion in, the NRHP. Section 4(f) applies to all projects that require approval by an agency of the U.S. Department of Transportation, including FHWA. For more information on Section 4(f), see the Section 4(f) Evaluation Discipline Report (WSDOT 2009d).



Historic Context

This section provides a brief overview of the historical background of the study area.

What is the natural and geological setting?

Geologically speaking, the study area landforms have been relatively stable throughout the Holocene, with the exception of the steeper slopes along the eastern side of Capitol Hill and the bluff along the eastern shore of Lake Washington. Surface deposits consist primarily of glacial outwash and till, with the exception of the Holocene (since the end of the most recent Ice Age) peat deposits around Foster Island and alluvium in the eastern part of the study area. There seems to have been minimal Holocene alluviation (deposits of sand, silt, or clay via moving water) in the outwash troughs between the till uplands, so that deeply buried sites are not expected in most of the study area. The thickest Holocene deposits in the study area consist of peat deposits in Portage and Union Bays. Other Holocene deposits are at the eastern end of the study area in the old outwash valley that is now drained by Northup Creek.

The locations of shorelines in Lake Washington gradually changed during the Holocene because of glacial melting, isostatic rebound (upward movement of the earth's surface after the weight of Ice Age glaciers dissipated), alleviation on the Cedar/Green River floodplain south of the lake, tectonic (seismic), and other forces. Because of these changes, inundated archaeological sites may occur on old shorelines of Lake Washington. Contemporary engineering has also changed landforms and lake levels. Late prehistoric or historic sites that were formerly located on the shoreline of Lake Washington may occur inland from the modern-day shoreline that was exposed when the lake level dropped as a result of the opening of the Montlake Cut. In addition, some areas in the Union Bay area have been affected by dredging and filling for the Miller Street Landfill, the Montlake Cut, and the original construction of SR 520.

At least two in-depth studies of the geological history and geomorphic setting of the APE have been conducted (BOAS [2005 and 2007] and CH2M HILL [2004]). These studies were conducted to better define



where prehistoric archaeological deposits might be located. The geologic and geomorphic studies indicate that archaeological sites may be buried under recent fill or exposed in unlikely locations by recent erosion. There have been changes in land level (due to Cedar River alleviation and later due to the removal of the great weight of the glaciers), in sea level (due to the melting of the glaciers), and in lake level (due to human engineering in the historic period). All of these have changed the locations of prehistoric archaeological sites in relation to modern land surfaces and shorelines. Examining these factors provides information to predict where archaeological sites might be encountered within the APE.

Previous investigations made use of geological, geomorphological, and geotechnical studies near Lake Washington and vicinity (Exhibit 9), and in the APE specifically. Post-glacial landforms were identified that were available to prehistoric people within the study area. Throughout the Holocene, the shorelines, deltas, and intertidal zones of Puget Sound acquired their shape as sea levels rose and the land adjusted to the removal of glacial ice. Erosion leveled some of the irregular topography left behind by the last glaciation, while sediments filled the valleys and buried other topographic features. There has been a general rise in the water level of Lake Washington since the early Holocene. Modern human modifications that affected potential archaeological site locations were also examined.

Sediment cores from Lake Washington and the Puget Sound area indicate that initial post-glacial climate was cooler and drier than today. During this period vegetation was open parkland of lodgepole pine and spruce, grasses, and bracken fern, with sparse hazel

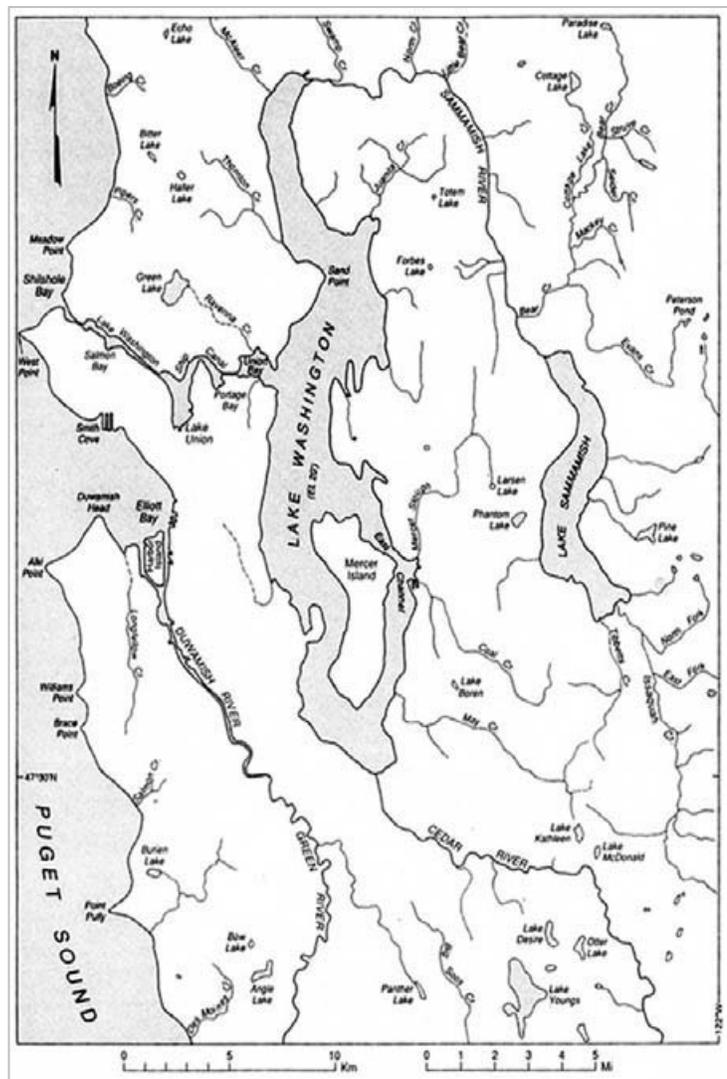


Exhibit 9. Map Showing Major Drainages and Water Bodies of the Seattle Area (Galster and Laprade 1991:245).



and cedar. Between approximately 11,700 years ago and 7,800 years ago, vegetation included open forest with a mosaic of grasses, bracken fern, and sparse Douglas fir, alder, lodgepole pine, and hemlock trees. Cedar, alder, and willow were on wetter landforms, such as lake margins and alluvial floodplains. An increase in western red cedar pollen indicated the beginning of a cooler, moister climate regime around 7,800 years ago in the Lake Washington basin. By 6,500 years ago, a closed canopy forest with western red cedar, western hemlock, and Douglas fir is inferred in the Lake Washington vicinity. In 1851, when the first Euroamerican settlers arrived at Seattle, the region was thickly forested with tall, large-diameter Douglas fir, western red cedar, and western hemlock. Red alder and cottonwood grew on river floodplains and as pioneering trees on other disturbed land.

Twentieth Century Modifications

Major lake level changes eventually occurred as a result of the excavation of a canal between Lake Washington and Lake Union early in the twentieth century. Navigation was the principal objective to aid the transport of logs, coal, and farm produce; flood control was an additional advantage. In 1885, a shallow, 16-foot-wide excavation was made to meet the need of the bustling timber and sawmill operations to pass logs between Union Bay on Lake Washington and Portage Bay on Lake Union. Known locally as the Portage Canal, this narrow canal took advantage of the natural difference in the lake-water levels, which produced a current to transport logs through the chute from the higher Lake Washington to Portage Bay. The effects of this shallow canal on water levels in Lake Washington are not known but were probably minor, perhaps approximately 2 to 3 feet. Exhibit 10 shows the location of the Portage Cut.

Construction began on a navigable Ship Canal in 1910 between Lake Union and Lake Washington. In 1916, an excavation known as the Montlake Cut was completed between Union Bay on Lake Washington and Portage Bay on Lake Union. Lake Washington was catastrophically lowered a nominal 10 feet (3 meters) to the level of Lake Union between August and October 1916. The lowering of Lake Washington eliminated the lake's outlet to the Black River, and the Cedar River was diverted into Lake Washington.

The largest effect of the Montlake Cut on the study area was the lowering of lake elevation and the resultant exposure of a broad wave-cut terrace around the perimeter of the lake. This resulted in the



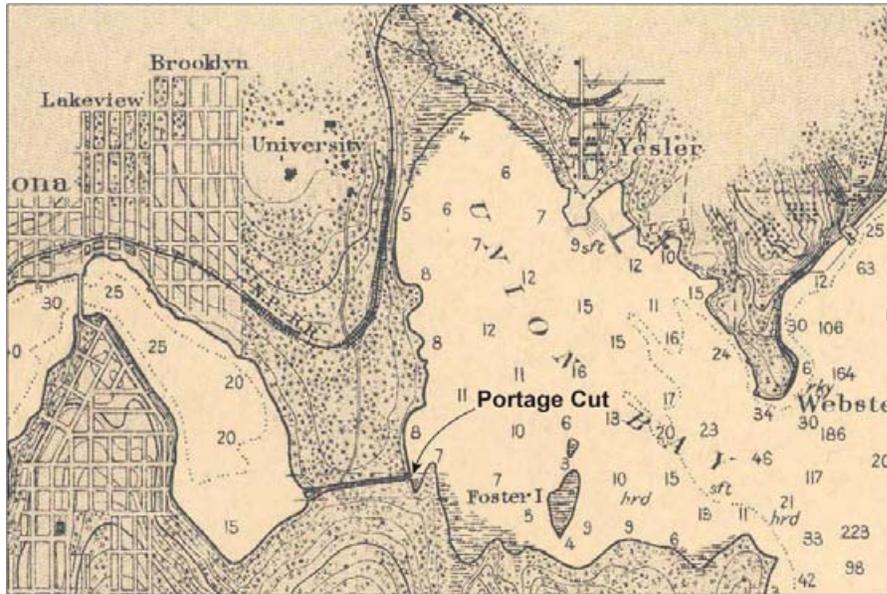


Exhibit 10. 1905 Geodetic Survey Map Showing Location of the 1885 Portage Cut and Lake Depth in Feet (Coast and Geodetic Survey 1905; University of Washington Libraries Map Collection).

development of marshes in the southern portion of Union Bay. In other areas, this terrace is now occupied by waterfront homes. Foster Island significantly increased in size at this time.

The new canal required a channeled approach, so the U. S. Army Corps of Engineers dredged a straight channel between the Montlake Cut and the eastern edge of Union Bay. Dredging also continued in Union Bay after completion of the Montlake Cut, largely in soft mud and sand. Dredged material was deposited in shallow water about 75 feet beyond channel lines. Some of this dredged material was probably placed in shallow water north of the Arboretum or in the marshes that emerged in 1916 around Foster Island.

On the western side of the Montlake neighborhood, the southern edge of the APE is adjacent to the Montlake Playfield area, which lies along the southern shore of contemporary Portage Bay. Filling in the 1930s created some of the original playfield area, and the playfield was again filled and expanded northward beginning in 1960. Fill spreading continued until the late 1960s, as material was brought into the park from projects around the Seattle area, including the original SR 520 project.

Low-lying portions of the study area were also used for landfill. Prior to the late 1960s, dump sites were mainly steep ravines, low-lying swampy areas, former borrow pits, and tidal areas. The largest was the



Montlake dump that occupied a 200-acre swampy area on the north side of Union Bay. A smaller dump, known as the Miller Street Landfill, was in operation on the south side of Union Bay in the area currently managed by the Washington Park Arboretum. The 1914-1915 City Park Commissioner's Report mentions the establishment of a landfill in the marsh near Union Bay in the north part of the park. The City abandoned the dump in 1936.

Significant cutting and filling also occurred during the original construction of SR 520. Major areas of cutting for SR 520 construction in Seattle occurred on North Capitol Hill, on the Roanoke Park plateau, and through the Montlake neighborhood. Major excavation also occurred along the route of the old portage canal. The old portage canal land has mostly been removed, except a segment near the National Oceanic and Atmospheric Administration (NOAA) Northwest Fisheries Science Center and Museum of History and Industry (MOHAI). The Arboretum lost approximately 60 acres of lagoon area to the SR 520 project. Great expanses of the marshes surrounding Foster Island were dredged prior to construction of the bridge footings to allow access for a pile driver. At least some of the dredged peat was cast to the side adjacent to the dredged areas. Dredging operations also removed some of the garbage fill material and underlying peat from the Miller Street dump site. Dredging extended up to the western and eastern edges of Foster Island. Exhibit 11 shows construction of SR 520 across Foster Island.

What is the cultural setting?

Background research confirmed that the study area lies within lands and waters once occupied by several Puget Sound Tribes, whose descendants are represented by federally recognized Indian Tribes including the Muckleshoot Indian Tribe, Suquamish Tribe, Snoqualmie Tribe, the Tulalip Tribes, and the Yakama Nation, as well as the non-federally recognized Duwamish Tribal Services. Because of the assumed high population density, the study area is considered to have a high level of cultural sensitivity.

Prehistory

The earliest occupation of Puget Sound occurred between 13,000 and 6,000 years before present (BP), beginning with the glacial retreat from the region. From 6,000 BP to 2,500 BP, the archaeological record shows differences between coastal and inland sites that probably reflect

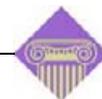




Exhibit 11. Aerial View West of SR 520 Construction across Foster Island, in Foreground (Seattle Post-Intelligencer Collection, Museum of History and Industry Negative No. 1986.5.7596).

differing food collection strategies (marine versus terrestrial), and perhaps localized cultural development. From 2,500 BP to 250 BP, archaeological sites reveal further specialization in the focus of resource procurement—the full-scale development of the maritime cultures (recorded ethnographically) and land-mammal hunting and upriver fishing groups.

The number of prehistoric sites identified archaeologically in the greater Seattle area since the early 1980s has increased significantly. Several sites have been identified in the Duwamish River drainage that contained shell middens, fish and mammal bone, charcoal, fire-modified rock, and flakes. One of the oldest archaeological sites (45KI1267) in the general study area was thought to date from 8,000 to 4,000 BP. The site contained cobble tools and siltstone flakes. More recent archaeological sites (45KI123) include a hunter-fisher-gatherer use location that may be as much as 2,000 years old, when specialized spring season camps were used during root-gathering and salmon-fishing times of the year.

Radiocarbon dates from a site (45KI159) north of the Black River channel near Renton provided a date range from 1764 to 1360 BP. The site contained a series of longhouse structures rebuilt over time, along



with lithic material and a bone tool assemblage. Food sources such as salmon, flounder, ratfish, dogfish, mussel, deer, bear, and bobcat were identified within the site complex.

By about 900 years ago, land use patterns changed to include special-purpose campsites for summer and fall berry processing. Potential postmolds from drying racks and habitation structures were identified that may have been used during this period. Hunter-fisher-gatherer use of the site appears to have been discontinued by about 200 years ago.

Prehistoric deposits have been identified near the west bank of the Duwamish Waterway from 4 to 6 meters below-grade. A shell midden prehistoric site (45KI432) was identified near the mouth of the Duwamish River and radiocarbon dated from 671 BP to 530 BP.

Along the Duwamish River a hunter-fisher-gatherer shell midden deposit was identified that contained stratified shell lenses with fish bone, fire-modified rock, and mammal bone. Radiocarbon dates span about 600 years. The site (45KI431) was used as a seasonal, special-purpose site with an emphasis on salmon fishing (Larson and Lewarch 1995).

Ethnographic Context

The SR 520 corridor includes springs, streams, and freshwater lakes and bays. Salmon Bay, Lake Union, Lake Washington, and their tributary streams formed a series of connected waterways that could only be entered from Puget Sound at Shilshole, along a meandering course through fresh water lakes and overland portages. A group of Duwamish (who were known to the white pioneers as the Lakes people) inhabited this area; Lake Washington was first called Lake Duwamish in recognition of the Duwamish people. Other groups in the broader Seattle area included the Muckleshoot Indian Tribe and the Suquamish Tribe.

Duwamish

The Duwamish lived in a socially and economically interdependent network of villages located on Elliott Bay, the Duwamish River, the Black River, the Cedar River, Lake Washington, Lake Sammamish, Lake Union, and the lower White River. Like their Puget Sound neighbors, the Duwamish relied on salmon, shellfish, plant resources, and land game. They were adapted to a variety of environments, including tidal estuaries, large lakeshores, intertidal and lakeshore river mouths, river confluences, sandspits, and saltwater bays. Each Duwamish village



depended on salmon for its primary subsistence, and the people supplemented their diets with varying amounts of shellfish, land game, and other types of fish (Larson and Lewarch 1995).

A high density of winter houses characterized the ethnographic villages in the Duwamish River Valley, on Elliott Bay, and at the mouth of the Duwamish River. Fewer houses were scattered around Lake Washington, Lake Sammamish, and Salmon Bay. The Duwamish settlement pattern was based on their need to be close to large salmon runs that entered the Duwamish drainage and on being able to harvest shellfish that were available on the Elliott Bay tideflats.

Although salmon was the most important Duwamish food, a wide range of other resources provided a diverse diet and fostered the seasonal occupation of sites. Although downriver and coastal villages emphasized marine resources, upriver peoples hunted game and waterfowl that could be found in the valley marshes. Winter village sites were the anchor for a local group and consisted of permanent living structures. In the warmer months, smaller groups moved to seasonal procurement camps that focused on specific resources. Thus, seasonal sites were reoccupied temporary camps used on a traditional basis.

American settlement in the 1850s disrupted Duwamish economic and social systems. Initial relationships between the incoming Euroamericans and the Duwamish were cordial. Some Duwamish provided packing and canoe transportation for settlers throughout the local river drainages. The Duwamish were essential to the survival of the settlers during the first 2 years, prompting David Denny to remark, "I don't know what we would have done during the first two winters had it not been for the Indians" (Denny 1909). The Duwamish were an important part of Seattle's early development because of their ability to provide food, labor, knowledge, and protection to the settlers. The Indians traded salmon, shellfish, and potatoes to the settlers for bread, fabric, beads, blankets, and other goods that lumber and cargo ships brought to the small settlement in Elliott Bay (Forsman et al. 1997).

As Seattle grew and shoreline filling expanded, the resources to support the Indian livelihood were eliminated. Shoreline filling eliminated eelgrass for herring and tideflats for shellfish, thus eliminating important Native American food sources. The Belltown prairie, which may have supported camas, was platted into streets, and the marshy southern end of Lake Union (a prime waterfowl habitat) was also filled.



South of Seattle, the Indians maintained relations with the white farmers of the Duwamish River Valley and provided a critical labor force at the height of the hop farming industry. Many of the place names in the Seattle APE were provided by native informants working with anthropologists in the early twentieth century (circa [ca.] 1920, Harrington ca. 1909).

The Lakes Duwamish cultivated and harvested the resources in the lakes, basins, and drainages. Because waterways and canoes connected people, these interlinked lakes formed a cultural unit. The area contained marshes and woodlands abounding in foods, with freshwater streams and lakes providing abundant local and anadromous (migrating from rivers to salt water during their life stages) fish. The Lakes people also used readily accessible inland areas around the lake margins and had several permanent and temporary settlements on all of the lakes and at the portage between Portage Bay and Union Bay. The isthmus between Portage Bay and Union Bay was used as a portage.

As Seattle expanded north in the latter part of the 1800s, lands in the Lakes people area were developed. The donation claims of Carson Boren, Arthur and David Denny, and William Bell encompassed downtown Seattle. David Denny's experience with native people differed from that of other Seattle pioneers. Denny stayed alone at Alki Point during the winter of 1852, where he lived surrounded by Lakes people. He learned to speak their language as well as Chinook jargon, which was used for trading. In 1853, David Denny claimed areas immediately north of downtown including parts of Lake Union and Portage Bay. In this manner, he and his immediate family protected the homes of Indians who settled on his claims and provided occupations for them; he also helped them buy property.

As Seattle developed to the north, many Lakes Duwamish people moved or were forced out. The newly incorporated town of Seattle banned native urban residence in 1865, though Indians continued to live and work in the city (BOAS 2005:25). The Indian Homestead Act of 1875 allowed Indians to own land, provided they renounced tribal allegiance and lived like whites.

During the late 1800s, two Lakes Duwamish families were particularly prominent in the history of the Lake Union area, the family of Doctor Jim Zakuse and that of John Cheshiahud (BOAS 2005:19). The Zakuse family lived on the north shore of Portage Bay at about what is now the



southwestern portion of the University of Washington campus. Cheshiahud (known as Old John, Indian John, Lake John, Denny John, Chodups John, Lake Union John, or in anglicized Whulshootseed language: *Cheshiahud* or *Shiahud*) was the most familiar native among the shores of Portage Bay. He owned 5 acres of land across from the university, on the southwest side of Portage Bay, at or near the east end of Shelby Street on land purchased or provided by David Denny.

Many Duwamish people from the Lake Union, Portage Bay, and Lake Washington areas went to the Muckleshoot Indian Tribe (the oldest reservation in the region) or to the Suquamish Tribe, the Tulalip Tribe, Lummi, or other reservations where they had kin. Many joined with the Snoqualmie on Lake Sammamish and elsewhere in the Snoqualmie River drainage. None of them could stay along the lakes because of the ever-expanding Seattle, prejudice and maltreatment, lack of native foods, and the increasing tax burden on their lands (BOAS 2005:39).

Muckleshoot Indian Tribe

The term Muckleshoot is a historic reference to a prairie where the Muckleshoot Indian Tribe Reservation is located. It is now used to describe the Green River (*Skopamish*) and upper White River (*Smulkamish*) aboriginal groups who had winter homes along these river drainages. The Green River and upper White River Indians had such strong cultural and social connections to the Duwamish on the Black River and the lower White River that a definition of tribal divisions in this area is not entirely certain (Larson and Lewarch 1995). These Indians depended mostly on salmon for their subsistence, and they used fishtraps (or weirs) for salmon fishing. They also hunted deer, elk, and other game because their winter homes were near the upriver hunting grounds (Smith 1940). The Indians who lived upriver would often travel along overland trails or take canoe trips on the rivers down to the shellfish beds located on Elliott Bay and in the area south of Alki Point to Browns Point (Larson 1993).

Suquamish Tribe

The Suquamish Tribe occupied the western shores of Puget Sound on the Kitsap Peninsula. The lack of a major river in their territory required the Suquamish Tribe to expand their resource procurement activities to areas beyond the waters near their winter homes—to Elliott Bay, Alki Point, and Mukilteo (Wandrey 1975).



The Suquamish Tribe had social, economic, and spiritual connections to the Duwamish through marriage alliances; shared fishing grounds; and shared cooperative ceremonial activities (Haeberlin 1918, Lane 1987). Seasonal shellfish gathering was an important part of the Suquamish Tribe subsistence strategy that necessitated special trips to productive beaches to procure shellfish for winter storage and trade.

What is the historic setting?

The Oregon Treaty of 1846 defined the boundary between the U.S. and Canada at the 49th parallel, spurring Euroamerican settlement throughout the Pacific Northwest. The Oregon Territory was created as part of the United States shortly afterward, in 1848.

The Donation Land Claim Act of 1850 and the Homestead Act of 1869 further spurred population growth in the area, luring settlers with the promise of free land. In the fall of 1851, a group of Midwestern settlers, led by Arthur Denny, arrived at Alki Point in present-day West Seattle. Later that year, they relocated to the east and named their settlement for the local Native American leader, Chief Seattle (Dorpat n.d.). In 1853, the Washington Territory was formed from a piece of the Oregon Territory.

The early economy of Seattle was based on timber and coal. The opportunities available brought more and more settlers. By 1883, Seattle had grown to more than 3,000 citizens, making it the second largest municipality in the Washington Territory (Dorpat n.d.).

Initially, logging activities focused along waterways to take advantage of these areas for transporting logs to the sawmills. From Union Bay on Lake Washington to Lake Union, logging was accelerated when the log chute was opened in 1885. By the 1890s, most of the area in west Lake Washington had been logged. Within the next 10 years, all of the timber had been cut from the shores of the lake (BOAS 2007).

The introduction of cable cars and streetcars beginning in the 1880s fed the push for residential development beyond the traditional city center, fueled by intense population growth. The Klondike Gold Rush in 1897 added to the growth of Seattle. Over the summer of 1909, the Alaska-Yukon-Pacific Exposition showcased the city and celebrated its achievements and economic potential. Designed by the Olmsted Brothers, it was held on the grounds of the University of Washington. Part of the plan remains today, incorporated into the current campus.



By 1910, a mere 60 years after its founding, the city had grown to 230,000 people (Dorpat n.d.).

In the historic era, modifications to the land changed lake levels in the study area. Cuts were made through the Montlake isthmus to create a water passage between Lake Washington and Puget Sound. As noted above, the early cuts were shallow, made to transport logs from the lake to Puget Sound. The Montlake Cut was completed in 1916 to provide a western outlet and a direct, navigable passage to Puget Sound. As a result of the cut, Lake Washington was lowered about 10 feet, and the Portage Bay and Union Bay marshes either dried out or were covered with fill.

The Seattle segment of the study area mostly developed in the early decades of the twentieth century. James Moore, its main developer, named Capitol Hill in 1901. Years before, pioneers had cleared a wagon road to its peak. They founded a cemetery there in 1872. (This cemetery was later named Lake View Cemetery.) The hill was logged off in the 1880s. By 1912, there were more than 40 platted additions in the Capitol Hill area, including Moore's seven tracts. The Eastlake neighborhood was surveyed in 1855, but not platted until the 1870s. Development there was slow until the arrival of the streetcar in 1885. The original developers, David T. Denny and Henry Fuhrman, platted the north end of Eastlake, along with the area now known as Roanoke Park, as part of the 1890 Denny-Fuhrman Addition to the City of Seattle and the subsequent Denny-Fuhrman Supplemental Addition. It encompassed all the land north of Roanoke Street to Lake Union. By the early 1890s, David Denny had established a streetcar line through the area along Eastlake Avenue that connected with downtown Seattle and points north, facilitating the residential development of the neighborhood. The City of Seattle acquired the land that is now Roanoke Park in 1908 and developed it as a park in 1910 (Sherwood 1974a). The establishment of Interlaken Park in 1908 and the opening of the Alaska-Yukon-Pacific Exposition in 1909 exposed more people to the area. People began building residences in the Roanoke Park neighborhood in 1899, but they mostly constructed them between 1908 and 1912. Construction of I-5 and SR 520 in the 1960s physically separated the neighborhoods of Eastlake, Capitol Hill, and Roanoke Park into their current distinct areas.

East across Portage Bay, the Montlake neighborhood was developed about the same time, starting in 1905. The main era of construction was the 1910s through the 1940s. John Boyer of the Interlaken Land

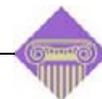


Company platted the area of the Montlake neighborhood south of SR 520 in December 1905. The area now north of SR 520 was originally known as Union City, so named by Harvey Pike in 1861. It was incorporated into the City of Seattle in 1891. With the Alaska-Yukon-Pacific Exposition in 1909 at the University of Washington campus, the area received extensive exposure and benefited from increased public transit to the area. Two brothers, Calvin and William Hagan, with partner James Corner (Smith n.d.) originated the name “Montlake” as they developed “Montlake Park, An Addition to the City of Seattle” in July of 1909. This development occupied the area between the present day Montlake Cut and SR 520, and encompassed the eight blocks originally platted as H.L. Pike’s First Addition to Union City in 1870. Although Boyer preferred the name “Interlaken” for the neighborhood he helped develop, he later agreed to “Montlake” as the name for the entire neighborhood (Gould 2000), which is generally accepted today.

The Montlake neighborhood is bordered by the Washington Park Arboretum, one of the City’s first parks, which was created from 1900 to 1904. Originally owned by the Puget Mill Company, the park area was logged and slated for development, along with the adjacent area that is now known as Broadmoor. However, the financial panic of 1893 put the company’s plans on hold. To get needed infrastructure improvements from the City, the Puget Mill Company deeded the City 62 acres of land that would become the park. More acreage was added over the next few years and, by 1916, the City owned a total of 165.22 acres (BOLA and Kiest 2003). The City largely completed its acquisition of land for Washington Park with the 1917 purchase of Foster Island and the 1920-1921 purchase of all but one lot of the Bard-Foster Washington Park Addition (City of Seattle 2008).

In 1903, the Olmsted Brothers came to Seattle and prepared a plan for Seattle’s park system, including Washington Park. In March 1924, Washington Park was officially set aside as a botanical garden and arboretum by the Board of Park Commissioners. In 1925, the federal government leased the “Old Government Canal” property to the City for 99 years, to be used for park purposes. The leased land was considered an expansion of Washington Park and was the location of the first official plantings in the park in 1935-1936.

The Olmsted Brothers drew up the first formal plan for the Arboretum in March 1936, which included an illustrated plan, a nine-page letter, a collection of photographs, and plant lists. J. Frederick Dawson was the chief designer, and he used an earlier design by the Parks Department’s



staff landscape architect, Frederick Leissler, as the basis for the Olmsted plan. Dawson worked closely with Leissler, who had been hired by Dean Winkenwerder of the University of Washington College of Forestry to oversee development of the Arboretum. As this was during the Great Depression, 500 men in the Public Works Administration/ Works Progress Administration (PWA/WPA) did much of the construction. Between 1936 and 1941, WPA workers completed much of the basic infrastructure that is present today. They also built a stone gatehouse located near the south entrance at Madison Street, an overlook or gazebo on a hillside at the southern end of the Arboretum, and a stone kiosk at the Interlaken Boulevard intersection with Lake Washington Boulevard (the original kiosk has been demolished).

“Designed by architects Arthur Loveless & Lester P. Fey, these structures reflect the rustic style of park architecture that was prevalent during this era while the intricate stonework is representative of the craftsmanship that was a hallmark of WPA construction.... Similar craftsmanship was employed in the construction of two stone bridges over Arboretum Creek... Several major landscape elements were also completed by WPA workers, often under the supervision of local landscape architects and designers. This included the Rhododendron Glen, which followed a planting plan prepared by Otto Holmdahl.... Holmdahl also completed the plan for the Maple Collection...and supervised construction of the Rock Garden/Rockery.... WPA workers constructed the pools of the Woodland Garden.... Although the Olmsted Brothers firm completed the General Plan with the idea that they would be hired for additional design work for specific elements, they only executed a detailed planting plan for Azalea Way.... The General Plan also provided a sequential arrangement of the plant collection based on a taxonomic classification system laid down by the botanists, Engler and Prantl.... In addition, several major elements of the Olmsted Brothers plan were never executed, including the Lakeside Boulevard, the Rose Garden and the Administration Building/Herbarium/Library” (City of Seattle 2008).

Much of the Arboretum plant collection development occurred after World War II, when the late Brian O. Mulligan was director.

The area around Foster Island and along the shoreline was included in both the 1904 and 1936 Olmsted plans as an area of lagoons. The lowering of Lake Washington in 1916 changed the shoreline and



created a marsh at the north end of the Arboretum around Foster Island. By 1936, this area was “extensive marshlands, interrupted by landfills, following two decades of exposure since the lowering of the lake. The plan proposed the introduction of waterways labeled ‘lagoons’ to be developed through dredging of the marshland. Dredge spoils would be used to raise the adjacent marshland and to cover the dumps. A future Alpine collection could expand into the area surrounding Foster Island, from the primary Alpine garden proposed west of the nursery” (BOLA and Kiest 2003). To implement the lagoon plan, extensive dredging was done in 1938-1939, dredging out 1¼ miles of lagoons. In 1939, extensive planting of 16 species of bamboo and 3,500 Japanese iris took place; however, few of these survived after World War II.

The undeveloped property north of SR 520 behind the houses facing East Hamlin Street is what remains of the “canal reserve land,” the location of the original log canal between Lake Union and Lake Washington. This piece of land was not included in the Olmsted plans for the park, but as noted above, was one of the first areas formally planted. Frederick W. Leissler, Jr., who was appointed assistant director of the Arboretum in 1936, directed WPA crews in planting Yoshino cherry trees and incense cedars on the “canal land” during the winter of 1935-1936. The trees remained until the construction of SR 520 in 1961. At that time, many of the cherry trees were relocated to the liberal arts quad of the University of Washington. These trees were removed in 1998 because of their advanced age (BOLA and Kiest 2003). Two of the cherry trees that were not relocated remain today; however, most of the surrounding land and plantings have been removed, and the introduction of SR 520 severely compromised the integrity of this early landscape.

McCurdy Park is located on the north side of SR 520 and encompasses approximately 1.5 acres of land. It was once part of the “canal reserve land,” which had been reserved for use as a potential location for the Montlake Cut. MOHAI was constructed on a portion of this property in 1950, and the land immediately surrounding it was named for Horace W. McCurdy in 1958 (Sherwood 1974b). In 1963, the State Department of Highways condemned approximately 47 acres of Arboretum property for SR 520, including most of the canal reserve land, and the path for the new expressway effectively cut off what was left of McCurdy Park from the Arboretum. McCurdy Park and MOHAI are no longer considered part of the Arboretum.



On the east side of Lake Washington, the discovery of coal in 1867 in the Coal Creek area attracted settlers as extensive mining began there at the Newcastle Coal Mine. William Meydenbauer and Aaron Mercer staked large claims on the east side of Lake Washington in 1869, becoming some of the first non-Native settlers there. German-born Meydenbauer, who owned a prosperous bakery in Seattle, settled next to what is now Meydenbauer Bay. Mercer had the land around what is now known as the Mercer Slough (Rochester 1998). In 1871, Warren Wentworth Perrigo and Captain Luke McRedmond staked the first land claims on Lake Sammamish in present day Redmond (GRCC 2009). During the 1870s, Seattle business people and real estate investors began to buy property on what came to be known as the Eastside. Marshall Blinn purchased the land on what would become Hunts Point, and Jacob Furth, a banker, and Bailey Gatzert, mayor of Seattle, also purchased property there. Once land speculators and other settlers came to the Eastside, making the land more profitable, Meydenbauer and Mercer both sold their claims and moved on (Rochester 1998).

Logging, almost by necessity, became a primary occupation on the Eastside, as the settlers who came to pursue agriculture needed to clear land for their farms. The timber industry arrived on the Eastside in earnest when logger Albert King and his brothers homesteaded nearby Groat Point and Eastland in 1875 (Rochester 1998). In 1882, Isaac Bechtel, Sr. bought land near current downtown Bellevue and began a logging operation. The first sawmill on the Eastside was started by John Peterson near Pine Lake in 1890 (GRCC 2009). In 1891, Mr. T. L. Dabney, considered Medina's first permanent resident, built the first landing in Medina on what later became known as Dabney Point. The landing was directly across from the Leschi Park landing and it became the main crossing point for settlers and visitors to enter "the Points Country" (City of Medina 2008).

Throughout the late nineteenth century, settlers came to the Eastside, including Civil War veterans awarded homesteads for their service (City of Bellevue 2006). Irish and Scottish immigrants settled much of the Points area. In 1871, the Popham and MacGregor families became the first non-Natives to settle in the Kirkland area. They located their homesteads along Lake Washington, south of what is now downtown Kirkland (Stein 1998a). Patrick Downey, an Irish immigrant, homesteaded a 160-acre tract of land on the southern slope of Clyde Hill in 1882. He is considered the first settler in present-day Clyde Hill (City of Clyde Hill 2009). William Easter filed the first homestead claim



in Yarrow Point in 1886. Leigh S. J. Hunt, owner of the Seattle Post-Intelligencer, bought most of the rest of Yarrow Point in 1888 and built a large estate on its northern shoreline that he named “Yarrow,” branding the peninsula as Yarrow Point from then on. He also purchased much of the land on Hunts Point, which he named for himself and held until the financial Panic of 1893 (Knauss 2003). In addition, in 1888, Hunt partnered with Englishman Peter Kirk to purchase thousands of acres of land to found a new town, which they called Kirkland. They planned it as a steel mill community (Stein 1998a).

The Seattle Lake Shore and Eastern Railroad reached Redmond in 1889, ensuring the economic success of the Eastside timber industry (Stein 1998b). That same year, Washington achieved statehood. By 1890, about 20 families had settled in the Points area of the Eastside from Medina to Kirkland. In June 1900, the Federal Census of the Bellevue Precinct in King County, encompassing about the same area, counted 254 people (City of Clyde Hill 2009). Much of the Eastside area had become a haven for berry growing and fruit orchards. Bellevue’s first permanent school was built in 1892, and the town of Bellevue was platted in 1904. By then Bellevue was already the center for berry growing in King County, supported by a thriving Japanese community (Stein 1998c). Kirkland incorporated in 1905, and although it never succeeded as the steel mill town Peter Kirk had envisioned, it prospered through ship building and wool milling (Stein 1998a). The City of Redmond incorporated in 1912 and began to transition from a lumber economy to an agricultural one (Stein 1998b).

In 1894, Hunt sold 22 acres on Yarrow Point to Jacob Furth, who built a summer home there that he named “Barnabee.” In 1902, Edward Tremper also purchased a large piece of land on Yarrow Point and planted holly that he had imported from England. By the 1920s, he owned the largest holly farm in the United States. In 1907, George F. Meacham filed the first development plat for Yarrow Point, but the area remained largely agricultural. Strawberries, vegetables, and holly continued to be grown on most of Yarrow Point until the middle of the twentieth century (Knauss 2003).

Although most other communities in the Points area were developing around agriculture, coal, timber, hopes of a steel mill, and other commercial ventures, Medina, promoted by William C. Calvert, developed as a wealthy residential enclave, an idyllic retreat from urban Seattle. It became known as the “Gold Coast” for the number of



wealthy citizens who built large homes along the shoreline. Like Hunt's "Yarrow," Edward E. Webster, Secretary and General Manager of Seattle's Independent Telephone Company, built "The Gables." Shortly afterward, Captain Elias W. Johnston, a millionaire from the Yukon Gold Rush, built a mansion next to Dabney's Landing. These were followed by publisher Miller Freeman, lumberman William Neil Winter, James G. Eddy, W. B. Nettleton, and James and Charlotte Clapp of the wealthy Norton/Weyerhaeuser family, who all built mansions in Medina. Medina Heights (now Medina) was officially named and platted in 1914 (Rochester 1998).

A group of families from Seattle purchased Hunts Point, which the Puget Sound National Bank had taken over from Hunt after 1893. They used it as a family retreat and vacation area. Like Medina, Hunts Point remained mostly residential. Improved services and access led to more of the summer homes becoming full-time residences. In 1913, the Hunts Point Clubhouse was built as a community center to serve the small community (Town of Hunts Point 2006).

As noted earlier, the Montlake Cut was completed in 1916 and, as a result of the cut, Lake Washington was lowered about 10 feet. Medina millionaires found added lakeshore acreage in front of their homes, while others suddenly had additional acreage for planting (Rochester 1998). The Furth property on Yarrow Point gained rich land along its waterfront boundary, and the Furth family leased 16 acres of it to the Saiki family to farm (Knauss 2003). The additional shoreline of Yarrow Bay created a natural wetlands area, and on Hunts Point, the marshlands of Cozy Cove and Fairweather Bay were formed (Knauss 2003, Town of Hunts Point 2006).

By the 1920s, a road system connected the Eastside communities, and ferries linked them to Seattle. The fruits and produce grown on the Eastside filled the Seattle markets. Many families still used Eastside property for summer vacations. The ferry landing in Kirkland served the most popular route, bringing people and goods to or from Seattle in just over 30 minutes (Stein 1998a).

The relative isolation of the Eastside ended with the opening of the Lacey V. Murrow Bridge in 1940 just south of Bellevue, which was the first floating bridge across Lake Washington (the present-day route of the I-90 Bridge) (Wilma 2001). This spurred tremendous growth in the Eastside communities, resulting in increased property values. After the United States entered World War II, the Japanese residents of the area



were sent to internment camps. These two actions signaled the end of the agricultural era of the Eastside, and the beginning of its suburban development (City of Bellevue 2006).

World War II brought more growth to the area, particularly with the influx of workers at Boeing Field. In 1946, developer Kemper Freeman opened Bellevue Square shopping center, the first shopping center in the region and one of the first in the country (Stein 1998c). Housing and commercial developments on the Eastside mushroomed. Bellevue and Clyde Hill both incorporated in 1953, followed by Medina and Hunts Point in 1955 and Yarrow Point in 1959 (Stein 1998c, City of Clyde Hill 2009, City of Medina 2008).

The second span across Lake Washington, 4 miles north of the Lacey V. Murrow Bridge, was the Evergreen Point Bridge. As part of the original SR 520 project, construction on the Evergreen Point Bridge began in August 1960, and it officially opened in August 1963 (Hobbs and Holstine 2005). It was officially renamed the Governor Albert D. Rosellini Bridge in 1988 (Mauldin n.d.). At the time of its construction, the Evergreen Point Bridge was the largest floating span in the world at 1.4 miles long. With the sinking of the original Lake Washington floating bridge in November 1990, it became the oldest remaining floating bridge across Lake Washington, exemplifying an engineering feat of outstanding proportions. For the Eastside communities, the second bridge led to even more residents and greater development pressures.

Throughout the first half of the twentieth century, farming remained the most important industry on the Eastside. However, the opening of the Lacey V. Murrow Bridge across Lake Washington in 1940 changed the area from a collection of small rural communities to much denser, more developed communities, many of which function today as Seattle suburbs. Although Bellevue, Kirkland, and Redmond have embraced this intense growth, the Points communities (Medina, Hunts Point, Clyde Hill, and Yarrow Point) have focused instead on remaining quiet residential enclaves, with Medina becoming one of the most affluent areas in the region.



Records/Archival Research

The cultural resources staff reviewed the following data and sources for use in preparing this discipline report:

- Washington DAHP – Dr. Robert Whitlam, state archaeologist; Mr. Greg Griffith, Deputy SHPO; Mr. Michael Houser, state architectural historian
- Determinations of NRHP Eligibility at DAHP
- Historic Resources Inventory files at DAHP
- Archaeological Site Inventory files at DAHP
- Historic Property Inventory files at DAHP
- National Register Nomination forms at DAHP
- King County Historic Preservation Program
- Previous cultural resource studies, including archaeological site records and cultural resources reports
- Environmental background reports, including environmental histories and detailed geomorphologic and geoarchaeological analyses used to reconstruct prehistoric landforms and to evaluate areas of possible archaeological sensitivity
- Ethnographic and historic background material, including relevant ethnographic reports, oral histories, local histories, newspaper articles, census data, city directories, historic photographs, and historic maps
- Various information collected from tribal consultations
- King County Assessor’s Office
- Seattle Municipal Archives: database of photographs
- Seattle Public Utilities Engineering Department: records vault (city maps, plat books, historic aerial photos)
- Seattle Department of Parks: Mr. David Goldberg



- City of Seattle Historic Preservation Division (Department of Neighborhoods)
 - List of historic landmarks
 - Ms. Elizabeth Chave, Landmarks Preservation Board
 - Ms. Karen Gordon, Seattle City Historic Preservation Officer
- Historic Seattle Preservation Foundation
- Friends of Seattle’s Olmsted Parks
- HistoryLink, an online encyclopedia of Seattle, King County, and Washington State history
- University of Washington
 - Suzzallo Library
 - The Burke Museum
 - Special Collections and Manuscripts
 - School of Architecture Library
 - School of Architecture: Professor Jeffrey Ochsner and Professor Grant Hildebrand
- MOHAI: historic photographs database
- Seattle Public Library – Seattle Room
- Kirkland Public Library
- Kirkland Historical Society: City of Kirkland Historical Survey
- Bellevue Public Library
- Bellevue Public School System
 - Mr. Brian Harding
- Bellevue Historical Society
 - Ms. Mary Ellen Piro and Ms. Katie Innes
 - Bellevue Historical/Cultural Survey
- NOAA Northwest Fisheries Science Center: Mr. John Herkelrath and Mr. John Rheaume
- DOCOMOMO US–Seattle Chapter (Documentation and Conservation of buildings, sites and neighborhoods of the Modern Movement)



- U.S. Army Corps of Engineers – Seattle District Cultural Resources Staff
- Association of Washington Archaeology
- Previously completed analyses of the SR 520 Bridge Replacement and HOV Project Draft EIS
- Project effects and background information reported in other environmental analyses prepared for the I-5 to Medina project. Key elements for review include the following:
 - Noise – for existing and predicted noise and vibration levels on historic properties, and for sound wall descriptions
 - Visual quality and aesthetics – for assessment of existing visual and aesthetic qualities in areas around historic properties and for effects analysis on visual quality in these areas
 - Land use, economics, and relocation – for information on relocations and changes in land use that may affect historic properties
 - Air quality – for information on existing and predicted air quality levels that might affect the setting of historic properties
 - Traffic – for information on existing and predicted traffic conditions that could affect historic properties
 - Navigable waterways – for information on potential effects to marine-related historic properties
 - Recreation – for information on effects to recreation resources, as those resources may also be historic properties

Section 106 Consultations

WSDOT initiated the Section 106 process for this undertaking in April and May 2009, coordinating with the SHPO, ACHP, affected Indian Tribes, and other consulting parties (Attachments 1 and 2). As the lead federal agency, FHWA conducts government-to-government consultations with the Tribes. WSDOT has assisted FHWA with previous consultations in this study area, beginning with the Trans-Lake Washington Study and continuing through the Draft EIS. The consultations will continue through project design and construction.



WSDOT identified potential consulting parties and initiated contact with them in March 2009. Comments on the APE were solicited from those who expressed interest in participating in the Section 106 process, and these comments, received in May 2009, led to a revised, expanded APE. WSDOT held two Section 106 briefings with the consulting parties, one during the day and one in the evening, in late May and early June, to address the comments and concerns expressed by the consulting parties in relation to the APE, and to review the Section 106 process. In July 2009, WSDOT shared the revised APE along with the Historic Property Inventory forms for the project with the consulting parties, and asked for their comments. WSDOT responded to those comments in August 2009, and revised or added Historic Property Inventory forms, where appropriate. Another series of Section 106 briefings was held in October 2009 to discuss the ongoing process in general and the analysis of effects on historic properties from the project in particular. Comments from those meetings were addressed whenever possible in the current report. Section 106 consultations are ongoing and will continue throughout the process, which will likely end with the signing of a Memorandum of Agreement (MOA).

Literature Review

This section discusses the results of the cultural resources literature review. The information is presented from west to east for the Seattle, Lake Washington, and Eastside transition area segments. The study results are discussed for each type of cultural resource within each of the project segments.

Seattle Segment

The Seattle segment, shown in Exhibit 7, includes the I-5, Portage Bay, Montlake, and West Approach areas. This segment also includes the Roanoke Park Historic District. The literature review identified one known archaeological site, the Miller Street Landfill (45KI760), and identified historical background information about Foster Island. Both are located within the West Approach area.

For the built environment, the literature review identified eight properties listed in the NRHP, one listed in the WHR but not in the NRHP, and nine designated Seattle landmarks, only three of which are not listed in either the NRHP or the WHR.



Miller Street Landfill (45KI760)

Landfills were developed at the north end of the Arboretum in the marsh near Union Bay. When SR 520 was built in 1961, a dump of bottles was found dating from 1904. This site was located on the knoll east of where Arboretum Creek would have entered Lake Washington before the lake was lowered and at the informal end of Montlake Boulevard before it was extended to the University of Washington. The bottle dump may have been part of a sanitary landfill with access off Miller Street (which later came to be known as the Miller Street Dump, 45KI760, and now is known as the Miller Street Landfill) that was used until 1936 (BOLA and Kiest 2003).

In 1916, the temporary U.S. Army Corps of Engineers' lower cofferdam (built as part of the cut that would link Lake Washington and Union Bay) unexpectedly eroded. The water level of Lake Washington dropped quickly by about 10 feet, exposing new shore lands. This resulted in expansion of shoreline properties, including portions of Washington Park (BOLA and Kiest 2003).

After lowering of the water level in Lake Washington in 1916, 30 acres of land at the north end of the Arboretum became a marsh that extended northward $\frac{1}{4}$ mile to the new shoreline. Except for elevated spots like Foster Island and the Miller Street Landfill, the area had little elevation relief and was overgrown with willows, blackberries, tall grass, and cattails. In 1938–1939, the Puget Sound Bridge and Dredging Company dredged out more than $1\frac{1}{4}$ miles of lagoons at the north end of the Arboretum. The dredged peat material was overlain on the banks and some of the material was graded off by bulldozer and hand graded by WPA crews (BOLA and Kiest 2003).

BOAS (2007) conducted additional research and subsurface testing for the Miller Street Landfill and reported that the landfill operated from about 1910 until 1936. Subsurface testing identified a diverse assemblage that included beverage and condiment bottles, medicine bottles, tableware, brick, shoes, clothing fragments, food waste, metal debris, ash, charcoal, and oxidized sediments.

A human patella (kneecap) was recovered in a shovel probe, but subsequent excavation of a 2- by 2-meter unit around the find demonstrated that the bone was an isolate without association with other skeletal remains. Hospital waste recovered from probes in the general vicinity led to a conclusion that the patella likely was from a surgical amputation.



Artifacts analyzed during the testing indicate a context date spanning from about 1910 to the 1920s. The deposits were very well stratified and up to four meters deep. Site boundaries were not entirely identified. BOAS recommended the site eligible for listing in the NRHP under Criterion D and that a determination of eligibility for the site be completed. The Landfill presently remains unevaluated. The site is potentially eligible pending significance testing, which would be done once the preferred alternative is selected. Because mitigation for a landfill would always be archaeological data recovery, WSDOT postponed significance testing until additional information on potential effects due to construction and development were determined.

Foster Island

Foster Island has the greatest interest and concern to all Tribes with members who can trace ancestry to the Montlake Portage area and the Lakes Duwamish families who recently lived there.

People living nearby on both sides of the Montlake portage and travelers through the area used Foster Island as a burial ground (BOAS 2007). As reported to anthropologist T.T. Waterman by one of his native informants, Foster Island was used as a burial ground. The Indians hoisted their dead into trees, and the informant remembered when the trees were full of boxes containing skeletons. The lashings of these boxes gave way from time to time, and the ground at that time was covered with bones that had fallen down from the trees. These bones are reported to have been removed when the Washington Park Arboretum was developed (Hilbert et al. 2001:103). There are anecdotal reports that skeletal remains were removed in the early 1900s, but the ethnographic study completed by BOAS for the Draft EIS could not determine where.

The use of islands as burial areas is not uncommon in the Puget Sound region. Often these small islands were near major settlements. It appears that, in some cases, the dead were placed in cedar boxes or canoes and suspended in trees. Where trees were not available, small burial houses or scaffolds for canoes were constructed, and the dead were placed in these. After a time, the desiccated bones were gathered and interred in the ground, at the same or other location.

According to documents detailing the history of the Washington Park Arboretum and Foster Island (Plummer 1991), Foster Island no longer contained any remains of graves when development of the Arboretum began. It may be that the bones were removed prior to logging in the



1890s. The primary source documents that actually stated what had happened to the human skeletal remains described by T.T. Waterman could not be found (BOAS 2005:18).

The northern portion of the Arboretum near SR 520 is located at a natural break in Seattle's topography, a narrow isthmus between Lake Washington and Lake Union. This area served as an early portage between the two lakes. A small creek flowed along the isthmus from Lake Washington to form a swamp at the east edge of Portage Bay. SR 520 now occupies the site of the creek outlet and an early log channel. The ship canal is about 150 to 200 yards to the north (BOLA and Kiest 2003).

The shoreline area is associated with early Indian settlement. Records suggest that an Indian settlement was once located near the present-day University of Washington power plant (Buerge 1984). The narrow piece of land between the two lakes was a strategic location for Native Americans. The Duwamish traveled the route and called it *Sxwacugwit*, or "s-hool-WEEHL" (portage or narrow passage in Puget Sound Salish language). This portage was critical to the Indians, just as it was for later settlers, because it led from the coast to lakes and river systems.

For a short period in the 1890s, Foster Island contained a sawmill. In 1916, the temporary U.S. Army Corps of Engineers' lower coffer dam (built as part of the cut that would link Lake Washington and Union Bay) unexpectedly eroded. The water level of Lake Washington dropped quickly by about 10 feet, exposing new shore lands. This resulted in expansion of shoreline properties, including portions of Washington Park. The island was also used as a dump site for soil excavated from the Montlake Cut (BOLA and Kiest 2003).

The island was later sold to the City of Seattle (in 1917) and added to Washington Park. Three years later, the Seattle Gun Club operated a trap shooting area until the state closed shooting within 1 mile of the lake. In 1934, the University of Washington and the City of Seattle agreed to use Washington Park as an arboretum. Land use activities from the 1930s to 1950s were primarily recreational use. During the 1960s, the Evergreen Point Bridge was built across Foster Island, and considerable disturbance of deposits occurred within the construction footprint (BOAS 2007).



A Duwamish village was located east of the mouth of the creek, which was called *Slalal*, or “fathom.”

Cultural Resource Investigations on Foster Island

During a field survey conducted by CH2M HILL (2004) for the previous TransLake SR 520 Project (the predecessor to this project), three shovel probes were placed on Foster Island south of SR 520. The shovel probes resulted in negative findings. Backdirt from several rodent holes found in the area near Lake Washington Boulevard contained historic debris (cut bone; charcoal; and fragments of brick, old glass, and porcelain). The 2004 report recommended additional ethnographic study and research to determine if Foster Island was a TCP.

In 2007, BOAS conducted an ethnographic study of Foster Island. The investigation determined that Foster Island met at least some of the criteria necessary to be considered a TCP and eligible for the NRHP. However, additional study and tribal consultation would be necessary to establish its eligibility.

A Ground Penetrating Radar (GPR) study was designed to potentially delineate sedimentary layers that would reveal the depositional history of the island and to determine if subsurface disturbance features (called anomalies) could be detected that might be interments or other archaeological features. The findings suggest that both objectives were met, but anomalies and areas devoid of them will have to be archaeologically excavated to establish function or origin. Similar results of two GPR tests using different antennae frequencies (that is, radar wave lengths) suggest that spatial distributions of anomalies were reliably detected. Future investigations will need to cover a broader area than was covered in July 2008 (Goodman et al. 2008).

In 2008 and 2009, ICF Jones & Stokes conducted background research to supplement previous work on the Foster Island shoreline. The objective was to accurately map the historical shorelines of the two historic islands that are now Foster Island. The information gathered may be used to support the preferred alternative and to prepare a research design for potential cultural resource investigations. In late 2009, Dr. Jay Miller conducted additional research, oral history interviews, and ethnographic study. His research led to FHWA’s conclusion that Foster Island should be treated as an eligible TCP. A formal determination of eligibility for Foster Island still remains to be done, and additional cultural resource investigations are needed to determine the site boundaries.



Archaeological High Probability Areas

The background research and historic map georeferencing concluded that the 6-Lane Alternative alignments appear to traverse the 300-foot-wide gap between the historical south and north islands. BOAS (2007) identified several locations within the Seattle segment as areas of archaeological high probability, both for the potential presence of prehistoric Native American archaeological sites and for historic period Euroamerican archaeological remains (Exhibit 12).

The areas in the Seattle segment include the western shore of Union Bay, the parking lot and waterfront near MOHAI, Union Bay north of the Montlake Cut, Montlake Boulevard north of the Intramural Activities Building, Foster Island, the Miller Street Landfill, and East Arboretum Creek. BOAS conducted archaeological subsurface testing within the high-probability areas identified during the research phase of the investigation. Fifty-nine shovel probes and eight trenches were excavated. Excavated locations were in the general vicinity of east Portage Bay; McCurdy Park between Montlake Boulevard and 24th Avenue East; near the MOHAI lower parking lot; and the Montlake and West Approach areas. Excavation areas in the Miller Street Landfill contained historic period debris associated with the historic dump. Excavation areas on the eastern shore of Portage Bay, in McCurdy Park, near MOHAI, Union Bay north of the Montlake Cut, and the area near Montlake Boulevard contained fill material deposited directly on lakebed sediments or peat deposits; no historic or pre-contact cultural resources were encountered (BOAS 2007).

Built Environment Resources

The literature review identified the following eight properties in the Seattle segment listed in the NRHP:

- Roanoke Park Historic District (Criteria A & C)
- Parsons, William House (Criteria A & C)
- Seattle Yacht Club – Main Station (Criterion A)
- Montlake Cut [component of Chittenden Locks and Related Features of the Lake Washington Ship Canal] (Criteria A & C)
- Montlake Bridge [Historic Bridges/Tunnels in Washington State] (Criterion C)



Exhibit 12. Summary Description of Archaeological High Probability Areas with Supporting Ethnographic Data in the Study Area

Project Segment	Development/Modification	Ethnographic Data	Archaeological Potential	Reference to maps and illustrations
Portage Bay	Excavation across the portage and fill placed in the vicinity has likely obliterated evidence of Indian use of the portage and its shorelines. It is unlikely that the portage area retains cultural significance except as a reference to travel routes in the 1800s.	Two Indian homesteads associated with ethnographic place names are located on either side of Portage Bay. The Chehsiahud settlement area is located within the SR 520 APE and extends south to the southernmost extent of Portage Bay.	It may or may not be possible to determine whether any homestead or prehistoric deposits are present (BOAS 2005:94 and 2007)	BOAS (2005: Figure 3, #113; Appendix B)
Montlake Portage	Excavation across the portage and fill placed in the vicinity has likely obliterated evidence of Indian use of the portage and its shorelines. It is unlikely that the portage area retains cultural significance except as a reference to travel routes in the 1800s.	Used extensively by several Tribes. (BOAS 2005:95).	Union Bay was affected first by lowering Lake Washington, then by placement of large quantities of fill in the former bay. Both events eliminated Duwamish fishery use. The extent to which either event affected possible cultural deposits is unknown (BOAS 2005:95 and 2007).	BOAS (2005: Appendix B, F, H)
Union Bay	Alterations include developing Montlake Cut, lowering Lake Washington, landfilling, dredging, Arboretum development, and SR 520 construction. Former marsh areas south of SR 520 and in the APE are part of the Arboretum or in the Madison Park residential neighborhood.	Used extensively. Material remains would have been stakes and nets, fishtraps, animal traps, tools, and fire-modified rock. There is no evidence in the documented record of continued access to or use of the area by Lakes Duwamish descendants (BOAS 2005:96).	There is potential for the discovery of archaeological deposits on the north side of the Bay and northeast of the cut (BOAS 2005:96). Deposits related to waste disposal are present within the APE at the confirmed location of the Miller Street Landfill. Other historic period sites could be encountered along Lake Washington Boulevard. (BOAS 2005:96 and 2007).	BOAS (2005: Figure 3, #111, Appendix B, F, H)
Foster Island	The central portion of the island was significantly altered by SR 520 construction.	Foster Island is of considerable interest and concern to all Tribes with members who trace ancestry to the Montlake portage area and to two Lakes Duwamish families who most recently lived there. The location appears to meet at least some criteria of a TCP (BOAS 2005:96). FHWA is treating Foster Island as a TCP, eligible for the NRHP.	Areas north and south of SR 520 could potentially contain intact archaeological deposits at or near the ground surface. Foster Island was used as a burial ground. As such, it is possible that the island could retain buried human remains, although the island has been severely modified (BOAS 2005:96 and 2007).	BOAS (2005: Figure 3, #110, Appendix B)



- Naval Military Hangar – University Shell House [Canoe House] (Criterion C)
- Nuclear Reactor Building [More Hall Annex] (Criteria A & C, Criteria Consideration G)
- Arboretum Aqueduct also known as Arboretum Sewer Trestle [Historic Bridges/Tunnels in Washington State] (Criteria A & C)

With the exception of the Roanoke Park Historic District, the Canoe House, and the Nuclear Reactor Building, all of these properties are also designated Seattle Landmarks. In addition, there are four other designated Seattle Landmarks, as follows, for a total of nine designated Seattle Landmarks in the Seattle segment:

- Denny-Fuhrman School/Seward School (three buildings – 1893, 1905, 1917)
- L'Amourita Apartment Building
- Montlake Community Center
- Seattle Japanese Garden

One additional property is listed in the WHR but not in the NRHP – the 1893 Denny-Fuhrman (Seward) School, noted above as a designated Seattle Landmark.

Lake Washington Segment

The Lake Washington segment contains no known prehistoric or historic archaeological resources or identified TCPs.

Built Environment Resources

There is one identified historic property in the Lake Washington segment. The Governor Albert D. Rosellini/Evergreen Point Bridge has been determined eligible for the NRHP. Although it has not yet reached 50 years of age, it was accepted under Criteria Consideration G for its exceptional importance. It is eligible under Criteria A and C. DAHP concurred with this eligibility on January 26, 2009.

Eastside Transition Area Segment

Three high probability areas were identified in the Eastside transition area. Subsurface testing was conducted for these locations; however, no cultural resources were identified. Although the investigation in this area resulted in negative findings, the eastern Lake Washington



shoreline north of the Evergreen Point Bridge was determined to have deep fill placed on the original land surface, so that standard excavation methods could not penetrate deeply enough to sample native sediments for the presence of pre-contact archaeological resources. No TCPs were identified for this segment.

Built Environment Resources

The Eastside segment contains two historic properties that have been determined eligible for the NRHP – the James Arntson House at 2851 Evergreen Point Road and the Dixon House at 3267 Evergreen Point Road. It also has one property, known as the Helen Pierce House at 2857 Evergreen Point Road, that has been determined not eligible for the NRHP, but eligible for the WHR. All of these properties are located in Medina, along Evergreen Point Road. DAHP concurred with these determinations of eligibility in April and August 2009.



Methodology

Regulations contained in 36 CFR 800 provide a step-by-step process to address historic properties and satisfy the requirements of Section 106 of the NHPA. Generally speaking, there are four steps:

1. Identification of historic properties (inventory)
2. Evaluation of historic significance
3. Assessment of effects that may be caused by the project
4. Resolution of adverse effects on historic properties, if applicable

What is the Area of Potential Effects?

The first step in identification is to determine and document the APE. As stated earlier, WSDOT determined the APE for the project in consultation with the SHPO, and also sought comments from the identified concerned Tribes and other consulting parties. The SHPO concurred with the APE on April 16, 2009. In accordance with 36 CFR 800.4 (a)(3), WSDOT sought comments on the APE from consulting parties through meetings and written correspondence. Comments from the consulting parties were received and taken into consideration, and the APE was amended to accommodate many of these concerns. The SHPO concurred with this revised APE in August 2009.

How was historic property surveyed?

The second step in identification is to review existing information and then survey for potential historic properties. The cultural resources analysts compiled existing information on any previously listed or identified historic properties. To provide context and guidance for the historic property survey, the analysts reviewed this information, performed additional research, and prepared a historical overview with a summary history of the area. The identification and evaluation of historic properties involved a literature search; the collection of existing data, including archival records, building permits, historic photographs and maps; and an analysis of these data to help assess eligibility for NRHP listing, WHR listing, or local landmark designation. The analysts then conducted a field survey of those buildings, structures, and planned landscapes in the APE constructed before 1972 that had not previously been adequately surveyed for historic properties. The year



1972 was selected because it encompasses the time period of 45 years from the anticipated project completion date of 2018. Properties identified in earlier surveys were re-evaluated and re-photographed to confirm their continued existence and level of integrity. A new DAHP Historic Property Inventory (HPI) form was prepared for any property surveyed more than 5 years prior to this field survey and for any previously unrecorded properties. The data from these HPI forms, including photographs and background information, were then entered into the DAHP database.

How were the properties evaluated?

Once the information was compiled and the historic context was completed, the analysts evaluated the surveyed properties in accordance with NRHP, WHR, and local landmarks evaluation criteria and made recommendations for eligibility on each property surveyed. WSDOT, on behalf of FHWA, then made determinations of eligibility and submitted those determinations, along with the HPI forms in database format, to DAHP for concurrence. DAHP correspondence is included as Attachment 2. The HPI forms are included as Attachment 3 to this report. DAHP concurred on the eligibility of these properties in August and October, 2009.

How were effects analyzed?

Each identified historic property in the APE was assessed for potential effects under the No Build Alternative and the 6-Lane Alternative and Options using the criteria of effect and adverse effect from 36 CFR 800.5. The criteria of effect and adverse effect are used to determine whether the undertaking could change the characteristics that qualify a property for inclusion in the NRHP. If the characteristics are changed, for better or worse, it is considered an effect. If the aspects of integrity are diminished to the point where the property can no longer convey its significance, it is considered an adverse effect. In accordance with 36 CFR Section 800.5(a)(1), an adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time or be farther removed in distance, known as indirect effects, or be cumulative.



Potential adverse effects on cultural resources include, but are not limited to the following (36 CFR 800.5, Adverse Effect):

- Physical destruction of or damage to all or part of the property
- Alteration of a property (including restoration, rehabilitation, or repair that is not consistent with the Secretary of the Interior's standards for the treatment of historic properties)
- Removal of the property from its historic location
- Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance
- Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features

The cultural resources analysts reviewed the project alternatives to determine if they would affect historic properties by construction and/or by operation of the project. Following standard NEPA guidance, analysis of effects entailed comparing existing conditions with those of both the No Build Alternative and the 6-Lane Alternative. For the area near the I-5 and SR 520 interchange, and between I-5 and the Portage Bay Bridge, the project is the same under each option, so the analysis of effects is discussed only once. Because the options have differing components for the area east of the Portage Bay Bridge, this area is discussed separately for each design option. For the detailed effects analysis, see the Potential Effects of the Project section.

When an undertaking is found to have an adverse effect on historic properties, Section 106 requires that the federal agency consult with the SHPO, Tribes, and other consulting parties to develop and evaluate alternatives or modifications to the undertaking that could avoid, minimize, or mitigate adverse effects on historic properties (36 CFR 800.6). Some typical measures to avoid or minimize adverse effects include limiting the magnitude of the undertaking, or modifying the undertaking through redesign, reorientation, or other similar changes. Examples of mitigation include relocating historic properties; documenting buildings or structures that must be destroyed or substantially altered; conducting scientific excavation and analysis (data recovery); and salvaging architectural materials.



Historic Resources in the Study Area

This section discusses the results of the cultural resources studies conducted for the proposed project. It is organized by study area segment—Seattle, Lake Washington, and Eastside transition area.

What historic resources are in the Seattle study area?

The Seattle study area, shown in Exhibit 7, includes the I-5, Portage Bay, Montlake, and West Approach areas. This study area also includes the Roanoke Park Historic District.

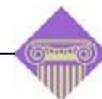
Archaeological Sites in the Seattle Study Area

The literature review identified one known archaeological site, the Miller Street Landfill (45KI760), located within the West Approach area.

Miller Street Landfill (45KI760)

Landfills were developed at the north end of the Arboretum in the marsh near Union Bay. When SR 520 was built in 1961, a dump of bottles was found dating from 1904. This site was located on the knoll east of where Arboretum Creek would have entered Lake Washington before the lake was lowered and at the informal end of Montlake Boulevard before it was extended to the University of Washington. The bottle dump may have been part of a sanitary landfill with access off Miller Street (which later came to be known as the Miller Street Dump, 45KI760, and now is known as the Miller Street Landfill) that was used until 1936 (BOLA and Kiest 2003).

BOAS (2007) conducted additional research and subsurface testing for the Miller Street Landfill and reported that the landfill operated from about 1910 until 1936. Subsurface testing identified a diverse assemblage that included beverage and condiment bottles, medicine bottles, tableware, brick, shoes, clothing fragments, food waste, metal debris, ash, charcoal, and oxidized sediments. A human patella (kneecap) was recovered in a shovel probe, but subsequent excavation of a 2-by-2-meter unit around the find demonstrated that the bone was an isolate without association with other skeletal remains. Hospital waste recovered from probes in the general vicinity led to a conclusion



that the patella likely was from a surgical amputation. Additional subsurface testing did not identify additional human remains. Artifacts analyzed during the testing indicate a context date spanning from about 1910 to the 1920s. The deposits were very well stratified and up to four meters deep. Complete site boundaries were not entirely identified, particularly along the southwestern, southern, and southeastern sides of the landfill deposit. BOAS recommended the site eligible for listing in the NRHP under Criterion D and recommended that a determination of eligibility for the site be completed. No formal Determination of Eligibility Form and evaluation have been prepared for SHPO concurrence, because additional information must be collected to evaluate its historical significance.

Traditional Cultural Resources in the Seattle Study Area

The ethnographic record for the Seattle study area is particularly detailed, and this area was densely populated prior to non-Indian settlement. This is partly because two prominent Duwamish families lived in the area well into the twentieth century. Several places are culturally important to the Lakes Duwamish people in the lowland areas between I-5 and Lake Washington (BOAS 2005: Appendix B). Two Indian homesteads associated with ethnographic place names are located on either side of Portage Bay. The Chehsiahud settlement area is within the SR 520 APE and extends south to the southernmost extent of Portage Bay. It was located on property above a marsh or wetland (BOAS 2005: Figure 3, #113; Appendix B). The cultural resources analysts could not determine just how extensively the Chehsiahud area had been modified in the past, although modification of the area through residential, roadway, and SR 520 construction is considerable. It may or may not be possible to determine whether any homestead, historic, or pre-contact cultural deposits are present.

The Chehsiahud family commemorative monument plaque at the foot of Shelby Street is probably not the exact location of the original homestead. The plaque commemorates local historical events and suggests that people of Duwamish descent still acknowledge the area as part of their history and actively participate in relating that history within their community.

The Montlake portage area was an important resource procurement area and meeting place for several Tribes as they traveled between Puget Sound and the Cascade Mountains (BOAS 2005: Appendix B).



Activities took place along the shorelines, stream outlets, wetlands, and prairies nearby. Construction has extensively modified this area since the mid-1800s (BOAS 2005: Appendix F). Excavation across the portage and fill placed in the vicinity have likely obliterated evidence of Indian use of the portage and its shorelines. It is unlikely that the Montlake portage area retains cultural significance except as a reference to travel routes used in the 1800s (BOAS 2005: Appendix H). BOAS (2005) found no indication that it would meet the criteria of a TCP.

Union Bay was affected first by the lowering of Lake Washington and then by the placement of large quantities of fill in the former bay (BOAS 2005: Appendix F). Both events resulted in the elimination of Duwamish use of this area as a fishery. The extent to which either event had any effect on possible cultural deposits in the fishtrap locations is not known. No evidence exists in the documented record of continued access to or use of this area by Lakes Duwamish descendants (BOAS 2005: Appendix H). BOAS (2005) found no indication that it would meet the criteria of a TCP.

Foster Island

Foster Island is the only location within the Seattle segment that is of considerable interest and concern to all Tribes with members who can trace ancestry to the Montlake portage area and to the two Lakes Duwamish families who most recently lived there.

As discussed earlier, people living nearby on both sides of the Montlake portage and travelers through the area used Foster Island as a burial ground (BOAS 2005: Figure 3, #110; Appendix B; BOAS 2007).

Therefore, it is possible that the island could retain buried human remains, although the island has been severely modified. Construction of SR 520 significantly disturbed the central portion of the island, but areas north and south of SR 520 could potentially contain intact archaeological deposits at or near the ground surface.

NRHP Evaluation

The Foster Island burial ground location is a tangible property. Although it has not been used as a burial ground for more than 100 years, it retains significance as an important place to people of Duwamish descent. At present, the property has inexact boundaries resulting from lowering of Lake Washington and placement of construction fill over a period of about 100 years. The Montlake portage made the area an important meeting place for people coming from many directions. In addition, people from several tribes may have been



buried there. Foster Island is recognizable as an island even though much of the Foster Island area has been altered by development of the University of Washington, the Montlake Cut, initial construction of SR 520, and wetland redevelopment.

Even through the Foster Island area has been physically altered, it retains some degree of topographic identity and has considerable cultural importance to the Duwamish Tribe and people of Duwamish descent from several Tribes. It also is of significance to many Tribes whose members traveled through the area and may have been buried there en route. Although not formally recorded at the present time, FHWA considers Foster Island to be a TCP, eligible for the NRHP. Further investigation, documentation, and analysis will be undertaken to identify the site boundaries and complete a formal determination of eligibility for the TCP. It is assumed that all of Foster Island will be included in the TCP boundary.

Foster Island is recognized as a place of great cultural importance to Native American tribes of the area. In addition to being a burial ground, important spiritual events were conducted on the island or in its immediate vicinity. It is being treated as eligible for the NRHP under Criterion A (events important to history) and Criterion D (potential to contribute information important to history). Foster Island could also be considered eligible for the NRHP as an archaeological site, but this is currently unknown. Further archeological investigation at Foster Island could result in the discovery of below-ground resources that could warrant determination of the island eligible under Criterion D as an archaeological site. The following subsections discuss Foster Island in relation to criteria for listing in the NRHP.

Criterion A. Association with events that have made a significant contribution to broad patterns in our history.

Foster Island is a topographic entity that is still recognizable as an island landform and is known for its original purpose as a cemetery. Foster Island serves to identify the significance of the Montlake portage area to the history of Seattle. Prior to non-Indian settlement, the island was used as a cemetery in an area densely populated by native people, as well as an area that experienced considerable traffic from many directions. From this area, Lakes Duwamish and other native people moved through uplands and the lakes and channels. They engaged in fishing, resource harvesting areas, and transporting goods for their own use and the use of early settlers.



During early settlement of Seattle, the Lakes Duwamish people worked for founding pioneer David Denny in his business ventures; they attempted to adjust to and follow the dictates of the U.S. government by homesteading; and they finally gave up their homes as Seattle continued to develop. By the time Lake Washington was lowered by the Montlake Cut, Lakes Duwamish and other native people no longer occupied their traditional places, although they often visited them.

The Montlake portage area, and with it Foster Island, is still significant to the descendants of the Zakuse and Cheshiahud families who lived and homesteaded here. These descendants are presently members of several Tribes. The significance of the area is expressed in the desire of Duwamish descendant Mr. de los Angeles and others to perform a burning ceremony for the dead who were once placed on Foster Island. Through their investigation, BOAS (2007) determined that the greater Montlake Portage area would not meet the necessary requirements as a TCP, but Foster Island was potentially eligible and further research was necessary.

Criterion B. Association with the lives of persons significant in our past.

James Zakuse and John Cheshiahud and their families were important in the founding and early development of Seattle. The homestead location of Cheshiahud has been commemorated as a small park; the Zakuse homestead location is not noted. Both individuals are also associated with David Denny and the Denny family who are significant persons in the development of this region. James Zakuse also was an important healer and spiritual leader and would, by profession, have had frequent access to Foster Island for ceremonial purposes. The Zakuse homestead was equidistant from a *spedak* site and the cemetery at Foster Island. The homestead also was associated with the legend of Owl and his wife Frog (Owl often has associations with the dead).

Criterion C. Embodiment of the distinctive characteristics of a type, period, or method of construction or representative of the work of a master, or possessing high artistic value.

This criterion does not appear to apply to Foster Island except as a geographic area with considerable cultural significance.

Criterion D. Yielding, or likely to yield, information important in prehistory or history.

The Foster Island cemetery, though ineligible simply as a cemetery (Consideration D: Cemeteries), reflects the long historical association between the Lakes Duwamish, the Montlake portage area, and contacts between many Tribes. The cemetery is significant as a historic reference



point as well as an ancient burial area. Some tribal governments have been identified as having an interest in the study area (Duwamish Tribe, Muckleshoot Indian Tribe, Snoqualmie Tribe, Suquamish Tribe, and Yakama Nation). Several other Tribes may have an interest in the area to the extent that tribal members are descended from families who lived within or near the SR 520 corridor.

Because of the sensitive nature of Foster Island, BOAS (2007) recommended additional archaeological investigation of the landform once the final project design is complete, in close consultation with the interested Tribes.

Historic Built Environment Properties in the Seattle Study Area

In the Seattle study area, there are eight properties listed in the NRHP. There is also one property listed in the WHR but not in the NRHP. There are nine designated Seattle Landmarks, including five of the NRHP-listed properties and the WHR-listed property. Exhibit 13 shows these previously identified properties, with property identification numbers (IDs) that locate them on the maps in Exhibit 14. For more detailed information on these properties, see Attachment 4 for the previous nomination forms completed for them. Only those properties not already listed or determined eligible for listing in the NRHP were evaluated for NRHP eligibility in this report.

Tables 3-1, 3-2, and 3-3 in Attachment 3 provide information about the 217 built environment properties surveyed within the Seattle segment of the APE that predate 1972, along with their NRHP or other eligibility status, grouped by historic districts and by those that are not within any district boundaries. These tables contain property ID numbers that show where to locate the properties on Exhibit 14. Exhibit 14 (14a through 14g) shows the locations of these properties within the APE, and indicates their eligibility. Attachment 3 also contains the HPI forms for each property surveyed. Of the 217 properties surveyed, 141 are



Exhibit 13. Previously Identified Historic Properties in the Seattle Segment

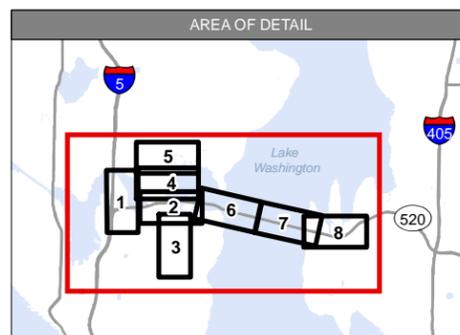
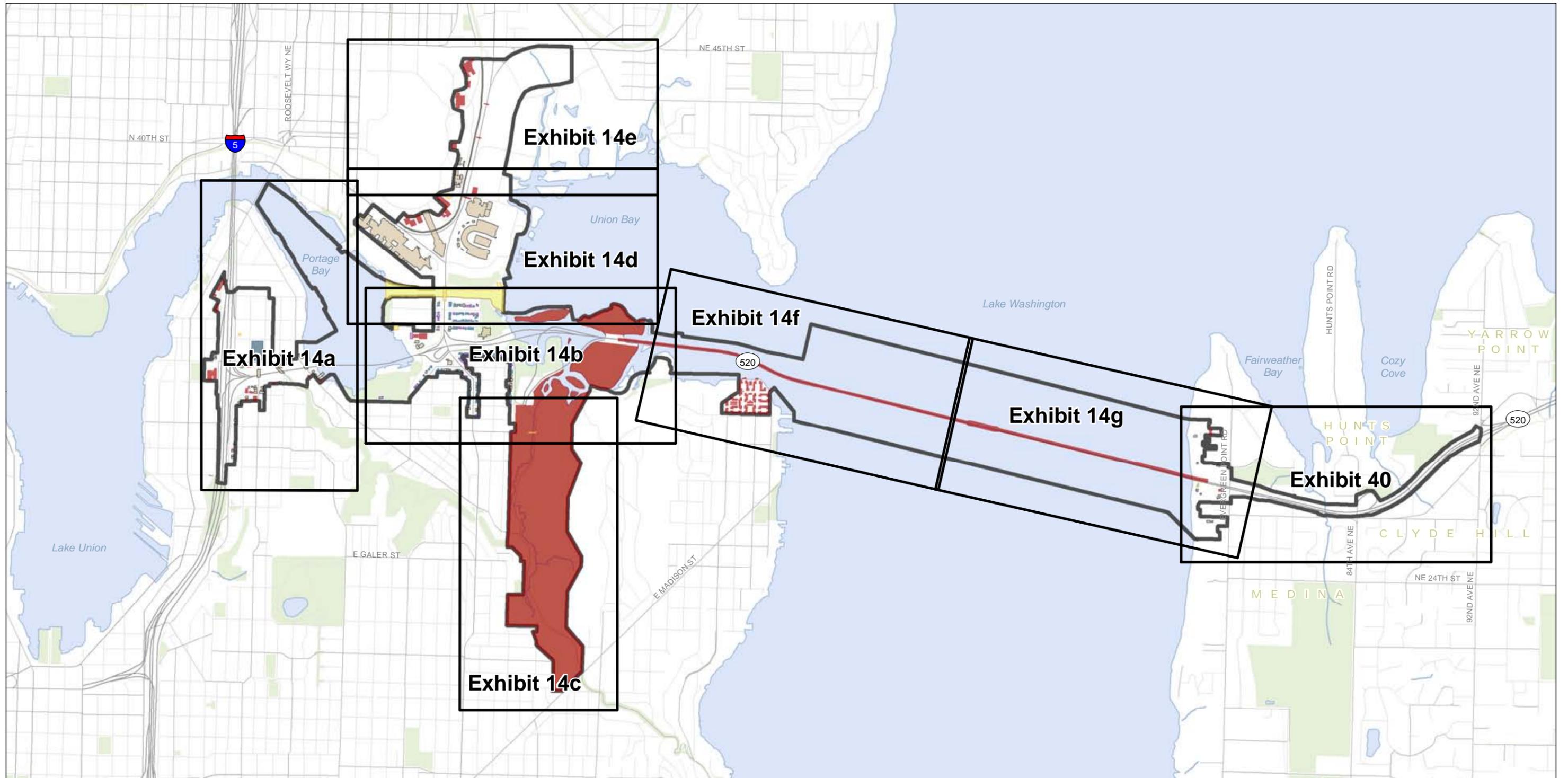
Property ID Number	Name and Location of Resource	Date of Construction	Eligibility Status
37	Roanoke Park Historic District	1899-1939	Listed in the NRHP; listed in the WHR
38	Parsons, William House 2706 Harvard Avenue East	1903	Listed in the NRHP; listed in the WHR, designated Seattle Landmark
53	Montlake Cut Lake Washington Ship Canal	1916	Listed in the NRHP [Chittenden Locks and Related Features of the Lake Washington Ship Canal multiple property listing]; listed in the WHR; designated Seattle Landmark
54	Montlake Bridge Montlake Boulevard NE over Lake Washington Ship Canal	1924	Listed in the NRHP [Historic Bridges/Tunnels in Washington State]; listed in the WHR; designated Seattle Landmark
55	Seattle Yacht Club – Main Station 1807 East Hamlin Street	1919	Listed in the NRHP; listed in the WHR; designated Seattle Landmark
201	Arboretum Aqueduct also known as Arboretum Sewer Trestle Lake Washington Boulevard in the Washington Park Arboretum	1912	Listed in the NRHP [Historic Bridges/Tunnels in Washington State]; listed in the WHR; designated Seattle Landmark
203	Naval Military Hangar – University Shell House (Canoe House) University of Washington Campus	1918	Listed in the NRHP; listed in the WHR
215	More Hall Annex (former Nuclear Reactor Building) University of Washington Campus	1961	Listed in the NRHP; listed in the WHR
10	Denny-Fuhrman School (Seward School) 2515 Boylston Avenue East	1893; 1905; 1917	Three building campus – designated Seattle Landmark; 1893 Seward School Lunchroom and Gymnasium is also listed in the WHR
16	L'Amourita Apartment Building 2901 Franklin Avenue East	1909	Designated Seattle Landmark



Exhibit 13. Previously Identified Historic Properties in the Seattle Segment

Property ID Number	Name and Location of Resource	Date of Construction	Eligibility Status
126	Montlake Community Center 1618 East Calhoun Street	1935	Designated Seattle Landmark
200	Seattle Japanese Garden 1075 Lake Washington Boulevard East, Washington Park Arboretum	1960	Designated Seattle Landmark





- NRHP Eligibility of Surveyed Resources**
- NRHP Not Eligible / WHR Eligible
 - Listed
 - Eligible
 - Contributing
 - Contributing and Eligible
 - Not Eligible
- Area of Potential Effects**
- Area of Potential Effects
 - Park

Source: King County (2005) GIS Data (Streams and Streets), King County (2007) GIS Data (Water Bodies), CH2M HILL (2008) GIS Data (Parks). Horizontal datum for all layers is NAD83(91); vertical datum for layers is NAVD88.

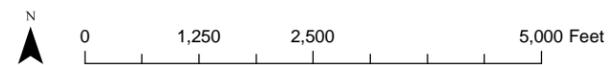
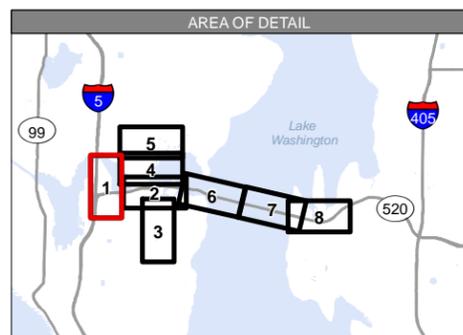


Exhibit 14. Area of Potential Effects Overview Map

I-5 to Medina: Bridge Replacement and HOV Project



- NRHP Eligibility of Surveyed Resources**
- NRHP Not Eligible / WHR Eligible
 - Listed
 - Eligible
 - Contributing
 - Contributing and Eligible
 - Not Eligible
 - Montlake Historic District
 - Roanoke Park Historic District
- Legend:**
- Amended Area of Potential Effects
 - Parcel
 - Park

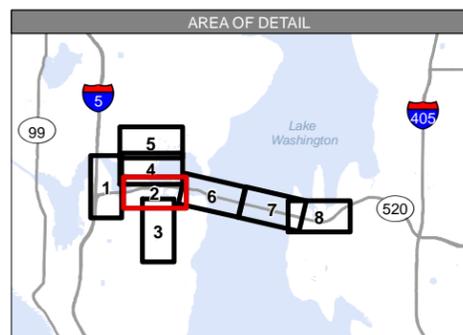
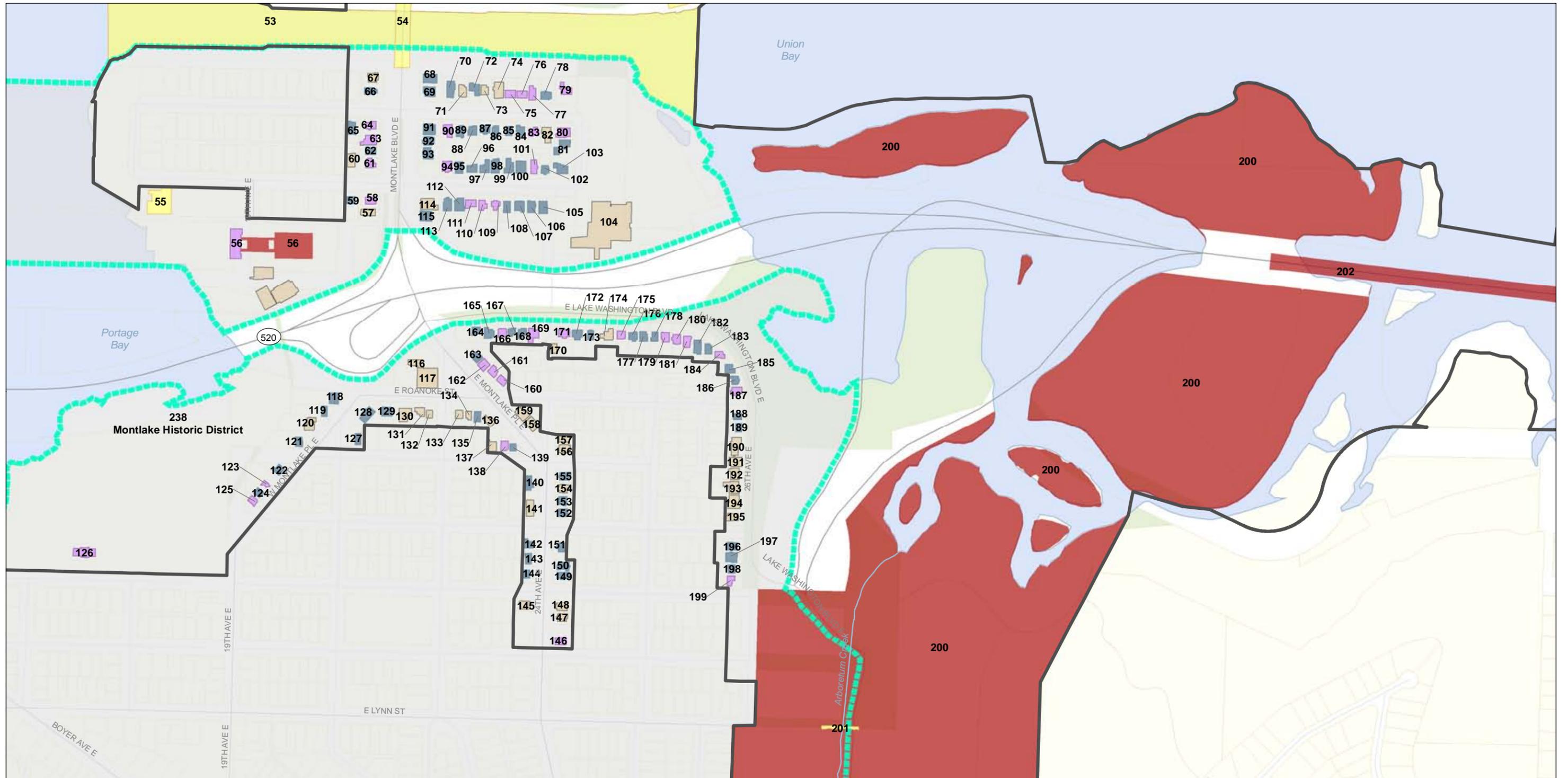
NOTE: Property ID Numbers displayed on the map correspond to those in the tables in Attachment 3 - "Summary of Pre-1972 Properties Surveyed in the APE"

Source: King County (2005) GIS Data (Streams and Streets), King County (2007) GIS Data (Water Bodies), King County (2008) GIS Data (Parcel), CH2M HILL (2008) GIS Data (Parks). Horizontal datum for all layers is NAD83(91); vertical datum for layers is NAVD88.



Exhibit 14a. Area of Potential Effects Sheet 1

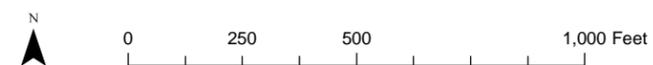
I-5 to Medina: Bridge Replacement and HOV Project

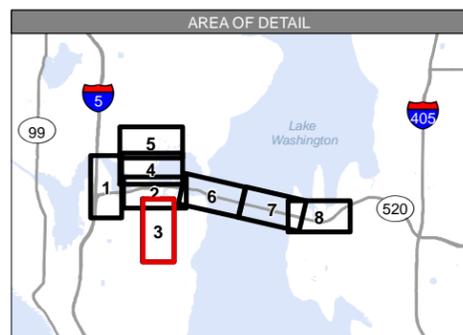
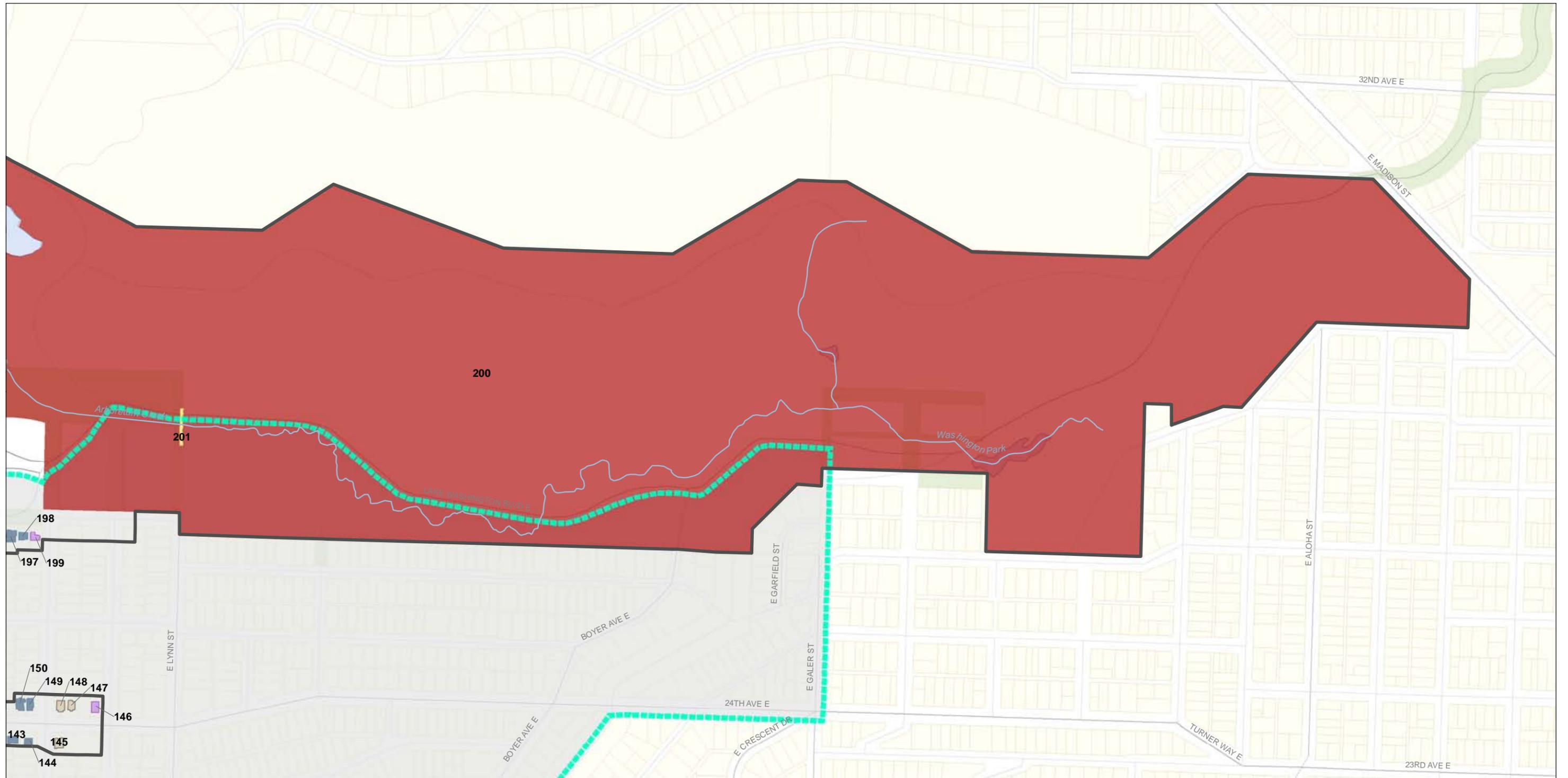


- NRHP Eligibility of Surveyed Resources**
- NRHP Not Eligible / WHR Eligible
 - Listed
 - Eligible
 - Contributing
 - Contributing and Eligible
 - Not Eligible
 - Montlake Historic District
 - Roanoke Park Historic District
- Legend:**
- Amended Area of Potential Effects
 - Parcel
 - Park

NOTE: Property ID Numbers displayed on the map correspond to those in the tables in Attachment 3 - "Summary of Pre-1972 Properties Surveyed in the APE"

Source: King County (2005) GIS Data (Streams and Streets), King County (2007) GIS Data (Water Bodies), King County (2008) GIS Data (Parcel), CH2M HILL (2008) GIS Data (Parks). Horizontal datum for all layers is NAD83(91); vertical datum for layers is NAVD88.



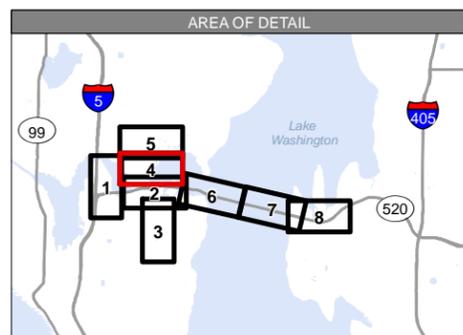
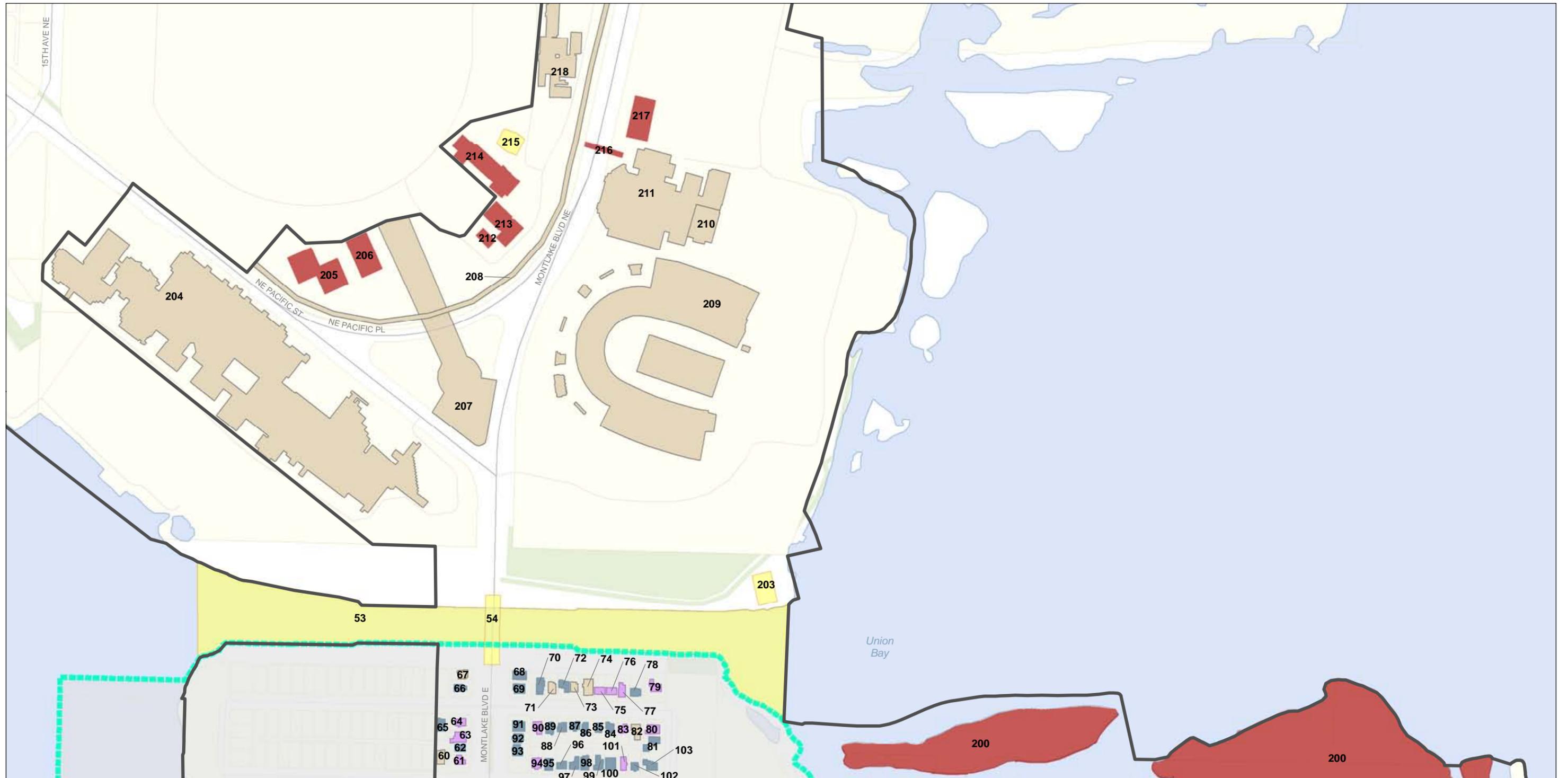


- NRHP Eligibility of Surveyed Resources**
- NRHP Not Eligible / WHR Eligible
 - Listed
 - Eligible
 - Contributing
 - Contributing and Eligible
 - Not Eligible
 - Montlake Historic District
 - Roanoke Park Historic District
- Legend:**
- Amended Area of Potential Effects
 - Parcel
 - Park

NOTE: Property ID Numbers displayed on the map correspond to those in the tables in Attachment 3 - "Summary of Pre-1972 Properties Surveyed in the APE"

Source: King County (2005) GIS Data (Streams and Streets), King County (2007) GIS Data (Water Bodies), King County (2008) GIS Data (Parcel), CH2M HILL (2008) GIS Data (Parks). Horizontal datum for all layers is NAD83(91); vertical datum for layers is NAVD88.





- NRHP Eligibility of Surveyed Resources**
- NRHP Not Eligible / WHR Eligible
 - Listed
 - Eligible
 - Contributing
 - Contributing and Eligible
 - Not Eligible
 - Montlake Historic District
 - Roanoke Park Historic District
- Legend**
- Amended Area of Potential Effects
 - Parcel
 - Park

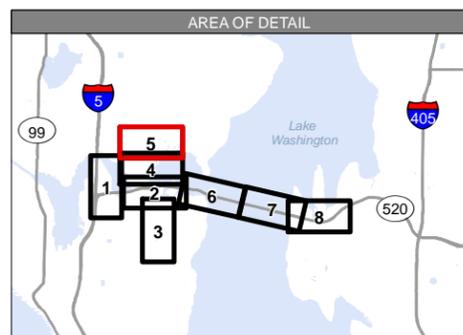
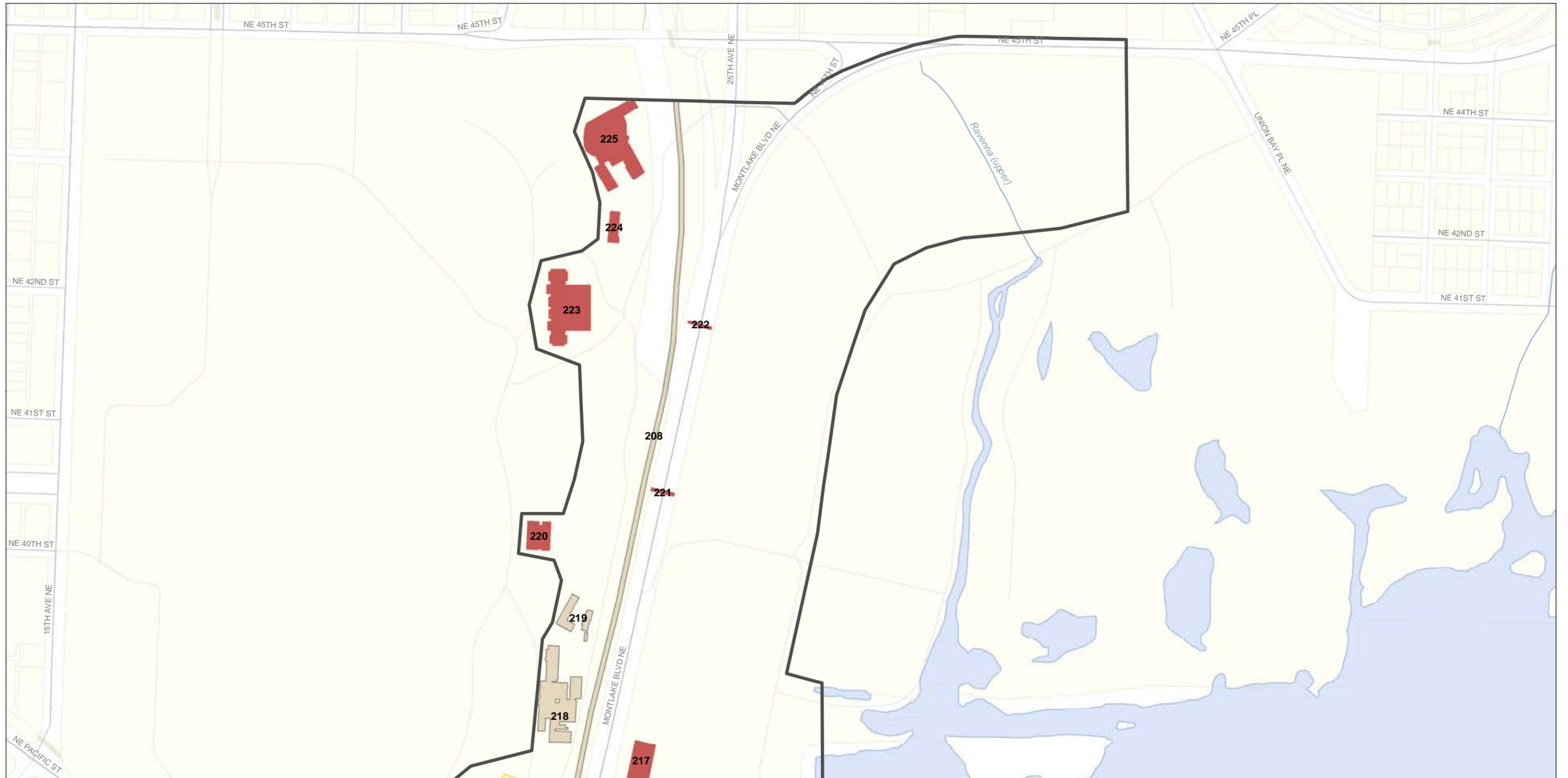
NOTE: Property ID Numbers displayed on the map correspond to those in the tables in Attachment 3 - "Summary of Pre-1972 Properties Surveyed in the APE"

Source: King County (2005) GIS Data (Streams and Streets), King County (2007) GIS Data (Water Bodies), King County (2008) GIS Data (Parcel), CH2M HILL (2008) GIS Data (Parks). Horizontal datum for all layers is NAD83(91); vertical datum for layers is NAVD88.



Exhibit 14d. Area of Potential Effects Sheet 4

I-5 to Medina: Bridge Replacement and HOV Project



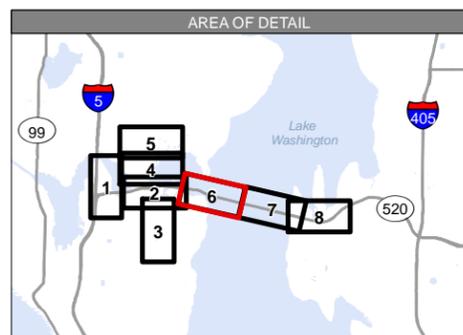
- NRHP Eligibility of Surveyed Resources**
- NRHP Not Eligible / WHR Eligible
 - Listed
 - Eligible
 - Contributing
 - Contributing and Eligible
 - Not Eligible
 - Montlake Historic District
 - Roanoke Park Historic District
- Legend**
- Amended Area of Potential Effects
 - Parcel
 - Park

NOTE: Property ID Numbers displayed on the map correspond to those in the tables in Attachment 3 - "Summary of Pre-1972 Properties Surveyed in the APE"

Source: King County (2005) GIS Data (Streams and Streets), King County (2007) GIS Data (Water Bodies), King County (2008) GIS Data (Parcel), CH2M HILL (2008) GIS Data (Parks). Horizontal datum for all layers is NAD83(91); vertical datum for layers is NAVD88.



Exhibit 14e. Area of Potential Effects Sheet 5
I-5 to Medina: Bridge Replacement and HOV Project



- NRHP Eligibility of Surveyed Resources**
- NRHP Not Eligible / WHR Eligible
 - Listed
 - Eligible
 - Contributing
 - Contributing and Eligible
 - Not Eligible
 - Montlake Historic District
 - Roanoke Park Historic District
- Map Symbols**
- Amended Area of Potential Effects
 - Parcel
 - Park

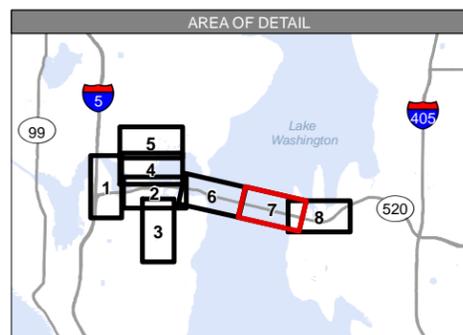
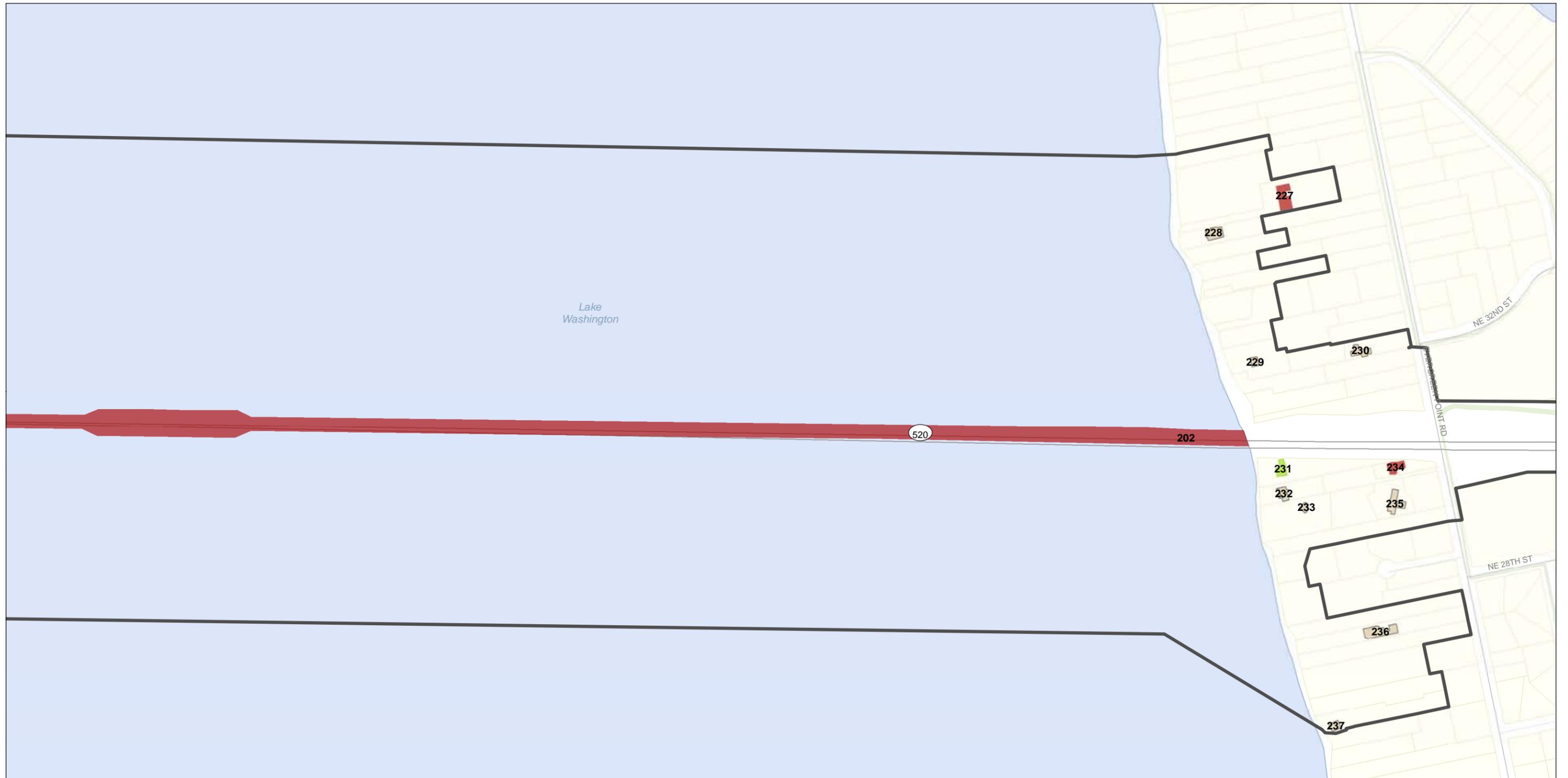
NOTE: Property ID Numbers displayed on the map correspond to those in the tables in Attachment 3 - "Summary of Pre-1972 Properties Surveyed in the APE"

Source: King County (2005) GIS Data (Streams and Streets), King County (2007) GIS Data (Water Bodies), King County (2008) GIS Data (Parcel), CH2M HILL (2008) GIS Data (Parks). Horizontal datum for all layers is NAD83(91); vertical datum for layers is NAVD88.



Exhibit 14f. Area of Potential Effects Sheet 6

I-5 to Medina: Bridge Replacement and HOV Project



- NRHP Eligibility of Surveyed Resources**
- NRHP Not Eligible / WHR Eligible
 - Listed
 - Eligible
 - Contributing
 - Contributing and Eligible
 - Not Eligible
 - Montlake Historic District
 - Roanoke Park Historic District
- Other Symbols:**
- Amended Area of Potential Effects
 - Parcel
 - Park

NOTE: Property ID Numbers displayed on the map correspond to those in the tables in Attachment 3 - "Summary of Pre-1972 Properties Surveyed in the APE"

Source: King County (2005) GIS Data (Streams and Streets), King County (2007) GIS Data (Water Bodies), King County (2008) GIS Data (Parcel), CH2M HILL (2008) GIS Data (Parks). Horizontal datum for all layers is NAD83(91); vertical datum for layers is NAVD88.



Exhibit 14g. Area of Potential Effects Sheet 7

I-5 to Medina: Bridge Replacement and HOV Project

eligible for the NRHP, either individually or as contributing elements to a historic district, and 76 are not eligible for the NRHP.

The survey identified one NRHP-eligible historic district, known as Montlake Historic District. There are 145 properties from the Montlake Historic District in the APE; 109 of the properties are contributing to the district, including 35 that are individually eligible (that is, eligible independent of the district) and the individually listed Seattle Yacht Club, and 36 properties are not contributing to the district. Excluding those properties that are located in historic districts, the survey identified 33 individually eligible properties within the Seattle segment of the APE. Those properties that were previously identified as designated Seattle Landmarks or as being listed in the WHR but had not been determined eligible for the NRHP were evaluated under NRHP criteria. Exhibit 15 lists the surveyed properties in the Seattle segment of the APE that are eligible for the NRHP. The following sections discuss all of these properties in detail.

Roanoke Park Historic District

Property ID 37 - Period of Significance 1899 to 1939 Eligible under Criteria A and C

Roanoke Park Historic District is located on the northeast side of the intersection of SR 520 and I-5. It was listed in the NRHP in July 2009. The boundaries of the historic district are roughly East Roanoke Street, Harvard Avenue East, East Shelby Street, and 10th Avenue East, and include Roanoke Park located at 910 East Roanoke Street (Exhibit 16). The entire Roanoke Park Historic District is included in the APE, with 101 properties. Eighty of these are contributing elements to the district, including Roanoke Park itself and the individually listed Parsons House. The National Register nomination form is included in Attachment 4 (O'Connor et al. 2009). The following paragraphs detail some of the defining characteristics and historic significance of this district. According to the nomination:

The Roanoke Park Historic District is eligible for listing on the National Register under Criterion "A" for its direct association with events that made a significant contribution to the broad patterns of local and national history. The district is also significant under Criterion "C" for its collection of early 20th century residential architecture designed by many notable Seattle architects. The period of significance for the Roanoke Park Historic District begins in 1899 (the earliest construction date) and ends in 1939 (the date the neighborhood was built out).



Exhibit 15. Summary of Surveyed NRHP-Eligible Properties Identified in the Seattle Segment (listed in the order discussed)

Property ID	Street Address/ Location	Property Name	Date of Construction	NRHP Eligibility	Exhibit
37	Northeast side of the intersection of SR 520 and I-5	Roanoke Park Historic District	Period of Significance 1899 to 1939	<p>Criterion A: direct association with events that made a significant contribution to the broad patterns of local and national history.</p> <p>Criterion C: collection of early 20th century residential architecture designed by many notable Seattle architects.</p> <p>The entire Roanoke Park Historic District is included in the APE, with 101 properties. Eighty of these are contributing elements to the district, including Roanoke Park itself and the individually listed Parsons House (see Attachment 4).</p>	14a
238	Roughly bounded by Washington Park Arboretum, Portage Bay, Montlake Cut, and Interlaken Park or Boulevard	Montlake Historic District	Period of Significance 1905 to 1952	<p>Criterion C: significant, cohesive collection of residential architecture typical of early twentieth century Seattle, with a combination of distinctive builders' houses, high-style, architect-designed residences, and impressive non-residential structures.</p> <p>There are 145 properties from the Montlake Historic District in the APE; 109 of these are contributing elements, including 35 that are individually eligible and one that is individually listed in the NRHP, and 36 properties that are not contributing. (For a listing of all contributing, non-contributing, and individually eligible properties in the Montlake Historic District, see Attachment 3.)</p>	14b
56	2723 Montlake Boulevard NE	NOAA Northwest Fisheries Science Center	1931; 1939; 1940; 1965; 1966	Of the five potentially historic buildings, three are individually eligible for the NRHP under Criteria A and C. Only the original building on the site, constructed in 1931, (Exhibit 23) is contributing to the Montlake Historic District.	14b
14	2815 Boylston Avenue E.	Shelby Apartments	1928	Criterion C: embody the distinctive characteristics of an architectural type. Multiple Property Nomination for Seattle Apartment Buildings, 1900-1957.	14a
16	2901 Franklin Avenue E	L' Amourita Apartments	1909	Criterion C: embody the distinctive characteristics of an architectural type. Multiple Property Nomination for Seattle Apartment Buildings, 1900-1957. Designated Seattle Landmark.	14a
18	2923 Franklin Avenue E	Franklin Apartments	1927	Criterion C: embody the distinctive characteristics of an architectural type. Multiple Property Nomination for Seattle Apartment Buildings, 1900-1957.	14a
17	2919 Franklin Avenue E	Franklin Apartments	1927	Criterion C: embody the distinctive characteristics of an architectural type. Multiple Property Nomination for Seattle Apartment Buildings, 1900-1957.	14a



Exhibit 15. Summary of Surveyed NRHP-Eligible Properties Identified in the Seattle Segment (listed in the order discussed)

Property ID	Street Address/ Location	Property Name	Date of Construction	NRHP Eligibility	Exhibit
226	2411 42nd Avenue E	Edgewater Condominiums	1938-40	Criterion C: embody the distinctive characteristics of an architectural type. Multiple Property Nomination for Seattle Apartment Buildings, 1900-1957.	14f
4	1980 Harvard Avenue E	Chung House	1932	Criterion C: embodies distinctive architectural characteristics of the Tudor Revival style.	14a
10	2515 Boylston Avenue E.	Denny-Fuhrman (Seward) School	1893; 1899; 1905; 1917	Three buildings – All eligible under Criteria A & C. Criterion A: associated with education in Seattle and the development of the Eastlake community. Criterion C: embody distinctive characteristics of a type and period of architecture and as an excellent example of late 19th and early 20th century public school buildings. Designated Seattle Landmark; 1893/99 building is also listed in the WHR.	14a
15	2847 Franklin Avenue E	Gilmore House	1907	Criterion C: embody the distinctive characteristics of a Craftsman style American Foursquare.	14a
20	2352 Broadway Avenue East	Talder House	1909	Criterion C: embodies distinctive architectural characteristics of the Queen Anne style.	14a
23	2408 Broadway Avenue East	Sugamura House	1910	Criterion C: embodies distinctive architectural characteristics of the Arts and Crafts/Prairie style.	14a
22	904 East Miller Street	East Miller Condominium	1911	Criterion C: embodies distinctive architectural characteristics of the Arts and Crafts/Prairie style.	14a
25	910 East Miller Street	Wicklund-Jarr House	1905	Criterion C: embodies distinctive architectural characteristics of the Arts and Crafts/ Craftsman style.	14a
26	914 East Miller Street	Glover Homes Building	1910	Criterion C: embodies distinctive architectural characteristics of the Arts and Crafts/ Craftsman style.	14a
27	2351 10th Avenue E	Keuss Building	1930	Criterion C: embodies distinctive architectural characteristics of the Art Deco/PWA Moderne style.	14a



Exhibit 15. Summary of Surveyed NRHP-Eligible Properties Identified in the Seattle Segment (listed in the order discussed)

Property ID	Street Address/ Location	Property Name	Date of Construction	NRHP Eligibility	Exhibit
36	901 East Roanoke Street	Fire Station 22	1965	Criterion A: associated with the development of the Seattle Fire Department. Criterion C: embodies a distinctive Modern architectural style (will reach 50 years old in 2015).	14a
39	2422 Federal Avenue E	Boyd House	1907	Criterion C: embodies distinctive architectural characteristics of the Arts and Crafts/ Craftsman style.	14a
45	1118 East Roanoke Street	Gunby, Andrew House	1940	Criterion C: embodies distinctive characteristics unique to its period, and is the work of a master architect.	14a
48	2545 Boyer Avenue E	Mason, Alden House	1949	Criterion C: embodies distinctive characteristics unique to its period, and is the work of a master architect. Criterion B: associated with Alden Mason, noted Seattle artist and influential long-time faculty member at the University of Washington.	14a
52	2518 Boyer Avenue E	Kelley House	1909	Criterion C: embodies distinctive architectural characteristics of the Arts and Crafts/Swiss Chalet style.	14a
200	2300 Arboretum Drive E	Washington Park Arboretum	1903	Criterion B: associated with events that have made a significant contribution to the broad patterns of history, including the Alaska-Yukon-Pacific Exposition, the development of the University of Washington, the work of the WPA, and the development of the parks system in Seattle. Criterion C: represents the work of a master for its design by the noted Olmsted Brothers, as well as the many talented designers and architects who contributed to its multiple designed features. Includes Arboretum Aqueduct (1912) – Listed in the NRHP [Historic Bridges/Tunnels in Washington State], listed in the WHR, designated Seattle Landmark; and Seattle Japanese Garden (1960) – Designated Seattle Landmark.	14b, 14c
205	University of Washington Campus	Bloedel Hall	1971	Criterion C: distinctive architectural design in a unique Northwest Regional vocabulary.	14d



Exhibit 15. Summary of Surveyed NRHP-Eligible Properties Identified in the Seattle Segment (listed in the order discussed)

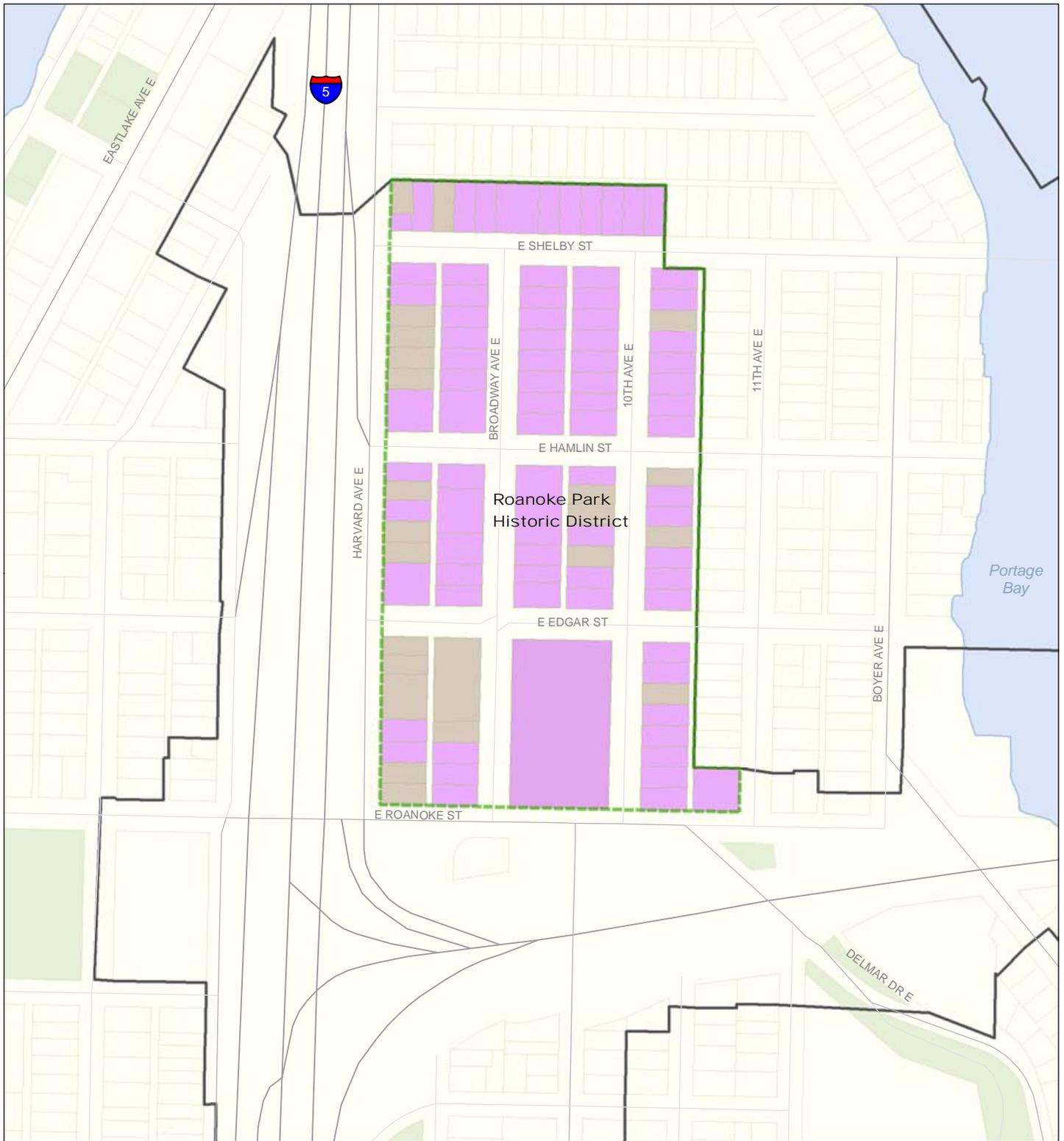
Property ID	Street Address/ Location	Property Name	Date of Construction	NRHP Eligibility	Exhibit
206	University of Washington Campus	Winkenwerder Forest Sciences Laboratory	1963	Criterion C: distinctive architectural design in a unique Northwest Regional vocabulary.	14d
212	University of Washington Campus	Hewitt Wilson Ceramics Laboratory	1946	Criterion C: embodies distinctive characteristics unique to its period, and is the work of a master architect.	14d
213	University of Washington Campus	Wilcox Hall (former Roberts Hall Addition and Computer Center)	1963	Criterion C: embodies distinctive characteristics unique to its period, and is the work of a master architect.	14d
214	University of Washington Campus	More Hall	1946-48	Criterion C: embodies distinctive characteristics unique to its period, and is the work of a master architect.	14d
216	Montlake Boulevard NE University of Washington Campus	Pavilion Pedestrian Bridge	1938	Criterion C: embodies distinctive architectural characteristics of the Art Deco/PWA Moderne style.	14d
217	University of Washington Campus	Graves Hall	1963	Criterion C: embodies distinctive characteristics unique to its period and is the work of a master architect.	14d, 14e
220	University of Washington Campus	University of Washington Club	1960	Criterion C: an important example of regional modernism and represents the design of significant local architects.	14e



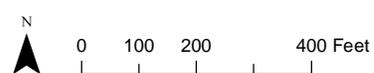
Exhibit 15. Summary of Surveyed NRHP-Eligible Properties Identified in the Seattle Segment (listed in the order discussed)

Property ID	Street Address/ Location	Property Name	Date of Construction	NRHP Eligibility	Exhibit
221	University of Washington Campus	Montlake Boulevard Pedestrian Overpass South	1958	Criterion C: embodies distinctive design and important engineering qualities, and is the work of a master.	14e
222	University of Washington Campus	Montlake Boulevard Pedestrian Overpass North	1958	Criterion C: embodies distinctive design and important engineering qualities, and is the work of a master.	14e
223	University of Washington Campus	McMahon Hall	1965	Criterion C: distinctive architectural design and as the work of a recognized master (will reach 50 years old in 2015).	14e
224	University of Washington Campus	CENPA Instrument Shop (former Cyclotron Shop)	1948	Criterion A: associated with the broad patterns of the development of nuclear physics. Criterion C: embodies distinctive characteristics unique to its type and period, and is the work of a master architect.	14e
225	University of Washington Campus	North Physics Laboratory (CENPA) (former Nuclear Physics Laboratory/ Cyclotron)	1949	Criterion A: associated with the broad patterns of the development of nuclear physics. Criterion C: embodies distinctive characteristics unique to its type and period, and is the work of a master architect.	14e





- Roanoke Park Historic District
- Area of Potential Effects
- Contributing Resource
- Non-Contributing Resource
- Parcel
- Park



Source: King County (2005) GIS Data (Streams and Streets), King County (2007) GIS Data (Water Bodies), King County (2008) GIS Data (Parcel), CH2M HILL (2008) GIS Data (Parks). Horizontal datum for all layers is NAD83(91); vertical datum for layers is NAVD88.



Exhibit 16. Roanoke Park Historic District
 I-5 to Medina: Bridge Replacement and HOV Project

The nomination also describes the defining physical characteristics of the district:

The district is tightly unified geographically, with 96 single-family residences and 3 houses now serving as duplexes on relatively small lots usually 50 feet wide and 110 feet deep. The park...is the district's chief amenity apart from its views.... A sense of pleasant confinement and shelter comes from the large elms and horse chestnuts that shield the park and surrounding streets from the arterial at the district's south end. The continuous blocks of East Shelby Street with no perpendicular interruptions ... clearly mark the north boundary of the district...

The Olmsted Brothers had identified Block 9 of the Denny-Fuhrman Addition as a good place for a park to connect with Interlaken Park and its western viewpoint, now the Bagley...Viewpoint. The Parks Department acquired the 2.2 acres of Block 9 in 1908 and established Roanoke Park.

...[A] streetcar finally came directly to the neighborhood and its new park just west and north of the viewpoint on the western edge of Interlaken Park. At the same time, preparations for the Alaska-Yukon-Pacific Exposition of 1909 turned the attention of both locals and visitors to the north, where the new suburb happened to lie on a plateau overlooking the Exposition grounds.

The greatest number of houses in the district [was] built in 1908, 1909, and 1910.

Eligible under Criterion A for its contribution to the patterns of history, the "Roanoke Park Historic District drew some of Seattle's and the country's most authentic characters, powerful influencers, and notable benefactors." The Roanoke Park neighborhood was an early streetcar suburb of Seattle, and the nomination notes that it was home to many influential residents, including Louisa Boren Denny, the last surviving member of the landing party at Alki Point, who spent her last years living in the Roanoke Park Historic District. Two early Seattle mayors lived in the neighborhood, Ole Hanson and Hugh Caldwell. Influential women in early Seattle called Roanoke Park home, including Bernice Stern, the first woman elected to the King County Council, later serving as King County Council chairwoman (Chesley 2006). Mrs. Stern, who also served on the Seattle City Council and, later, on the Washington State Transportation Commission, grew up in the neighborhood and



lived here in the early years of her marriage. Alice Franklin Bryant, another Roanoke Park resident, was known internationally as a peace activist and advocate for justice. She ran unsuccessfully for Congress on multiple occasions. She lectured around the world and received numerous honors, including recognition as a Distinguished Citizen by the Washington State House of Representatives (June 18, 1977), First Citizen of Seattle (November 19, 1976), Honorary Citizen of Hiroshima (1951), and a civilian decoration for materially contributing to the success of the war in the Pacific (1945) (Williams 1977). Jean Ross, who lived in the district from age 5 to 87 (from 1926 to 2008), was the first female engineer to work for Boeing.

Harry W. Kent, a Roanoke Park resident, was one of the founders of the Kenworth Motor Truck Corporation, which incorporated in Seattle in January 1923. In 1929, Kent became president of the company. Kenworth began producing custom firetrucks in 1932, and in 1933 they became the first American truck manufacturer to install diesel engines as standard equipment. Kent remained president of the company until his death in 1937. During World War II Kenworth was a significant producer of military trucks, especially their famous M-1 wreckers (Kenworth 2009).

Also eligible under Criterion C, the “Roanoke Park Historic District is an oasis of substantial single-family residences, many of which were designed by architects of some renown.... The Roanoke Park Historic District contains a distinctive collection of housing stock representative of a forty-year period from 1899 through 1939.”

According to the nomination, the district contains architectural styles including “Colonial Revival, Neo-classical Revival, Tudor Revival, Mission/Spanish Revival, English Arts and Crafts, Craftsman, American Foursquare, Italian Renaissance, French Norman Revival,” and many others. The nomination notes the following architects whose work is represented in the district:

- Eric Almquist
- Bebb & Gould
- Beezer Bros.
- Bertrand & Chamberlin
- Cutter & Malmgren (undocumented)
- Edward J. Duhamel
- W. E. Dwyer
- Julian Franklin Everett



- Elmer Ellsworth Green
- Virgil Hall
- Charles Haynes
- Hunt & Wheatley
- Huntington & Gould
- Edwin J. Ivey
- Alvin L. Johnson
- Lawton & Moldenhour
- McClelland & Pinneh
- Edward L. Merritt
- Merritt, Hall & Merritt
- Frederick A. Sexton
- Bertram Dudley Stuart
- Victor W. Voorhees
- Thomas L. West
- Arthur Wheatley
- W. R. B. Willcox
- Willcox & Sayward
- Andrew Willatsen
- T. F. Bellamy
- John I. Mattson

In addition to its architecture, the district is notable for its park and landscape. The nomination describes Roanoke Park as “the district’s jewel, a 2.2-acre, green gateway” to the neighborhood. It was originally included as a component in the Olmsted Brothers’ plan for Seattle’s parks and boulevard system as “the Roanoke terminus of Interlaken Park.” However, the construction of SR 520 separated the Roanoke Park neighborhood from Interlaken Park and the rest of Capitol Hill.

In reference to changes the park has experienced, the nomination states:

“Roanoke Park has undergone an extensive renovation over the past ten years. Working with the Parks Department, the Department of Neighborhoods, and resident University of Washington Professor Emeritus of Landscape Architecture Robert Buchanan, residents and other volunteer groups have planted some 500 trees in the neighborhood and at least 100 trees and thousands of shrubs and perennials in Roanoke Park, which now contains 79 varieties of trees. Parents and other residents worked with the Parks Department to reconfigure, resurface, and re-equip the Buchanan-redesigned playground at the north end of the park, and Buchanan



laid out a more pleasing, curving path and bed configuration to encourage strolling along the park's paths and new beds. The informal basketball court under the evergreens was 'formalized' with a concrete pad, and a new hoop at standard height was installed.... Residents have bought new and more park benches to encourage visitors to spend time in the park."

As noted above, the park and neighborhood are home to a substantial tree collection.

"The twenty-five mature elms in Roanoke Park and on the immediately surrounding streets are 100 years old and have been identified by City Arborist Nolan Rundquist as a 'significant elm cluster.' ...the Roanoke Neighborhood Elms Fund successfully nominated the handsome elm in the center of the park's west lawn as a Heritage Elm within the City of Seattle, marked by a small boulder and plaque at the elm's foot."

In addition to the elms in the park, there are also elms along East Edgar Street from Tenth Avenue East to Harvard Avenue East, and along the St. Patrick's Church curb lawns. The district also has mature horse chestnuts and hedge maples.

Another aspect of the Roanoke Park Historic District is the distinctive views from the district. Because it sits up on a plateau, the district has unique views that contribute to its setting. As noted in the nomination:

"To the east and the west the eye is drawn out to the lakes and even farther to the rugged often snowcapped mountains of the Cascades on the east and the Olympics on the west."

On the east side of the district, the view encompasses Portage Bay, the Montlake Cut, the historic Montlake Bridge, the Seattle Yacht Club, and the unique NOAA Northwest Fisheries Science Center buildings. The Gothic Revival Suzzallo Library and other buildings on the University of Washington are visible across the bay to the northeast. On the west, the district view includes the downtown skyline, the Space Needle, Lake Union, the industrial structures of Gas Works Park, and the east side of Queen Anne Hill.

For examples of contributing resources in the Roanoke Park Historic District, see Exhibits 17 and 18.





Exhibit 17. 1018 East Roanoke Street – Gates-Bass Mansion, Roanoke Park Historic District



Exhibit 18. 2601 Broadway Avenue East – Betterton-Hillman House, Roanoke Park Historic District

The Gates-Bass Mansion at 1018 East Roanoke Street is one of the more ornate houses in the district and occupies one of the finest sites, overlooking the bluff and Portage Bay on a large corner lot. The Betterton-Hillman House at 2601 Broadway Avenue East is a substantial residence with Craftsman details, typical of properties in the historic district. This house faces Roanoke Park. Although some of the properties in the Roanoke Park Historic District have experienced some alterations over time, including the park itself, they remain substantially intact, with a few exceptions. Overall, the contributing resources in the district and the historic district itself display good integrity.

Montlake Historic District

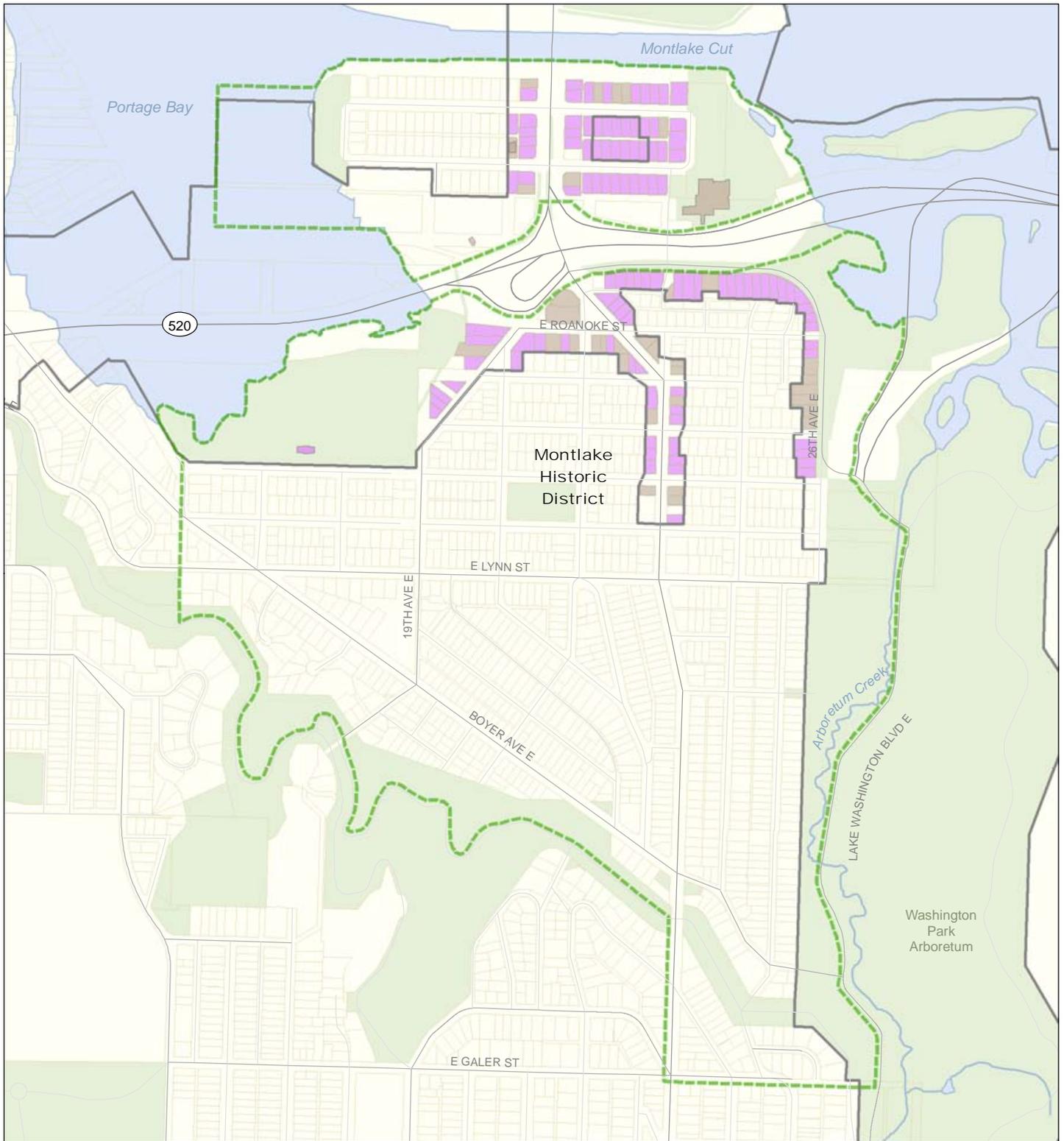
Property ID 238 – Period of Significance 1905 to 1952

Eligible under Criterion C

The Montlake area is generally considered to be from the Washington Park Arboretum to Portage Bay, with the northern boundary at the Montlake Cut and the southern boundary often listed as Interlaken Park or Interlaken Boulevard. The name “Montlake” frequently appears on maps, including the Thomas Guide, as the label for this entire neighborhood. The Montlake neighborhood meets the eligibility criteria for an NRHP historic district under Criterion C. For boundaries of the Montlake Historic District proposed by the Montlake Community Club, see Exhibit 19. The SHPO concurred on the NRHP eligibility of the Montlake Historic District on August 27, 2009.

Taken as a whole, the area represents a significant, cohesive collection of residential architecture typical of early twentieth century Seattle, with a combination of distinctive builders’ houses, high-style, architect-





- Montlake NRHP - Eligible Historic District
- Area of Potential Effects
- Parcel
- Contributing Resource
- Non-Contributing Resource
- Park



Source: King County (2005) GIS Data (Streams and Streets), King County (2007) GIS Data (Water Bodies), King County (2008) GIS Data (Parcel), CH2M HILL (2008) GIS Data (Parks). Horizontal datum for all layers is NAD83(91); vertical datum for layers is NAVD88.



Exhibit 19. Montlake NRHP-Eligible Historic District

I-5 to Medina: Bridge Replacement and HOV Project

designed residences, and impressive non-residential structures. There is a very low level of intrusion. The period of significance is 1905 to 1952, from the platting of the neighborhood to the construction of MOHAI

The Montlake neighborhood was first developed starting in 1909. The main era of construction was the 1910s through the 1940s. The side streets appear to have been paved in 1926 (Gould 2000). The residential styles in the district are cohesive, mainly Craftsman, Tudor, and Colonial Revival, but the houses are “individually distinctive” (Gould 2000). Exhibits 20 and 21 demonstrate some of the diversity of architectural styles found in the neighborhood. The large Tudor style



Exhibit 20. 2158 East Shelby Street, Montlake Historic District



Exhibit 21. 2159 East Shelby Street, Mary Houlahan House, Montlake Historic District

house at 2158 East Shelby Street has picturesque details from 1925 (Exhibit 20). Across the street, noted Seattle architecture firm Bebb and Gould designed the Mary Houlahan House at 2159 East Shelby Street in 1914 as a Colonial Revival-style residence that mimics the Georgian period (Exhibit 21). Both of these houses are also individually eligible for the NRHP under Criterion C. Several high-style, distinguished houses are found along Lake Washington Boulevard East, including turreted Tudors and stuccoed Mediterranean Revivals. Many of these are outstanding architectural examples with very good integrity and are individually eligible for the NRHP as well. There are noteworthy nonresidential resources in the area including the Montlake Bridge; the Seattle Yacht Club; the NOAA Northwest Fisheries Science Center buildings; a portion of historic Lake Washington Boulevard; and structures such the gazebo, Arboretum Aqueduct, and Japanese Garden teahouse in the Washington Park Arboretum, which borders the neighborhood. One-hundred-nine properties are eligible for the NRHP as contributing elements to the Montlake Historic District are located within the APE. Thirty-five of these are also individually eligible for the



NRHP under Criterion C. The properties within the district boundaries are significant for their architectural characteristics, representing the distinct design styles from the early twentieth century, terminating with the early mid-century design of MOHAI (designed 1950 but subsequently altered). As a group, they represent a distinguishable entity recognizable as the Montlake Historic District. Resources within this district include:

- An architecturally cohesive residential neighborhood, largely developed from 1909 until approximately 1945
- The Seattle Yacht Club (individually listed in the NRHP), established in 1892, which moved to its current Montlake location on Portage Bay and constructed the present clubhouse in 1920
- MOHAI, a local museum focusing on Seattle area history and development, designed in 1950 by noted Seattle architect Paul Thiry and completed in 1952, but later altered by additions and again altered for the construction of SR 520
- A portion of historic Lake Washington Boulevard, part of the original 1908 Olmsted Park and Boulevard Plan, with the first 2,150-foot section completed in August 1905 within the Arboretum
- The NOAA Northwest Fisheries Science Center property, including the first federal fisheries building constructed on the West Coast, designed by John Graham, Sr. and built in 1931

Three of the nonresidential resources noted above are located on the periphery of the district. The Seattle Yacht Club and the NOAA Northwest Fisheries Science Center West Wing buildings contribute to its physical and cultural fabric. The Seattle Yacht Club is a recreational and cultural institution that supports and enhances the residential quality of the neighborhood. The NOAA Northwest Fisheries Science Center occupies the former canal reserve land. This land is intimately tied to the history of the Montlake Cut and the original log canal, important elements in the history of the Montlake area. The portion of historic Lake Washington Boulevard within the district begins at the Arboretum (one short segment is named 26th Avenue East), and then curves at the Old Canal Reserve land (now SR 520) before continuing west to Montlake Boulevard. At the intersection with Montlake Boulevard, it takes that name and turns north, heading towards the University of Washington campus and crossing Montlake Cut. Lake Washington Boulevard was part of the original 1908 Olmsted Park and



Boulevard Plan. The section that reached from the Arboretum to the University of Washington was specifically laid out in March 1907, in preparation for the Alaska-Yukon-Pacific Exposition. “Outside the campus, the exposition’s legacy was the extension of Lake Washington Boulevard, under the design direction of Olmsted Brothers” (BOLA and Kiest 2003).

The area of the neighborhood south of SR 520, originally known as “Interlaken,” was developed separately from, though basically concurrently with, the northern part of the neighborhood. John Boyer of the Interlaken Land Company filed his plat in December 1905. Bordered on the west by Interlaken Park and on the east by Washington Park, the plat featured 20 irregularly shaped blocks located on either side of 24th Avenue East to the north of East Galer Street. Boyer imposed restrictive covenants requiring that homes constructed east of 24th Avenue had to cost not less than \$3,000, and those west of 24th not less than \$5,000, ensuring above-average construction values.

The area now north of SR 520 was originally known as Union City, so named by Harvey Pike in 1861. It was incorporated into the City of Seattle in 1891. With the Alaska-Yukon-Pacific Exposition in 1909 at the University of Washington campus, the area received extensive exposure and benefited from increased public transit to the area. Two brothers, Calvin and William Hagan, with partner James Corner (Smith n.d.) originated the name “Montlake” as they developed “Montlake Park, An Addition to the City of Seattle” in July of 1909. This development occupied the area between the present-day Montlake Cut and SR 520, and encompassed the eight blocks originally platted as H.L. Pike’s First Addition to Union City in 1870.

Although the Montlake neighborhood was compromised by the construction of SR 520 in the early 1960s, most of it remains intact. Although many of the individual buildings have experienced minor alterations, such as window replacements and rear additions, most of these do not detract significantly from the integrity of the resources. Only a small number of the buildings have been so altered as to make them non-contributing, and the percentage of these in the district is very low.

The Montlake Community Club, an organization of neighborhood residents, has expressed interest in having the Montlake neighborhood considered for nomination to the NRHP. In pursuit of this goal, the Montlake Community Club has undertaken volunteer efforts to map



out district boundaries (noted earlier in Exhibit 19), begun to survey each property in the district, and gathered history on the neighborhood to prepare a historic context. So far, the volunteers have gathered information on approximately 1,000 properties in the district, and their efforts continue. The Montlake Community Club remains committed to exploring the potential of a historic district listed in the NRHP that encompasses their neighborhood and its many historic properties.

Museum of History and Industry

2161 East Hamlin Street/2720 Lake Washington Boulevard East

Property ID 104 - built 1950-52

Not individually eligible for the NRHP because of lack of integrity

Designed by architect Paul Thiry and built between 1950 and 1952, the Museum of History and Industry, known as MOHAI, located at 2161 East Hamlin Street/2720 Lake Washington Boulevard East, was an excellent example of a Modernist-style public building (Exhibit 22). However, additions by other architects are numerous, and the museum has undergone unsympathetic (that is, architecturally incompatible) alterations, most notably changes to the original entrance. The multiple additions and unsympathetic alterations to the building have affected the integrity of the building greatly. As a result of consultation with the SHPO, WSDOT determined that the MOHAI building no longer retains sufficient integrity to warrant inclusion in the NRHP, either individually or as a contributing resource to the Montlake Historic District.



Exhibit 22. MOHAI, 2161 East Hamlin Street/ 2720 Lake Washington Boulevard East, Montlake Historic District

NOAA Northwest Fisheries Science Center

2723 Montlake Boulevard NE

Property ID 56 - built 1931; 1939; 1940; 1965; 1966

West Wing building (1931) and North Campus buildings (1965 and 1966) individually eligible for the NRHP under Criteria A and C

Located in the Montlake neighborhood, the NOAA Northwest Fisheries Science Center research complex contains multiple buildings and has restricted access. Five buildings on the site predate 1972. The original building on the property is from 1931, and is located at the western end of the site. Immediately to the east of the 1931 building is a three-story building constructed in 1965. To the east of this is a larger building constructed in 1966. These three buildings are connected to each other by covered exterior walkways. To the south of these buildings is a



hatchery constructed in 1940. To the southeast of the hatchery is a small metal “Butler” building also from 1940. Of the five potentially historic buildings, only the original building on the site, constructed in 1931, (Exhibit 23) is contributing to the Montlake Historic District. This building is also individually eligible for the NRHP under Criteria A and C for its association with important research that is significant locally, regionally, and nationally; for its distinctive architectural characteristics; and for its design by a major architect, John Graham, Sr. In addition, the two buildings connected to it, built in 1965 and 1966, are also eligible for the NRHP under Criteria A and C. However, they do not contribute to the Montlake Historic District because they were built after the period of significance for the district. The SHPO concurred on the NRHP eligibility of the NOAA Northwest Fisheries Science Center buildings on August 27, 2009.

The original building from 1931 was the first federal fisheries building constructed on the West Coast (Jim Peacock, Librarian, NOAA Northwest Fisheries Science Center, Seattle, WA, June 14, 2004 – personal communication). Facing Portage Bay, the Fisheries Building was designed in the Art Deco style. It was ornamented with terra cotta details (such as seashells, coral, sea horses, and waves with fish) that reflect the marine nature of the facility. These details extend to the interior as well. The building contains a number of science labs and is also the main chemistry building. It has had few alterations, the most significant being the addition of the 1965 building to the rear. This addition is connected to the historic building by two covered walkways. However, the significance of this alteration is reduced by the clearly secondary nature of the newer building to the historic building, and the easily reversible attachment of the walkways. In addition, the newer building is not visible when viewed from the front of the historic building.

The 1940 hatchery building is significant for its continuous role in marine research. The hatchery building is the second oldest building remaining on the campus. However, it has had numerous additions and alterations, resulting in a loss of integrity of design, materials,

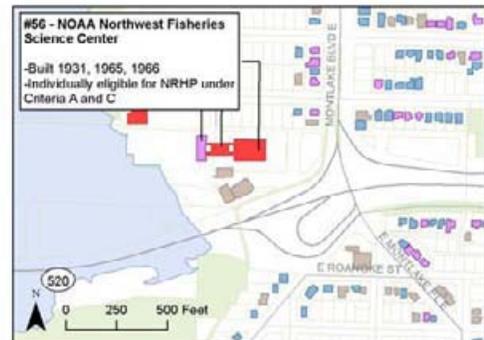


Exhibit 23. NOAA Northwest Fisheries Science Center, Montlake Historic District



workmanship, and feeling. In addition, the construction of many newer buildings adjacent to it, as well as the construction of SR 520 immediately to its south, has affected its setting. Therefore, it lacks sufficient integrity to be eligible for the NRHP.

The Butler building is a prefabricated metal building used to store chemicals. It is not architecturally significant and is utilitarian in design. It does not meet any of the criteria for NRHP eligibility.

The 1965 and 1966 buildings were constructed to house offices and meeting space to accommodate the expanded staff of NOAA at this site. The 1965 building also contains a large library and a 150-seat auditorium. As noted above, the buildings are individually eligible for the NRHP, but do not contribute to the Montlake Historic District.

John Graham, Sr., the architect of the 1931 West Wing building (John Herkelrath, Facilities Maintenance Manager, NOAA Northwest Fisheries Science Center, Seattle, WA, June 12, 2004 – personal communication), was a major force in the construction and design of downtown Seattle that included the Dexter Horton, Bon Marche, and Exchange buildings. Graham also designed the Ford Motor Assembly Plant on Valley Street, several buildings on the University of Washington campus, and the Seattle Yacht Club. Graham is noted as being “particularly adept in the Art Deco style,” and he designed several other “finely detailed, terra-cotta clad commercial structures” (Ochsner 1998).

The 1931 building of the NOAA facility is also potentially eligible for consideration as a Seattle landmark for its association with the cultural and economic heritage of the city, and for its distinctive characteristics of an architectural style and period.

Seattle Apartment Buildings 1900-1957 – Multiple Property Nomination

Five apartment buildings in the APE are eligible for the NRHP under a multiple property nomination for Seattle Apartment Buildings constructed from 1900 to 1957. The SHPO accepted this nomination on November 20, 2008, and listed it in the NRHP on January 9, 2009 (Sheridan 2008). These five buildings meet all of the registration requirements of the multiple property listing – they are purpose-built apartment buildings; they were constructed between 1900 and 1957; they have very good integrity; they were designed with and retain more than five self-sufficient dwelling units, each with private kitchen



and bath; and they are within the Seattle corporate limits. The SHPO concurred on the NRHP eligibility of these five apartment buildings on August 27, 2009.

Exhibit 24 shows the Shelby Apartments, L'Amourita Apartments, and Franklin Apartments.

Shelby Apartments

2815 Boylston Avenue East

Property ID 14 - built in 1928

Eligible for the NRHP under a multiple property nomination

The Shelby Apartments at 2815 Boylston Avenue East (Exhibit 24) were designed by B. Dudley Stuart (1885-1977) and built in 1928. The apartments feature ornate terra cotta details, especially at the entry, and leaded glass windows. The unusually shaped footprint was designed to fit the odd lot shape while still giving each unit as much natural light as possible.



**Franklin Apartments –
2919 and 2923 Franklin Avenue East**



**The Shelby Apartments –
2815 Boylston Avenue East**



**L'Amourita Apartments –
2901 Franklin Avenue East**



Exhibit 24. Seattle Apartment Buildings (1900-1957)—Shelby Apartments, L'Amourita Apartments, and Franklin Apartments



L'Amourita Apartments

2901 Franklin Avenue East

Property ID 16 – built in 1909

Eligible for the NRHP under a multiple property nomination

L'Amourita Apartments at 2901 Franklin Avenue East (Exhibit 24) were built in 1909 by investor Adolph J. Jarmuth.

“According to the Seattle Times, Mr. Jarmuth ‘built the L’amourita whole-piece and lived with his family in its first apartment at the corner of Franklin Avenue and Shelby Street for the first two years only.’ In the beginning there were only eight apartments, described in the Seattle Times then as ‘divided by concrete walls and having from seven to nine rooms.’ The building, said The Times, was ‘the first of its kind in Seattle’” (Dorpat 2002).

It is unique for its ornate Mission Revival style, uncommon in Seattle, and is a designated Seattle Landmark. It is now residential condominiums.

Franklin Apartments

2919 and 2923 Franklin Avenue East

Property IDs 17 and 18, respectively – built in 1927

Eligible for the NRHP under a multiple property nomination

The buildings at 2919 and 2923 Franklin Avenue East (Franklin Apartments) are separate but matching 6-unit apartment blocks (Exhibit 24), both constructed in 1927. They both feature unusual green terra cotta ornament (including window sills and keystones) and a dramatic green terra cotta pedimented door surround composed of a pair of fluted Doric columns with a full entablature, topped by a balustrade with a center panel featuring a row of swags.

Edgewater Condominiums

2411 42nd Avenue East

Property ID 226 – built in 1938-1940

Eligible for the NRHP under a multiple property nomination

The Edgewater Condominiums at 2411 42nd Avenue East (Exhibit 25) were built in 1938-1940 as the

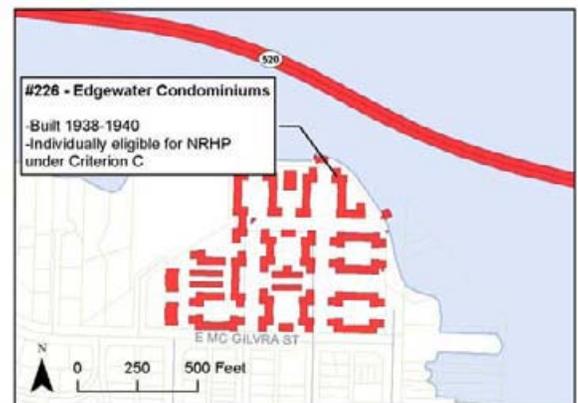


Exhibit 25. Seattle Apartment Buildings (1938-1940) – Edgewater Condominiums



Edgewater Park Apartments. Designed by noted architect John Graham, Jr. (1908-1991) and built by local businessmen organized as the Madison Park Corporation, this building is the earliest known local example of a privately owned apartment complex. Apartment complexes “consisted of a grouping of multi-unit, multi-story buildings arranged in a landscaped setting. They extended the bungalow court’s concept of a setting apart from the street, but they were larger in scale, with higher densities and larger buildings...” (Sheridan 2008).



Chung House

1980 Harvard Avenue East

Property ID 4—built 1932

Individually eligible for the NRHP under Criterion C

The Chung House is a Tudor Revival style house from 1932 (Exhibit 26). Its setting has been compromised by the construction of I-5 immediately to the west of the property, but the house has had few alterations to design or materials. It is eligible for the NRHP under Criterion C for its distinctive architectural characteristics. The SHPO concurred on the NRHP eligibility of the Chung House on August 27, 2009.



Exhibit 26. Chung House, 1980 Harvard Avenue East

Denny-Fuhrman (Seward) School

2515 Boylston Avenue East

Property ID 10 - built 1893; 1905; 1917

Campus individually eligible for the NRHP under Criteria A and C

This school campus, with three historic buildings, is located in what is now considered the Eastlake neighborhood. The oldest of the three buildings, known as the Denny-Fuhrman School or the Seward School Lunchroom and Gymnasium, was originally built in 1893 facing east onto Boylston Avenue, located on the same square but northeast from its current location. In 1899 the building had an addition that doubled its size and resulted in the current footprint, roofline, and arched entries. The building was relocated to its present site in 1917, renovated in 1997-1998, and reopened in September 1999, along with the rest of the complex (Exhibit 27). This building is listed in the WHR and is a designated Seattle Landmark. The Seattle Landmark Nomination Form (1980) notes that it is one of only two 19th century frame schoolhouses remaining in Seattle, and states that it is of “unique significance in representing the history of early public education in Seattle.” The



nomination form for the WHR (Corley 1973) says that it is “the oldest frame school building in a generally unaltered state in the city of Seattle,” and that it is the only one-room schoolhouse remaining in the city.

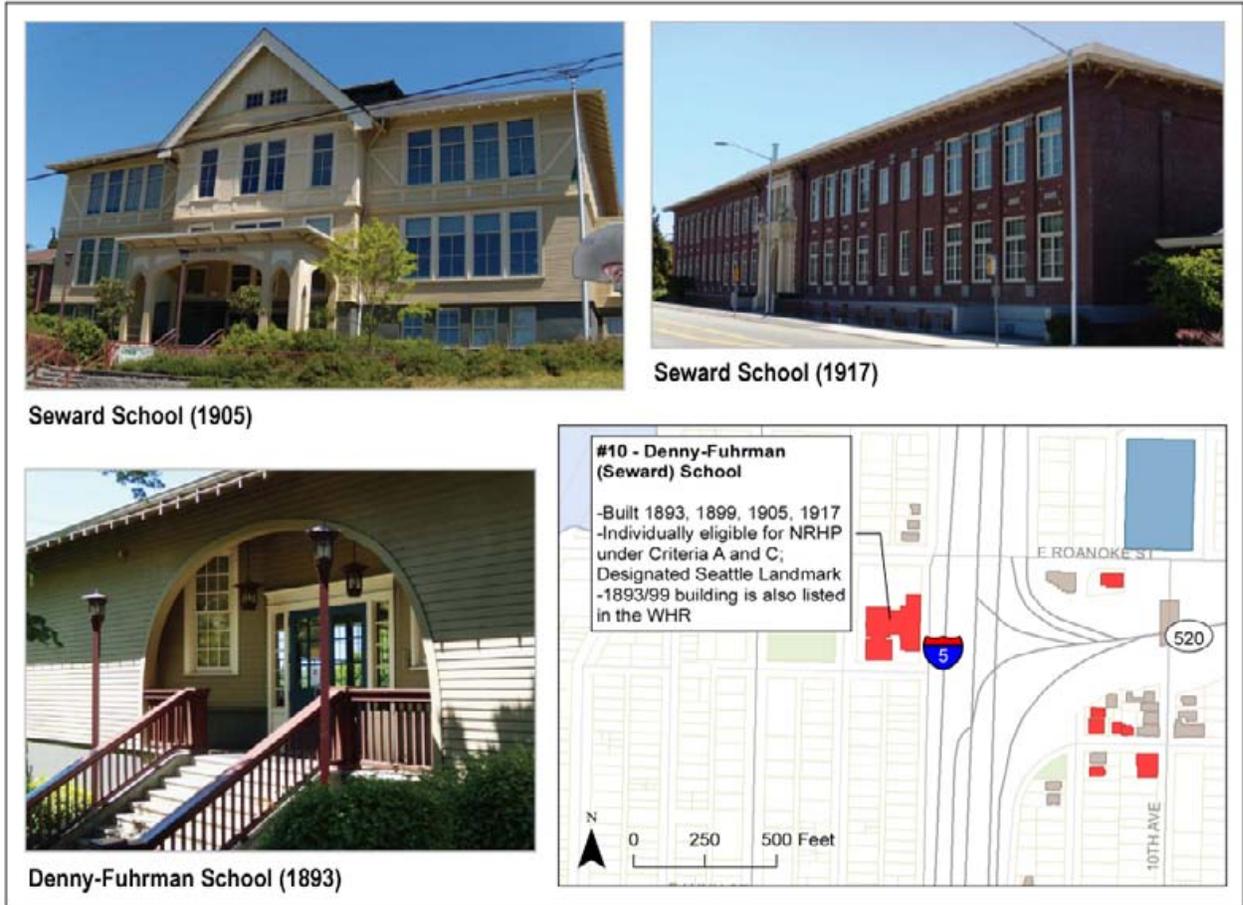


Exhibit 27. Denny-Fuhrman (Seward) School

Originally the school served all eight grades in one room, but by 1897, enrollment had risen to 70, and three classrooms were established (Corley 1973). By 1904, the enrollment was 206, and the school board built the school building that is now to the north of this one, facing Franklin Avenue East. The buildings were then renamed “Seward School” for Secretary of State William Henry Seward (1801-1872), who had negotiated the purchase of Alaska (Long 2001). The Alaska-Yukon-Pacific Exposition held on the University of Washington campus in 1909 brought new transportation and great exposure to the Eastlake neighborhood. Eastlake Avenue was graded, and the streetcar lines were extended north. By 1914, more than 400 pupils attended Seward Elementary School, reflecting the growth and development of the area. In 1932, enrollment was about 580, and Seward became a



demonstration school. As a demonstration school, teachers from all over the school district attended half-day sessions at Seward to observe the latest teaching methods and materials. In 1950, Seward School's boundaries were expanded when the nearby Cascade School was destroyed in an earthquake. This growth continued until the construction of I-5 in the 1960s, which bisected the neighborhood and contributed to declining enrollment.

The second school building, built in 1905, is also a designated Seattle Landmark. The Seattle Landmark Nomination Form (1980) states that in plan and internal arrangement, the building conforms to the standard eight-room school plan developed by architect James Stephen and used throughout the school district between 1904 and 1906. It notes that it is "significant as an essentially unaltered and early example" of this plan.

The third school building on the site was designed by Edgar Blair and built in 1917. The building is also a designated Seattle Landmark. The Seattle Landmark Nomination Form (1980) states that the school reflected new approaches in the design of educational facilities at the time, particularly a concern for fireproof construction, "which appears to have dictated the use of masonry.... It also appears that changing educational standards may have impacted the long and horizontal external form of the building." It notes that the building is "significant architecturally as one of the two most distinguished elementary school designs built for the District...and exhibit(s) unusually refined brick and terra cotta detailing...."

As stated in the Seattle Landmark Nomination Form, "The greatest significance of the Seward School site ... lies in the fact that the three buildings have been grouped on the same site to form a small campus which illustrates the development of public school architecture from the end of the 19th century through the first two decades of the 20th." These three historic school buildings are eligible for the NRHP under Criterion A for their association with education in Seattle and the development of the Eastlake community, and under Criterion C for their distinctive characteristics of a type and period of architecture and as an excellent example of late 19th and early 20th century public school buildings. The SHPO concurred on the NRHP eligibility of the Denny-Fuhrman (Seward) School on August 27, 2009.



Gilmore House

2847 Franklin Avenue East

Property ID 15 - built 1907

Individually eligible for the NRHP under Criterion C

The Gilmore House at 2847 Franklin Avenue East is an American Foursquare Craftsman-style house from 1907 in the Eastlake neighborhood (Exhibit 28). It retains very good physical integrity and is one of the oldest remaining houses in an area dominated by 1920s buildings and newer construction. Its setting has been compromised by the construction of I-5 immediately to the east of the property, by the demolition of the house next door to the south, and by the newer construction to the immediate north. However, the house is an excellent example of an American Foursquare in the Craftsman style and has had very few alterations to the design or materials. It is eligible for the NRHP under Criterion C for its distinctive architectural characteristics. The SHPO concurred on the NRHP eligibility of the Gilmore House on August 27, 2009.

Exhibit 29 shows the Talder House, the Sugamura House, the East Miller Condominium, and the Wicklund-Jarr House.

Talder House

2352 Broadway Avenue East

Property ID 20 - built 1909

Individually eligible for the NRHP under Criterion C

The Talder House at 2352 Broadway Avenue East (Exhibit 29) is located in the North Capitol Hill neighborhood. Built in 1909, it embodies

distinctive characteristics of the Queen Anne style and retains very good physical integrity. Its setting has been somewhat affected by the construction of I-5 to the west and northwest, but the effect is lessened by the buffer of the adjacent blocks to the west and north. This house displays interesting detailing and a striking bellcast hipped roof with bellcast dormers, and a detached garage with a matching bellcast hipped roof. The property is eligible for the NRHP under Criterion C for its distinctive architectural characteristics. The SHPO concurred on the NRHP eligibility of the Talder House on August 27, 2009.



Exhibit 28. Gilmore House, 2847 Franklin Avenue East



Sugamura House

2408 Broadway Avenue East

Property ID 23 - built 1910

Individually eligible for the NRHP under Criterion C

The Sugamura House at 2408 Broadway Avenue East (Exhibit 29), built in 1910, is also located in the North Capitol Hill neighborhood. Its

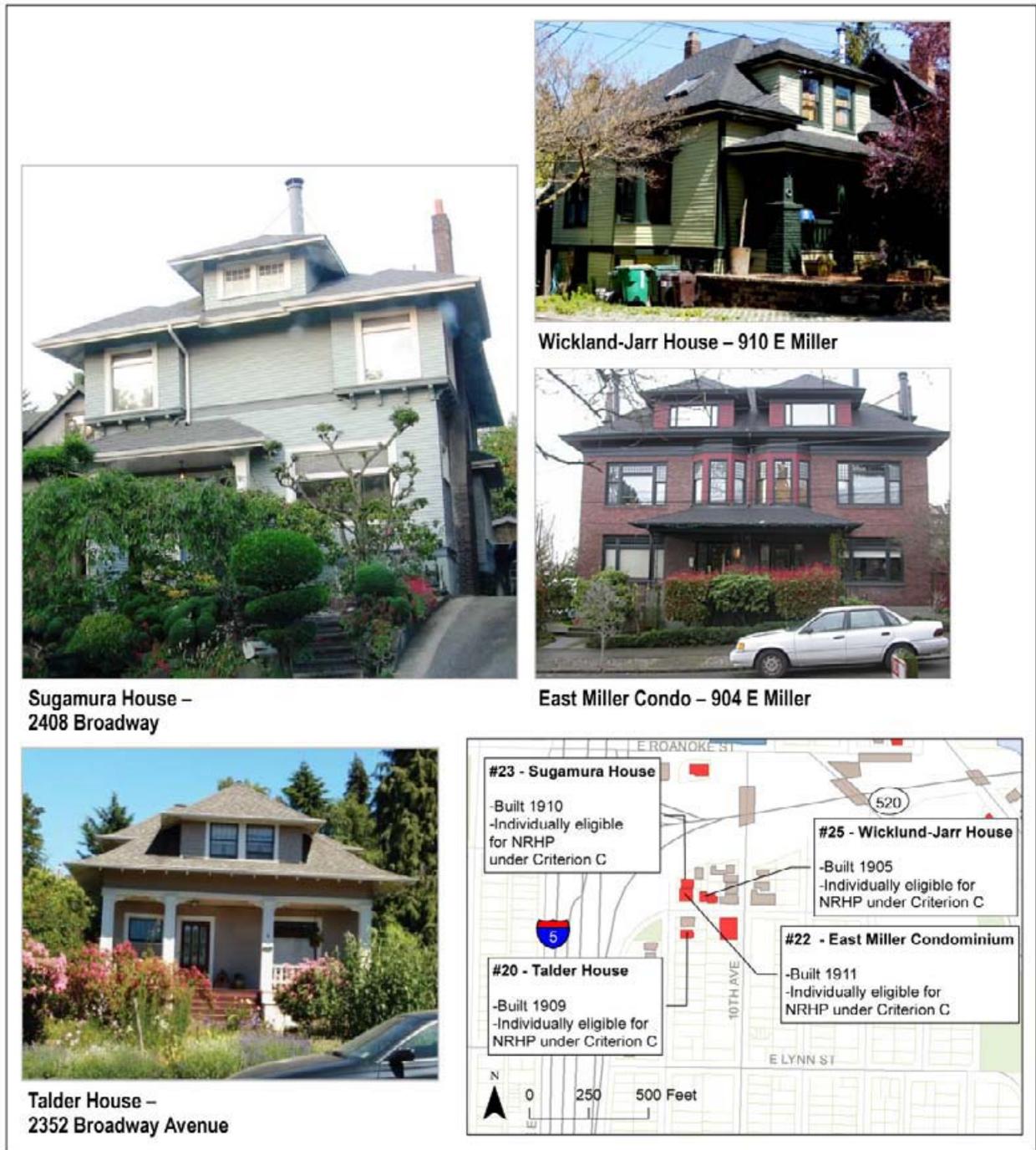


Exhibit 29. Talder House, Sugamura House, East Miller Condominium, and Wicklund-Jarr House



setting has been affected by the construction of I-5 immediately to the west and, to a lesser extent, by SR 520 to the north. As part of the interstate highway construction, the house to the immediate north at 2412 Broadway was relocated and turned 90 degrees, leaving the Sugamura House exposed on the east side. However, the Sugamura House retains excellent integrity of design and materials, and embodies the Arts and Crafts/Prairie style in a typical Seattle Foursquare house. The property is eligible for the NRHP under Criterion C for its distinctive architectural characteristics. The SHPO concurred on the NRHP eligibility of the Sugamura House on August 27, 2009.

East Miller Condominium

904 East Miller Street

Property ID 22 - built 1911

Individually eligible for the NRHP under Criterion C

The East Miller Condominium building at 904 East Miller Street (Exhibit 29) is adjacent to the Sugamura House. Its setting has also been affected by the construction of I-5 immediately to the west. The building was originally built as a duplex in 1911, but is now six condominium units. Some alterations to accommodate this change have occurred to the design, but they are minor. The building displays the Arts and Crafts/Prairie style. It is eligible for the NRHP under Criterion C for its distinctive architectural characteristics. The SHPO concurred on the NRHP eligibility of the East Miller Condominium building on August 27, 2009.

Wicklund-Jarr House

910 East Miller Street

Property ID 25 - built 1905

Individually eligible for the NRHP under Criterion C

The Wicklund-Jarr House at 910 East Miller Street (Exhibit 29) is immediately east of the East Miller Condominium building. Dating from 1905 in the Arts and Crafts/Craftsman style, it retains very good integrity, despite some effect to the setting from the construction of I-5. It is eligible for the NRHP under Criterion C for its distinctive architectural characteristics. The SHPO concurred on the NRHP eligibility of the Wicklund-Jarr House on August 27, 2009.

Exhibit 30 shows Glover Homes Building, Keuss Building, and Boyd House.



Glover Homes Building

914 East Miller Street

Property ID 26 - built 1910

Individually eligible for the NRHP under Criterion C

The Glover Homes Building is located at 914 East Miller Street (Exhibit 30), east of and adjacent to the Wicklund-Jarr House. Built in 1910 as a single-family residence, this building now houses a commercial business. It incorporates many of the trademark features of the Craftsman style, such as a side gable roof with deep eaves and visible beams in the gable ends; a wide shed-roofed dormer that extends from the peak of the main roof; wood shingles; casement windows; gable ends ornamented with triangular panels of narrow, vertical beaded board; and an entry marked by a projecting front gable



Exhibit 30. Glover Homes Building, Keuss Building, and Boyd House



roof supported on a pair of square boxed columns. It is eligible for the NRHP under Criterion C for its distinctive architectural characteristics. The SHPO concurred on the NRHP eligibility of the Glover Homes Building on August 27, 2009.

Keuss Building

2351 10th Avenue East

Property ID 27 - built 1930

Individually eligible for the NRHP under Criterion C

The Keuss Building at 2351 10th Avenue East (Exhibit 30) is a traditional tripartite commercial row. Built in 1930, the building exhibits a PWA Moderne style, with corbeled brick detailing on vertical pilasters and distinctive, stylistic, cast stone ornamentation. The three storefronts are typical early 20th century in design, with recessed center entries between large plate-glass windows, topped by a row of transoms. Although once identical, the storefronts have each received varying alterations but are still similar. Despite these alterations and a rear addition, the building retains good integrity. It is eligible for the NRHP under Criterion C for its distinctive architectural characteristics. The SHPO concurred on the NRHP eligibility of the Keuss Building on August 27, 2009.

Fire Station 22

901 East Roanoke Street

Property ID 36 - built 1965

Individually eligible for the NRHP under Criteria A and C in 2015

Constructed in 1965 on a narrow strip of land between East Roanoke Street and SR 520, this firehouse replaced a historic fire station at a nearby site after the construction of SR 520. The fire station will be eligible for the NRHP under Criterion A for its association with the development of the Seattle Fire Department, and under Criterion C for its distinctive Modern architectural style, once it reaches 50 years old in 2015. The SHPO concurred on the NRHP eligibility of Fire Station 22 on August 27, 2009.

It is located across the street from the Roanoke Park Historic District, but is outside the district boundaries, and its age is beyond the period of significance for that district (1899 to 1939) (Exhibit 31).

According to the City of Seattle Department of Neighborhoods historical site summary:



“...[T]his modern fire station serves the North Capitol Hill and Eastlake neighborhoods. It replaced the original Fire Station No. 22, which was located some five blocks to the south on the northwest corner of the intersection of East Howe Street and 11th Avenue East.... In 1948, the Fire Department made plans to build a new Fire Station No. 22 on the grounds of nearby Roanoke Park. A local Soroptimist Club, a professional women’s organization, organized opposition to this plan and prevented construction of the new fire station on any portion of the park. In 1964, the Fire Department was able to build its new Fire Station No. 22 across the street from the park on surplus land owned by the state, which had been condemned for the construction of SR 520. Architect LaMonte Shorett was selected to prepare the design for the modern one-story brick fire station. This building is significant for its design and for its associations with the development of the Seattle Fire Department and the North Capitol Hill neighborhood.”



Exhibit 31. Fire Station 22, 901 East Roanoke Street

This station is slated for replacement in 2010 as part of the City of Seattle’s Fire Facilities and Emergency Response Levy Program. The station houses one engine company (E22) and the Fire Department’s Incident Command Unit. According to the Fire Facilities and Emergency Response Levy Program analysis, Fire Station 22’s building systems are nearing their 50-year mark and are outdated, and the building is out of regulatory compliance in many areas. The station is too small to accommodate modern apparatus and staffing levels.

Boyd House

2422 Federal Avenue East

Property ID 39 - built 1907

Individually eligible for the NRHP under Criterion C

The Boyd House is located at 2422 Federal Avenue East (Exhibit 30). Built in 1907, this Craftsman-style bungalow retains good physical integrity, although its setting has been affected by the construction of SR 520 immediately to the north. It is eligible for the NRHP under



Criterion C for its distinctive architectural characteristics. The SHPO concurred on the NRHP eligibility of the Boyd House on August 27, 2009.

Gunby, Andrew House

1118 East Roanoke Street

Property ID 45 - built 1940

Individually eligible for the NRHP under Criterion C

The Gunby house (Exhibit 32) was designed in 1939 by noted architect John T. Jacobsen (1903 to 1998). A native of Seattle, Jacobsen received his architectural degree from the University of Washington and Master's degree from the University of Pennsylvania. His work has been credited with helping to form the basis for Pacific Northwest Modernism. He was published in *Progressive Architecture's* "Pencil Points" and in *Pacific Architect & Builder*. His best known projects include his own Madison Park home (ca. 1936), the George Horton House (1938), Armbruster House (1946), Helen Bush School's Miller Hall (ca. 1948), University of Washington's Gerberding Hall (1949), the Goslin House (1939), and the Gunby House - all located in Seattle. During the Depression, Jacobsen worked as the principal designer on the Yesler Terrace Housing Project (1939-1941). After relocating to Hawaii, Jacobson worked on various projects and opened his own firm. There he designed the Sea Life Park and research facilities, the Winnie Units at Punahou School, and aviator Charles Lindbergh's home (1971), and was very involved in early NRHP designations and historic preservation efforts. The Gunby House is eligible for the NRHP under Criterion C for distinctive characteristics unique to its period and as the work of a master architect. WSDOT and the SHPO agreed on the NRHP eligibility of the Gunby House on August 27, 2009.



Exhibit 32. Andrew Gunby House, 1118 Roanoke Street

Mason, Alden House

2545 Boyer Avenue East

Property ID 48 - built 1949

Individually eligible for the NRHP under Criteria A and C

This Modern-style house, built in 1949 (Exhibit 33), was designed for artist Alden Mason by Victor Steinbrueck, a prominent Seattle architect



and one of the designers of the Space Needle. This flat-roofed house is visually striking, situated on the hill overlooking Portage Bay, and is an excellent example of the Modern style. The Mason house was published in *Architectural Record* "Houses of the Northwest" (April 1953, pp. 159-163). Its few alterations over the years have included the addition of two, square modern windows in the front façade of the ground floor, the replacement of the original entry door or the addition of a modern storm door over it, and partial screening of the ground floor area under the front balcony with wooden lattice. In addition, it may have had some minor window replacement on the main level. All these changes are minor and do not significantly affect the integrity of the resource. The house is eligible for the NRHP under Criterion C for distinctive characteristics unique to its period and as the work of a master architect, and under Criterion B for its association with Alden Mason, noted Seattle artist and influential long-time faculty member at the University of Washington. The SHPO concurred on the NRHP eligibility of the Mason House on August 27, 2009. It is potentially eligible for consideration as a Seattle landmark for its distinctive architectural style, as an outstanding work of a designer, and for its association with Alden Mason.

Kelley House

2518 Boyer Avenue East

Property ID 52 - built 1909

Individually eligible for the NRHP under Criterion C

The Kelley House at 2518 Boyer Avenue East (Exhibit 34) is an Arts and Crafts/Swiss Chalet-style residence from 1909, sited on a bluff on the shore of Portage Bay. Despite some alterations, such as the addition of a shed dormer on the north elevation and a single-story addition on the south elevation, the house retains good integrity. The property's setting has been somewhat affected by the construction of a multi-story apartment building next door, and by the construction of SR 520 and the Portage Bay Bridge to the north of the property. As the rear of the building is on the water, the Portage Bay Bridge is visible from the back of the house. The house features elaborate "half timbering" in the gable ends and is a particularly intact example of this

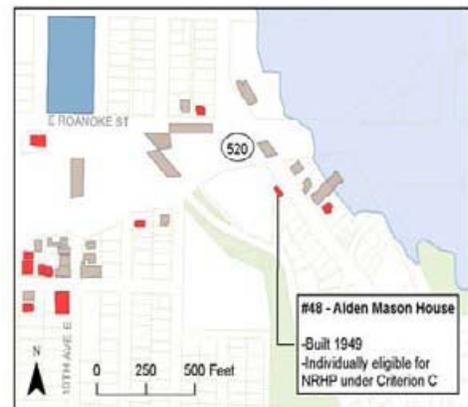


Exhibit 33. Alden Mason House, 2545 Boyer Avenue East

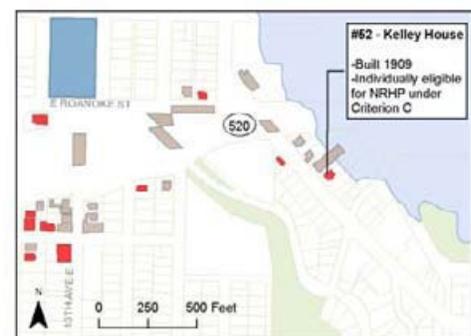
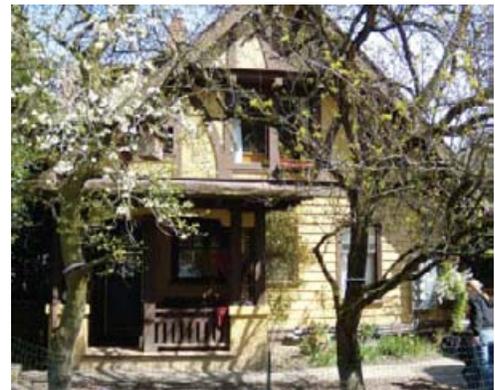


Exhibit 34. Kelley House, 2518 Boyer Avenue East



picturesque style. The property is eligible for the NRHP under Criterion C for its distinctive architectural characteristics. The SHPO concurred on the NRHP eligibility of the Kelley House on August 27, 2009.

Washington Park Arboretum

2300 Arboretum Drive East

Property ID 200 – designed in 1903

Individually eligible for the NRHP under Criteria A and C

Although the APE encompasses the Washington Park Arboretum, only a small portion of the Arboretum is actually in the study area. The Arboretum is a public facility that was developed as part of the Olmsted Plan for Seattle Parks, Boulevards, and Playgrounds. Stretching across approximately 230 acres, it is owned by the City of Seattle and managed by the University of Washington. It contains one NRHP-listed property, the Arboretum Aqueduct (Historic Bridges/Tunnels in Washington State) (Exhibit 35), which is also a designated Seattle landmark. It also contains the Seattle Japanese Garden, another designated Seattle landmark.

The portion of the Arboretum within the study area includes the section under the Evergreen Point Bridge west approach, and all of Foster Island. The land surrounding the on- and off-ramps from SR 520 to Lake Washington Boulevard, which is within the study area, is owned by WSDOT and is used primarily for transportation facilities. An April 1966 agreement between the City of Seattle and WSDOT holds that although the state would allow the City to use portions of the property for park-oriented use, the property would remain within WSDOT ownership. Therefore, although used for some park activities, the land is technically no longer part of the Arboretum.

Foster Island, located at the northern end of the Arboretum, is recognized as a TCP and as a culturally and environmentally sensitive area. It contains marshes, reeds, and cattails that provide valuable wildlife habitat. The island was bisected in 1963 when SR 520 was constructed. In 1968, the Waterfront Trail was constructed, which links Foster, Marsh, and Bamboo islands to a terminus just east of MOHAI. The Waterfront Trail passes under SR 520 in



Exhibit 35. Washington Park Arboretum (Arboretum Aqueduct)



the middle of Foster Island. For more on its significance, see the discussion on Foster Island above.

The Arboretum was first known as Washington Park and was one of the City's first parks, created from 1900 to 1904. Originally owned by the Puget Mill Company (which had planned to develop it along with the adjacent area now known as Broadmoor), the first piece of the Washington Park Arboretum was deeded to the City in 1900. In 1903, the Olmsted Brothers came to Seattle and prepared a plan for Seattle's park system, including Washington Park.

By 1916, the park totaled 165.22 acres (BOLA and Kiest 2003). The City largely completed its acquisition of land for Washington Park by 1921. In March 1924, Washington Park was officially set aside as a botanical garden and arboretum, and in 1925, the "Old Government Canal" property was leased to the City and added to Washington Park. The Olmsted Brothers drew up the first formal plan for the Arboretum in March 1936. J. Frederick Dawson, the chief designer, worked closely with the Parks Department's staff landscape architect, Frederick Leissler. As this was during the Great Depression, 500 men in the PWA/WPA did much of the construction.

In the early 1960s, the construction of SR 520 and the Evergreen Point Bridge severely compromised the integrity of the northern area of the Arboretum. In 1963, the State Department of Highways condemned approximately 47 acres of Arboretum property for SR 520, including most of the canal reserve land. The "Old Government Canal" land, the location of the original log canal between Lake Union and Lake Washington and one of the first areas formally planted in the Arboretum, was mostly taken for the path of SR 520. The undeveloped property north of SR 520 behind the houses facing East Hamlin Street is what remains. After constructing SR 520 through the Foster Island area, landscape architect Hideo Sasaki was hired in 1964 to salvage what was left of the northern section of the Arboretum. However, few elements of his plan were implemented, except for the Waterfront Trail. A historic review conducted by BOLA Architecture and Karen Kiest/Landscape Architects (2003) stated:

"An estimated 60 acres were lost in the lagoon area, which had been part of the Olmsted Brothers' proposed plan for the Arboretum. Excavations, which extended along the east side of 26th Avenue, filled with water. The resulting topography and the presence of the



off-ramps eliminated the possibility of further development at the north end of the Arboretum” (BOLA and Kiest 2003).

After the Olmsted plan of 1936, the next Master Plan adopted for the park was in 1978. In May 2001, the Seattle City Council approved a new long-range master plan for the Arboretum, “Renewing the Washington Park Arboretum.” Seattle Parks and Recreation, the University of Washington, and the Arboretum Foundation developed the plan to ensure that the Arboretum could effectively fulfill three primary purposes: conservation, recreation, and education. As a public park, teaching and research institution, and outdoor recreation area, the Arboretum has changed and evolved to meet changing demands, to accommodate differing financial climates, and to adapt to new challenges and desires from varied stakeholders. The extensive plantings and landscape improvements have matured. The plan has had to be altered to fit SR 520 and the Evergreen Point Bridge approach. However, the Arboretum retains its basic design and feeling, and continues to fulfill its mission:

“The Washington Park Arboretum is a living plant museum emphasizing trees and shrubs hardy in the maritime Pacific Northwest. Collections are selected and arranged to display their beauty and function in urban landscapes, to demonstrate their natural ecology and diversity, and to conserve important species and cultivated varieties for the future. The Arboretum serves the public, students at all levels, naturalists, gardeners, and nursery and landscape professionals with its collections, educational programs, interpretation, and recreational opportunities.”

This mission statement was adopted January 4, 1996, and remains true to the initial founding of the Arboretum in 1924.

The Arboretum cannot be judged as a sum of its parts, many of which have adapted and changed over time, with renewed plantings, new signage and lighting, new paving, and so forth. As a historic designed landscape meant to educate and provide public beautification, it is an icon of the Seattle Parks system. Although the northern section of the Arboretum was heavily affected by the construction of SR 520 and has suffered a loss of integrity, the rest of the Arboretum remains intact. Taken as a whole, the Arboretum retains good integrity in all seven aspects. The Washington Park Arboretum is eligible for the NRHP under Criterion A (for its association with events that have made a significant contribution to the broad patterns of our history, including



the Alaska-Yukon-Pacific Exposition, the development of the University of Washington, the work of the WPA, and the development of the parks system in Seattle) and under Criterion C (as the work of a master for its design by the noted Olmsted Brothers, as well as the many talented designers and architects who contributed to its multiple designed features). The SHPO concurred on the NRHP eligibility of the Washington Park Arboretum on August 27, 2009.

University of Washington Buildings

The following 10 buildings and 3 structures on the University of Washington campus were identified as eligible for the NRHP:

- Bloedel Hall
- Winkenwerder Forest Sciences Laboratory
- Hewitt Wilson Ceramics Laboratory
- Wilcox Hall
- More Hall
- Graves Hall
- University of Washington Club
- McMahan Hall
- CENPA Instrument Shop
- North Physics Laboratory (CENPA)
- Pavilion Pedestrian Bridge
- Montlake Boulevard Pedestrian Overpass South
- Montlake Boulevard Pedestrian Overpass North

Exhibit 36 shows Winkenwerder Forest Sciences Laboratory, Bloedel Hall, Hewitt Wilson Ceramics Laboratory, and Wilcox Hall.

Bloedel Hall

Property ID 205 - built in 1971

Individually eligible for the NRHP under Criterion C in 2021

Bloedel Hall (Exhibit 36) dates from 1971 and was designed by Grant, Copeland, Chervenak & Associates. It is a classroom and office building in the College of Forestry complex, next to the Winkenwerder Forest Sciences Laboratory, which was designed by the same architects and is very similar in style. Like Winkenwerder, “[I]t also demonstrates the potential that wood offers for structural and finish applications” (Johnston and McCormick 2001), as appropriate for a forestry education facility. It will be 50 years old in 2021 and, at that time, will be eligible for the NRHP under Criterion C for its distinctive design in a unique



Northwest Regional vocabulary. The SHPO concurred on the NRHP eligibility of Bloedel Hall on August 27, 2009.

Winkenwerder Forest Sciences Laboratory

Property ID 206 – built in 1962

Individually eligible for the NRHP under Criterion C in 2012

Winkenwerder Forest Sciences Laboratory (Exhibit 36) was called the Forest Products Science Building when it was built in 1962, and renamed the Winkenwerder Forest Sciences Laboratory in 1972. The

Winkenwerder Forest Sciences Lab – University of Washington

Wilcox Hall

Wilson Ceramics Lab

Bloedel Hall – University of Washington

#206 - Winkenwerder Forest Sciences Lab
-Built 1962
-Individually eligible for NRHP under Criterion C in 2012

#213 - Wilcox Hall
-Built 1963
-Individually eligible for NRHP under Criterion C in 2013

#205 - Bloedel Hall
-Built 1971
-Individually eligible for NRHP under Criterion C in 2021

#212 - Wilson Ceramics Lab
-Built 1946
-Individually eligible for NRHP under Criterion C

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Exhibit 36. University of Washington—Winkenwerder Forest Sciences Laboratory, Bloedel Hall, Hewitt Wilson Ceramics Laboratory, and Wilcox Hall



architects were Grant, Copeland, Chervenak & Associates. Noted Northwest artist Dudley C. Carter carved the ornate door panels at the main entrance. The building was clearly designed with its purpose of a forestry science lab in mind. “In the design...a conscious effort was made to demonstrate the structural versatility and visual elegance of timber. A system of columns and beams creates the skeleton for glass-enclosed laboratories” (Johnston and McCormick 2001). It will be 50 years old in 2012 and, at that time, will be eligible for the NRHP under Criterion C for its distinctive Modern architectural design rendered in wood and glass, giving it a Northwest regional feel in a visually arresting way. The SHPO concurred on the NRHP eligibility of Winkenwerder Forest Sciences Laboratory on August 27, 2009.

Hewitt Wilson Ceramics Laboratory

Property ID 212 - built in 1946

Individually eligible for the NRHP under Criterion C

Hewitt Wilson Ceramics Laboratory (Exhibit 36), built in 1946, was designed by noted architect Paul Thiry (1904-1993). Thiry is credited with introducing European Modern architecture to the Northwest region. He was the principal architect for the Seattle World’s Fair in 1962. He is also known internationally for his modern designs, and for his role in the planning and preservation of the United States Capitol as a member of the National Capital Planning Commission and the President’s Council on Pennsylvania Avenue from 1963 to 1975. Born in Alaska, he received his architecture degree from the University of Washington in 1928 and opened his own practice in 1929. He traveled abroad in 1934 and returned home influenced by the European Modernists he had met, including Le Corbusier. After World War II, his practice grew and he became active in city planning. In 1958, he designed the U.S. Embassy in Chile. He was involved in planning and designing the Libby Dam in Montana from 1962 to 1984. Thiry received numerous awards, was broadly published, and became an American Institute of Architects (AIA) Fellow in 1951. He was recognized for his work in community design and planning with a national AIA citation in 1965. His well-known works in Seattle include Key Arena, MOHAI, and St. Demetrios Greek Orthodox Church. The Hewitt Wilson Ceramics Laboratory is a modest example of Thiry’s work, built for engineering students pursuing mining studies. The facility, originally called the Kiln Building, housed three kilns built by the U.S. Bureau of Mines. Students used the kilns to perform standard tests of high refractories prepared from northwest mining materials. It was named to



honor Dr. Hewitt T. Wilson in 1955. It is eligible for the NRHP under Criterion C for its Modern architectural design, representing the work of a master architect. The SHPO concurred on the NRHP eligibility of Hewitt Wilson Ceramics Laboratory on August 27, 2009.

Wilcox Hall

Property ID 213 – built in 1963

Individually eligible for the NRHP under Criterion C in 2013

Wilcox Hall (Exhibit 36), built as an addition to Roberts Hall in 1963, was initially called Roberts Hall Addition and Computer Center. In 1981, the Board of Regents approved it as its own building and named it Wilcox Hall. The architects were McClure and Adkison of Spokane. Until 1976, Wilcox Hall housed the Computer Center, but it currently provides space for many different engineering departments. It is associated with Paul Allen and Bill Gates of Microsoft, who worked on projects in this building including the first version of the scheduling software that they created for Lakeside School and the program that they used to print out Traf-O-Data traffic volume analyses. Royal McClure and Thomas Adkison both received their architecture degrees from the University of Washington. In 1948, they formed their partnership, McClure and Adkison. They worked mainly in the Spokane area, where they became well known. They were the recipients of at least two Spokane AIA awards for their Modern style buildings. Their practice included houses, schools, churches, libraries, commercial buildings, and even a factory. In 1962, the firm was featured in the “Twenty Northwest Architects” exhibit at the University of Oregon. McClure left the firm and moved to Seattle in 1966 to open his own independent practice. His most notable project was the Gil & Erselle Eade House (1969) in Hunts Point. He also designed the Mercer Hall dormitory (1970) at the University of Washington. McClure retired in 1977 and Adkison died in 1986. Wilcox Hall will be 50 years old in 2013 and, at that time, will be eligible for the NRHP under Criterion C for its Modern architectural design, representing the work of noted architects. The SHPO concurred on the NRHP eligibility of Wilcox Hall on August 27, 2009.

Exhibit 37 shows More Hall and Graves Hall.

More Hall

Property ID 214 – built in 1946-48

Individually eligible for the NRHP under Criterion C



More Hall (Exhibit 37), built in 1946-48, was designed by Bebb and Jones, in association with Leonard Bindon. It houses the Civil

Engineering department at the University of Washington. The main building was constructed in 1946 for the Civil Engineering department, and “[i]t expressed the modern architectural philosophy of function over form and incorporated lighting from large windows to convey the feeling of spaciousness” (University of Washington 2009a). The east end of the building was added in 1948 as the Structural Testing Laboratory, designed by John Paul Jones.

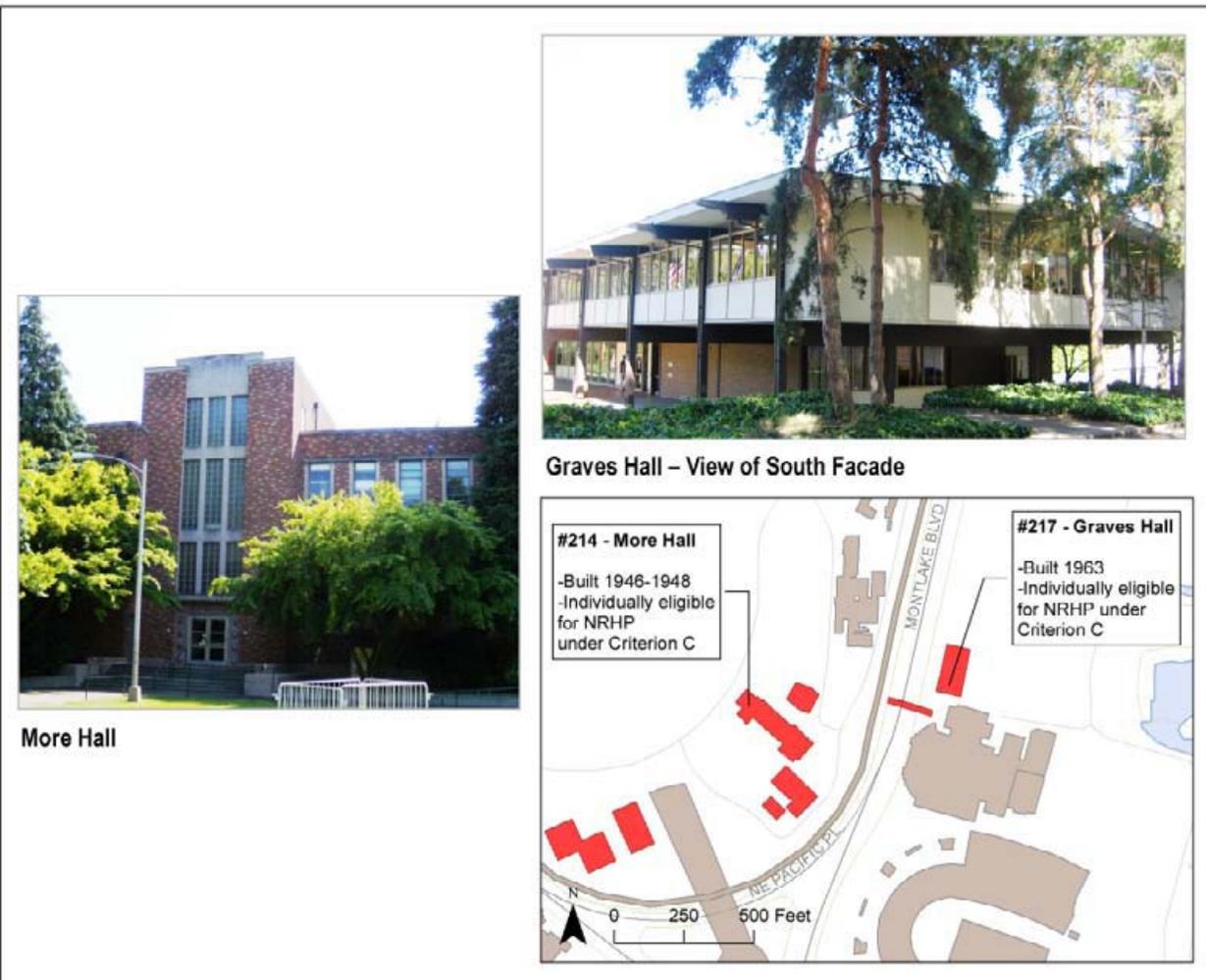


Exhibit 37. University of Washington—More Hall and Graves Hall

“The lab was located adjacent to the Northern Pacific Railroad so a spur track could carry materials directly into the room. One of the first items delivered by rail was a 2.5 million pound compression testing machine. Its testing capacities outperformed any other in the Pacific Northwest and was used by Washington manufacturers of



aircraft, steel, lumber and light metals in the post WWII years to test their products. In addition, the machine could replicate earthquake-like shock waves that enabled students to study how to incorporate seismic factors into their civil engineering design” (University of Washington 2009a).

Kolb and Stansfield remodeled More Hall in 1972-75, and the structural and geotechnical research laboratories were remodeled in 1993-96. Bebb & Jones was the partnership of Charles Bebb of Bebb & Gould and John Paul Jones, a junior partner with Bebb & Gould, after the death of Carl Gould in 1939, but only lasted from 1939 to 1942, when Bebb died. Charles Bebb, a leading Seattle architect, was also important in the development of the architectural terra cotta industry in Washington State. He was elected a Fellow of the AIA in 1919. After World War II, John Paul Jones became the Consulting Architect for the University of Washington. After Bebb’s death, Jones and Leonard Bindon formed Jones and Bindon, Architects, from 1947-1956. More Hall is eligible for the NRHP under Criterion C for its Modern architectural design, representing the work of noted architects. The SHPO concurred on the NRHP eligibility of More Hall on August 27, 2009.

Graves Hall

Property ID 217 - built in 1963

Individually eligible for the NRHP under Criterion C in 2013

Graves Hall (Exhibit 37), designed by Robert Billsborough Price (1915 to 1981), was built in 1963. It houses the central administrative offices for University of Washington Intercollegiate Athletics, as well as coaches’ and staff offices, training and meeting rooms, the sports ticket office, and the Husky Marching Band offices. Robert Billsborough Price was a native of Tacoma, and most of his practice was there. He received his architecture degree from the University of Washington and his Master’s degree from MIT. He opened his practice in Tacoma in 1949. By 1956, the firm was featured in *Progressive Architecture*, notable at the time as the youngest firm to have been featured in the magazine. Price specialized in educational projects and designed a number of schools in the Puget Sound area from the late 1950s through the 1970s, including Graves Hall at University of Washington. In his career, he received 59 national, regional, and local awards for design excellence. In 1966, he became the first architect in Tacoma to be inducted in the AIA College of Fellows. Other Price projects in Seattle include the Seattle World’s Fair Hall of Industry (1961) and the University of Washington Golf Driving Range Building. Graves Hall’s Modern style is representative of



Price’s educational design projects and retains good integrity. Graves Hall will be 50 years old in 2013 and, at that time, will be eligible for the NRHP under Criterion C for its Modern architectural design, representing the work of a noted architect. The SHPO concurred on the NRHP eligibility of Graves Hall on October 26, 2009.

Exhibit 38 shows the University of Washington Club, McMahon Hall, CENPA Instrument Shop, and North Physics Laboratory.

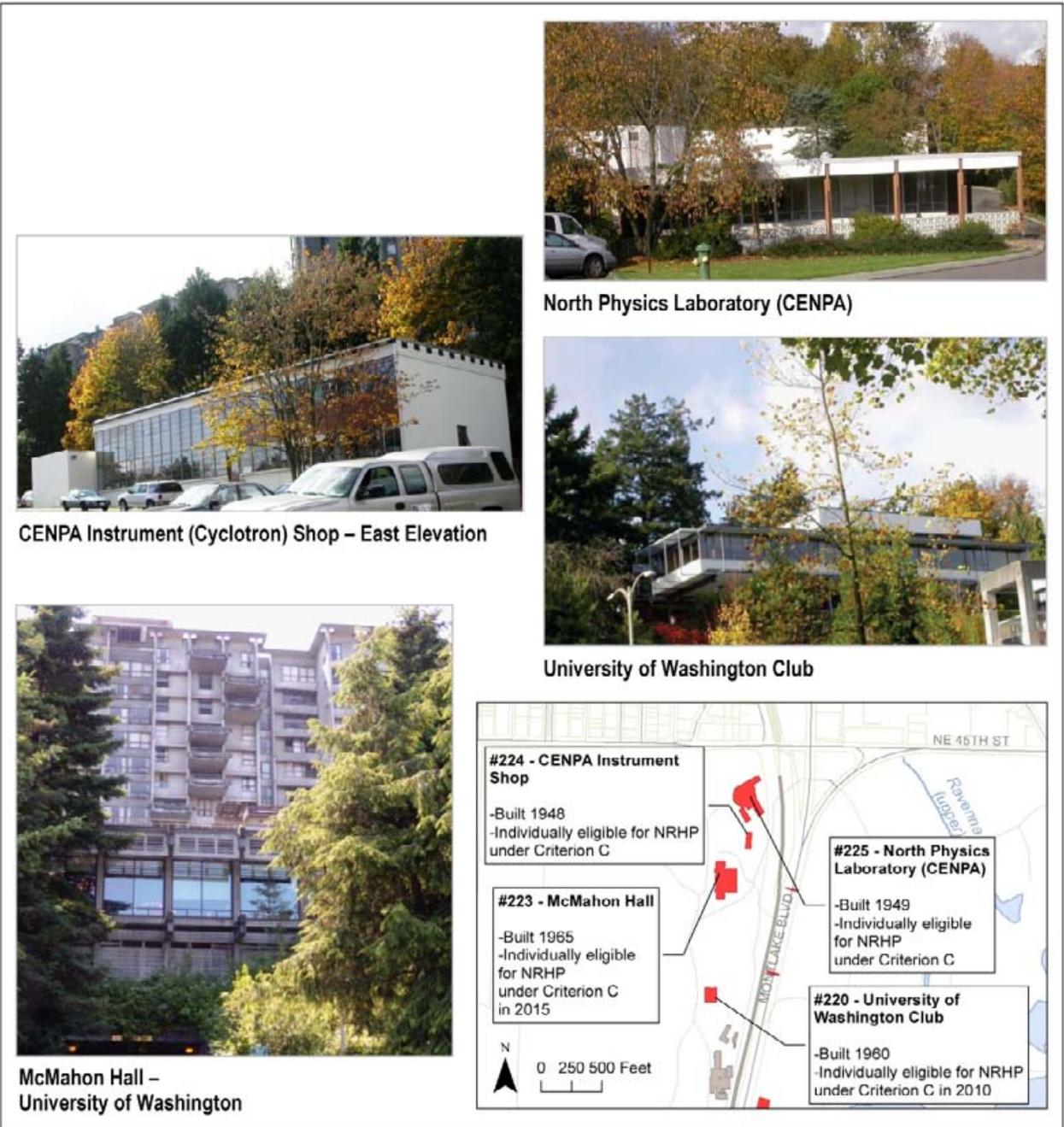


Exhibit 38. University of Washington—University of Washington Club, McMahon Hall, CENPA Instrument Shop, and North Physics Laboratory (CENPA)



University of Washington Club

Property ID 220 – built in 1958-1960

Individually eligible for the NRHP under Criterion C

The University of Washington Club (Exhibit 38) was designed by Victor Steinbreuck, in association with Paul Hayden Kirk Associates, and built in 1958-1960. University of Washington architecture faculty collaborated with them on the design, including Daniel Streissguth. Thomas E. Sparling and Associates were the electrical engineers, and Eckbo, Dean and Williams were the landscape architects. The University of Washington Club, originally called the Faculty Club, was incorporated in 1909. During the Alaska-Yukon-Pacific Exposition, this site was the Hoo Hoo Club, a part of the Forestry exhibit, designed by Ellsworth Storey. At the conclusion of the exposition, the building was left for a Faculty Club. In 1958, the original building was torn down and the current building was constructed. The University of Washington Club was published in *Progressive Architecture* in 1961 and in *Architectural Forum* in 1962. It won the AIA Seattle Honor Award in 1960. The University of Washington Club is an important example of regional modernism that is eligible for the NRHP under Criterion C as an important example of Modernism and the design of significant local architects. Although some renovation work has occurred over the years, including the enclosure of part of the south balcony area and renovations in 2005 to the bar area, the building retains very good integrity and easily communicates its original design. The SHPO concurred on the NRHP eligibility of the University of Washington Club on August 27, 2009.

McMahon Hall

Property ID 223 – designed in 1965

Individually eligible for the NRHP under Criterion C in 2015

McMahon Hall (Exhibit 38) is a residence hall designed by Paul Hayden Kirk's architectural firm, Kirk, Wallace, McKinley & Associates, in 1965. It received an AIA Seattle Honor Award in 1966. The residence hall is remarkable for its modern Brutalist design, softened by the rough concrete forms and puzzle piece-like plan, sited on a steep hill that affords breathtaking views of Lake Washington and the Cascades. It will be 50 years old in 2015 and, at that time, will be eligible for the NRHP under Criterion C for its distinctive architectural design and as the work of a recognized master, Paul Hayden Kirk. The SHPO concurred on the NRHP eligibility of McMahon Hall on August 27, 2009.



CENPA Instrument Shop

Property ID 224 – built in 1948

Individually eligible for the NRHP under Criteria A and C

CENPA Instrument Shop (Exhibit 38) was built in 1948 as the Cyclotron Shop to support the construction of the cyclotron building next door. The cyclotron was dismantled in the 1980s. It is now known as the Center for Experimental Nuclear Physics and Astrophysics (CENPA) Instrument Shop. It was designed by noted architect John Graham, Jr. Founded in 1998, CENPA is one of the University of Washington nuclear physics labs. The U.S. Department of Energy (DOE) funds the labs, which pursue research in nuclear physics, astrophysics, and related fields. It has been designated a Center for Excellence by the DOE, and has been the recipient of numerous awards and recognitions. The program includes neutrino research, participation in the KATRIN tritium beta decay experiment, and work in developing experiments to search for neutrinoless double beta decay. CENPA also performs user-mode research at large accelerator and reactor facilities around the world (University of Washington 2009b). An instrument shop has always been an integral part of the physics lab operation. The CENPA Instrument Shop is eligible for the NRHP under Criterion A, for its association with the development of nuclear physics, and under Criterion C, for its distinctive architectural design and as the work of a recognized master, John Graham Jr. The SHPO concurred on the NRHP eligibility of the CENPA Instrument Shop on August 27, 2009.

North Physics Laboratory

Property ID 225 – built in 1949

Individually eligible for the NRHP under Criteria A and C

North Physics Laboratory (Exhibit 38), originally known as Nuclear Physics Laboratory/Cyclotron, houses the CENPA, discussed above. It was built in 1949 and designed by noted architect John Graham Jr. It originally held the cyclotron, dismantled in the 1980s.

“The Cyclotron was a cylindrical vacuum chamber wherein particles were accelerated using a high power high frequency oscillator to alternate voltages between two half-cylinder electrodes called ‘Dees,’ ...Particles injected into the cyclotron were accelerated each time they crossed the intervening layer between the Dees. The particles took on more and more energy as they accelerated, and eventually were directed out of the chamber toward a target. At a



fundamental level, particle accelerators smash atoms into one another, producing nuclear reactions” (Smoliak 2007).

Additions were made to the building in 1951 and 1958, and one of these additions was to house the Van de Graff particle accelerator, which remains in use. Architect John Graham Jr. (1908-1991) was a Seattle native and son of architect John Graham, Sr. He studied at the University of Washington and graduated from Yale University. In 1937, he joined his father’s firm and opened a New York City branch office. In 1946, he returned to Seattle and took over the Graham architecture firm. Shortly thereafter, he designed the Northgate Shopping Center, the first large-scale regional shopping center of its kind in the country. It opened in 1950 and established Graham as a leader in the field. He went on to build an international reputation and design projects all over the world. His best-known project is probably the Space Needle for the Seattle World’s Fair in 1960-62, designed with Victor Steinbrueck (Ochsner 1998). The North Physics Laboratory (CENPA) is eligible for the NRHP under Criterion A for its association with the development of nuclear physics, and under Criterion C for its distinctive architectural design and as the work of a recognized master, John Graham Jr. The SHPO concurred on the NRHP eligibility of the North Physics Laboratory on August 27, 2009.

Montlake Boulevard Pedestrian Overpasses South and North

Property IDs 221 and 222, respectively – built in 1958

Individually eligible for the NRHP under Criterion C

The Montlake Boulevard Pedestrian Overpasses (South and North) are identical concrete bridges that cross Montlake Boulevard NE, connecting the University of Washington campus and the Burke-Gilman Trail to parking lots on the east side of Montlake Boulevard (Exhibit 39). An early example of post tension pre-stress concrete, they were built in 1958 and designed by noted structural engineer Jack Christiansen. These bridges served as models for other pedestrian bridges throughout the state. They are eligible for the NRHP under Criterion C for their distinctive design and important engineering qualities. The SHPO concurred on the NRHP eligibility of the Montlake Boulevard North and South Pedestrian Overpasses on October 26, 2009.



Pavilion Pedestrian Bridge

Property ID 216 – built in 1938

Individually eligible for the NRHP under Criterion C

Pavilion Pedestrian Bridge crosses over Montlake Boulevard NE, connecting the Hec Edmundson Pavilion with the Burke-Gilman Trail and the main University of Washington campus (Exhibit 39). At the request of the University of Washington, the City of Seattle built this



Pavilion Pedestrian Bridge



Montlake Boulevard Pedestrian Overpass North



Montlake Boulevard Pedestrian Overpass South

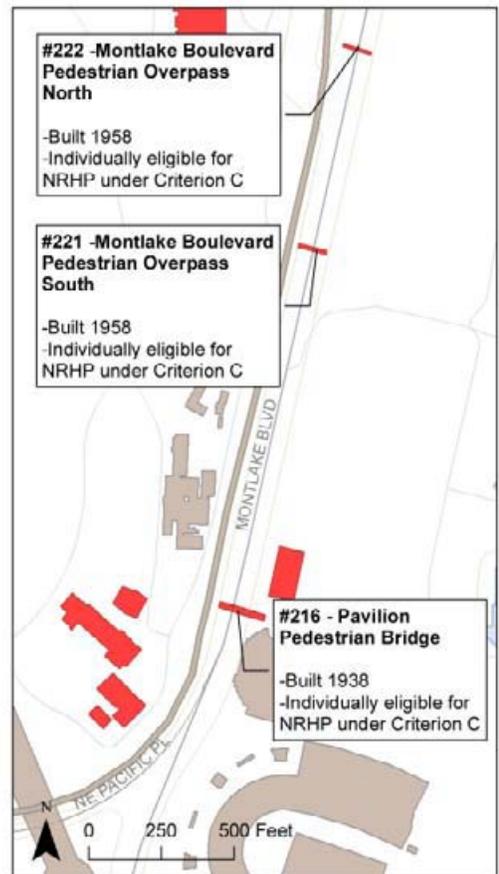


Exhibit 39. Pedestrian Bridges—Montlake Boulevard Pedestrian Overpasses North and South and Pavilion Pedestrian Bridge



pedestrian bridge in 1938 for use by students. It is designed in poured concrete, with restrained Art Moderne lines and minimal detailing, typical of the WPA/PWA designs of the 1930s. It is eligible for the NRHP under Criterion C for its distinctive Art Moderne style design. The SHPO concurred on the NRHP eligibility of the Pavilion Pedestrian Bridge on August 27, 2009.

What historic resources are in the Lake Washington study area?

Archaeological Sites in the Lake Washington Study Area

The Lake Washington study area extends from near 47th Avenue NE east across Lake Washington to the Evergreen Point Road. This area contains no known prehistoric archaeological resources.

BOAS (2007) identified the Points (Fingers) area as a high probability area for its importance to the fishery of the Lakes Duwamish people and their descendants. The Points or Fingers area was an important fishery of the Lakes Duwamish people. It remains an area of importance to their descendants. BOAS (2007) described the Points as “Lake Washington just north of the east end of the SR 520 APE. Within the 520 corridor, the eastern landfall of the freeway is at a location now known as the Points and includes the three promontories of land and the bays between them.” The points are now known as Evergreen Point, Hunts Point, and Yarrow Point, and the bays are Fairweather Bay, Cozy Cove, and Yarrow Bay. Although no archaeological deposits were identified, additional subsurface testing was recommended once the final design is complete. Archaeological monitoring was also recommended for this area during construction.

This area does contain four historic archaeological resources consisting of a submerged airplane wreck and three sunken vessels (45KI426, Forest No. 15, wooden steamer, and an unnamed barge).

Airplane Wreck (45KI426)

There is a registered submerged historic archaeological resource (45KI426) in Lake Washington several hundred feet south of the existing SR 520—a World War II, single-engine fighter (a Corsair #87833 built by Goodyear Corporation). The craft was involved in a midair collision on July 29, 1950. The pilot escaped the aircraft before it crashed into Lake Washington just south of Madison Park. Aircraft



debris is spread over more than a 100-yard area at a depth of 90 to 110 feet. The wreck is almost due east of Madison Park and well outside the APE.

Sunken Vessels

On October 21-23, 2003, divers investigated three sunken vessels in Lake Washington north of the existing Evergreen Point Bridge (CH2M HILL 2003: Appendix A, Map 1). The vessels were initially discovered with side-scan sonar imaging during an examination of the lakebed to prepare for design of the proposed new Evergreen Point Bridge (CH2M HILL 2003: Appendix A, Figure 1). Divers examined the three vessels in waters up to 190 feet deep; all three vessels appear to have been salvaged and deliberately scuttled in the lake. One of these vessels, a barge, was identified as the Forest No. 15. The other two wrecks (one a wooden schooner or steamer and one a barge) had no markings and could not be identified. The general condition of the wooden vessels was poor with considerable wood rot. Archival research (see below) does not suggest that any of these vessels possess any particular historic significance.

On November 9, 2003, Walter Jaccard, Ben McGeever, and Marc Williams of the Submerged Cultural Resources Exploration Team (SECRET) revisited Forest No. 15 and confirmed its identity. On November 16 and 23, 2003, and December 1, 2003, Jaccard, McGeever, Williams, Mark Tourtellot, and Stephan White of SECRET made a series of dives to the wooden schooner or steamer and concluded that the vessel appeared to be the remains of a wooden steamer (they were unable to identify the vessel).

Forest No. 15

The general condition of the Forest No. 15 is fair to poor. No major damage was noted that would account for its sinking. The vessel is a cargo-type deck barge of relatively heavy construction. According to the Merchant Vessels of the United States (Bureau of Navigation 1924), Forest No. 15 was listed in the "Unrigged Merchant Vessels" section as a scow (self-propelled barge) built in 1924 in Hoquiam, Washington, and homeported in Seattle. The year this vessel sank and the cause for its sinking are unknown.

Wooden Steamer

The wooden hull of this vessel currently sits in an upright position at an approximate bottom depth of 192 feet. It is basically a stripped open



hull with no deck in place; the construction is “plank on frame” with bolted and spiked attachments. The upper portions of the side planking are gone or have deteriorated, leaving exposed and rotted transverse frame members. No machinery, attachments, or other hardware were found to indicate propulsion type, either power, sail, or both. Evidence of charred wood in the bow area indicates the vessel partially burned at some point. Although there is no clear evidence of why this vessel sank, fire damage may have been a contributing factor. Its lack of deck, bulkheads, and other attachments indicate this vessel was stripped at some point prior to sinking.

Unnamed Barge

The vessel is an early 1900s deck barge with “plank on frame” construction that sits at a depth of 161 to 168 feet. The general condition of the vessel is poor, with major damage to the forward end of the northwest side and deck. Approximately 30 percent of the deck planking is missing, and no specific identifying markings were found.

Evaluation

Research and information gathered to date (Wolin 2003; CH2M HILL 2003) strongly indicates that the three vessels are not historically significant properties. Although of general interest, there is no evidence that any of the vessels satisfy the criteria for eligibility for listing in the NRHP. The vessels have no apparent association with events that contributed to the broad patterns of local, regional, or national history. No historically significant persons appear to be associated with the vessels. The vessels appear to be of a common-type construction and design for commercial vessels of the period and possess no other extraordinary engineering or naval architectural qualities. Although it might be possible to collect additional information about the specifics of each vessel, there is no indication that this additional information would yield or would be likely to yield any information important in history.

Traditional Cultural Resources in the Lake Washington Study Area

There are currently no recorded traditional cultural resources in the Lake Washington study area.



Historic Built Environment Resources in the Lake Washington Study Area

Governor Albert D. Rosellini/Evergreen Point Bridge

Property ID 202 – built 1968

Individually eligible for the NRHP under Criteria A and C, with Criteria Consideration G

In the Lake Washington segment, there is one historic built environment property that was previously identified. The Governor Albert D. Rosellini/ Evergreen Point Bridge was determined eligible for listing in the NRHP on December 22, 2008 (Exhibit 40). DAHP concurred on January 26, 2009.

For more detailed information on this historic property, see the previous nomination form in Attachment 4. No other historic properties were identified in this segment.



Exhibit 40. Evergreen Point Bridge, Seattle

What historic resources are in the Eastside transition area study area?

Archaeological Sites in the Eastside Transition Area Study Area

The Eastside transition area begins at Evergreen Point Road and extends east to 92nd Avenue NE. BOAS (2007) identified three high probability areas in this segment. In 2007, subsurface testing was conducted in the Eastside transition area in high probability areas on the eastern Lake Washington lakeshore north of the Evergreen Point Bridge and the east side of Lake Washington north of the Evergreen Point Bridge from the top of the bluff east to Evergreen Point Road. No cultural resources were identified. Although the investigation in this area resulted in negative findings, BOAS reported that the eastern Lake Washington lakeshore north of the Evergreen Point Bridge still has the potential for prehistoric archaeological resources.

Traditional Cultural Resources in the Eastside Transition Area Study Area

There are currently no recorded traditional cultural resources in the Eastside transition area.



Historic Built Environment Resources in the Eastside Transition Area Study Area

The Eastside transition area contains one historic property that was previously determined eligible for the NRHP, known as the James Arntson House. It also has one property that was previously determined not eligible for the NRHP, but eligible for the WHR, known as the Helen Pierce House. Both of these properties are located in Medina, along Evergreen Point Road. DAHP concurred with these determinations of eligibility on April 15, 2009. For more detailed information on these properties, see the previous nomination forms completed for them in Attachment 4. The survey for this project identified one historic property that is eligible for the NRHP - the Dixon House at 3267 Evergreen Point Road (property ID 228) (Exhibit 41). The SHPO concurred on the NRHP eligibility of the Dixon House on August 27, 2009.

The Dixon House, built in 1952, is a Ranch-style residence with very good integrity. It is eligible for the NRHP under Criterion C for its distinctive characteristics of the Ranch style. Attachment 3 lists these three properties and the other eight properties surveyed within the Eastside segment of the APE that predate 1972 and indicates their NRHP or other eligibility status. Exhibit 42 is a map that shows the location of these properties, and also indicates their eligibility. Attachment 3 contains the HPI forms for each property surveyed. Of the nine properties surveyed, only one, the Dixon House, is eligible for the NRHP.

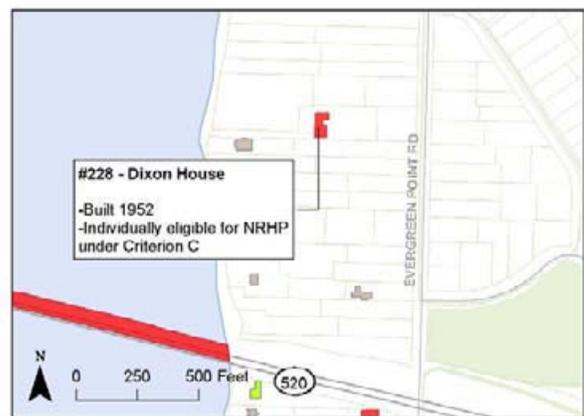
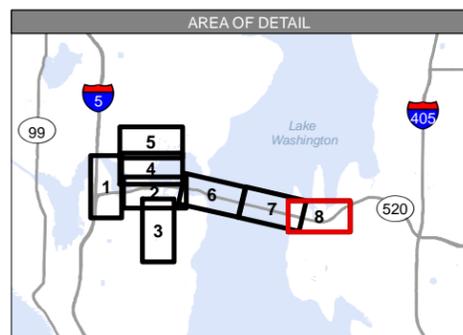
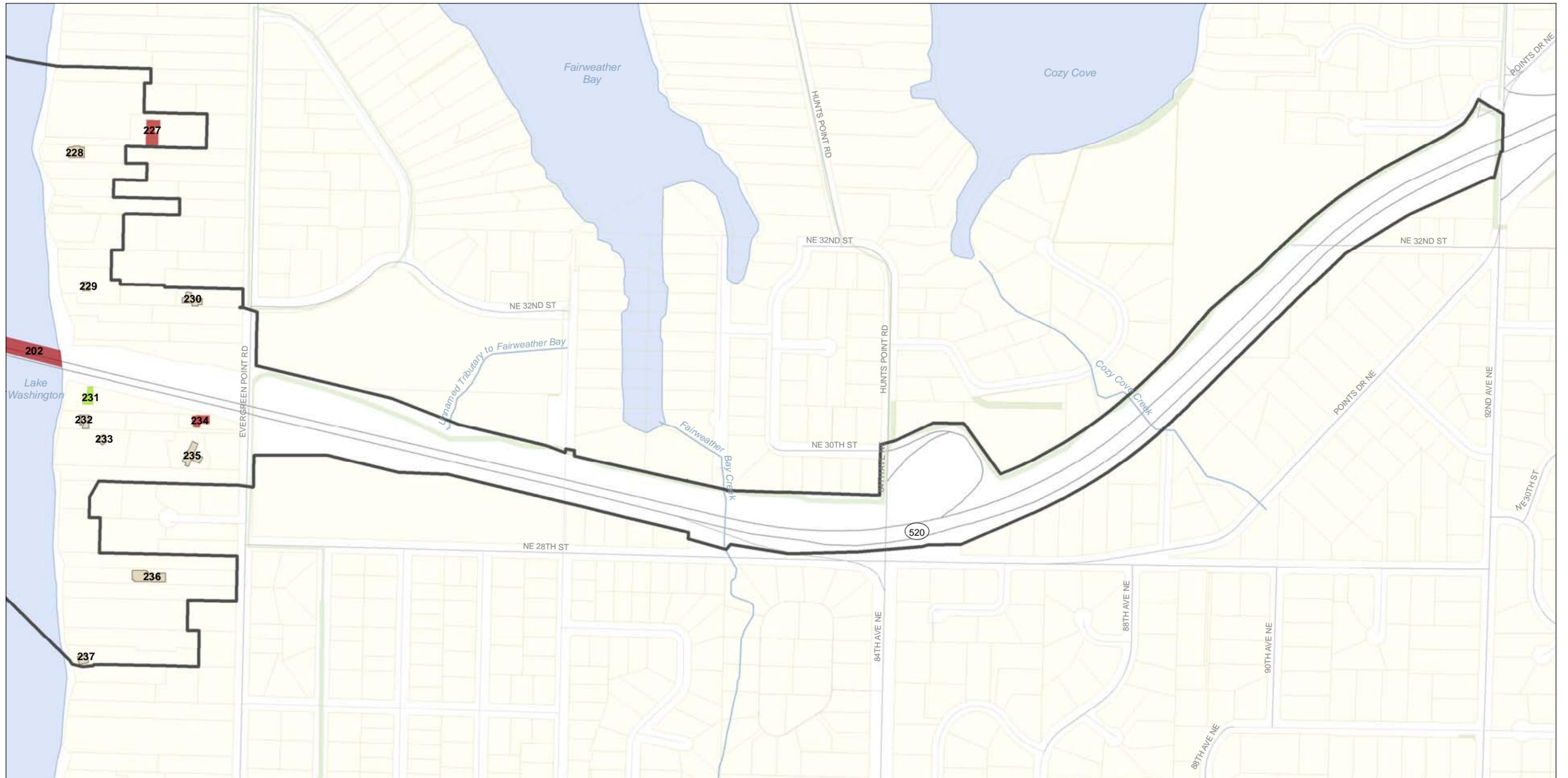


Exhibit 41. Dixon House, 3267 Evergreen Point Road





- NRHP Eligibility of Surveyed Resources**
- NRHP Not Eligible / WHR Eligible
 - Listed
 - Eligible
 - Contributing
 - Contributing and Eligible
 - Not Eligible
 - Montlake Historic District
 - Roanoke Park Historic District
- Amended Area of Potential Effects**
- Amended Area of Potential Effects
 - Parcel
 - Park

NOTE: Property ID Numbers displayed on the map correspond to those in the tables in Attachment 3 - "Summary of Pre-1972 Properties Surveyed in the APE"

Source: King County (2005) GIS Data (Streams and Streets), King County (2007) GIS Data (Water Bodies), King County (2008) GIS Data (Parcel), CH2M HILL (2008) GIS Data (Parks). Horizontal datum for all layers is NAD83(91); vertical datum for layers is NAVD88.



Exhibit 42. Area of Potential Effects Eastside Transition Area

I-5 to Medina: Bridge Replacement and HOV Project

Potential Effects of the Project

How would construction of the project affect cultural resources?

No Build Alternative

The No Build Alternative would result in no construction effects to cultural resources because the project would not be built so no construction would occur. SR 520 would continue to operate as it does today: as a four-lane highway with nonstandard shoulders and without a bicycle/pedestrian path. The No Build Alternative, which provides the baseline to which the other alternatives are compared, is used throughout the SDEIS as a basis for analysis.

6-Lane Alternative

This section discusses potential construction effects and notes all known effects from the project on historic properties. Specific construction details are not known at this time. Once a preferred alternative is selected and construction details can be evaluated, construction effects on historic properties will be thoroughly analyzed before publication of the final EIS. Formal determinations of these effects on historic properties will then be made. As noted in the Methodology section, for the areas near the I-5 and SR 520 interchange, and between I-5 and the Portage Bay Bridge, the project would be the same under each option. Therefore, the analysis of effects is discussed in this section only once. Because the options have differing components, the area east of the Portage Bay Bridge is discussed separately for each design option.

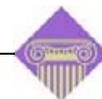
Seattle

Archaeological Resources and Traditional Cultural Properties

The archaeological resources and TCPs in the APE are discussed for each 6-Lane Alternative option (Options A, K, and L) following the discussion of the historic built environment in the Seattle study area.

Historic Built Environment

Historic properties in the APE adjacent to I-5 include the entire Roanoke Park Historic District, William Parsons House, Fire Station 22, Denny-Fuhrman (Seward) School campus, Shelby Apartments, Gilmore



House, L'Amourita Apartments, Franklin Apartments, Chung House, Talder House, Sugamura House, East Miller Condominium, Wicklund-Jarr House, and Glover Homes Building. All of these properties have the potential to experience increased noise, fugitive dust, and possible vibration from the demolition and removal of the existing Roanoke Street bridge over I-5, and from pile driving and other construction activities to rebuild the I-5/SR 520 interchange, add the new HOV ramp, and construct the new lid over I-5 at East Roanoke Street. While this construction is anticipated to take 21 months, the noise and other effects would vary during that time, depending on which activities were occurring. Glare from nighttime construction lighting might also be experienced. The Roanoke Park Historic District, William Parsons House, Fire Station 22, Denny-Fuhrman (Seward School) campus, Talder House, Sugamura House, East Miller Condominium, Wicklund-Jarr House, Glover Homes Building, Keuss Building, Boyd House, Gunby House, Alden Mason House, and Kelley House would also experience these same effects from the demolition and removal of the 10th Avenue East and Delmar Drive East bridges over SR 520 and the construction of the new 10th Avenue/ Delmar Drive lid.

No construction or construction staging would occur within Roanoke Park or the Roanoke Park Historic District. No landslides in the historic district are expected from project construction. WSDOT arborists and landscape architects would evaluate the trees within the Roanoke Park Historic District to determine if they could be affected by the project construction. If necessary, they would develop a protective plan for the trees.

Some of the vegetative buffer between SR 520 and historic properties (the Roanoke Park Historic District and the Gunby House on the north; the Sugamura House, Boyd House, and Alden Mason House on the south) would be removed or decreased during construction. While the buffer area contains a variety of mature trees, it also has several types of invasive species. The project provides an opportunity to clear invasive vegetation within the right-of-way. The project would minimize effects to mature tree growth within the WSDOT right-of-way. For construction of the new roadway and for the lids over the roadway, mature vegetation would be protected and retained to the extent reasonable and feasible. Although some existing buffer might be reduced, the addition of the lids at I-5 and East Roanoke Street and at 10th Avenue East and Delmar Drive East would provide for a new type of buffer from the roadway that would be greater than what the



properties experience today. After construction was completed, permanent erosion control measures for areas affected by the project and those where invasive species were cleared would be replanted with native plant materials, as appropriate.

Construction of the new 10th Avenue/Delmar Drive lid is anticipated to take 27 months. For approximately 9 months of this time, Delmar Drive East would be closed, causing traffic to detour. (See Exhibit 43 for potential detour routes.) Part of this traffic might detour through the Roanoke Park Historic District in an effort to reach Boyer Avenue East. While Delmar Drive East was closed, more traffic might use the section of Boyer Avenue East south of SR 520, introducing more traffic in front of the Alden Mason House and the Kelley House.

As part of the project, a realigned intersection at East Roanoke Street and 10th Avenue East would be built to provide for through movement at this intersection rather than the through movement on East Roanoke Street to Delmar Drive East that exists today. During construction, East Roanoke Street would experience temporary lane closures and detours while the realignment work was occurring. These would include short-term closures during off-peak times, which might mean brief detours over an approximately 15-month period, resulting in temporarily restricted access to the four contributing properties along East Roanoke Street in the Roanoke Park Historic District. However, it is assumed that at least one lane (if not more) would be open at all times to allow traffic access on East Roanoke Street. Construction of this interchange would also involve acquiring a small piece of land (0.03 acre) along the front of Fire Station 22. However, during construction, the station would be fully operational and access for emergency response would not be affected.

Harvard Avenue East and East Roanoke Street to 10th Avenue East in the Roanoke Park Historic District are also planned as potential haul routes. This means that these some trucks hauling materials and supplies to and from the project site would use these streets (Exhibit 44). This potential haul route could affect the Roanoke Park Historic District and the William Parsons House. Other potential haul routes identified for this area would be Boylston Avenue East from the new stormwater facility northeast of the Shelby Apartments to East Garfield Street, and Boyer Avenue East from I-5 to 24th Avenue East (Exhibit 44). These two haul routes could affect the Denny-Fuhrman (Seward School) campus, Shelby Apartments, Gilmore House,





Options K and L only:
NE Pacific St closed.
Traffic will be detoured
to NE Pacific Place.

All Options:
Delmar Drive E closed.
Traffic would detour
to Boyer Ave E
or 10th Ave E.

All Options:
Lake Washington Blvd ramps
closed. Existing trips will either
turn on Boyer Ave or
continue to use Lake
Washington Blvd to access
Montlake ramps.



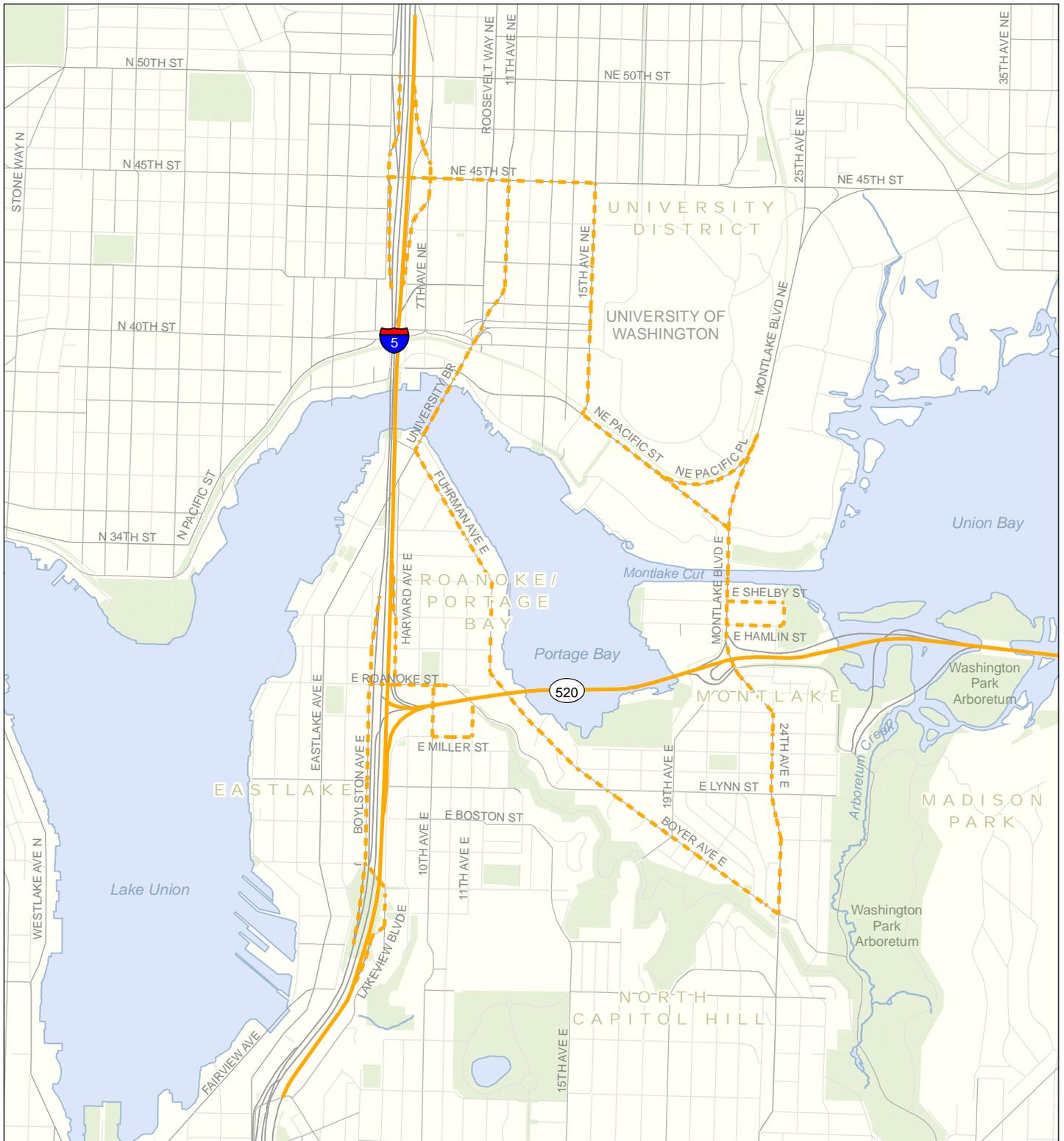
- Closed Access
- Potential Detour Route
- Park



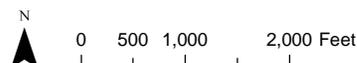
Source: King County (2005) GIS Data (Streams and Streets), King County (2007) GIS Data (Water Bodies), CH2M HILL (2008) GIS Data (Parks). Horizontal datum for all layers is NAD83(91); vertical datum for layers is NAVD88.

Exhibit 43. Potential Detour Routes

I-5 to Medina: Bridge Replacement and HOV Project



- Haul Route
- - - Potential Haul Route



Source: King County (2005) GIS Data (Streams and Streets), King County (2007) GIS Data (Water Bodies), CH2M HILL (2008) GIS Data (Parks). Horizontal datum for all layers is NAD83(91); vertical datum for layers is NAVD88.



Exhibit 44. Proposed Haul Routes

I-5 to Medina: Bridge Replacement and HOV Project

L'Amourita Apartments, Franklin Apartments, Alden Mason House, and Kelley House. However, with average construction activity, truck trips would range from one to two trips per hour, and the estimated number of truck trips along arterials would be relatively low compared to overall arterial volumes.

Boylston Avenue East in front of the Denny-Fuhrman (Seward) School campus would be narrowed and shifted to the west to allow for the I-5 lid abutment and wall construction. However, the roadway would remain within the existing right-of-way and would not encroach on school property.

The Roanoke Park Historic District, Fire Station 22, Denny-Fuhrman (Seward) School campus, East Miller Condominium, Wicklund-Jarr House, Glover Homes Building, Keuss Building, Boyd House, Gunby House, Alden Mason House, and Kelley House might be affected by increased noise, fugitive dust, and possible vibration that would occur during demolition and reconstruction of the Portage Bay Bridge, including pile driving associated with the construction of new piers. The Alden Mason House and Kelley House (both on Boyer Avenue East) and the Gunby House and Boyd House (both adjacent to SR 520) might experience glare from nighttime construction lighting. The temporary work bridges, barges, and heavy equipment used for demolition and construction of the Portage Bay Bridge might also introduce new visual effects to the area. The Kelley House would be especially affected because one of the work bridges is planned to be in the location of the current Portage Bayshore Condominium docks next door. Construction of the new Portage Bay bridge is anticipated to last for approximately 6 years (72 months). Upon completion, the work bridges would be removed and the moorings would likely be replaced.

Increased noise, fugitive dust, glare from nighttime construction lighting, and possible vibration from the demolition and construction of the Portage Bay Bridge would also affect the Seattle Yacht Club, NOAA Northwest Fisheries Science Center buildings, Montlake Community Center, and selected contributing properties in the Montlake Historic District. Temporary work bridges and barges used for activities associated with demolition and construction of the Portage Bay Bridge might occasionally interfere with Seattle Yacht Club marine activities in Portage Bay. In-water construction activities are allowed only from October 1 through April 15.



All of these effects would affect the historic properties noted. However, generally speaking, these effects would occur intermittently and none would be permanent. During construction, best management practices (BMPs) would be used to minimize effects on surrounding areas from construction. Potential haul and detour routes are still being evaluated, and potential construction staging areas have not yet been finalized. As noted earlier, once construction details are known, effects on historic properties from construction would be analyzed and determinations of whether these effects are adverse would be made.

Option A

Option A is depicted graphically on Exhibit 45.

Archaeological Resources and Traditional Cultural Properties

According to preliminary background research and the results of BOAS (2007), Foster Island is the only location of considerable interest and concern to all Tribes that trace ancestry to the Montlake Portage area and to Lakes Duwamish families that recently lived there. Foster Island is considered eligible for the NRHP as a TCP. Subsurface testing done for the Draft EIS did not identify below-ground cultural resources.

Once the final alignment is determined, additional investigation will be done to determine the formal boundaries of the TCP associated with Foster Island. Option A would cross Foster Island with a pier and span bridge that would require acquisition of 0.9 acre of land on Foster Island bridge and require expanding the right-of-way to the north of the alignment. Construction would include a temporary work bridge located on the island that would be removed after the permanent structure has been completed. Construction is scheduled to take up to 6 years (72 months). Once construction was completed, construction easements on Foster Island would be returned to park use.

Construction activities would generate dust and construction-related noise and vibration on Foster Island, and during construction, access to the north part of the island would be restricted.

According to coordination with tribal staff and ethnographic research done to date, the portion of Foster Island south of the existing SR 520 alignment, which includes the historic south island, has greater cultural significance than the northern portion. Locating the pier-and-span bridge north of the existing alignment in the area that was historically a channel between the north and south islands would use less of the more significant land from the TCP. The permanent acquisition would occur on the north section of the island, and the majority of the construction easement would also be on the north side of the existing



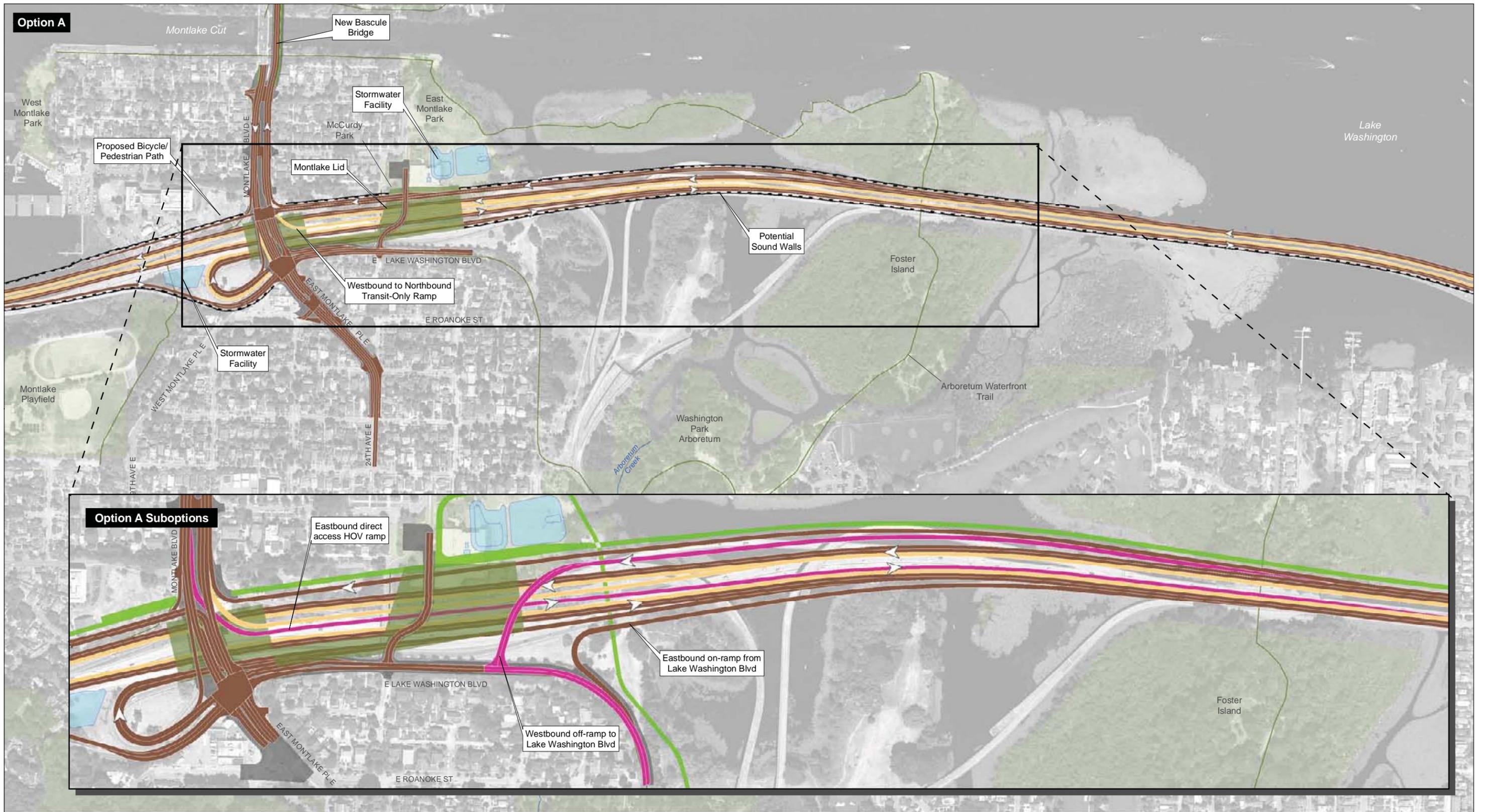
right-of-way. The only construction easement on the south part of the island would be immediately adjacent to the existing bridge. Therefore, the construction would not interfere with any ongoing cultural activities that may occur on the southern part of Foster Island, and would involve little or no ground disturbance within the known historic land area of the south island. Access to the northern part of the island will be restricted throughout construction, but access to this area is not as important for traditional cultural activities. No construction staging will occur on the island outside of the construction easement. Once specific construction effects are more clearly identified, Foster Island can be re-evaluated for potential adverse effects from construction activities.

Historic Built Environment

Much of the South Campus of the NOAA Northwest Fisheries Science Center would be acquired under Option A to accommodate the wider footprint of the 7-lane Portage Bay Bridge. This acquisition of 0.51 acre would require demolition of nearly all buildings on the South Campus, but would not remove any property from the North Campus where the NRHP-eligible buildings are located.

The driveway that encircles the North Campus on three sides would remain intact. The removal of the South Campus land and buildings, and the encroachment of the Portage Bay Bridge structure closer to the eligible buildings would affect the setting of the historic property. However, the 1931 building would maintain its view north to Portage Bay, the property would retain its shoreline on the bay, and all of the property immediately surrounding the historic buildings would be retained. However, removal of the South Campus property, which houses the fisheries research facilities, would significantly impair the ability of the NOAA Northwest Fisheries Science Center to operate. The historic buildings hold administrative functions for the NOAA Northwest Fisheries Science Center campus. If the research facilities were removed, there would no longer be a need for administration buildings. This could cause the remaining NOAA Northwest Fisheries Science Center site, including the historic buildings, to be vacated. Not only would this result in abandonment of the buildings, but it would cause a change in the character of the property's use that contributes to its historic significance. The 1931 building was specifically built to serve as the offices for the NOAA Northwest Fisheries Science Center, the first federal fisheries building constructed on the West Coast, and has fulfilled that purpose since its construction. All three historic buildings





- Potential Sound Wall
- Existing Regional Bicycle/Pedestrian Path
- General-Purpose Lane
- Lid or Landscape Feature
- Proposed Bicycle/Pedestrian Path
- HOV, Direct Access, and/or Transit-Only Lane
- Stormwater Facility
- Suboption Element
- Park



Source: King County (2002) Aerial Photo, King County (2005) GIS Data (Streams), CH2M HILL (2008) GIS Data (Park and Trails). Horizontal datum for all layers is NAD83(91); vertical datum for layers is



Exhibit 45. Option A from Portage Bay to Lake Washington
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are eligible for the NRHP under Criterion A for their association with important research that is significant locally, regionally, and nationally, so a change in use that would not be associated with this research would be considered an adverse effect. In addition, the 1931 building is significant under Criterion C for its architectural design that incorporates marine motifs to visually demonstrate its association with marine research. The loss of that association would diminish the characteristics that qualify the property for the NRHP to the point where it would no longer convey its significance. Therefore, Option A would result in an adverse effect on the historic NOAA Northwest Fisheries Science Center buildings.

Option A would result in a new bascule bridge immediately to the east of the existing historic Montlake Bridge. To accommodate the footprint of the new bridge, two residential properties that contribute to the Montlake Historic District would be removed, 2904 and 2908 Montlake Boulevard NE. The project would also remove a swath of mature trees and shrubs on these properties. These demolitions would affect the Montlake Historic District.

Because of the close physical proximity, constructing a new bascule bridge immediately adjacent to the historic Montlake Bridge could have an adverse effect on the historic bridge. An MOA would outline the stipulations necessary to ensure that safeguards would be put in place to protect the existing historic Montlake Bridge and to ensure that it was not physically affected in any way by the construction of the new bascule bridge.

Bridge construction, which is expected to last 27 months, would introduce increased noise, fugitive dust, glare from nighttime construction lighting, and possible vibration to this edge of the Montlake Historic District, the Montlake Bridge, the Montlake Cut, and the Canoe House. Montlake Boulevard NE and East Shelby and East Hamlin are residential streets that are planned to be used as potential haul routes during construction. With average construction activity, truck trips would range from one to two trips per hour. During peak construction periods, truck trips would range from two to eight trips per hour. (For more information on traffic, see the Transportation Discipline Report [WSDOT 2009e].) Under Option A, most truck trips would use Montlake Boulevard NE to access SR 520. These haul routes could affect the setting and feeling of the historic district through increased noise and traffic. (For more information on traffic effects, see the Transportation Discipline Report [WSDOT 2009e].) Generally



speaking, construction effects would occur intermittently, and none would be permanent.

Temporary construction supports and barges used for activities associated with construction of the new bascule bridge might occasionally interfere with Seattle Yacht Club marine activities in the Montlake Cut. In-water construction activities are allowed only from October 1 through April 15. In addition, the new bridge would span the official navigation channel in the Montlake Cut. The cut must be open to ship traffic all year around, and bridge construction would not be allowed to interfere with marine navigation. The only exception to this would be a few short periods of time when spans were being erected, requiring the cut to be closed to marine traffic. This would involve closures of short duration (up to five total), ranging from several hours to two days. None of these closures would occur during traditional Opening Day ceremonies for boating season.

Option A would also increase traffic capacity southbound on East Montlake Place East and 24th Avenue East by widening a section of the roadway along the western side. No properties would be removed to accommodate this widening, although the project might need to acquire an additional 3,000 square feet of land from seven properties on the west side of Montlake Place East and 24th Avenue East for the added capacity. Four of these are residences that are contributing elements to the Montlake Historic District, and three are non-contributing properties. One of the four contributing properties is also individually eligible for the NRHP. This widening effort would move the road and the sidewalk closer to the residences. No structures would be directly affected, but some trees might be removed and some properties could lose a very small portion of front yard along the roadway, generally 0.01 acre or less. The improvements made on the east side of the road would stay within the existing right-of-way.

A constructed wetland for stormwater treatment would be built on most of the current site occupied by MOHAI, necessitating removal of the MOHAI building and acquisition of the property. Within the Montlake Historic District, properties along the east end of East Shelby and East Hamlin streets, and some properties along Lake Washington Boulevard East, would experience increased noise and possible dust and vibration from the demolition of MOHAI. To accommodate construction of the westbound SR 520 ramp and the new bicycle and pedestrian path, the remaining piece of the Old Canal Reserve property that sits between the SR 520 off-ramp and the alleyway along the south



side of the properties on East Hamlin Street would be acquired. The new bicycle and pedestrian path would be north of the ramp and below-grade, with retaining walls on each side. The SR 520 right-of-way would move closer to the rear of the East Hamlin properties, but would not directly physically affect any of the properties. All of these properties are contributing elements to the Montlake Historic District, and three of them in the center of the block are also individually eligible. Construction activities in this area might cause increased noise, dust, and glare at these properties.

All of the properties that contribute to the Montlake Historic District and are near SR 520 would experience increased noise, fugitive dust, possible vibrations, and possible glare from lighting for nighttime construction during demolition of the 24th Avenue East bridge over SR 520; demolition of the Montlake Boulevard bridge over SR 520; construction of the new lid between 24th Avenue East and Montlake Boulevard; construction of the new transit ramp; construction of the new Montlake Boulevard interchange; and lowering of the SR 520 mainline. Properties along Lake Washington Boulevard East and 26th Avenue East would also experience these effects in association with demolishing and removing the Lake Washington Boulevard ramps and R. H. Thomson Expressway ramps, and demolishing and constructing the west approach to the Evergreen Point Bridge. Throughout the construction period of approximately 45 months, areas of the historic district would experience increased traffic congestion, along with detours and restricted access.

As discussed above, there would be multiple effects to the Montlake Historic District from constructing Option A, including the following:

- Removal of 2904 Montlake Boulevard NE
- Removal of 2908 Montlake Boulevard NE
- Acquisition of 2.74 acres of East Montlake Park and 1.49 acres of the former MOHAI site
- Acquisition and removal of South Campus of NOAA Northwest Fisheries Science Center
- Acquisition of remaining Old Canal Reserve land for SR 520 ramp, bike and pedestrian path, and right-of-way
- Widening of East Montlake Place East and 24th Avenue East, including acquisition of approximately 3,000 square feet of land



- Increased noise, dust, traffic, and possible vibrations from construction, and glare from lighting for nighttime construction
- Traffic detours, congestion, and restricted access

Because of the large size of this district and the great number of contributing properties, removing two contributing properties located along the periphery of the district (the two houses on Montlake Boulevard NE), by itself, would not be considered an adverse effect. However, the combined construction effects on the historic district as a whole would exert considerable pressure on the district, removing approximately 6.12 acres (including two contributing properties) and adversely affecting the contributing NOAA Northwest Fisheries Science Center building. It also would have an adverse effect on the Montlake Bridge on the edge of the historic district. Option A is the only design option that would remove contributing elements from the district. The overall construction effects of Option A could diminish the integrity of the characteristics that qualify the historic district for the NRHP and, therefore, are considered an adverse effect on the historic district.

In the Arboretum, Option A would cross Foster Island with a pier and span bridge that would require acquisition of 0.9 acre of land on Foster Island. Construction would include a temporary work bridge located on the island that would be removed after the permanent structure has been completed. Construction for the west approach area adjacent to the Washington Park Arboretum is scheduled to take up to 6 years (72 months). Once construction was completed, 2.4 acres of construction easements on Foster and Marsh islands would be returned to park use. Removal of the Lake Washington Boulevard ramps would occur entirely on WSDOT-owned property, but adjacent park areas could be affected. Construction activities would generate dust and construction-related noise and vibration in close proximity to the active areas of the park. For more information on the effects to Recreational Resources, see the Recreation Discipline Report (WSDOT 2009f). None of these effects on the historic Arboretum would be considered adverse. However, once specific construction effects are more clearly identified, the Arboretum can be re-evaluated for potential adverse effects from construction activities.

The Edgewater Condominiums would experience increased noise and potential glare from nighttime construction activities associated with the demolition and construction of the west approach to the Evergreen



Point Bridge. This would affect the setting and feeling of the property but would not be an adverse effect.

Option A Suboptions

One suboption would add an eastbound HOV ramp from SR 520 to Montlake Boulevard NE. No additional construction effects are expected to historic properties from this ramp.

Another suboption would reconstruct Lake Washington Boulevard on- and off-ramps. The ramp intersection would be moved north of where it is located presently, and Lake Washington Boulevard East would be widened to the north by one lane between Montlake Boulevard and 24th Avenue East. If these ramps were constructed, then the additional capacity would not be added to East Montlake Place East and 24th Avenue East. Construction of these ramps would introduce additional noise, dust, and potential vibration, especially for those properties on Lake Washington Boulevard East and 26th Avenue East. However, effects to the properties along East Montlake Place East and 24th Avenue East associated with adding capacity there would not occur – no acreage would be acquired from the Montlake Historic District properties in that area. The additional effects from constructing these ramps would contribute to the adverse effect on the Montlake Historic District noted under Option A above.

A third suboption would change the slope of the west approach but would not change the construction effects on historic properties.

Option K

Option K is depicted graphically on Exhibit 46.

Archaeological Resources and Traditional Cultural Properties

Based on preliminary background research and the results of BOAS (2007), Foster Island and the Miller Street Landfill (45KI760) might be affected by construction-related activities associated with this option.

The Miller Street Landfill is located in the Lake Washington study area on the western shore of Union Bay south of SR 520 between Lake Washington Boulevard and SR 520 ramps. BOAS recommended the site as eligible for listing in the NRHP. The 6-Lane Alternative has the potential to permanently affect the Miller Street Landfill archaeological resource. Construction in archaeological sites, if not mitigated through scientific data recovery or other suitable measures, could result in adverse effects if the site is determined eligible.



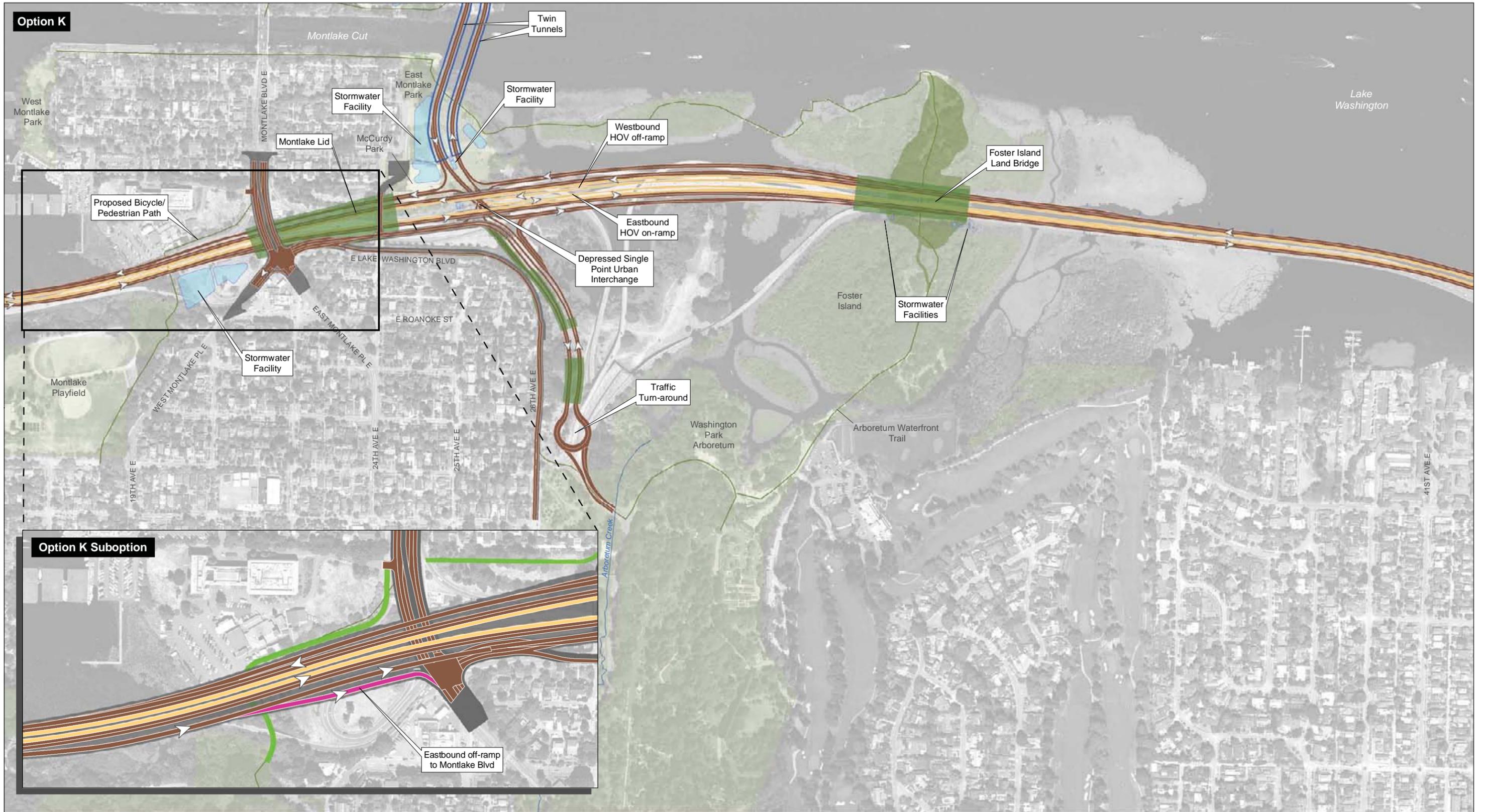
Foster Island is considered eligible for the NRHP as a TCP. Once the final alignment is determined, additional investigation will be done to determine the formal boundaries of the TCP associated with Foster Island. Option K would require a permanent acquisition of 1.4 acres of land for right-of-way on Foster Island. SR 520 would cross Foster Island beneath a “land bridge” with the right-of-way expanded north of the existing alignment. The roadway would be at or slightly below the existing grade, and would be lidded by a large concrete berm that would be partially covered with vegetation. In addition, Option K would require 5.3 acres of construction easement on Foster Island for work bridges, trail reconstruction, and fill. Construction is expected to take 7 years to complete. The work bridges would be removed and construction easement property would be returned to park use after construction was completed.

As noted earlier, the southern half of Foster Island has greater cultural significance than the northern portion. The SR 520 right-of-way would be expanded to the north, which would use less of the more significant land from the TCP. The permanent acquisition occurs on the north section of the island, and the majority of the construction easement is also on the north side of the island. This construction would have the potential to interfere with cultural activities that may occur on the southern part of Foster Island. Access to the northern part of the island will be restricted throughout construction, but access to this area is not as important for traditional cultural activities. No construction staging will occur on the island outside of the construction easement.

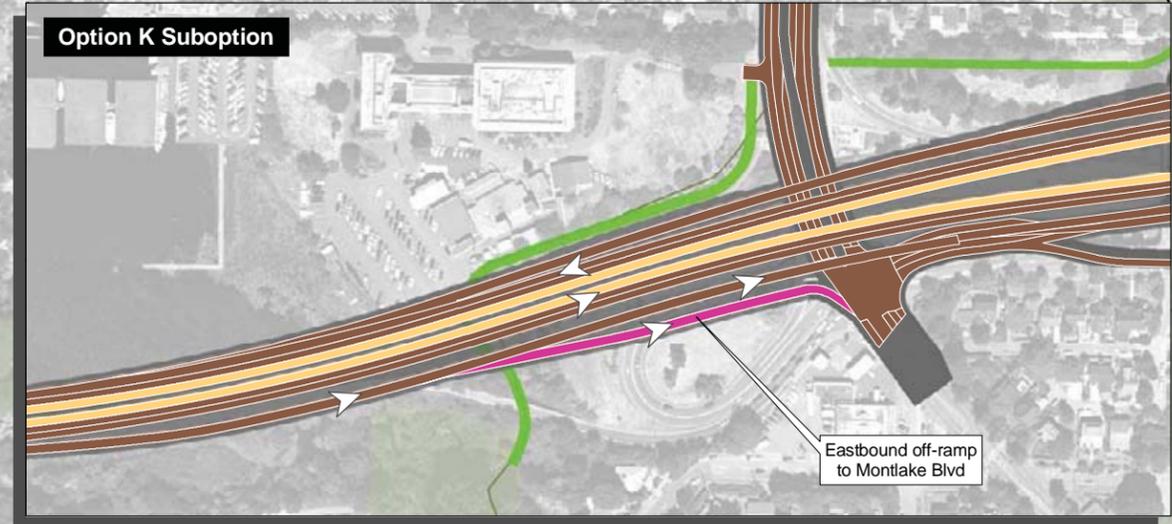
Construction for the land bridge would involve excavation to a depth of about four feet across Foster Island, grading, a substantial amount of fill, and the loss of all vegetation within the construction area. Although the area would be re-vegetated after construction, the island would undergo a significant change, and the user experience would be very different from existing conditions. The land bridge over SR 520 would appear as a large landscaped hill with some concrete edges, and would be a less natural landscape than what is there currently. The roadway would be concealed beneath the land bridge, as opposed to the visible piers described for Options A and L or the uncovered roadway making landfall on the island today. Option K requires a much more invasive construction approach than Options A and L and would result in a considerable change to the setting of the TCP. This degree of construction disturbance and extreme change to the setting of the historic island could be determined to be an adverse effect on the TCP. Consultation with SHPO and tribes is ongoing to reach a determination



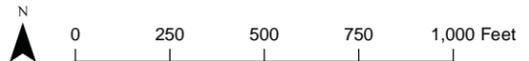
Option K



Option K Suboption



- Existing Regional Bicycle/Pedestrian Path
- General-Purpose Lane
- Tunnel
- HOV, Direct Access, and/or Transit-Only Lane
- Lid or Landscape Feature
- Suboption Element
- Proposed Bicycle/Pedestrian Path
- Stormwater Facility
- Park



Source: King County (2002) Aerial Photo, King County (2005) GIS Data (Streams), CH2M HILL (2008) GIS Data (Park and Trails). Horizontal datum for all layers is NAD83(91); vertical datum for layers is NAVD88.



Exhibit 46. Option K from Portage Bay to Lake Washington
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of effects on the TCP from the project. Once specific construction effects are more clearly identified, Foster Island can be better evaluated for potential adverse effects from construction activities.

Historic Built Environment

Option K includes only a 6-lane Portage Bay Bridge, so it would not require land adjacent to the NOAA Northwest Fisheries Science Center historic buildings. A portion of land at the east end of the NOAA Northwest Fisheries Science Center property would be used for construction staging during Montlake lid construction but would be returned to green space after construction.

The NOAA Northwest Fisheries Science Center historic buildings and selected contributing properties in the Montlake Historic District might experience increased noise, fugitive dust, possible vibration, and glare from lights for nighttime construction associated with the demolition of the existing on- and off-ramps at Montlake Boulevard south of SR 520.

The construction of twin tunnels under East Montlake Park and the Montlake Cut would employ cut-and-cover construction for the first 145 feet from the south beginning of the tunnel where it connects with the surface roadway, and would range in depth from 60 to 100 feet. This method involves excavating a deep trench and building a concrete box tunnel structure using cast-in-place methods. Once the concrete boxes were completed, soil would be backfilled over the tunnel roof. The majority of the tunnel would be constructed using a sequential excavation method, which involves freezing the ground to stabilize the soil. This would be done by drilling and placing pipes that convey a freezing liquid around the tunnel circumference. To accomplish this, the project would use two drill rigs operating simultaneously. Once the freezing pipes were in place, soil freezing would take approximately 6 months to complete. When the ground was frozen, excavation could begin. The freezing, boring, and excavation machinery would be visible and audible for up to 45 months from historic properties in the East Shelby-Hamlin area and on Lake Washington Boulevard East, along the Montlake Cut, and from the Canoe House. During construction, there would be some periods where access to the Canoe House would be temporarily closed.

The excavation necessary to construct the depressed SPUI would cause increased noise, fugitive dust, and glare from lighting for nighttime construction on the surrounding contributing properties in the Montlake Historic District, including houses in the East Shelby and



Hamlin area and houses on Lake Washington Boulevard and 26th Avenue East.

All of the properties that contribute to the Montlake Historic District that are near SR 520 would experience increased noise, fugitive dust, possible vibrations, and possible glare from lighting for nighttime construction during demolition of the 24th Avenue East bridge and the Montlake Boulevard bridge over SR 520; construction of the new lid from west of Montlake Boulevard to 24th Avenue East (Exhibit 47); construction of the new HOV ramps; construction of the new depressed SPUI interchange; and lowering of the SR 520 mainline. Properties along Lake Washington Boulevard East and 26th Avenue East would also experience these effects in association with the demolition and removal of the Lake Washington Boulevard ramps and R. H. Thomson Expressway ramps. Throughout the construction period of approximately 78 months, areas of the historic district would experience increased traffic congestion along with detours and restricted access.

A constructed wetland for stormwater treatment would be built on most of the current site occupied by MOHAI, necessitating removal of the MOHAI building and acquisition of the property. Within the Montlake Historic District, properties along the east end of East Shelby and East Hamlin streets and some properties along Lake Washington Boulevard East would experience increased noise and possible dust and vibration from the demolition of MOHAI.

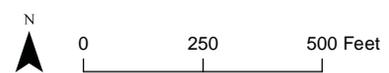
To accommodate construction of the lid and the new bicycle and pedestrian path, the remaining piece of the Old Canal Reserve property that sits between the SR 520 off-ramp and the alleyway along the south side of the properties on East Hamlin Street would be acquired. In this area, the SR 520 mainline and the ramps would be constructed in a trench under the lid, and the bike and pedestrian path would be constructed at-grade. Construction activities in this area might cause increased noise, dust, and glare at the properties on East Hamlin Street.

Montlake Boulevard NE, East Shelby and East Hamlin streets, and East Park Drive East are planned as potential haul routes for Option K. To accommodate construction of the tunnel and the depressed SPUI, average truck trips on these streets would range from 17 to 50 trips per day. During peak construction periods, truck trips here would range from 5 to 20 trips per hour. The construction period is expected to last approximately 45 months. Peak hour traffic volumes on East Shelby





- Existing Regional Bicycle/Pedestrian Path
- Tunnel
- Lid or Landscape Feature
- Proposed Bicycle/Pedestrian Path
- Stormwater Facility
- General-Purpose Lane
- HOV, Direct Access, and/or Transit-Only Lane
- Park



Source: King County (2002) Aerial Photo, King County (2005) GIS Data (Streams), CH2M HILL (2008) GIS Data (Park and Trails). Horizontal datum for all layers is NAD83(91); vertical datum for layers is NAVD88.

Exhibit 47. Montlake Lid and Traffic Turnaround, Option K

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and East Hamlin streets and East Park Drive East are currently low, approximately 40 to 50 vehicles per hour during peak hours. Construction truck volumes would increase traffic approximately 10 to 40 percent. However, even with this increase in traffic, the effects on traffic operations along these residential streets would be minor. (For more details on traffic effects, see the Transportation Discipline Report [WSDOT 2009e].) In addition, temporary construction access to and from the construction zone could be provided along the Montlake westbound off-ramp, which would reduce the volume of construction trucks using the residential streets of East Shelby, East Hamlin, and East Park. Although the traffic from these potential haul routes would affect the setting of the historic district through increased noise and traffic, this would occur intermittently and would not be permanent.

Option K would construct a traffic turnaround connection with ramps south of the new SPU I between SR 520 and Lake Washington Boulevard. Landscape features resembling a lid and a partial lid would be constructed over portions of the new roadway to provide pedestrian and cyclist connections between the Montlake Historic District and the Arboretum. Existing Lake Washington Boulevard East would be reconfigured to run one way east/southbound between Montlake Boulevard and East Roanoke Street. It would have a new connection to 26th Avenue and would no longer connect to the Arboretum. The existing portion of Lake Washington Boulevard that connects to the Arboretum between East Roanoke Street and the Arboretum would be reconstructed on a new alignment with the traffic turnaround. The construction would remove existing vegetation that currently serves as a buffer between Lake Washington Boulevard and 26th Avenue East and SR 520. Contributing properties along the eastern end of Lake Washington Boulevard East and on 26th Avenue East would experience increased noise, visual, fugitive dust, and possible vibrations from the construction of the ramps, turnaround, and landscape features. They might also experience detours and restricted access during reconfiguration of Lake Washington Boulevard East.

Excavation for and construction of the north portal of the tunnel and the depressed Montlake Boulevard NE/NE Pacific Street intersection and lid could cause noise and possible vibration at Bloedel Hall, Winkenwerder Forest Sciences Laboratory, Hewitt Wilson Ceramics Laboratory, Wilcox Hall, and More Hall on the University of Washington campus during the 18-month construction period. These buildings are screened from the construction area by mature trees and



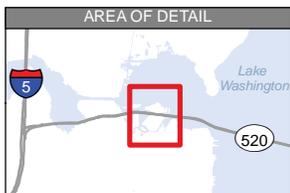
landscaping, so they would receive no visual effects from the construction. They would not experience any adverse effects.

The new west approach structures would begin at the SPUI and would maintain a low profile (no higher than the existing profile) with an even lower profile at Foster Island where the land bridge would cover it (Exhibit 48). East of Foster Island, the west approach structures would be similar in height to the existing west approach. Historic properties contributing to the Montlake Historic District that are adjacent to SR 520, those in the east end of the East Shelby and East Hamlin area, and those along 26th Avenue East would experience increased noise, fugitive dust, glare from lights for nighttime construction, and possible vibrations from the demolition of the existing west approach and the construction of the new west approach.

As discussed above, there would be multiple effects to the Montlake Historic District from constructing Option K, including the following:

- Acquisition of remaining Old Canal Reserve land for SR 520 ramp, right-of-way, and bike and pedestrian path
- Increase in traffic from haul routes on selected streets in the historic district
- Increased noise, dust, traffic, and possible vibrations from construction, and glare from lighting for nighttime construction associated with construction of the tunnel, removal of Lake Washington Boulevard ramps and R. H. Thomson Expressway ramps, construction of new ramps, demolition of Montlake Boulevard and 24th Avenue East bridges over SR 520 and construction of new lid, demolition and construction of the west approach to the Evergreen Point Bridge, and construction of the north tunnel portal and new Montlake Boulevard NE/NE Pacific Street intersection
- Traffic detours, congestion, and restricted access Option K involves acquiring approximately 6.98 acres of land from the Montlake Historic District, but does not remove any contributing elements nor have an adverse effect on any individually listed or eligible properties within the historic district. Once the specific construction effects from the project are identified, they would be considered for their effect on the historic district as a whole to determine if they would diminish the aspects of integrity of the district to the point where the district could no longer convey its significance.





-  Existing Regional Bicycle/Pedestrian Path
-  Lid or Landscape Feature
-  Proposed Bicycle/Pedestrian Path
-  General-Purpose Lane
-  HOV, Direct Access, and/or Transit-Only Lane

Source: King County (2002) Aerial Photo, King County (2005) GIS Data (Streams), CH2M HILL (2008) GIS Data (Park and Trails). Horizontal datum for all layers is NAD83(91); vertical datum for layers is NAVD88.



Exhibit 48. Foster Island Land Bridge, Option K

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In the Arboretum, Option K would cross Foster Island with a land bridge in which the roadway would be in a tunnel covered by an earthen berm. The Arboretum Waterfront Trail would be reconstructed over the land bridge and on fill material extending to the north end of Foster Island. The 5.3 acres of construction easements for work bridges, trail construction, and fill on Foster and Marsh islands would be returned to park use once construction was completed. The removal of the R.H. Thomson Expressway and existing Lake Washington Boulevard ramps and construction of the new traffic turnaround could affect adjacent park areas, as construction activities would generate dust and construction-related noise and vibration in close proximity to the active areas of the park. During construction of the new traffic turnaround, bicycle and pedestrian access to the park would be affected. Although these effects would affect the setting of the historic Arboretum, they would occur intermittently and would not be permanent, and would not affect the historic qualities of the park. Therefore, these construction effects are not considered adverse. However, once specific construction effects are more clearly identified, the Arboretum can be re-evaluated for potential adverse effects from construction activities.

The Edgewater Condominiums would experience increased noise and potential glare from nighttime construction activities associated with the demolition and construction of the west approach to the Evergreen Point Bridge. This would affect the setting and feeling of the property but would not be an adverse effect.

All of the effects discussed above would affect the historic properties noted. However, generally speaking, these effects would occur intermittently and none would be permanent. During construction, BMPs would be used to minimize effects on surrounding areas from construction. Potential haul and detour routes are still being evaluated, and potential construction staging areas have not yet been finalized. As noted earlier, once construction details are known, effects on historic properties from construction would be analyzed and determinations of whether these effects are adverse would be made.

Suboption K

The first suboption would include an eastbound off-ramp to Montlake Boulevard. The NOAA Northwest Fisheries Science Center historic buildings and selected contributing properties in the Montlake Historic District might experience increased noise, fugitive dust, possible



vibration, and glare from lights for nighttime construction associated with constructing this new off-ramp.

A second suboption would change the slope of the west approach but would not change the construction effects on historic properties.

Option L

Option L is depicted graphically on Exhibit 49.

Archaeological Resources and Traditional Cultural Properties

Based on preliminary background research and the results of BOAS (2007), Foster Island and the Miller Street Landfill (45KI760) might be affected by construction-related activities associated with this option. The Miller Street Landfill is located in the Lake Washington study area on the western shore of Union Bay south of SR 520 between Lake Washington Boulevard and SR 520 ramps. BOAS recommended the site as eligible for listing in the NRHP. The 6-Lane Alternative has the potential to permanently affect the Miller Street Landfill archaeological resource. Construction in archaeological sites, if not mitigated through scientific data recovery or other suitable measures, could result in adverse effects if the site is determined eligible.

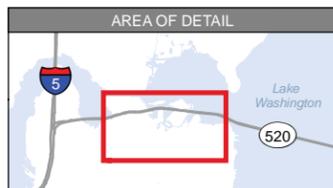
Option L would require a permanent incorporation of 0.6 acre (less than 1 percent) of land on Foster Island, which is significant as a TCP. Similar to Option A, Option L would cross Foster Island with a pier-and-span bridge that would require expanding the right-of-way to the north of the alignment.

In addition, Option L would require 3.5 acres of construction easement on Foster Island for about 6 years. Construction would include access work bridges on and adjacent to Foster Island. These bridges would be located parallel to SR 520 in the approach areas. The work bridges would be removed after completion of the permanent structure. The construction easement would be returned to park use after construction was completed.

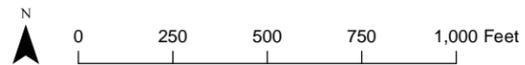
The southern half of Foster Island has greater cultural significance than the northern portion. Locating the pier-and-span bridge north of the existing alignment in the area that was historically a cut between the two pieces of Foster Island would use less of the more significant land from the TCP. The permanent acquisition occurs on the north section of the island, and the majority of the construction easement is also on the north side of the existing right-of-way. The only construction easement on the south part of the island would be immediately adjacent to the



Option L



- Potential Sound Wall
- Existing Regional Bicycle/Pedestrian Path
- Lid or Landscape Feature
- Proposed Bicycle/Pedestrian Path
- Stormwater Facility
- General-Purpose Lane
- HOV, Direct Access, and/or Transit-Only Lane
- Suboption Area
- Park



Source: King County (2002) Aerial Photo, King County (2005) GIS Data (Streams), CH2M HILL (2008) GIS Data (Park and Trails). Horizontal datum for all layers is NAD83(91); vertical datum for layers is NAVD88.



Exhibit 49. Option L from Portage Bay to Lake Washington

I-5 to Medina: Bridge Replacement and HOV Project

existing bridge. Therefore, the construction would not interfere with any cultural activities that would occur on the southern part of Foster Island. Access to the northern part of the island will be restricted throughout construction, but access to this area is not as important for traditional cultural activities. No construction staging will occur on the island outside of the construction easement. Once specific construction effects are more clearly identified, Foster Island can be better evaluated for potential effects from construction activities.

Historic Built Environment

Option L includes only a 6-lane Portage Bay Bridge, so it would not require land adjacent to the NOAA Northwest Fisheries Science Center historic buildings. A portion of land at the east end of the NOAA Northwest Fisheries Science Center property would be used for construction staging during Montlake lid construction but would be returned to green space after construction. A portion of the City right-of-way along the east side of the property at 1896 East Hamlin Street would also be used temporarily for construction staging, but no staging would occur on the residential property.

The NOAA Northwest Fisheries Science Center historic buildings and selected contributing properties in the Montlake Historic District might experience increased noise, fugitive dust, possible vibration, and glare from lights for nighttime construction associated with the demolition of the existing on- and off-ramps at Montlake Boulevard south of SR 520.

All of the properties that contribute to the Montlake Historic District that are near SR 520 would experience increased noise, fugitive dust, possible vibrations, and possible glare from lighting for nighttime construction during demolition of the 24th Avenue East bridge and the Montlake Boulevard bridge over SR 520; construction of the new lid from west of Montlake Boulevard to 24th Avenue East; construction of the new HOV ramps; construction of the new elevated SPUI interchange; and lowering of the SR 520 mainline. Properties along Lake Washington Boulevard East and 26th Avenue East would also experience these effects in association with the demolition and removal of the Lake Washington Boulevard ramps and R. H. Thomson Expressway ramps. Throughout the construction period of approximately 60 months, areas of the historic district would experience increased traffic congestion along with detours and restricted access.



A constructed wetland for stormwater treatment would be built on most of the current site occupied by MOHAI, necessitating removal of the MOHAI building and acquisition of the property. Within the Montlake Historic District, properties along the east end of East Shelby and East Hamlin streets and some properties along Lake Washington Boulevard East would experience increased noise and possible dust and vibration from the demolition of MOHAI.

To accommodate construction of the SR 520 westbound ramp and the new bicycle and pedestrian path, the remaining piece of the Old Canal Reserve property that sits between the SR 520 off-ramp and the alleyway along the south side of the properties on East Hamlin Street would be acquired. This would move the SR 520 right-of-way closer to the rear of the East Hamlin properties but would not physically affect any of the properties. In this area, the SR 520 mainline and the ramps would be constructed in a trench under the lid, and the bike and pedestrian path would be constructed at-grade. Construction activities in this area might cause increased noise, dust, and glare at the properties on East Hamlin Street.

Construction of the new on- and off-ramps would entail removing existing vegetation that currently helps to screen SR 520 from Lake Washington Boulevard and 26th Avenue East. Contributing properties along the eastern end of Lake Washington Boulevard East and along 26th Avenue East would experience increased noise, visual intrusion, fugitive dust, and possible vibrations from constructing the new ramps.

Constructing a new bascule bridge near the east end of the Montlake Cut would result in increased noise, possible vibration, increased visual intrusion, and glare from lights for nighttime construction affecting the Montlake Cut, Montlake Bridge, Canoe House, and much of the Montlake Historic District. Bloedel Hall, Winkenwerder Forest Sciences Laboratory, Hewitt Wilson Ceramics Laboratory, Wilcox Hall, and More Hall at the University of Washington might also experience noise and vibration, and the construction would be visible from the University of Washington Club and McMahon Hall because of their high elevation and expansive views. Temporary construction supports and barges used for in-water activities associated with construction of the new bascule bridge might occasionally interfere with Seattle Yacht Club marine activities in Montlake Cut. In-water construction activities are allowed only from October 1 through April 15, so any marine activities from mid-April to the end of September would not be affected by construction of the new bridge. In addition, the new bridge would



span the official navigation channel in the Montlake Cut. The cut must be open to ship traffic all year around, and bridge construction would not be allowed to interfere with marine navigation. The only exception to this would be a few short periods of time when spans were being erected, requiring the cut to be closed to marine traffic. This would involve closures of short duration (up to five total), ranging from several hours to two days. None of these closures would occur during traditional Opening Day ceremonies for boating season.

The Canoe House would experience periods of temporarily closed access during construction, which is expected to take approximately 30 months.

The new west approach structures would begin at the new elevated SPUI. The height of these structures between the SPUI and the floating portion of the bridge would vary and would have a constant slope from the Montlake vicinity to the west highrise. The width of the structures would vary substantially in the area where ramps from the SPUI merge onto the structures. Historic properties contributing to the Montlake Historic District that are adjacent to SR 520, those in the east end of the East Shelby and East Hamlin area, and those along 26th Avenue East would experience increased noise, fugitive dust, glare from lights for nighttime construction, and possible vibrations from demolition of the existing west approach and construction of the new west approach.

Montlake Boulevard NE, East Shelby and East Hamlin streets, and East Park Drive East are planned as haul routes for Option L. To accommodate excavation for and construction of the depressed mainline roadway, the new elevated SPUI, and the new bascule bridge, truck trips on these streets would average 13 trips per day. During peak construction periods, truck trips here would range from 5 to 20 trips per hour. The construction period is expected to last from 30 to 60 months. Peak hour traffic volumes on East Shelby and East Hamlin streets and East Park Drive East are currently low, approximately 40 to 50 vehicles per hour during peak hours. Construction truck volumes would increase traffic approximately 10 to 40 percent. However, even with this increase in traffic, the effects on traffic operations along these residential streets would be minor. (For more information on traffic effects, see the Transportation Discipline Report [WSDOT 2009e].) In addition, temporary construction access to and from the construction zone could be provided along the Montlake Boulevard westbound off-ramp, which would reduce the volume of construction trucks using the residential streets of East Shelby, East Hamlin, and East Park.



As discussed above, there would be multiple effects to the Montlake Historic District from constructing Option L, including the following:

- Acquisition of remaining Old Canal Reserve land for SR 520 ramp, right-of-way, and bike and pedestrian path
- Acquisition of land from East Montlake Park and MOHAI
- Increase in traffic from haul routes on selected streets in the historic district
- Increased noise, dust, traffic, and possible vibrations from construction, and glare from lighting for nighttime construction associated with removing Lake Washington Boulevard ramps and R. H. Thomson Expressway ramps, constructing new ramps and sound walls, demolishing Montlake Boulevard and 24th Avenue East bridges over SR 520 and constructing new lid, demolishing and constructing the west approach to the Evergreen Point Bridge, constructing a new bascule bridge near the east end of the Montlake Cut, constructing the elevated SPUI, and constructing the new Montlake Boulevard NE/NE Pacific Street intersection
- Traffic detours, congestion, and restricted access

Option L would require acquiring approximately 6.62 acres of land from the Montlake Historic District, but does not remove any contributing elements nor have an adverse effect on any individually listed or eligible properties within the historic district. Once the specific construction effects from the project are identified, they would be considered for their effect on the historic district as a whole to determine if they would diminish the aspects of integrity of the district to the point where the district could no longer convey its significance.

In the Arboretum, Option L would cross Foster Island with a pier and span bridge, similar to Option A. However, because SR 520 would be wider in this area than under Option A, there would be a larger construction footprint on Foster and Marsh islands, and Foster and Marsh islands would include access ramps. The 3.5 acres of construction easements for work bridges and trail construction on Foster and Marsh islands would be returned to park use once construction was completed. Option L would eliminate the R.H. Thomson Expressway ramps and Lake Washington Boulevard ramps. Although ramp removal would occur entirely on WSDOT-owned property, adjacent park areas could be affected. Construction activities



would generate dust and construction-related noise and vibration in close proximity to the active areas of the park. Construction of the new on- and off-ramps east of Lake Washington Boulevard East would temporarily affect bicycle and pedestrian access to the park. Although these effects would affect the setting of the historic Arboretum, they would occur intermittently, would not be permanent, and would not affect the historic qualities of the park. Therefore, these construction effects are not considered adverse. However, once specific construction effects are more clearly identified, the Arboretum can be re-evaluated for potential adverse effects from construction activities.

The Edgewater Condominiums would experience increased noise and potential glare from nighttime construction activities associated with the demolition and construction of the west approach to the Evergreen Point Bridge. This would affect the setting and feeling of the property but would not be an adverse effect.

All of the effects discussed above would affect the historic properties noted. However, generally speaking, these effects would occur intermittently and none would be permanent. During construction, BMPs would be used to minimize effects on surrounding areas from construction. Potential haul and detour routes are still being evaluated, and potential construction staging areas have not yet been finalized. As noted earlier, once construction details are known, effects on historic properties from construction would be analyzed and determinations of whether these effects are adverse would be made.

Suboption L

One suboption would construct a left-turn lane from Lake Washington Boulevard East onto the new on-ramp. This construction would be combined with construction of the new on- and off-ramps and the companion work on Lake Washington Boulevard East, so it is not anticipated to have any additional construction effects on historic properties.

A second suboption would add capacity to Montlake Boulevard NE, from the existing Montlake Bridge to NE 45th Street. This would involve removing three existing pedestrian bridges over Montlake Boulevard, widening the roadway to the east, and then reconstructing new pedestrian bridges. All three of these pedestrian bridges are eligible for the NRHP, constituting an adverse effect. The demolition and construction could cause noise, fugitive dust, glare from lights for nighttime construction, and possible vibration on adjacent historic



properties, including Graves Hall, Bloedel Hall, Winkenwerder Forest Sciences Laboratory, Hewitt Wilson Ceramics Laboratory, Wilcox Hall, More Hall, the University of Washington Club, and McMahon Hall. However, the construction effects to these buildings would not be adverse.

Lake Washington

Archaeological Resources and Traditional Cultural Properties

The 6-Lane Alternatives would not have a construction-related effect on archaeological resources in the Lake Washington study area.

Monitoring is recommended near the Points, based on the findings from BOAS (2007) through research and subsurface testing.

Historic Built Environment

The 6-Lane Alternative would remove the existing Evergreen Point Bridge and construct a new Evergreen Point Bridge. This would necessitate the demolition and removal of the current structure, which has been determined eligible for the NRHP, resulting in an adverse effect.

Eastside Transition Area

Archaeological Resources and Traditional Cultural Properties

Based on the findings from BOAS (2007) through research and subsurface testing, no archaeological resources were identified.

Monitoring is recommended near the Points, based on the findings from BOAS (2007) through research and subsurface testing.

Historic Built Environment

The NRHP-eligible James Arntson House and Dixon House, and the WHR-eligible Helen Pierce House might experience noise specifically associated with demolishing the east approach of the Evergreen Point Bridge and pile driving for the new east approach structure. Both the Arntson and Pierce houses might experience fugitive dust and short-term noise associated with construction of the bridge operations facility and dock immediately adjacent to the north, which would be located approximately 160 feet north of the existing bridge. Generally speaking, most of these effects would occur intermittently and none would be permanent. Once specific construction effects are more clearly identified, these properties can be re-evaluated for potential adverse effects from construction activities.



Pontoon Construction and Transport

Pontoon production would not affect historic properties within the APE for this project. Pontoon transport would occur through Portage Bay and the historic Montlake Cut. The Montlake Cut is an active navigational channel and would not be affected by the towing of pontoons through it. The Montlake Bridge is an active bascule bridge that accommodates marine traffic and would not be affected by the towing of pontoons underneath it.

For the longitudinal pontoons, there could be approximately six tow events through the Montlake Cut over an approximately 15-month period. Pontoons would be transported generally in groups of four, but might be towed as individual units or in pairs. Longitudinal pontoons would be 75 feet by 360 feet in size, and supplemental stability pontoons would be 100 feet by 50 to 60 feet. Supplemental stability pontoons would be towed through the cut over a 24-month period. Supplemental stability pontoons would be towed through the Montlake Cut in groups ranging from 2 to 14. The channel width of the Montlake Cut is 100 feet, so it is likely that when the pontoons were being towed through the cut, there would be little room for other vessels. The Seattle Yacht Club, listed in the NRHP under Criterion A for its association with the social and maritime history of Seattle, traditionally holds Opening Day ceremonies through the Montlake Cut at the beginning of May. The project would not have pontoon towing in the Montlake Cut area on Opening Day so that the traditional ceremonies could take place unimpeded by pontoon towing. Therefore, transporting pontoons would not have an adverse effect on the Seattle Yacht Club or on any other historic properties.

Phased Implementation Scenario

At present, the Phased Implementation scenario might have the potential to affect archaeological resources for the Seattle segment. Phased implementation would remove the existing floating portion of the Evergreen Point Bridge and construct a new floating bridge as the first priority. This would necessitate the demolition and removal of the current structure, which has been determined eligible for the NRHP, resulting in an adverse effect.

Historic built environment properties would experience the same effects noted above for demolition and construction of the Portage Bay Bridge and the west approach to the Evergreen Point Bridge, including



noise, dust, glare, and possible vibration. Pontoon towing through the Montlake Cut would still occur.

How would operation of the project affect cultural resources?

No Build Alternative

Under the No Build Alternative, SR 520 would continue to operate as it does today: as a four-lane highway with nonstandard shoulders and without a bicycle/pedestrian path. The No Build Alternative, which provides the baseline to which the other alternatives are compared, is used throughout the SDEIS as a basis for analysis.

Archaeological Resources and Traditional Cultural Properties

The continued use of SR 520 and the current Evergreen Point Bridge would have no further effects to archaeological resources or TCPs.

Historic Built Environment

Under the No Build Alternative, current conditions would remain; most notably, visual intrusion from I-5 and SR 520, and noise and air pollution from vehicles traveling on the freeways would continue to affect surrounding historic properties.

The Chung House is immediately adjacent to existing I-5 and experiences highway-related noise, air pollution, and visual intrusion. The Talder House, Sugamura House, East Miller Condominium, Wicklund-Jarr House, Glover Homes Building, and Keuss Buildings are all near I-5 and experience the same effects, although to lesser degrees, as they are somewhat buffered from the interstate by surrounding parcels. The Denny-Fuhrman (Seward) School campus, Gilmore House, Shelby Apartments, and Franklin Avenue Apartments are all adjacent to I-5 and experience similar highway-related noise, air pollution, and visual intrusion on their historic settings. The existing I-5 and SR 520 are immediately adjacent to the Roanoke Park Historic District, which experiences highway-related noise and air pollution, as well as the visual intrusion of the freeways and, to a lesser degree, the Portage Bay Bridge. The physical presence of the freeways, and emissions and noise from vehicles traveling on them affect the historic context of the district. Fire Station 22, the Boyd House, the Andrew Gunby House, and the Alden Mason House are also adjacent to SR 520, and the Kelley House is three parcels south, near the Portage Bay Bridge. These properties



experience similar effects to those at Roanoke Park. The Mason and Kelley houses are located at the beginning of the Portage Bay Bridge, so the bridge is very visible, constituting a high degree of visual intrusion.

The existing SR 520 divides the NRHP-eligible Montlake Historic District. This historic district experiences highway-related noise and air emissions, as well as the visual intrusion of SR 520. The highway forms a physical barrier that isolates one side of the neighborhood from the other. The northern section of the Washington Park Arboretum was also heavily affected by the initial construction of SR 520, and current effects would continue. These effects include noise, air pollution, and visual intrusion, as well as the physical presence of SR 520 and the R.H. Thomson Expressway ramps, and having SR 520 bisecting Foster Island.

The 10 eligible buildings and 3 eligible structures on the University of Washington campus would not be affected in any way under the No Build Alternative. The Edgewater Condominiums experience visual intrusion and some noise from the Evergreen Point Bridge as the property is located on the shoreline and many of the units have a view north to the bridge. That would continue under the No Build Alternative.

The No Build Alternative assumes that continued maintenance would allow the Evergreen Point Bridge to still operate as it does today. It would experience continued use and maintenance, with no increased effects.

On the Eastside, the No Build Alternative would not have any additional effects on historic properties. Conditions would remain as they are today. The most notable of the current effects are visual intrusion from SR 520 and noise from vehicles traveling on it. The existing SR 520 is adjacent to the NRHP-eligible James Arntson House and the WHR-eligible Helen Pierce House. These properties experience highway noise, air pollution, and visual intrusion from the highway. The Pierce House also experiences these effects from the Evergreen Point Bridge. The historic setting of the Pierce House, which is located at the base of the Evergreen Point Bridge, is strongly affected by the physical, visual, and audible presence of the bridge.



6-Lane Alternative

Seattle

Archaeological Resources

Currently, one recorded archaeological site (Miller Street Landfill) was identified within the Seattle segment. If project-related activities occur in this area, mitigation would be required during the construction phase. Therefore, mitigation would be concluded during the construction phase of the project, and it is doubtful that project operations would have an effect on archaeological resources.

Historic Built Environment

The East Roanoke Street Bridge over I-5 would be replaced with a landscaped lid incorporating a new East Roanoke Street crossing. The lid would be between 450 and 500 feet long and would stretch across much of the front of the Denny-Fuhrman (Seward) School property. This lid would be beneficial for the Denny-Fuhrman (Seward) School campus by introducing a new green space in front of the property and re-introducing a pedestrian connection to the Roanoke Park Historic District.

The existing bridges at 10th Avenue East and Delmar Drive East would be replaced by a single lid that would accommodate both streets and would be landscaped to visually link it with Roanoke Park. The lid would be beneficial to the Roanoke Park Historic District, Fire Station 22, the Boyd House, and the Andrew Gunby House, because it would provide a pedestrian passageway between the North Capitol Hill and Roanoke Park/Portage Bay neighborhoods currently separated by SR 520, increased landscaped green space in the area, and some reduced noise levels. The lid would serve to visually shield the historic properties from effects of the wider SR 520 roadway. Existing sound levels in the Roanoke Park Historic District range from 56 to 77 decibels, A-weighted scale (dBA). Under the 6-Lane Alternative without sound walls, sound levels would range from 62 to 77 dBA. Constructing the lid in combination with sound walls would change levels to 55 to 73 dBA.

Just east of the Roanoke Park Historic District at the Andrew Gunby House, the current sound level is 64 dBA. Under the 6-Lane Alternative with no sound walls, the sound level would increase here by 6 dBA to 70 dBA, which would exceed the noise abatement criterion (NAC) of 68 dBA. With sound walls, the level would drop to 56 to 57 dBA.



In the area encompassing the Talder House, Sugamura House, East Miller Condominium, Wicklund-Jarr House, Glover Homes Building, and Keuss Building, four noise-modeling locations show that current sound levels range from 65 to 73 dBA. Under the 6-Lane Alternative, these levels would generally decrease by from 1 to 2 dBA, with or without sound walls. At the Boyd House adjacent to SR 520, the current sound level is 66 dBA. Under the 6-Lane Alternative, the level would drop 3 to 4 dBA, regardless of sound walls. In the vicinity of the Alden Mason and Kelley houses, the current sound level is between 65 and 70 dBA. Without sound walls, sound levels would experience little to no change. With sound walls, it would decrease by 2 to 16 dBA. (For more information on the effects of sound, see the Noise Discipline Report [WSDOT 2009b].)

The proposed HOV ramp over I-5 would be 15 feet wide and at approximately the same height on the east end as the existing ramp. It would be approximately 17 feet higher than the existing ramp at the southern end. It might be visible from the Denny-Fuhrman (Seward) School campus, Talder House, Sugamura House, East Miller Condominium, Fire Station 22, and the Roanoke Park Historic District. This new ramp would be adjacent to the existing ramp and consistent with the visual quality of the existing interchange, so this visual effect would not be adverse.

For all options, the new profile of the Portage Bay bridge would match the existing profile for the western half of the bridge with a 5-percent grade. To remove a low point on the eastern half of the existing bridge, the grade would be adjusted to 0.5 percent beginning at approximately the midpoint of the bridge and carried to the east. As a result, the bridge height would be raised 12 feet, at most, above the existing bridge in the vicinity of the existing low point.

The new Portage Bay bridge would have a visual effect on the houses on the east side of 10th Avenue East between East Roanoke Street at the south and just north of East Shelby Street at the north. Those houses currently have views of the existing Portage Bay Bridge, and the new bridge would be approximately 12 feet taller. This would have a visual effect on the setting and feeling of the Roanoke Park Historic District and those contributing elements that view the bridge.

The new bridge would not block views of any other notable buildings or natural resources, including but not limited to, Portage Bay, the Montlake Cut, the Seattle Yacht Club, the NOAA Northwest Fisheries



Science Center buildings, the University of Washington, or the Queen City Yacht Club. The new bridge would not affect integrity of location, design, materials, workmanship, or association of the district or its contributing elements. The new bridge would not affect the integrity of setting or feeling to such an extent that it would compromise those characteristics that make the district or its contributing elements eligible for the NRHP. Only a small portion of the district has a view of, and would be visually affected by, the replacement bridge. In addition, there is already a bridge there, so its replacement would not be a substantial change from existing conditions. Therefore, the visual effect from the new bridge would not be an adverse effect on the Roanoke Park Historic District or its contributing elements.

Effects to the Roanoke Park Historic District under all options would be:

- Beneficial change to setting and feeling from new I-5 lid
- Beneficial change to setting and feeling from new 10th Avenue/Delmar Drive lid
- Visual change to setting from new HOV ramp on I-5
- Visual change to setting from new Portage Bay bridge
- Beneficial change to setting and feeling from decrease in noise with the potential addition of sound walls under Options A and L

Option A

Traditional Cultural Properties

Although not formally documented, Foster Island is considered an eligible TCP. Consultation with WSDOT, FHWA, the SHPO, and interested Tribes would be necessary to mitigate any potential adverse effect on Foster Island.

Historic Built Environment

The existing Portage Bay Bridge is 280 feet from the closest corner of the NOAA Northwest Fisheries Science Center West Wing building. The new Option A Portage Bay bridge would be seven lanes wide, with an overall width of at least 108 feet. This would be 35 feet wider than the existing bridge. The bridge would curve north at the east end to align with new improvements in the Montlake vicinity. The new Option A Portage Bay bridge would be 169 feet from the southwest corner of the NOAA Northwest Fisheries Science Center West Wing building. Therefore, the new seven-lane Portage Bay bridge would operate 111 feet closer to the NOAA Northwest Fisheries Science Center historic



buildings than the current bridge. Although this would have a visual effect to the setting and feeling of the historic buildings, it would not be considered adverse. The current sound level at the NOAA Northwest Fisheries Science Center property is between 66 and 69 dBA. Under Option A with no sound walls, it would decrease to between 64 and 67 dBA. With sound walls, it would decrease to 55 dBA, which would be beneficial to the property.

The new Portage Bay bridge would have a visual effect on the Roanoke Park Historic District, specifically on the houses in the historic district on the east side of 10th Avenue East between East Roanoke Street at the south and just north of East Shelby Street at the north. Those houses currently have views of the existing Portage Bay Bridge, and the new bridge would be approximately 12 feet taller. As noted above, under Option A it would also be 35 feet wider than the existing bridge, and it would be approximately 17 feet closer on the west end. To the east, the bridge would curve north to align with the new improvements in the Montlake vicinity, which would make it more visible from the Roanoke Park Historic District. Option A might also incorporate sound walls, which would increase the profile of the bridge. The new bridge would have a visual effect on the setting and feeling of the Roanoke Park Historic District and those contributing elements that view the bridge. The new bridge would not block views of any other notable buildings or natural resources, including but not limited to, Portage Bay, the Montlake Cut, the Seattle Yacht Club, the NOAA Northwest Fisheries Science Center buildings, the University of Washington, or the Queen City Yacht Club. The new bridge would not affect integrity of location, design, materials, workmanship, or association of the district or its contributing elements. The new bridge would not affect the integrity of setting or feeling to such an extent that it would compromise those characteristics that make the district or its contributing elements eligible for the NRHP. Only a small portion of the district has a view of, and would be visually affected by, the replacement bridge. In addition, there is already a bridge there, so its replacement would not be a substantial change from existing conditions. Therefore, the visual effect from the new bridge would not be an adverse effect on the Roanoke Park Historic District or its contributing elements.

A new bascule bridge immediately adjacent to the historic Montlake Bridge would modify the setting and feeling of the historic bridge. The Montlake Bridge is listed in the NRHP under Criterion C for its design and engineering qualities. Context-sensitive design of the new bridge



could minimize effects to the existing bridge. However, it is likely that the adjacent new bridge would still result in an adverse effect on the historic Montlake Bridge, as its setting would be significantly altered. This effect would be mitigated through stipulations outlined in an MOA.

The loss of the two historic properties on Montlake Boulevard NE and the presence of the new bascule bridge would affect the setting of the Montlake Historic District, particularly of three adjacent properties at 2111 East Shelby Street, 2112 East Shelby Street, and 2818 Montlake Boulevard NE, all three of which contribute to the Montlake Historic District. The property at 2111 East Shelby Street is also individually eligible. With the new bridge, an adjacent property would no longer buffer 2112 East Shelby Street from Montlake Boulevard NE. The bridge approach would then be adjacent to the west side of this property, and the new bridge would be approximately 70 feet from the northwest corner of this property. However, there is already a shared driveway/alley on the west side of this property, which would remain, as well as a side yard. Unlike the houses being removed, this house would not face the bridge approach. The property at 2111 East Shelby Street would still be partially buffered from Montlake Boulevard NE by the adjacent property at 2818 Montlake Boulevard NE. However, both bridges would be visible from the house once the corner property (2904 Montlake Boulevard NE) was removed. The 2818 Montlake Boulevard NE property would also be more exposed than it is currently, becoming the last house on the east side of Montlake Boulevard NE before the bridges. It would be open to the view toward both bridges from the front and north sides of the property. The changes to these properties would be a significant alteration to the integrity of their setting and feeling. The individually eligible property at 2111 East Shelby Street would experience an adverse effect from these changes. Sound levels in the Montlake Historic District near the Montlake Bridge are currently between 64 and 72 dBA. Under Option A with no sound walls, noise would decrease slightly. With sound walls, noise in this area would decrease by between 5 and 11 dBA, which would be beneficial.

A new bridge would also have a visual effect on the NRHP-listed Canoe House, which now has a clear view of the historic Montlake Bridge. The new bridge would be constructed on the east side of the historic bridge, so the view of the historic bridge from the Canoe House would be at least somewhat obstructed by the new bridge structure.



Although the Montlake Bridge has become part of the historic viewshed of the Canoe House, the visual effect of a new bascule bridge would not be an adverse effect on the Canoe House, which is listed in the NRHP under Criterion C for its architectural significance. The current sound level at the Canoe House is 68 dBA. Under Option A, that would decrease to 56 dBA.

The Montlake Cut, listed in the NRHP under Criterion C for its engineering significance, is a navigable waterway with an existing bascule bridge crossing. The addition of a new bascule bridge of similar size adjacent to the existing bridge would affect the setting and feeling of the cut. The greatest effect would be the partial blocking of the view of the historic bridge from the east end of the cut, but this effect to the integrity of the setting and feeling would not be adverse.

The existing historic Montlake Bridge is part of the viewshed of the Roanoke Park Historic District. The bridge is primarily visible from the rear of houses on 10th Avenue East between East Hamlin and East Shelby streets. The width of Portage Bay geographically separates the Montlake Bridge from the Roanoke Park Historic District. The houses on the east side of 10th Avenue East between East Hamlin and East Shelby streets would be visually affected by a new bascule bridge. Although it would affect the setting and feeling of this edge of the district and of these contributing properties, this effect would not be adverse. The new bridge would not alter the integrity of location, design, materials, workmanship, or association of the historic district or its contributing elements. The setting and feeling would be slightly affected, because residents of those houses might see the new bascule bridge beyond the existing bridge. However, the new bascule bridge would not obscure the view of the original Montlake Bridge, and would only be slightly visible beyond the historic bridge. The new bridge is not anticipated to be any higher or broader than the historic bridge. The new bridge would not block views of any other notable buildings or natural resources, including, but not limited to, the Montlake Cut, the Seattle Yacht Club, the NOAA Northwest Fisheries Science Center buildings, the University of Washington, or the Queen City Yacht Club.

The Montlake Boulevard interchange would be widened and incorporated into a partial lid over SR 520, the mainline of which would be lowered up to 10 feet. This lid would run along the south edge of SR 520 and cover the eastbound on-ramp, then connect to the rest of the lid that would carry the new 24th Avenue East bridge. The lid would be landscaped, with a pedestrian passageway and green space. The



benefits of lowering the roadway and adding the lid would be to reduce visual intrusion and noise from the roadway. In addition, the lid would partially reunite the two sides of the Montlake Historic District currently separated by SR 520.

Buildings located on the south side of East Hamlin Street would lose some of the landscaped buffer zone south of the alleyway behind their rear property lines currently provided by the remainder of the Old Canal Reserve property. However, some of this buffer would remain as right-of-way. Currently, the SR 520 ramp is between 139 and 193 feet from the rear of the properties along East Hamlin Street. Under Option A, the ramp would be between 73 and 127 feet from the rear of the properties. The new bicycle and pedestrian path would be north of the ramp, below-grade, with retaining walls on each side. A buffer of between 45 and 98 feet would remain between the rear yards of the houses and the north retaining wall of the new bicycle and pedestrian path. All of these properties are contributing elements to the Montlake Historic District, and three of them in the center of the block are also individually eligible. The visual effect and change in setting for these properties are expected to be minor.

The wider roadway at East Montlake Place East and 24th Avenue East would affect the setting of four contributing elements in the Montlake Historic District, including the individually eligible property at 2220 East Louisa Street. However, this alteration to the integrity of the setting would not be considered an adverse effect to the Montlake Historic District or to the individually eligible property at 2220 East Louisa Street.

Current sound levels in the Montlake Historic District within the APE range from 59 dBA to 72 dBA on the north side of SR 520, and from 56 dBA to 74 dBA on the south side. On the north side of SR 520, under Option A without sound walls, most locations would experience a decrease in sound of 1 to 4 dBA; a few would have no change; and a few would experience an increase of 2 to 3 dBA. On the south side of SR 520, without sound walls, most locations would experience a decrease in sound of from 1 to 6 dBA; a few would have no change; and a few would experience an increase of 1 to 2 dBA. With sound walls, locations on the north side of SR 520 would experience a decrease in sound of from 4 to 14 dBA. On the south side of SR 520, most locations would experience a decrease of between 1 and 14 dBA; a few would have no change; and a few would increase by 1 dBA.



As discussed above, effects to the Montlake Historic District from Option A would include the following:

- Change to setting caused by wider Portage Bay bridge
- Change to setting caused by new bascule bridge
- Change to setting caused by widened roadway on East Montlake Place East and 24th Avenue East
- Change to setting by converting Canal Reserve land to SR 520 ramp, right-of-way, and bike and pedestrian path, resulting in some loss of landscaped buffer for East Hamlin Street properties
- Beneficial change to setting from introducing partial lid between Montlake Boulevard and 24th Avenue East
- Beneficial change to setting from removing Lake Washington Boulevard ramps and R. H. Thomson Expressway ramps

Although some of these changes would result in benefits to the historic district, all of the changes to the Montlake Historic District under Option A would combine to affect the integrity of the district and would result in an adverse effect.

In the Arboretum, the highway mainline would be elevated to approximately 15 to 18 feet to the bottom of the bridge above the Arboretum Waterfront Trail on Foster Island. Because the highway mainline would be higher than the existing roadway, the highway would become a more dominant and noticeable feature, causing a visual effect in this area of the Arboretum. However, this new SR 520 structure would provide a benefit by allowing the trail to pass between columns of an elevated structure, replacing the current low and narrow pedestrian underpass, and improving the user experience by opening views at ground level. The wider column spacing (to support the elevated structure) on the proposed bridge would also contribute to the positive visual change. The removal of the Lake Washington Boulevard and R.H. Thomson Expressway ramps in the Arboretum would be beneficial for the Arboretum, opening views for park users and improving the recreational experience of the land and water. Current sound levels in the Arboretum near SR 520 range from 56 to 71 dBA. Under Option A with no sound walls, there would be no change to these sound levels. With sound walls, the sound levels would decrease to between 53 and 63 dBA.



The new west approach would originate from the shoreline near McCurdy Park and maintain a low profile through the Arboretum. The height of SR 520 at the west highrise would be similar to the existing west highrise. Because of the similarity to the existing condition, this would have no effect on historic properties.

The Edgewater Condominiums would experience a benefit from the west approach. The west highrise would be shifted westward and the west approach would be a few feet higher, but approximately 70 feet farther north than, the existing structures. This would reveal more open water views in Union Bay. The current sound level at this property is 69 dBA. Under Option A with no sound walls, the sound level would decrease to 67 dBA, and with sound walls, it would decrease to 58 dBA.

Suboption A

The operation of the new eastbound HOV ramp would not introduce any additional effects to the Montlake Historic District because it would be located within the mainline of SR 520. The change in slope of the west approach area would also have no effect on historic properties.

The reconstructed Lake Washington Boulevard on- and off-ramps for SR 520 would be located considerably farther west than they are currently. They would not cut through the Arboretum as the current ramps do, resulting in a positive change for the Arboretum. The majority of the length of the on- and off-ramps would run along the north and south sides of the mainline, introducing little additional effect to the Arboretum. However, because of their more westward location, these new ramps would have an increased visual effect on the Montlake Historic District, affecting contributing properties along Lake Washington Boulevard East and 26th Avenue East. In particular, the houses at 2429, 2433, and 2437 Lake Washington Boulevard East, all contributing elements, would experience visual effects and changes to their setting and feeling from the terminus of the new westbound off-ramp. The houses at 2445, 2449, 2455, and 2459 Lake Washington Boulevard East would experience similar effects from the new eastbound on-ramp. These are all contributing elements; 2445 and 2449 Lake Washington Boulevard East are also individually eligible. The houses along Lake Washington Boulevard East between Montlake Boulevard and 24th Avenue East would experience a change in setting from the increased width and added lane on Lake Washington Boulevard East in this area. These additional effects from the new ramps contribute to the adverse effect noted above under Option A.



Option K

Traditional Cultural Properties

Although not formally documented, Foster Island is considered an eligible TCP. Consultation with WSDOT, FHWA, the SHPO and interested Tribes would be necessary to mitigate any potential adverse effect on the TCP caused by the project.

Historic Built Environment

The new Portage Bay bridge would be approximately 35 feet wider than the existing bridge, with equal width added to the north and south. The western half of the bridge would remain at the existing profile, and the eastern half would be no more than 12 feet higher than the existing bridge. The Alden Mason House, Kelley House, Seattle Yacht Club, the Montlake Community Center, and the historic buildings of the NOAA Northwest Fisheries Science Center would experience increased visual intrusion from the wider footprint of the Portage Bay bridge. However, the properties already experience visual intrusion from the existing bridge. While this increase would affect the setting and feeling of the properties, it would not be so great as to constitute an adverse effect. The Kelley House and the Montlake Community Center would actually experience a positive visual change from more open views looking north under the bridge, due to the greater column spacing (from 100 feet on-center to as much as 250 feet apart). The existing noise levels at the receptors closest to these properties are from 66 to 70 dBA. Under Option K, the sound levels would decrease slightly to 65 to 69 dBA.

The Montlake Boulevard interchange would be widened and incorporated into a lid over SR 520, the mainline of which would be lowered up to 10 feet. This lid would run from the west side of Montlake Boulevard to the new 24th Avenue East bridge. The lid would be landscaped, with a pedestrian passageway and green space. The benefits of lowering the roadway and adding the lid would be to reduce visual intrusion and noise from the roadway. In addition, the lid would partially reunite the two sides of the Montlake Historic District currently separated by SR 520.

The project would acquire the remainder of the Old Canal Reserve property, and the SR 520 right-of-way would move closer to the rear of the East Hamlin properties. However, the north side of the new lid would connect to this property, resulting in a positive visual and audible change to historic properties located on the south side of East Hamlin Street. All of these properties are contributing elements to the



historic district, and the three properties in the middle of the block are also individually eligible.

The depressed SPUI would likely not be visible from the residential areas of the Montlake Historic District because of the new lid and the depth of the canyon. The mainline of SR 520 would be roughly the same height as the existing SR 520 where it is visible east of the lid, so this new road surface height would have no additional visual effect on the historic district.

The south tunnel portal would change the landform at the former MOHAI parking lot and might require ventilation towers and stormwater pump stations in East Montlake Park. It is estimated that the vent towers could be 50 feet high above ground. These structures would be visible from the Montlake Cut, the Canoe House, and the surrounding area of the Montlake Historic District. The tunnel itself would be belowground and not visible from any historic properties.

The new ramps and traffic turnaround would be east of and completely separated from Lake Washington Boulevard East and 26th Avenue East, retaining Lake Washington Boulevard for local traffic only. Historic properties at the east end of Lake Washington Boulevard East and along 26th Avenue East would experience some visual effect from the new ramps and traffic turnaround, which would be located in a WSDOT right-of-way area that is currently natural landscape. The ramp would not be elevated, and much of the southbound section would be covered by a landscape feature that would resemble a partial lid. A second landscape feature that would resemble a full lid would cover the entire ramp near the southern end, just before the turnaround. These landscape features would greatly reduce the visual effect from the new ramp, which would be less intrusive than the existing ramps. The landscape features would also provide the benefit of allowing bicycle and pedestrian access to the Arboretum across the ramps. Lake Washington Boulevard would be altered and would no longer connect to the Arboretum. The Lake Washington Boulevard portion that currently connects to the Arboretum between East Roanoke Street and the Arboretum would be reconstructed on a new alignment with the traffic turnaround. This would affect this portion of historic Lake Washington Boulevard, severing the original path from the Arboretum, across the Old Canal Reserve land, and connecting to the University of Washington Campus, as planned by the 1908 Olmsted Park and Boulevard Plan. However, the effects of the new ramps and turnaround on the overall Montlake Historic District or on individually eligible



properties along Lake Washington Boulevard and 26th Avenue East would not be considered adverse.

Current sound levels in the Montlake Historic District within the APE range from 59 dBA to 72 dBA on the north side of SR 520, and from 56 dBA to 74 dBA on the south side. On the north side of SR 520, under Option K, most locations would experience a decrease in sound of 1 to 5 dBA; several would have no change; and some would experience an increase of 1 to 2 dBA. On the south side of SR 520, most locations would experience a decrease in sound of from 1 to 6 dBA; a few would have no change; and a few would experience an increase of 1 to 2 dBA.

As discussed above, effects to the Montlake Historic District from Option K would include the following:

- Change to setting caused by wider Portage Bay bridge
- Beneficial change to setting from more open spacing under new Portage Bay bridge
- Change to setting caused by change in landform at the former MOHAI parking lot, possible new ventilation towers, and new stormwater pump stations
- Change to setting by converting Canal Reserve land to SR 520 ramp, right-of-way, and bike and pedestrian path
- Beneficial change to setting from introducing new lid between Montlake Boulevard and 24th Avenue East
- Beneficial change to setting from removing Lake Washington Boulevard ramps and R. H. Thomson Expressway ramps
- Change to setting from new Lake Washington Boulevard on- and off-ramps
- Many of these changes would result in benefits to the historic district. Once the specific construction effects from the project are identified, they would be considered in combination with the known operational effects for their effect on the historic district as a whole. This would be used to determine if the sum of all the effects to the Montlake Historic District under Option K would diminish the aspects of integrity of the district to the point where the district could no longer convey its significance.

The new west approach structures would begin at the SPUI and would maintain a low profile (no higher than the existing profile), with an



even lower profile at Foster Island where the land bridge would cover it. East of Foster Island the west approach structures would be similar in height to the existing west approach. The height of SR 520 at the west highrise would be similar to, and northwest of, the existing west highrise. Because of the similarity of the new structure to the existing structure, no effects to historic properties are anticipated.

In Option K, SR 520 would cross Foster Island beneath a “land bridge,” a tunnel contained by a large berm, which provides pedestrian access over the highway. This option would require acquisition of 1.4 acres of land on Foster Island. Although the land bridge would be within the WSDOT right-of-way, it could be available for park use after construction. The Arboretum Waterfront Trail would be reconstructed to pass over the land bridge. The top of the land bridge would be landscaped, which would provide a positive natural effect for users. In addition, fill would be placed north of the land bridge to create a gentle slope from the bridge to the north end of Foster Island, which would provide enhanced views of the water for trail users. However, the character of the filled area would change somewhat from its present condition. Similar to Option A, the existing unused R.H. Thomson Expressway ramps and existing Lake Washington Boulevard ramps would be removed, which would open views for park users and improve visibility across the land and water. These would all provide positive changes to the Arboretum.

Option K includes rubberized asphalt pavement and no sound walls throughout the Westside I-5 to Medina project corridor.

Suboption K

Under the suboption to Option K, a new eastbound off-ramp to Montlake Boulevard would be constructed. This new off-ramp would have only a minimal additional effect on the historic district, because it would replace the much larger on- and off-ramp structure that is currently in that location. Removing the existing ramp structure would be beneficial to the historic district. The operation of the proposed eastbound off-ramp would have no adverse effect on the historic district.

Option L

Traditional Cultural Properties

Although not formally documented, Foster Island is considered an eligible TCP. Consultation with WSDOT, FHWA, the SHPO and



interested Tribes would be necessary to mitigate any potential adverse effect on the TCP from the project.

Historic Built Environment

For the new Portage Bay bridge the western half of the bridge would remain at the existing profile, and the eastern half would be no more than 12 feet higher than the existing bridge. The bridge might also incorporate sound walls. The Alden Mason House, the Kelley House, the Seattle Yacht Club, the historic buildings of the NOAA Northwest Fisheries Science Center, and the Montlake Community Center would experience increased visual intrusion from the higher Portage Bay bridge, especially with sound walls. However, the properties already experience visual intrusion from the existing bridge. While this increase would affect the setting and feeling of the historic properties, it would not be so great as to constitute an adverse effect. The Kelley House and the Montlake Community Center would actually experience a positive visual change from more open views looking north under the bridge, due to the greater column spacing (from 100 feet on-center to as much as 250 feet apart). Although sound walls along the bridge would make it appear more massive when viewed from the surrounding historic properties, installing a sound wall along SR 520 and the Portage Bay Bridge would have a benefit on these properties because of reduced sound levels. The existing noise levels at the receptors closest to these properties are from 65 to 70 dBA. Option L would result in decreased sound levels of from 54 to 63 dBA.

The new Portage Bay bridge would have a visual effect on the Roanoke Park Historic District, specifically on the houses on the east side of 10th Avenue East between East Roanoke Street at the south and just north of East Shelby Street at the north. Those houses currently have views of the existing Portage Bay Bridge, and the new bridge would be approximately 12 feet taller. This would have a visual effect on the setting and feeling of the Roanoke Park Historic District and those contributing elements that view the bridge, particularly with sound walls. On the bridge, the sound walls would be 10 feet high, except for the final approximately 60 feet or so leading up to the 10th Avenue/Delmar Drive lid on the west and to the Montlake lid on the east, where it would step up to 14 feet. The new bridge would not block views of any other notable buildings or natural resources, including, but not limited to, Portage Bay, the Montlake Cut, the Seattle Yacht Club, the NOAA Northwest Fisheries Science Center buildings, the University of Washington, or the Queen City Yacht Club. The new bridge would not



affect integrity of location, design, materials, workmanship, or association of the district or its contributing elements. The new bridge would not affect the integrity of setting or feeling to such an extent that it would compromise those characteristics that make the district or its contributing elements eligible for the NRHP. Only a small portion of the district has a view of, and would be visually affected by, the replacement bridge. In addition, there is already a bridge there, so its replacement would not be a substantial change from existing conditions. Therefore, the visual effect from the new bridge would not be an adverse effect on the Roanoke Park Historic District or its contributing elements.

The Montlake Boulevard interchange would be widened and incorporated into a lid over SR 520, the mainline of which would be lowered up to 10 feet. This lid would run from the west side of Montlake Boulevard to the new 24th Avenue East bridge. The lid would be landscaped, with a pedestrian passageway and green space. The benefits of lowering the roadway and adding the lid would be to reduce visual intrusion and noise from the roadway. In addition, the lid would partially reunite the two sides of the Montlake Historic District currently separated by SR 520.

The project would acquire the remainder of the Old Canal Reserve property, and the SR 520 right-of-way would move closer to the rear of East Hamlin properties, but the north side of the new lid would connect to this property, resulting in positive visual and audible changes to historic properties located on the south side of East Hamlin Street. All of these properties are contributing elements to the historic district, and the three properties in the middle of the block are also individually eligible.

The existing Montlake interchange would be replaced with an elevated SPUI located near the current location of MOHAI. This SPUI would be elevated 20 to 25 feet above the mainline SR 520 roadway, which would be approximately 3 feet higher in elevation than the existing 24th Avenue East bridge over SR 520. This SPUI would be only partially contained within sound walls, so it is likely that it would be visible from the residential areas of the Montlake Historic District. The sound walls and the SPUI could be a visual barrier to views north and northwest from historic properties on Lake Washington Boulevard East.

The new on- and off-ramps would be east of and completely separated from Lake Washington Boulevard East, retaining Lake Washington Boulevard for mostly local traffic. Historic properties at the east end of



Lake Washington Boulevard East and along 26th Avenue East would experience a visual effect from the new ramps, which would be located in WSDOT right-of-way that is currently natural landscape. The ramps would be at the same height or perhaps slightly higher than the existing Lake Washington Boulevard East. The new ramps could block direct access into the area of the Arboretum beyond the ramps from the Montlake Historic District north of East Calhoun Street.

The new west approach structures would begin at the new elevated SPUI. The height of these structures between the SPUI and the floating portion of the bridge would vary and would have a constant slope from the Montlake vicinity to the west highrise, and the height would be similar to the existing height. The width of the structures would vary substantially in the area where ramps from the SPUI merge onto the structures. Because of the similarity of the new structures to the existing structures, no effects to historic properties are anticipated.

The new bascule bridge near the east mouth of the Montlake Cut would affect the setting of the Montlake Cut, the Montlake Bridge, the Canoe House, and the northeast section of the Montlake Historic District. It would also be visible from historic properties along Lake Washington Boulevard East, and from the University of Washington Club and McMahan Hall. It would partially block the view of the historic Montlake Bridge from the east end of the cut and from the Canoe House. The two individually eligible properties at 2158 and 2159 East Shelby streets would experience the most severe visual effects because the new bridge would be constructed immediately to the northeast of these properties. The new bridge would be a minimum of 131 feet from the northeast corner of the house at 2158 East Shelby. On the north side of the cut, the bridge would be a minimum of 323 feet from the southwest corner of the Canoe House. The new bridge and approaches would introduce shadows to these properties and nighttime glare from lighting of the bridge and headlights of nighttime traffic, as well as block views. The new bridge would degrade the integrity of the setting and feeling of this section of the Montlake Historic District, all the individually eligible properties at the east end of East Shelby Street, the Montlake Cut, the Montlake Bridge, and the Canoe House, to varying degrees. The effects from the new bridge to the setting and feeling of the individually eligible houses at 2158 and 2159 East Shelby Street would be adverse.

Current sound levels in the Montlake Historic District within the APE range from 59 dBA to 72 dBA on the north side of SR 520, and from 56



dBA to 74 dBA on the south side. On the north side of SR 520, under Option L, most locations would experience a decrease in sound of 1 to 10 dBA; a few would have no change; and a few would experience an increase of 1 dBA. On the south side of SR 520, most locations would experience a decrease in sound of from 1 to 13 dBA; a few would have no change; and a few would experience an increase of 1 to 2 dBA.

As discussed above, effects to the Montlake Historic District from Option L would include the following:

- Change to setting caused by wider Portage Bay bridge
- Beneficial change to setting from more open spacing under new Portage Bay bridge
- Change to setting caused by new bascule bridge at east end of Montlake Cut, and bridge approach in East Montlake Park
- Change to setting by converting Canal Reserve land to SR 520 ramp, right-of-way, and bike and pedestrian path
- Beneficial change to setting from introducing new lid between Montlake Boulevard and 24th Avenue East
- Beneficial change to setting from removing Lake Washington Boulevard ramps and R. H. Thomson Expressway ramps
- Change to setting from new Lake Washington Boulevard on- and off-ramps
- Many of these changes would result in benefits to the historic district. However, once combined, the sum of all the effects to the Montlake Historic District under Option L could affect the integrity of the district to the point where it could no longer convey its significance and, therefore, Option L would result in an adverse effect to the historic district.

In the Arboretum Option L would cross over Foster Island with a bridge similar to Option A, and would require acquisition of 0.6 acre of land on Foster Island. The highway mainline would be elevated to approximately 10 to 12 feet to the bottom of the bridge above the Arboretum Waterfront Trail on Foster Island. Because the highway mainline would be higher than the existing roadway, the highway would become a more dominant and noticeable feature and would affect the visual environment for some trail users. The new SR 520 structure would not allow the trail to be reconstructed at the level of



surrounding terrain; it would be several feet higher than it is today. In a comparison of bridges between Options A and L, Option A uses a taller bridge and requires more acreage than Option L. However, the trail user experience would be closer to traffic, with a shallower pedestrian underpass in Option L. The existing unused R.H. Thomson Expressway ramps and current Lake Washington Boulevard ramps would be removed, which would open views for park users and improve visibility across the land and water, resulting in a positive change to the Arboretum.

Eight- to 14-foot-high sound walls would be installed on much of SR 520, including the new Portage Bay bridge, west approach to the floating portion of the bridge, and part of the elevated SPUI. As noted above, these sound walls would reduce noise on many of the surrounding historic properties. However, they would also form a visual barrier, making the roadway appear more massive.

The Edgewater Condominiums would experience a benefit from the west approach. The west highrise would be shifted westward and the west approach would be a few feet higher, but approximately 70 feet farther north than, the existing structures. This would reveal more open water views in Union Bay.

Suboption L

The suboption to Option L to allow left turns from southbound Lake Washington Boulevard East to SR 520 would have no additional effect on historic properties.

The suboption to Option L to add capacity to northbound Montlake Boulevard NE would necessitate removing the three pedestrian bridges over Montlake Boulevard NE. All three bridges are eligible for the NRHP. This would constitute an adverse effect on the properties. It would move the roadway closer to Graves Hall, also eligible for the NRHP, but this would not be adverse. The wider roadway with new pedestrian bridges would be visible from the University of Washington Club and McMahon Hall. However, this effect to their setting and feeling would be minimal and would not be considered adverse. No additional effects to historic properties at the University of Washington are expected from the suboption to Option L.

Lake Washington

Traditional Cultural Properties

No TCPs were identified for this segment.



Historic Built Environment

No effects on historic properties of the built environment are expected in the Lake Washington study area.

Eastside Transition Area

Traditional Cultural Properties

No TCPs were identified for this segment.

Historic Built Environment

No adverse effects are expected on the historic built environment in the Eastside transition area. Once completed, the floating portion of the new bridge would be located approximately 160 feet north of its present location at the east end, and the east approach structure would be approximately 81 feet north. This would move the bridge and approach farther away from the WHR-eligible Helen Pierce House and lessen the current effects. The result would be a positive change to the property. Although the new floating portion of the bridge would be slightly higher than the existing floating portion, this greater height would be a minimal visual change to the setting of historic properties.

Phased Implementation Scenario

Although not formally documented, Foster Island is considered an eligible TCP, and the 6-Lane Alternative would have the potential to affect it.

Operation of the new floating portion of the bridge would have a slightly greater visual effect on surrounding historic properties than the existing floating portion of the Evergreen Point Bridge due to its greater height. However, this would be offset by its greater visual openness and by its location farther north, away from historic properties in the APE. This effect would be minor and would not be adverse.

Historic built environment properties would experience the same effects noted above for operation of the new Portage Bay bridge and the new west approach to the Evergreen Point Bridge, namely noise and visual effects. As noted earlier, none of these effects would differ substantially from the existing conditions, and none would be considered adverse.



Mitigation

Mitigation is required if project activities directly or indirectly cause harmful effects to recognized historic properties. The Section 106 process provides a procedure to seek ways to avoid, minimize, or mitigate adverse effects on historic properties. Participants in the Section 106 process include agency officials; the Advisory Council on Historic Preservation; consulting parties such as the SHPO, Native American Tribes and local government representatives; and the public.

WSDOT and FHWA officials must provide the public with information about the project and its effects on historic properties, and seek public comment and input. WSDOT and FHWA officials may involve the public in accordance with the agency's published NEPA procedures for public involvement to comply with this aspect of Section 106. For a complete description of this process, see the SDEIS. Generally, at the conclusion of the process, an MOA is executed. This document records the terms and conditions agreed upon to resolve the adverse effects of the project on historic properties, and is signed by WSDOT and FHWA, the SHPO, and other consulting parties, as appropriate.

What has been done to avoid or minimize adverse effects on archaeological resources?

Miller Street Landfill

Presently, only one archaeological site has been identified in the project APE - the Miller Street Landfill. This resource might be eligible for the NRHP, but additional fieldwork is necessary to substantiate its historic significance. The landfill covers a large area in the northern part of the Washington Park Arboretum and, because of its geographical location, the project cannot entirely avoid it. If the Miller Street Landfill is determined eligible for the NRHP, the extent of ground disturbance would be much greater with Option K than with the other two options. Option A would disturb the least amount of area. However, potential adverse effects would be minimized by conducting archaeological investigations (known as data recovery) within the areas of impact.



Foster Island

One or more archaeological sites could be present on Foster Island, but no formal archaeological investigations have been completed there to date. It is known that the local Lakes Duwamish people, whose descendents are now members of several of the identified affected Tribes, used Foster Island as a burial ground. Because of its geographical location relative to the existing bridge, the project cannot entirely avoid Foster Island. However, prior to the opening of the Montlake Cut in 1918, Foster Island was two islands separated by about 250 feet of open water. The replacement bridge would be built largely north of the existing bridge. It would cross the present-day Foster Island in a position mostly within the gap between the two historic islands. Project engineers might be able to align the bridge to maximize this geographical avoidance.

Potential adverse effects to a significant archaeological site, if present on Foster Island, could be avoided or greatly minimized by using sophisticated remote sensing techniques (such as GPR) to identify subsurface cultural features. If successful, such techniques would reduce the amount of archaeological excavation necessary to ensure avoidance or minimization of potential adverse effects to archaeological properties.

How could the project mitigate unavoidable adverse effects to archaeological resources?

Miller Street Landfill

If the Miller Street Landfill is determined eligible and project-related activities affected the site, mitigation would be necessary. If, during construction, other archaeological sites were found, and if they were determined to be eligible for listing in the NRHP, appropriate mitigation measures would be developed in consultation with affected Tribes and the SHPO. There are several mitigation options, depending on the effect. Mitigation measures might include conducting scientific excavation and analysis (data recovery) or compensatory mitigation. Compensatory mitigation is an alternative form of mitigation. Rather than conducting conventional data recovery, a different type of mitigation could be implemented. All parties would have to agree to



this alternative form of mitigation, which might include funding studies, printing manuscripts, or assisting with tribal education.

What has been done to avoid or minimize adverse effects on traditional cultural properties?

Foster Island

Foster Island is considered an eligible TCP. It is known that Native American ancestors of families that are members of several identified affected Tribes used Foster Island as a burial ground. Historically, about 250 feet of open water separated present-day Foster Island into two islands. When the Montlake Cut opened in 1918, these islands became a single island because the lake dropped about 10 feet from its natural high stand.

The existing bridge alignment crosses the northern-most portion of the larger South Island. The replacement bridge alignment, as proposed, would cross Foster Island mostly through what was the historic topographical gap. Project engineers are aware of the historic significance of Foster Island, and might be able to fine-tune the alignment position to minimize the crossing of the two historic islands. Doing so would avoid or greatly minimize an adverse effect to the Foster Island TCP.

What has been done to avoid or minimize adverse effects on historic properties of the built environment?

General minimization efforts that could avoid or minimize effects on historic properties would include the following:

- Monitor and ensure compliance with local noise regulations for construction and equipment operation. (See the Noise Discipline Report [WSDOT 2009b] for additional construction noise information.)
- Install landscaping or landscaped buffers to compensate in those areas where buffer zones were being removed or reduced, and where new or relocated traffic lanes would intrude on the character of a historic district or the settings of individual historic properties.



- Protect facades of affected historic buildings from an accumulation of excessive dirt and dust during construction, and/or clean them in an appropriate manner at the conclusion of construction. WSDOT would consult with the SHPO and/or the Seattle Historic Preservation Officer before implementing any protection or cleaning methods.
- Use BMPs to control fugitive dust. This would include:
 - Avoiding grading and scraping activities during high winds.
 - Keeping soils moist by using water trucks and sprays.
 - Covering loads of soil and keeping dumpsters covered.
 - Washing wheels and fender wells of haul trucks immediately prior to exiting the construction area.
 - Cleaning the roadways of haul routes with a street sweeper.
 - Using water sprays before, during, and after use of a wrecking ball or bulldozer for demolitions.
 - Using tarps to cover piles of soil.
 - Using plants, bushes, rock walls, or wood fences to provide erosion control.
 - Using filter fabric around catch basins to collect sediment from run-off.
 - Installing gravel buffer areas at the exits from the construction area.
- Have WSDOT environmental inspectors monitor construction and ensure compliance with all environmental regulations.
- Maintain access to historic properties, except for unavoidable short periods during construction.
- Formulate and implement a construction traffic management plan to minimize traffic effects on historic properties and within historic districts
- Locate any construction sheds, barricades, or material storage away from historic properties, and avoid obscuring views of historic properties.



- Take every precaution to ensure that historic properties are protected from vibrations, excavations, and damage from heavy equipment

The following list provides specific minimization and avoidance methods that have been incorporated into the 6-Lane Alternative or are recommended for inclusion:

- Depending on the option, sound walls or quiet pavement have been incorporated into the design of the project to reduce noise along the proposed roadway. These measures would cause a positive change to the adjacent historic properties by reducing anticipated noise.
- In the NRHP-eligible Montlake Historic District, the SR 520 roadway would be lowered up to 10 feet, which would minimize both visual and audible effects on the surrounding properties in the historic district.
- New and improved 14-foot-wide bicycle/pedestrian paths would be built, starting at Montlake Boulevard and continuing onto the Evergreen Point Bridge and over to the Eastside. These paths would help to reconnect the neighborhood and enhance pedestrian access in the Montlake Historic District, which was divided when SR 520 was built in the 1960s.
- New lids have been designed to cover I-5 at the East Roanoke Street crossing, to cover SR 520 at 10th Avenue East and Delmar Drive East, to cover SR 520 at Montlake Boulevard and 24th Avenue East, and, depending on the option, over SR 520 at Foster Island and over the new intersection of Montlake Boulevard NE and NE Pacific Street. Landscape features that resemble lids would go over the proposed turnaround ramp at Lake Washington Boulevard East under Option K. These lids would be landscaped and have pedestrian crossings, providing a new green space in each area and reuniting the communities on either side. The landscaped lids would also help to minimize the visual and audible effects of SR 520, I-5, and the turnaround ramp to SR 520.
- Pontoon transport scheduling would be coordinated with the Seattle Yacht Club so that towing the pontoons would not interfere with the traditional Opening Day ceremonies through the Montlake Cut or other important social maritime activities associated with the Seattle Yacht Club in the cut or in Portage Bay.



- In the Eastside segment, the bicycle and pedestrian path and the access road to the new bridge maintenance facility were located on the north side of SR 520, so the historic Arntson and Pierce houses would experience no effects from these aspects of the project.
- Every effort would be made to keep the Canoe House accessible and functional during and after constructing the tunnel in Option K or the new bascule bridge in Option L. Every precaution would be taken to ensure that vibrations, excavations, or heavy equipment would not affect the Canoe House during construction of the tunnel or the bridge. No construction staging or storage would occur on the Canoe House property.
- Construction access directly to and from the construction zone could be provided along the Montlake Boulevard westbound off-ramp to reduce the volume of construction truck traffic using the residential streets of East Shelby Street, East Hamlin Street, and East Park Drive East.

How could the project mitigate unavoidable adverse effects to historic properties of the built environment?

As noted above, adverse effects on historic properties must be resolved through the Section 106 process and the preparation of an MOA. Ways to avoid, minimize, and mitigate adverse effects must be reached through consultation.

Suggested mitigation measures that could be integrated into the stipulations of an MOA to address adverse effects in the Seattle study area could include the following:

- Under Option A, the design of the new bascule bridge would be compatible with that of the existing historic Montlake Bridge. The new bridge would not replicate nor compete with the existing bridge, and the towers and light standards on the original bridge would remain the prominent visual features of the crossing. Safeguards would be put in place to ensure that the existing historic Montlake Bridge was protected and not physically affected in any way by constructing the new bascule bridge.
- The two residences on Montlake Boulevard NE that would be removed under Option A could be offered for removal from the site



and relocation to other parcels rather than demolished. If they were demolished, they would be recorded to Historic American Building Survey/Historic American Engineering Record standards before demolition. In addition, all architectural elements could be salvaged for re-use, such as historic doors, windows, brackets, and moldings. After these two houses are removed, solid fencing could be erected and vegetation planted to form a landscape screen and buffer between the construction on Montlake Boulevard and the adjacent house on East Shelby Street.

- Historic markers could be provided on Lake Washington Boulevard, in East Montlake Park, and elsewhere in the Montlake Historic District to convey the history of the neighborhood, the Montlake Bridge, and selected historic houses in the district. Providing a Web site on the history of the neighborhood along with the history of the Evergreen Point Bridge could be a mitigation measure for both the Montlake Historic District and the adjacent bridge. This would reach a much larger audience than physical historic markers alone.
- The clock tower, bell, canon, and selected landscaping at MOHAI could be preserved and re-used, if they were not relocated with MOHAI
- A professional who meets the Secretary of the Interior's Standards for architectural history could formally survey, document, and nominate the Montlake neighborhood to the NRHP as a historic district.
- Lake Washington Boulevard and the Olmsted Parks system in Seattle could be formally surveyed, documented, and nominated to the NRHP as a historic property or district
- The new pedestrian bridges across Montlake Boulevard NE under the suboption to Option L could be designed to be compatible with the surrounding University of Washington campus, and could incorporate historic markers with information on the history of the University of Washington campus and structures

Evergreen Point Bridge

Because the project would remove and replace the bridge, which is a historic property, the Evergreen Point Bridge would be adversely affected. Removal of the bridge could be mitigated by providing



Level II Historic American Building Survey/ Historic American Engineering Record documentation for the bridge. This would include photographs, measured drawings, and a written history component. Additional mitigation for the loss of the bridge could include such things as:

- Funding a bridge- or transportation-related community project, such as a survey of historic transportation elements in the area.
- Funding an educational display at a local museum on historic bridges of the Puget Sound region.
- Funding an educational publication or developing a Web site featuring historic bridges and transportation facilities in the region. A Web site on the history of the bridge in context with the neighborhoods and historic properties in its vicinity could also be a mitigation measure for both the Evergreen Point Bridge and the adjacent Montlake Historic District. Such Web access would serve a much larger audience than physical historic markers.



References

AASHTO. 2007. AASHTO Practitioner's Handbook: Consulting Under Section 106 of the National Historic Preservation Act. Produced by AASHTO Center for Environmental Excellence. Washington, DC. February 2007. American Association of State Highway and Transportation Officials.

BOAS. 2005. Preliminary Ethnographic and Geoarchaeological Study of the SR 520 Bridge Replacement and HOV Project. Report on file, Washington Department of Transportation, Seattle, WA. A.R. Blukis Onat, R.A. Kiers, and P.D. LeTourneau.

BOAS. 2007. Ethnohistoric and Geoarchaeological Study of the SR 520 Corridor and Archaeological Field Investigations in the SR 520 Bridge Replacement and HOV Project Including the Pacific Interchange and Second Montlake Bridge Option King County, WA. Report on file, Washington Department of Transportation, Seattle, WA. A.R. Blukis Onat, R.A. Kiers, and P.D. LeTourneau.

BOLA Architecture and Planning with Karen Kiest/Landscape Architects. 2003. Washington Park Arboretum Historic Review, September 2003. Report on file, Seattle Parks and Recreation, Seattle, WA.

Buerge, D. 1984. Indian Lake Washington. *The Weekly*. August 1, 1984.

Bureau of Navigation. 1924. Merchant Vessels of the U.S.

CH2M HILL. 2003. Sunken Vessel Summary Report. Prepared for Washington State Department of Transportation, Urban Corridors Office and Sound Transit. SR 520 Bridge Replacement and HOV Project Team, Parametrix, Inc., CH2M HILL, and Parsons Brinckerhoff.

CH2M HILL, 2004. SR 520 Bridge Replacement and HOV Project: Cultural Resources Discipline Report. CH2M HILL, Olympia, WA. Prepared for Washington State Department of Transportation, Federal Highway Administration, and Sound Transit, Seattle.

Chesley, Frank. 2006. "Stern, Bernice (1916-2007)." November 07, 2006. http://www.historylink.org/index.cfm?DisplayPage=output.cfm&file_id=8003. Accessed November 2009.

City of Bellevue. 2006. "History." <http://www.ci.bellevue.wa.us/history.htm>. Accessed February 2009.



City of Clyde Hill. 2009. "History of Clyde Hill." <http://www.clydehill.org/about.aspx?id=218>. Accessed February 2009.

City of Medina. 2008. "History of Medina." April 18, 2008. http://www.medina-wa.gov/index.asp?Type=B_BASIC&SEC=%7B0EF1CA38-E35B-489B-8446-8B309737C420%7D. Accessed February 2009.

City of Seattle. 2008. Landmarks Preservation Board Report on Designation - Seattle Japanese Garden, 1075 Lake Washington Boulevard E. June 4, 2008.

Coast and Geodetic Survey. 1905. Lake Washington, Washington. University of Washington Libraries Map Collection.

Corley, Margaret A. 1973. National Register of Historic Places Inventory - Nomination Form, "Seward School Lunchroom and Gymnasium." October 1973.

DAHP. "Washington Heritage Register." <http://www.dahp.wa.gov/pages/HistoricSites/WashingtonHeritageRegister.htm>. Accessed March 18, 2009. Washington State Department of Archaeology and Historic Preservation.

Denny, E.I. 1909. *Blazing the Way: True Stories, Songs and Sketches of Puget Sound and other Pioneers*. Rainier Printing Company, Seattle, WA.

Dorpat, Paul. 2002. "L'Amourita Lives." <http://seattletimes.nwsourc.com/pacificnw/2002/0303/nowthen.html>.

Dorpat, Paul. n.d. *Seattle's History - A 10-Minute Slide Show*. http://www.historylink.org/essays/output.cfm?file_id=7085.

Forsman, L.A., D.E. Lewarch, and L.L. Larson. 1997. *Denny Way/Lake Union Combined Sewer Overflow Control Project, Seattle, King County, Cultural Resources Assessment*. Report on file, Department of Archaeology and Historic Preservation, Lacey, WA.

Galster, Richard W., and William T. Laprade. 1991. *Geology of Seattle Washington, United States of America*. *Bulletin of the Association of Engineering Geologists* 28(2):235-302.

Goodman, D., B. Damiata, and J. Klein. 2008. *Foster Island Seattle, Washington Ground Penetrating Radar Survey July 23-26, 2008*. Geophysical Archaeometry Laboratory, Woodland Hills, CA.



Gould, James W. 2000. Montlake History. http://www.scn.org/neighbors/montlake/mcc_history.Jim_Gould.html. Last updated January 21, 2000.

GRCC. 2009. History of Redmond. Greater Redmond Chamber of Commerce. <http://www.redmondchamber.org/index.php?page=history>.

Growth Management Hearings Boards. n.d. "The Growth Management Act." <http://www.gmhb.wa.gov/About.aspx>. Accessed August 17, 2009. (No longer available.)

Haeberlin, H.K. 1918. SbeTeTDA'Q, a Shamanistic Performance of the Coast Salish. *American Anthropologist* 20(3):248-257.

Harrington, J.P. ca. 1909. John P. Harrington Papers. National Anthropological Archives, Smithsonian Institution. Reel 15, 1907-1957, on microfilm at Suzzallo Library, University of Washington, Seattle, WA.

Havighurst, Walter. 1961. As cited in Rains, Albert, Chairman and Laurance G. Henderson, Director - Special Committee on Historic Preservation, United States Conference of Mayors. 1983. *With Heritage So Rich - National Trust for Historic Preservation*. Washington, D.C.: The Preservation Press.

Hilbert, V., J. Miller, and Z. Zahir (eds.). 2001. šti't¹ci {sceg^wucid}. Puget Sound Geography, Original Manuscript from T.T. Waterman. Lushootseed Press, Federal Way, WA.

Hobbs, Richard S., and Craig E. Holstine. 2005. *Spanning Washington: Historic Highway Bridges of the Evergreen State. Our Amazing Floating Bridges*. Washington State University. January 2005.

Johnston, Norman J., and R. L. McCormick. 2001. University of Washington. Princeton Architectural Press.

Kenworth. 2009. "Kenworth History." http://www.kenworth.com/7100_ken.asp. Accessed November 2009.

Knauss, Suzanne. 2003. "Yarrow Point - Thumbnail History." HistoryLink.org. June 30, 2003. http://www.historylink.org/index.cfm?DisplayPage=output.cfm&File_Id=4212. Accessed February 2009.



- Lane, B. 1987. Indian Fisheries in Elliott Bay in the mid-Nineteenth Century. Preliminary Report. On file, Muckleshoot Indian Tribe, Auburn, WA.
- Larson, L.L. 1993. Muckleshoot Indian Tribe Traditional Shellfish Use Report and Direct Testimony. Report prepared for the Muckleshoot Indian Tribe, Auburn, WA. On file at Larson Anthropological/ Archaeological Services, Seattle, WA.
- Larson, L.L., and D.E. Lewarch. 1995. The Archaeology of West Point, Seattle, Washington: 4,000 Years of Hunter-Fisher-Gatherer Land use in Southern Puget Sound. Report on file, Office of Archaeology and Historic Preservation, Lacey, WA.
- Long, Priscilla. 2001. "Seattle's Seward Elementary School (now TOPS at Seward) Opens as Denny-Fuhrman School in 1893." HistoryLink.org Essay 3244. April 27, 2001. http://www.historylink.org/index.cfm?DisplayPage=output.cfm&file_id=3244.
- Mauldin, D. B. n.d. Washington's Wondrous Highways That Float, newspaper clipping in DOT Environmental Affairs Office.
- National Park Service. 1991. Addendum to "How to Complete National Register Forms" (re: Deteriorated Buildings) (superceded) - Available only online at <http://www.nps.gov/history/nr/publications/bulletins.htm>. National Register Bulletin.
- O'Connor, Erin, Lee O'Connor, and Cheryl Thomas. 2009. "National Register of Historic Places Registration Form - Roanoke Park Historic District." March 2009.
- Ochsner, Jeffrey Karl, ed. 1998. *Shaping Seattle Architecture, A Historical Guide to the Architects*. University of Washington Press, Seattle and London.
- Parametrix. 2008. *SR 520 Bridge Replacement and HOV Project Westside Project Impact Plan*. Prepared for Washington State Joint Transportation Committee and Governor Christine Gregoire. Bellevue, WA.
- Plummer, C. 1991. Foster Island - History, Visitor Use and Management. Unpublished Master's Thesis. University of Washington, Seattle, WA.
- Rains, Albert, Chairman, and Laurance G. Henderson, Director - Special Committee on Historic Preservation, United States Conference



of Mayors. 1983. *With Heritage So Rich* – National Trust for Historic Preservation. Washington, D.C.: The Preservation Press.

Rochester, Junius. 1998. *Medina -- Thumbnail History*. HistoryLink.org. http://www.historylink.org/essays/output.cfm?file_id=1059. Accessed December 2005.

Seattle Post-Intelligencer Collection. 1986. MOHAI Negative No. 1986.5.7596.

Sheridan, Mimi. 2008. National Register of Historic Places Multiple Property Documentation Form, Seattle Apartment Buildings, 1900-1957. November 20, 2008.

Sherwood, Donald N. 1974a. *History: Roanoke Park*. Sherwood Park History Files of Seattle Parks and Recreation. July 3, 1974. <http://www.ci.seattle.wa.us/parks/history/sherwood.htm>.

Sherwood, Donald N. 1974b. *Museum of History and Industry – McCurdy Park*. Sherwood History Files of Seattle Parks and Recreation. July 31, 1974. <http://www.cityofseattle.net/parks/history/McCurdyPk.pdf>.

Smith, E. n.d. *Montlake: One of Seattle's Treasures*. http://www.scn.org/neighbors/montlake/mcc_history.Eugene_Smith.html. Accessed April 28, 2004.

Smith, M.W. 1940. *The Puyallup-Nisqually*. Columbia University Contributions to Anthropology. Vol. 32. Columbia University Press, New York, NY.

Smoliak, Brian. 2007. "Accelerating science at the North Physics Laboratory." *The Daily of the University of Washington*. November 8, 2007. <http://dailyuw.com/2007/11/8/accelerating-science-at-the-north-physics/>. Accessed September 2009.

Stein, Alan J. 1998a. *Kirkland – Thumbnail History*. HistoryLink.org. October 25, 1998. http://www.historylink.org/index.cfm?DisplayPage=output.cfm&file_id=208. Accessed February 2009.

Stein, Alan J. 1998b. *Redmond – Thumbnail History*. HistoryLing.org. November 9, 1998. http://www.historylink.org/index.cfm?DisplayPage=output.cfm&file_id=304. Accessed February 2009.



Stein, Alan J. 1998c. Bellevue -- Thumbnail History. HistoryLink.org. November 9, 1998. http://www.historylink.org/essays/output.cfm?file_id=313. Accessed December 2008.

Town of Hunts Point. 2006. "Our History." June 8, 2006. <http://www.huntspoint-wa.gov/history.htm>. Accessed February 2009.

University of Washington. 2009a. "More Hall." July 10, 2009. <http://www.engr.washington.edu/about/bldgs/mor.html>. Accessed September 2009.

University of Washington. 2009b. "The Center for Experimental Nuclear Physics and Astrophysics (CENPA)." March 30, 2009. <http://www.npl.washington.edu/overview.html>. Accessed September 2009.

Wandrey, M.I. 1975. Four Bridges to Seattle: Old Ballard. Ballard Printing and Publishing, Seattle, WA.

Williams, Ruth. 1977. "Bryant, Alice Franklin (1899-1977)." http://www.historylink.org/index.cfm?DisplayPage=output.cfm&file_id=8865. Accessed November 2009.

Wilma, David. 2001. "Seattle Landmarks: Lacey V. Murrow Floating Bridge and East Portals of the Mount Baker Tunnels (1940)." HistoryLink.org. April 23, 2001. http://www.historylink.org/index.cfm?DisplayPage=output.cfm&file_id=3227. Accessed February 2009.

Wolin, E. 2003. Technical Memorandum – Sunken Vessels Potentially Located Near the Proposed SR 520 Alignment. SR 520 Bridge Replacement and HOV Project Team, Parametrix, Inc., CH2M HILL, and Parsons Brinckerhoff for the Washington State Department of Transportation, SoundTransit and the U.S. Federal Highway Administration.

WSDOT. 2009a. Description of Alternatives Discipline Report, I-5 to Medina: Bridge Replacement and HOV Project, SR 520 Bridge Replacement and HOV Program. Washington State Department of Transportation, Olympia, WA.

WSDOT. 2009b. Noise Discipline Report, I-5 to Medina: Bridge Replacement and HOV Project, SR 520 Bridge Replacement and HOV Program. Washington State Department of Transportation, Olympia, WA.



WSDOT. 2009c. Construction Techniques Discipline Report, I-5 to Medina: Bridge Replacement and HOV Project, SR 520 Bridge Replacement and HOV Program. Washington State Department of Transportation, Olympia, WA.

WSDOT. 2009d. Section 4(f) Evaluation Discipline Report, I-5 to Medina: Bridge Replacement and HOV Project, SR 520 Bridge Replacement and HOV Program. Washington State Department of Transportation, Olympia, WA.

WSDOT. 2009e. Transportation Discipline Report, I-5 to Medina: Bridge Replacement and HOV Project, SR 520 Bridge Replacement and HOV Program. Washington State Department of Transportation, Olympia, WA.

WSDOT. 2009f. Recreation Discipline Report, I-5 to Medina: Bridge Replacement and HOV Project, SR 520 Bridge Replacement and HOV Program. Washington State Department of Transportation, Olympia, WA.

GIS References

City of Bellevue. 1999. City Limits GIS Data. City of Bellevue Standard CD. http://www.ci.bellevue.wa.us/mapping_request_form.htm. Information Technology Department, Bellevue, WA. Accessed on August 31, 2005.

King County. 2004. City Limits GIS Data, King County Incorporated Areas. King County Standard GIS Data. <http://www.kingcounty.gov/operations/GIS.aspx>. King County, GIS Data Center, Seattle, WA. Accessed on October 2008.

King County. 2005. Stream and River GIS Data. King County Standard GIS Data CD. <http://www.kingcounty.gov/operations/GIS.aspx>. King County GIS Data Center, Seattle, WA. Accessed in October 2008.

King County. 2005. Street GIS Data. King County Standard GIS Data. <http://www.kingcounty.gov/operations/GIS.aspx>. King County, GIS Center, Seattle, WA. Accessed in October 2008.

King County. 2006. Aerial Photo GIS Data, original source NAIP USDA Imagery (USDA-FSA Aerial Photography Field Office). <http://rocky2.ess.washington.edu/data/raster/naip/King/index.html>. King County, GIS Center, Seattle, WA. Accessed October 2006.



King County. 2007. Waterbody GIS Data. King County Standard GIS CD. <http://www.kingcounty.gov/operations/GIS.aspx>. King County, GIS Center, Seattle, WA. Accessed on October 2008.

WSDOT. 2004. State Routes GIS Data, WSDOT GeoData Distribution Catalog. <http://www.wsdot.wa.gov./mapsdata/geodatacatalog>. Washington State Department of Transportation, Office of Information, Olympia, WA. Accessed on February 4, 2004.

CH2M HILL (2008) GIS Data (Park and Trails) include the following datasets:

City of Bellevue. 2005. Parks GIS Data, City of Bellevue Parks Property. City of Bellevue Standard GIS Data CD/July 2007. http://www.ci.bellevue.wa.us/mapping_request_form.htm. Information Technology Center, Bellevue WA. Accessed on July 24, 2007.

City of Kirkland. 2001. Parks GIS Data. City of Kirkland Custom GIS Data CD. http://www.ci.kirkland.wa.us/depart/Information_Technology/GIS/GIS_maps.htm. City of Kirkland GIS Department, Kirkland WA. Accessed on September 10, 2008.

City of Seattle. 1994. Bike Pedestrian Trail GIS Data, Bike Class Look-up Table. Custom GIS CD/ August 2007. <http://www.cityofseattle.net/GIS/docs/dataacds.htm>. City of Seattle SPU/GIS Product and Services Unit, Seattle WA. Accessed on May 15, 2008.

City of Seattle. 2005. Parks GIS Data. City of Seattle Standard GIS Data CD#3. <http://www.cityofSeattle.net/GIS/docs/dataacds.htm>. City of Seattle SPU/GIS Product and Services Unit, Seattle WA. April 10, 2007

King County. 2006. Parks GIS Data. King County Standard GIS CD. <http://www.kingcounty.gov/operations/GIS.aspx>. King County GIS Center, Seattle, WA. Accessed in October 2008.

SDOT and SPU. 2008. Seattle Bicycle Map, Bike Pedestrian Trail GIS Data-Seattle Bicycling Guide Map. <http://www.seattle.gov/transportation/bikemaps.htm>. Seattle Department of Transportation and Seattle Public Utilities GIS Products, Seattle, WA. Accessed in March 2008.

Seattle Parks and Recreation. 2009. Parks GIS Data. Seattle Parks and Recreation Data Request. Seattle Parks and Recreation and City of Seattle SPU/GIS Product and Services Unit, Seattle, WA. Accessed on February 25, 2009.



King County. 2008. Parcel GIS Data. King County GIS Standard Data CD. <http://www.kingcounty.gov/operations/GIS.aspx>. King County GIS Center, Seattle, WA. Accessed in October 2008.

