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## TABLE OF CONTENTS

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<b>Summary</b> .....	<b>1</b>
<b>Project Description</b> .....	<b>3</b>
Build Alternative .....	4
Northbound I-405 to Eastbound SR 520 Improvements.....	4
SR 520 to Southbound I-405 Improvements.....	4
Southbound I-405 to SR 520 Improvements.....	4
Other Improvements .....	5
Construction Staging.....	5
No Build Alternative .....	5
Project Location.....	5
Area of Potential Effects .....	6
Regulatory Context and Purpose of Investigation .....	7
State Regulations .....	7
<b>Natural and Cultural Setting</b> .....	<b>9</b>
Physiography, Geology, and Soils.....	9
Flora and Fauna.....	10
Prehistory .....	12
Ethnohistory.....	13
Native American Place Names.....	14
History .....	14
Previous Cultural Resource Investigations.....	18
In the Project Vicinity.....	18
In and Adjacent to the Project APE .....	18
Previously Recorded Cultural Resources in and Adjacent to the Area of Potential Effects .....	20
Archaeological Sites.....	20
Historic Buildings and Structures .....	20
Cultural Resource Expectations .....	20
<b>Methods</b> .....	<b>22</b>
Consultation and Coordination .....	22

Background Data Review .....	23
<b>Assessment Results .....</b>	<b>35</b>
Archaeological Investigations .....	35
Area of Proposed Widening of I-405 from Approximately Mile Post 14.4 to Mile Post 14.6 .....	35
Proposed Construction Staging Area .....	35
Sturtevant Creek Stream Mitigation Site .....	40
Historic Buildings and Structures .....	40
<b>Potential Effects and Mitigation Measures.....</b>	<b>43</b>
Construction Effects .....	43
Build Alternative .....	43
No Build Alternative .....	43
Operation Effects.....	43
Measures to Avoid or Minimize Adverse Effects .....	43
<b>Unavoidable Adverse Effects.....</b>	<b>44</b>
<b>Acronyms and Abbreviations.....</b>	<b>45</b>
<b>Glossary .....</b>	<b>46</b>
<b>References.....</b>	<b>53</b>
 <b>List of Exhibits</b>	
Exhibit 1: Project Location and Vicinity .....	3
Exhibit 2: Area of Potential Effects.....	6
Exhibit 3: Area of Potential Effects Overlaid on Historic General Land Office Maps .....	16
Exhibit 4: List of Previous Cultural Resource Survey Reports.....	18
Exhibit 5: Previously Recorded Historic Buildings and Districts.....	20
Exhibit 6: Project Overview - Sheet 1 .....	24
Exhibit 7: Project Overview - Sheet 2.....	25
Exhibit 8: Project Overview - Sheet 3.....	26
Exhibit 9: Project Overview - Sheet 4.....	27
Exhibit 10: Project Overview - Sheet 5.....	28

Exhibit 11: Project Overview - Sheet 6.....	29
Exhibit 12: Shovel Probe Locations MP 14.4 to MP 14.5 - Shovel Probes 01 to 04 .....	30
Exhibit 13: Shovel Probe Locations MP 14.5 to MP 14.6 - Shovel Probes 05 to 10 .....	31
Exhibit 14: Shovel Probe Locations at Staging Area – Shovel Probes 11 to 22 .....	32
Exhibit 15: I-405 Widening Shovel Probes.....	37
Exhibit 16: Staging Area Shovel Probes .....	39
Exhibit 17: Historic Structures within APE .....	40

### List of Photos

Photo 1: Overview of Proposed I-405 Widening Area Looking South.....	36
Photo 2: Overview of Proposed I-405 Widening Area Looking South from SP-05.....	36
Photo 3: Overview of Proposed I-405 Widening Area Looking North from SP-05.....	36
Photo 4: SP-04 in Proposed I-405 Widening Area .....	37
Photo 5: Asphalt in SP-05 in Proposed Ramp Area .....	37
Photo 6: Overview of Proposed Staging Area Looking East from SP-12.....	38
Photo 7: Overview of Proposed Staging Area Looking South from SP-11 .....	38
Photo 8: Overview of Proposed Staging Area Looking North from SP-11 .....	38

### List of Appendices

APPENDIX A	Tribal and Agency Correspondence.....	A-1
APPENDIX B	Historic Property Inventory Forms.....	B-1
APPENDIX C	Programmatic Agreement for Improvements to Interstate 405 (I-405) Corridor – King County and Snohomish County, Washington .....	C-1
APPENDIX D	Washington State Department of Archaeology and Historic Preservation Survey Cover Sheet .....	D-1



## Summary

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The Washington State Department of Transportation (WSDOT) is proposing to construct the Interstate 405 (I-405), NE 8th Street to State Route 520 (SR 520) Improvement Project to improve safety and reduce congestion in the vicinity of the I-405 and SR 520 interchange within the city of Bellevue. The National Historic Preservation Act (NHPA) requires federal agencies and their designates to consider the effects of their undertakings on historic properties. Historic properties are prehistoric or historic districts, sites, buildings, structures, or objects included in, or eligible for inclusion in, the National Register of Historic Places (NRHP). This technical memorandum identifies and evaluates cultural resources in the Area of Potential Effects (APE) to assist WSDOT and the Federal Highway Administration (FHWA) in determining the project's effects on historic properties.

In order to assess the potential effects of the proposed undertaking (the Build Alternative), the I-405 Team identified an APE and conducted a cultural resources assessment in compliance with Section 106 of the NHPA. The project team reviewed literature on the physiography, hydrography, climate, geology, soils, flora, fauna, prehistory, ethnohistory, and history of the project vicinity, and compiled information from previous cultural resource investigations within the APE. The project team used this information to predict locations and types of historic, archaeological, and cultural resources that might be encountered during the field survey, and to place those resources within a historical context in order to evaluate and determine whether they would be eligible for listing on the NRHP.

Immediately prior to fieldwork, the I-405 Team and Washington State Department of Archaeology and Historic Preservation (DAHP) cultural resources specialists attended an interagency fieldtrip to visit all proposed construction areas and view all potentially historic buildings in the APE. At each construction area, the archaeologists assessed the degree of previous ground disturbance and decided if archaeological subsurface investigation was warranted. Only two areas, both outside of and adjacent to the I-405 right-of-way, were considered to have the potential for retaining relatively undisturbed substrates in which historic, archaeological, or cultural resources could be present. The remaining portions of the APE, including the entire I-405 and SR 520 affected WSDOT rights-of-way, were characterized by extensive ground disturbance from previous construction projects.

The review of historic-era buildings indicated that none were eligible to the NRHP under criterion c (an important example of period architecture, landscape, or engineering). Consequently, the agencies agreed that all buildings could receive an abbreviated recording on the Historic Property Inventory Form and only the front façade needed to be photographed.

After a comprehensive records search, the project team identified no previously recorded archaeological sites within the APE. Further, no new archaeological resources were discovered during excavation of 22 shovel probes in the two proposed construction areas selected for investigation. No previously recorded historic resources are located within the APE. The project team identified and evaluated 26 buildings that date to the historic period (50 years or older at time of construction) within the APE. None are listed or eligible for listing in the NRHP.

I-405, NE 8th Street to SR 520 Improvement Project  
Cultural Resources Technical Memorandum

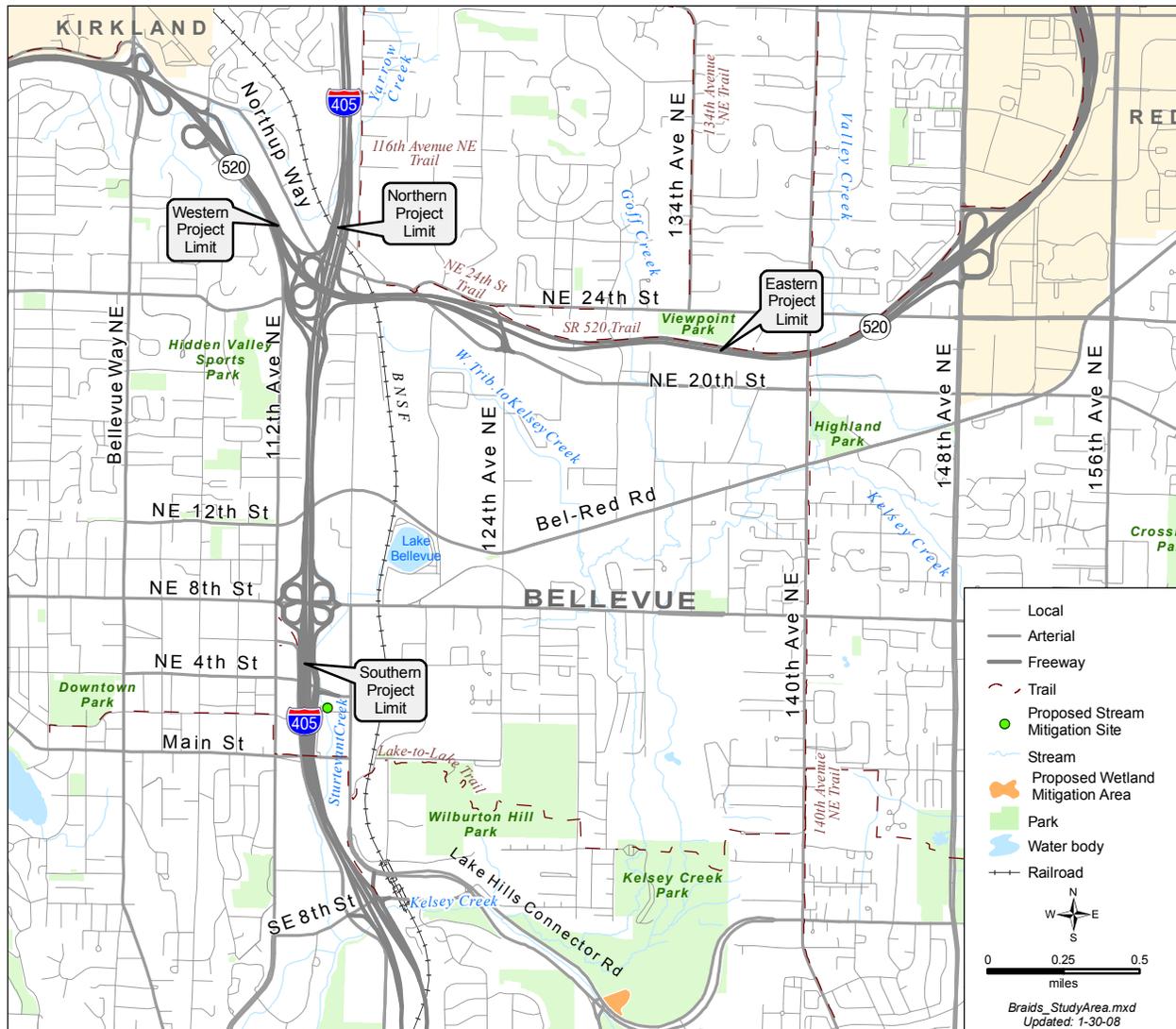
Proposed construction under the Build Alternative will not affect historic properties as none are present within the APE. The No Build Alternative will not affect historic properties as no new ground disturbance or construction activity would occur. No unavoidable effects will occur with either alternative, and no avoidance or minimization efforts are necessary for this project.

## Project Description

WSDOT is proposing to construct the I-405, NE 8th Street to SR 520 Improvement Project to improve safety and reduce congestion in the vicinity of the I-405 and SR 520 interchange within the city of Bellevue. As shown in Exhibit 1, the project extends approximately 1.5 miles north along I-405, from south of NE 8th Street to the SR 520 interchange, and approximately 1.6 miles east along SR 520, from the I-405 interchange to east of 134th Avenue NE.

The improvements will benefit the public by reducing congestion for the public and freight vehicles, improving safety, improving access and circulation to and from local streets, and providing opportunities for environmental improvements.

**Exhibit 1: Project Location and Vicinity**



This technical memorandum analyzes two alternatives, the Build Alternative and the No Build Alternative. The proposed roadway improvements for the Build Alternative, from south to north on I-405, and west to east on SR 520, are described below.

## **Build Alternative**

### **Northbound I-405 to Eastbound SR 520 Improvements**

- Reconfigure the existing northbound NE 4th Street on-ramp to become an auxiliary lane that exits to SR 520 and northbound I-405 as part of a two-lane exit ramp.
- Reconstruct portions of the NE 8th Street on- and off-ramps to northbound I-405. The on-ramp will be reconstructed at a lower grade than the I-405 mainline.
- Rebuild the NE 12th Street bridge crossing over I-405 to accommodate the new ramps.
- Construct a northbound on-ramp to SR 520 from a new NE 10th Street bridge crossing; the bridge crossing will be constructed as part of a separate project prior to constructing the on-ramp.
- Construct grade-separated ramps to divide traffic entering northbound I-405 from NE 8th Street and traffic exiting I-405 to SR 520.
- Construct grade-separated ramps to divide traffic entering eastbound SR 520 from northbound I-405 and traffic exiting eastbound SR 520 to 124th Avenue NE.
- Shift eastbound SR 520 mainline travel lanes toward the median.
- Extend the ramp from northbound I-405 to eastbound SR 520 on a collector-distributor system through the 124th Avenue NE interchange to merge with the existing eastbound SR 520 mainline just east of 134th Avenue NE.
- Reconstruct the 124th Avenue NE interchange off-ramp.
- Relocate an existing noise barrier. The new barrier will be approximately 1,585 feet long and 20 feet high.
- Construct several retaining walls needed to allow for the proposed widening of I-405.

### **SR 520 to Southbound I-405 Improvements**

- Reconfigure the ramps from SR 520 to southbound I-405 to improve traffic flow. The westbound SR 520 to southbound I-405 ramp will become a dedicated auxiliary lane, and on-ramp traffic will no longer be required to immediately merge with southbound I-405 mainline traffic. The eastbound SR 520 to southbound I-405 ramp will merge with the dedicated auxiliary lane.

### **Southbound I-405 to SR 520 Improvements**

- Realign the southbound I-405 to eastbound SR 520 loop ramp.
- Realign eastbound SR 520 to match the proposed improvements.

### **Other Improvements**

Other improvements proposed along the I-405 and SR 520 corridors within the project limits include retaining walls, relocating an existing noise barrier, stormwater culvert improvements, and stormwater management system improvements. Adverse effects on wetlands and their buffers will be compensated for at a wetland mitigation site located within the boundaries of Kelsey Creek Park southeast of the southern project limits. Mitigation at this site was approved as part of the I-405 Bellevue Nickel Improvement Project. Mitigation for unavoidable effects on an unnamed tributary to Sturtevant Creek will be in-kind and will be located within WSDOT right-of-way on the east side of I-405 and south of NE 4th Street. The location of the wetland and stream mitigation site is shown in Exhibit 1.

### **Construction Staging**

Construction funding is currently available for only some of the proposed improvements in the Build Alternative. Consequently, the project will be constructed in stages. The funded first stage will include the northbound I-405 improvements, including the braided ramps, the NE 12th Street bridge reconstruction, and the northbound NE 10th Street on-ramp. Additionally, one of the three proposed collector-distributor lanes from northbound I-405 to eastbound SR 520 will be constructed. This collector-distributor lane will cross over the existing NE 124th Street on-ramp before merging with SR 520. Construction of these funded improvements is scheduled to begin in 2009 and will be completed in approximately 3 years.

The unfunded project improvements include the remaining two lanes of the three-lane collector-distributor system, improvements from southbound I-405 to the eastbound SR 520 collector-distributor, and the improvements from eastbound and westbound SR 520 to southbound I-405. Construction of these remaining improvements depends on when project funding becomes available.

### **No Build Alternative**

The No Build Alternative assumes the new NE 10th Street bridge across I-405 that is being constructed as part of another project will be in place. The No Build Alternative assumes that only routine activities such as road maintenance, repair, and minor safety improvements would take place over the next 20 years. The No Build Alternative does not include improvements that would increase roadway capacity, reduce congestion, or improve safety on I-405 or SR 520. For these reasons, it does not satisfy the project's purpose—to reduce congestion created by weaving traffic on I-405 and SR 520.

The No Build Alternative has been evaluated in this technical memorandum to establish a reference point for comparing the effects associated with the Build Alternative.

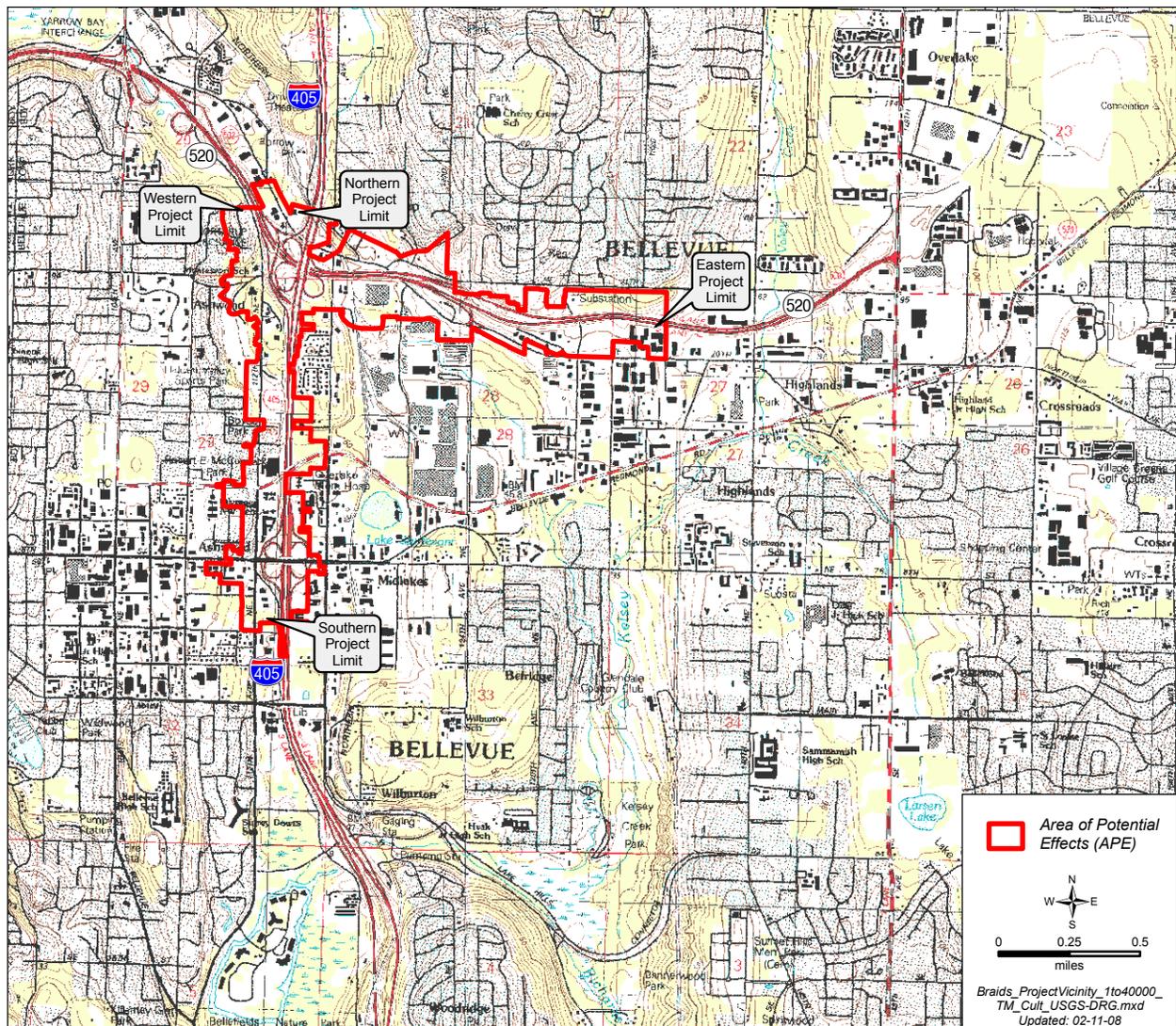
### **Project Location**

The project is located in Sections 20, 21, 27, 28, 29, 32, and 33 of Township 25 North, Range 5 East, Willamette Meridian, in the city of Bellevue, King County, Washington (see Exhibits 1 and 2).

## Area of Potential Effects

The Area of Potential Effects (APE), as defined under 36 Code of Federal Regulations (CFR) 800.16(d), includes areas where archaeological resources may be affected by ground disturbance during construction, and where historic structures or buildings may be directly or indirectly affected by the construction and operation of the project. Direct effects may occur where grading, clearing and grubbing, excavating, or other ground disturbance is planned, or when buildings, structures, or objects are altered or removed. Indirect effects may include increased noise or vibration, or changes to the viewshed.

**Exhibit 2: Area of Potential Effects**



Because the project is located in a highly urbanized area, the project team, in consultation with the State Historic Preservation Officer and interested and affected tribes, defined the APE as follows:

- The area that would experience ground disturbance and any indirect effects within one tax lot adjacent to the existing I-405 and SR 520 rights-of-way.
- New areas outside the rights-of-way to be acquired by the project.
- Margins of the connector streets that are part of the project.
- The proposed stream mitigation site for the project.

No investigation of the proposed wetland mitigation site was required because approvals for use of this site were obtained by the Bellevue Nickel Improvement Project.

### **Regulatory Context and Purpose of Investigation**

Section 106 of the NHPA, as outlined in 36 CFR 800, requires federal agencies to assess the effects of federally assisted undertakings on historic properties and evaluate these properties for NRHP eligibility based upon aspects of integrity of the resource and criteria a, b, c, and d as defined in 36 CFR 60. Archaeological materials, structures, and properties more than 50 years in age must be evaluated for NRHP significance under a set of criteria specified in 36 CFR 60.4:

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, material, workmanship, feeling, and association, and:

- (a) that are associated with events that have made a substantial contribution to the broad pattern of our history; or
- (b) that are associated with the lives of persons significant in our past; or
- (c) that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a supreme artisan, or that possess high artistic values, or that represent a substantial and distinguishable entity whose components may lack individual distinction; or
- (d) that have yielded, or may be likely to yield, information important in prehistory or history.

Because the proposed construction date for the project is scheduled to begin in 2009, the I-405 Team evaluated resources in this investigation that would reach 50 years in age by that time; that is, we evaluated those buildings or structures constructed in 1959 or before.

### **State Regulations**

Construction of the project also requires environmental compliance at the state level through Washington's State Environmental Policy Act (SEPA). Because of this requirement, project effects on cultural resources must be considered in weighing the overall effect of the project on the environment, as stipulated in Washington Administrative Code (WAC) 197-11-960. SEPA requires that substantial environmental effects on cultural and historic resources be considered;

be taken into account during the threshold determination process (WAC 197-11-330); and be considered in the final environmental impact statement (WAC 197-11-440). SEPA also stipulates that historic and cultural preservation is included as an element of the environment (WAC 197-11-444). All these requirements are satisfied within the NEPA process by compliance with Section 106 of the National Historic Preservation Act.

Native American burials are protected under Revised Code of Washington (RCW) 27.44, and effects on archaeological sites are regulated by RCW 27.53. The Washington Heritage Register (WHR) is the Washington State version of the NRHP and follows similar criteria. The Washington State Department of Archaeology and Historic Preservation (DAHP), rather than the National Park Service (NPS), administers the WHR. It emphasizes local and statewide significance and has a lower threshold for eligibility than the NRHP. Any building or site listed in the NRHP is automatically listed on the WHR.

## Natural and Cultural Setting

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The following sections provide overviews of the natural and cultural history for the I-405, NE 8th Street to SR 520 Improvement Project APE, including physiography, geology and soils, flora and fauna, prehistory, ethnohistory, and history, and previous cultural resources work in the project vicinity. The project team used this information to develop expectations of the locations and types of cultural resources that may occur in the project APE, and to provide a historical context by which to evaluate their respective significance.

### **Physiography, Geology, and Soils**

Mesozoic- to Tertiary-age sedimentary and volcanic basement rock comprises the core of the Olympic and Cascade ranges. These same geologic units in the Puget Sound area are overlain by a mantle of glacial sediments up to 4 miles thick. Oceanic oxygen isotope records demonstrate the onset of the Pleistocene era approximately 1.8 million years ago, during which global temperatures dropped precipitously along with sea levels, while continental ice sheets coalesced on land. Patterned irregularities in the earth's orbit, known as Milankovitch Cycles, together with changes in oceanic circulation patterns and continental landmass distributions are thought to have created oscillations in global temperatures that appeared as alternate cold glacial and warmer interglacial climatic sequences.<sup>1, 2</sup>

In the Puget Sound Region, at least seven successive advances of ice descended southward from the Canadian Cordilleran ice sheet into Puget Sound, coalescing with montane glaciers and impounding a series of glacial lakes to the west. The Puget Lobe reached a maximum thickness of almost 5,600 feet and a width of more than 60 miles in the Seattle-Bellevue vicinity, moving at a rate of 300 to 525 feet per year and eventually extending as far south as Olympia. During subsequent periods between glacial advances, glacial recession was accompanied by the formation of extensive outwash plains, with drainages resuming their north-trending courses into Puget Sound and the Strait of Juan de Fuca.<sup>2, 3, 4, 5, 6</sup>

The most extensive glacial deposit in the Bellevue vicinity, which is predominantly manifest in local topography, is the Vashon Drift. This formation is named after the Vashon Stage of the Fraser Glaciation, which occurred 18,500 to 14,400 years ago. This deposit consists of approximately 200 feet of poorly sorted clays, silts, sands, gravels, and boulders that represent basal till and glacial outwash.<sup>2, 3, 5, 6, 7</sup>

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<sup>1</sup> Bradley, 1985.

<sup>2</sup> Pielou, 1991.

<sup>3</sup> Easterbrook, 2003.

<sup>4</sup> Orr and Orr, 1996.

<sup>5</sup> Troost et al., 2003.

<sup>6</sup> Wright and Frey, 1965.

<sup>7</sup> Minard, 1983.

Vashon till is distributed locally throughout the I-405 corridor. Advance outwash deposits also appear along the I-405 corridor, but stratified gravels and sands, deposited by advance and recessional outwash, are located along SR 520.<sup>7, 8</sup> Because of its proximity to an active subduction zone between the Juan de Fuca, Pacific, and American tectonic plates, the Puget Trough is susceptible to volcanism and pronounced seismicity. Up to 100 earthquakes occur each year in the region and are attributable to two factors: subduction and north-south compressional stress.<sup>9</sup>

Soil distributions are mapped on the basis of shared traits, such as parent material, organic content, landform, texture, color, slope, aspect, and moisture. The primary soil type within the APE is the Alderwood-Everett series, a group of moderate to very deep, well-drained soils formed on glacial till, terraces, and outwash plains. This soil series in the APE can be further divided locally into two primary soils: Alderwood gravelly sandy loam and Everett gravelly sandy loam. Alderwood soils are moderately deep, well-drained, dark brown to dark grayish-brown sediments formed on glacial till in upland forests. These soils occupy slopes from 6 to 30 percent and consist of very gravelly sandy loam appearing in three horizons, the lowest of which exhibits a hardpan at about 27 inches below the surface. The Everett gravelly sandy loam is a very deep, excessively drained, dark brown soil formed on gravelly glacial outwash and occupies slopes varying from 5 to 15 percent.<sup>10</sup>

The repeated advance and retreat of glacial ice, seismicity, and soil formation have major implications for the preservation and visibility of archaeological materials. The deposition of glacial and other sediments, as well as erosion, plays a role in determining the nature, age, and distribution of archaeological remains recoverable in the Bellevue area. Moreover, areas once characterized by thick vegetation can be subject to processes such as sediment disturbance by tree and plant roots that alter the landscape and expose cultural deposits; vegetation may also stabilize slopes and protect sediments from erosion. Other variables affect site preservation, including faunal disturbance and soil conditions, such as formation processes, alkalinity, and acidity.<sup>11, 12</sup>

## **Flora and Fauna**

The dominant vegetation province in the Puget Lowland is the forest province. The Western Hemlock (*Tsuga heterophylla*) Zone is the plant association that dominates the Bellevue area of the Puget Lowland. Douglas-fir (*Pseudotsuga menziesii*) is the dominant tree in the Western Hemlock Zone, and the western red cedar (*Thuja plicata*) consistently occurs in this zone. Western white pine (*Pinus monticola*) and lodgepole pine (*Pinus contorta*) also were once common in the Puget Sound area, although presently they are not. With disturbance, red alder

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<sup>8</sup> Booth et al., 2002.

<sup>9</sup> Gower et al., 1985.

<sup>10</sup> Snyder et al., 1973.

<sup>11</sup> Thorson, 1980.

<sup>12</sup> Waters, 1992.

(*Alnus rubra*) often is the first species to become established after the removal of coniferous forest. Big-leaf maple (*Acer macrophyllum*) and Douglas-fir are additional successional species. Understory species commonly found in the project APE include sword fern (*Polystichum munitum*), bracken fern (*Pteridium aquilinum*), Oregon grape (*Berberis nervosa*), vine maple (*A. circinatum*), huckleberry (*Vaccinium* spp.), berry vines (*Rubus* spp.), creambush ocean spray (*Holodiscus discolor*), salal (*Gaultheria shallon*), and twinflower (*Linnaea borealis*).<sup>13</sup>

Terrestrial fauna present historically and currently in the Puget Lowland include deer (*Odocoileus* spp.), elk (*Cervus canadensis*), black bear (*Ursus americanus*), cougar (*Felis concolor*), and coyote (*Canis latrans*). These mammals have extensive ranges and at one time were common in both bottomlands and uplands. Marshy habitats in the project vicinity typically supported a specialized, diverse array of fauna that still includes raccoon (*Procyon lotor*), ermine (*Mustela erminia*), beaver (*Castor canadensis*), river otter (*Lutra canadensis*), marten (*Martes americana*), and muskrat (*Ondatra zibethicus*).<sup>14</sup>

The aquatic environments of Puget Sound are diverse and include freshwater rivers, streams, and lakes. Anadromous fish pass through these rivers and lakes. The relative abundance of different species of these fish in river and stream channels and the timing of their passage are specific to each drainage. Lake Washington supports populations of kokanee (*O. nerka*) and sockeye (*O. nerka*) salmon. Populations of resident cutthroat (*O. clarki*) and rainbow trout (*O. mykiss*) inhabit the waters of the Sammamish River, Lake Sammamish, and Lake Washington.<sup>15</sup>

<sup>16</sup>

Historically, the Bellevue area provided habitat for numerous animals and plants that would have served as food and other resources for Indians and early Euro-American settlers. Large and small game animals, anadromous and resident fish, and birds were procured for food and the resources they provided, such as bones for tool making, hides for clothing, and sinew for bow strings. Plants provided sustenance and building materials and also had medicinal uses. Local tribes used parts of western hemlock for firewood, carving fishing hooks, medicinal poultices, and cold remedies. White pine gum served as cough medication and an infusion made from its bark was used for stomach problems and rheumatism. Red alder provided a dye that camouflaged fishnets. Big-leaf and vine maple fiber was used in basketry, and the leaves were used as containers for cleaned fish. Sword fern leaves were also used as food containers, bedding, and berry-drying racks; the rhizomes were sometimes baked and eaten. Huckleberries and salal berries were eaten raw or dried for later use. Oceanspray wood was made into canoe paddles, and its seeds were used as a blood purifier.<sup>17, 18</sup>

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<sup>13</sup> Franklin and Dyrness, 1988.

<sup>14</sup> Dalquest, 1948.

<sup>15</sup> Williams et al, 1975.

<sup>16</sup> Wydoski and Whitney, 1979.

<sup>17</sup> Gunther, 1945.

<sup>18</sup> Moerman, 1998.

## Prehistory

The archaeological record for Puget Sound is divided into three broad chronological periods: Early (15,000–5,000 years before present [BP]), Middle (5,000-1,000 BP), and Late (1,000-250 BP). The Early Period is characterized by chipped stone tools such as fluted projectile points, leaf-shaped projectile points, and cobble tools with associated core and blade toolsets. Subsistence patterns exhibit a reliance on inland hunting supplemented with fishing and shellfish and mollusk procurement in riverine and seashore contexts. Settlements were typically located on upland plateaus or river terraces, although seaside occupations may have been inundated by seismic or eustatic processes during the Holocene epoch (last 12,000 years).<sup>19, 20, 21, 22</sup>

The Middle Period is characterized by a great variety of tool assemblages that exhibit broad similarity within geographical regions and differences across regions. The patterning is thought to represent regional adaptations to specific sets of food resources. Stone tool assemblages contain notched dart points that typically are smaller in size than Early Period projectile points, and hunting weaponry is supplemented for the first time with groundstone, bone, and antler toolsets. Subsistence practices showed an increased orientation toward marine and riverine habitats; shellfish, salmon, and sea mammals became more important resources during this period. Shell middens appear in the archaeological record during this period. Occupation areas expanded to include modern shorelines and islands in Puget Sound, characterized by the earliest evidence of seasonal village sites.<sup>23, 24, 25, 26</sup>

The Late Period is characterized by assemblages containing small side-notched and triangular stone projectile points, greater numbers of bone and antler tools, and exotic trade goods imported from indigenous populations of the Columbia Plateau. After European and Asian contact, archaeological assemblages often have metal arrowheads, trade beads, other objects functionally and physically modified to use as jewelry, and smoking pipes. Salmon became a major staple, indicated by the construction and maintenance of elaborate fish weirs. Aquatic subsistence practices were supplemented by terrestrial hunting and plant procurement. Permanent, ethnographically described village sites were established and persisted into the historic period.<sup>27, 28, 29, 30</sup>

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<sup>19</sup> Carlson, 1990.

<sup>20</sup> Kidd, 1964.

<sup>21</sup> Nelson, 1990.

<sup>22</sup> Wessen and Stilson, 1987.

<sup>23</sup> Carlson, 1990.

<sup>24</sup> Kidd, 1964.

<sup>25</sup> Nelson, 1990.

<sup>26</sup> Wessen and Stilson, 1987.

<sup>27</sup> Carlson, 1990.

<sup>28</sup> Kidd, 1964.

<sup>29</sup> Nelson, 1990.

<sup>30</sup> Wessen and Stilson, 1987.

## **Ethnohistory**

The project vicinity was occupied by the Duwamish Indians, a southern Coast Salishan linguistic group that consisted of a number of bands, including the Sammamish, who occupied much of the area along the river that bears their name.<sup>31, 32, 33</sup>

Duwamish bands oriented their settlement-subsistence systems on seasonal rounds toward the saltwater, riverine, and inland environments within their territories. The focus of the Duwamish's yearly cycle was the permanent winter village, which consisted of cedar plank longhouses in which several families resided, although temporary pole and mat structures were used seasonally when family groups dispersed to harvest and process resources in different environmental zones. Primary resources consisted of shellfish and salmon harvests supplemented with roots, berries, and other plant products. Fishing stations were established along drainages to harvest salmon and steelhead trout. Inland bands trapped waterfowl with nets and hunted game, such as elk, deer, bear, and beaver. Trade was conducted during the fall, and tool maintenance, basket weaving, wood carving, and storytelling were predominantly reserved for the winter.<sup>23, 25, 34, 35, 36</sup>

Introduced diseases usually preceded the physical arrival of Euro-Americans, with numerous epidemics decimating the native populations. Euro-American fur traders were followed by incursions of missionaries and settlers who dislocated native groups. Alcohol, disease, and relocation further disrupted social and political organization.<sup>23, 25, 27, 28</sup>

In 1855, Isaac Stevens, then Governor of Washington Territory, initiated a series of treaty negotiations with the Duwamish, Suquamish, Snoqualmie, Snohomish, Stilliguamish, Swinomish, Skagit, Lummi, and other western Washington tribes designed to relocate native groups to small reservations within their traditional territories. Native groups in the northeastern Puget Sound region avoided formal removal and relocation programs. In the late 1960s, the Duwamish, Samish, Snohomish, Snoqualmie, and Steilacoom united to form the Small Tribes Organization of Western Washington to pressure the U.S. for a settlement and recognition for the seizure of tribal lands.<sup>37</sup> The Small Tribes Organization of Western Washington continues today to serve as an organization for tribal groups through which they can work cooperatively to promote the education, health, welfare, and economic development of their members; to improve relations, communications and understanding among the tribes and bands; and to seek and obtain funds for new and improved services.<sup>38</sup>

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<sup>31</sup> *Haeberlin and Gunther, 1930.*

<sup>32</sup> *Spier, 1936.*

<sup>33</sup> *Swanton, 1978 [1952].*

<sup>34</sup> *Campbell, 1981.*

<sup>35</sup> *Ruby and Brown, 1986.*

<sup>36</sup> *Suttles and Lane, 1990.*

<sup>37</sup> *Marino, 1990.*

<sup>38</sup> *Washington State Department of Community, Trade, and Development, 2007.*

## **Native American Place Names**

The project vicinity exhibits several ethnographic locations in the form of toponyms, or Native American place names. These place names describe areas associated with Coast Salish tradition, settlements, and subsistence. The ethnographer T.T. Waterman notes that place names vary according to tribal recollection, and his informants admitted that many locations were lost to tradition over time.<sup>39</sup> Salishan place names in the project vicinity include *sts!ap*, meaning “crooked” or “meandering,” located upstream from Bothell at Squawk Slough; *TL!ahwa'dis*, “something growing or sprouting,” a village on the north shore of Lake Washington at the mouth of the Sammamish River; and *Cxa'tcugwEs*, “where the lake becomes elongated,” denoting the narrow estuary where the Sammamish River enters Lake Washington. Lake Washington was known as *At-kow-chug*, “large body of fresh water,” or *Xatcu*, “lake,” although Waterman claims a colleague had identified the lake as *D'Wamish* Lake, around which resided the *S'pe-tehl-mush*. *Saba'bsh* is identified as the area encompassing the eastern shore of Lake Washington and the shores of Lake Sammamish, and also as a band alternately referred to as *Sts-ap-abc*, “meander dwellers,” who lived along the Sammamish River. The latter place name may equate with a village, *Stsapabsh*, located on the present site of Woodinville. Waterman mentions a colleague who identified the *Xatcxatcu-abc*, “lake-dwellers,” referring to people who lived along the shores of Lake Washington, and *Squaux'abc*, “dwellers at Squax,” as that band that inhabited the area around Lake Sammamish.<sup>31, 40</sup>

Currently, Indian tribes are concerned about development that occurs within their ceded territories and traditional use areas. These tribal groups often want to protect cultural properties, which include archaeological, traditional procurement, history or landmark, and religious sites.<sup>41</sup>

## **History**

Although Russian, Spanish, and British naval expeditions are thought to have visited the coastal waters off Washington state as early as the middle 1500s, British Captain George Vancouver's arrival in 1792 marks the earliest undisputed record of Euro-American contact in the Puget Sound region. Many of the region's physiographic place names, such as Puget Sound, Hood Canal, Mount Baker, and Mount Rainier, were derived from members of Vancouver's party and the British admiralty.<sup>29, 42, 43, 44</sup>

Exploration was followed by incursions of Euro-American fur traders under the aegis of the Hudson's Bay Company during the 1830s. Early contacts between Euro-American traders and

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<sup>39</sup> Waterman, 1922, 2001.

<sup>40</sup> Waterman, 1920.

<sup>41</sup> Kennedy, 1993.

<sup>42</sup> Cole and Darling, 1990.

<sup>43</sup> Kirk and Alexander, 1990.

<sup>44</sup> Meany, 1923.

native populations proved disastrous to the latter as they fell victim to waves of malaria, tuberculosis, and smallpox epidemics in the late 1700s and middle 1800s.<sup>29, 34, 35</sup>

Isaac Stevens, the first governor, organized the Washington Territory in 1853. Stevens helped pave the way for Euro-American settlement and a Northern Pacific Railway route by compelling regional Indian tribes to relocate to reservations under a series of treaties in 1855. The unpopularity of removal amongst Native Americans was manifested by widespread rebellion by tribal groups, together referred to by historians as the *Indian Wars*.

An especially important stimulus for settlement in the region was the Donation Land Act of 1850. The law granted each male American citizen 18 and older a half section, or 320 acres, of public lands, requiring that he occupy, cultivate, and “improve” it for four consecutive years. Wives of the settlers were granted an additional 320 acres in their own names. The Euro-American population of the territory increased by 400 percent between the 1850s and 1880s.<sup>45, 46</sup> Cadastral surveys of western Washington Territory by the General Land Office began in 1851 with the setting of the Willamette Meridian. The surveys provided information about topography, hydrology, vegetation, roads, trails, homestead cabins, and Indian villages and camps by mapping these features, thereby aiding settlers in selecting a land claim. The township, range, and section lines for the Bellevue area were surveyed in 1870-1871 (General Land Office 1871). No cabins, camps, or villages are shown on the General Land Office map of the project vicinity (Exhibit 3). Washington eventually achieved statehood on November 11, 1889.<sup>35</sup>

Bellevue’s first settlers, William Meydenbauer and Aaron Mercer, arrived in 1869. These pioneers claimed lands close to what is now downtown Bellevue. John Zweifelhofer emigrated from Austria in 1860, settling in 1879 on 124 acres north of SR 520 near the intersection of 124th Place NE and NE 24th Street.<sup>47, 48</sup> Zweifelhofer raised strawberries on his parcel but supplemented his farming income by using dynamite to clear road grades through hillsides for the county road department. One of the earliest roads built on the eastern side of Lake Washington was NE 24th Street, which was begun in 1879 as a route from the lake to Northup and intersecting with a trail along what is now 140th Avenue NE, just east of the project.<sup>39</sup>

Much of the Eastside area was heavily wooded, with the exception of marshy areas around Yarrow Bay and Lake Sammamish. Loggers in these early days routinely felled trees measuring 9 feet in diameter and 325 feet high, with teams of horses and oxen skidding the logs to Lake Washington, where they were floated to Phinney’s Mill on the western shore.<sup>39</sup> As more land was cleared in the area, greater numbers of settlers were drawn to the Bellevue area.

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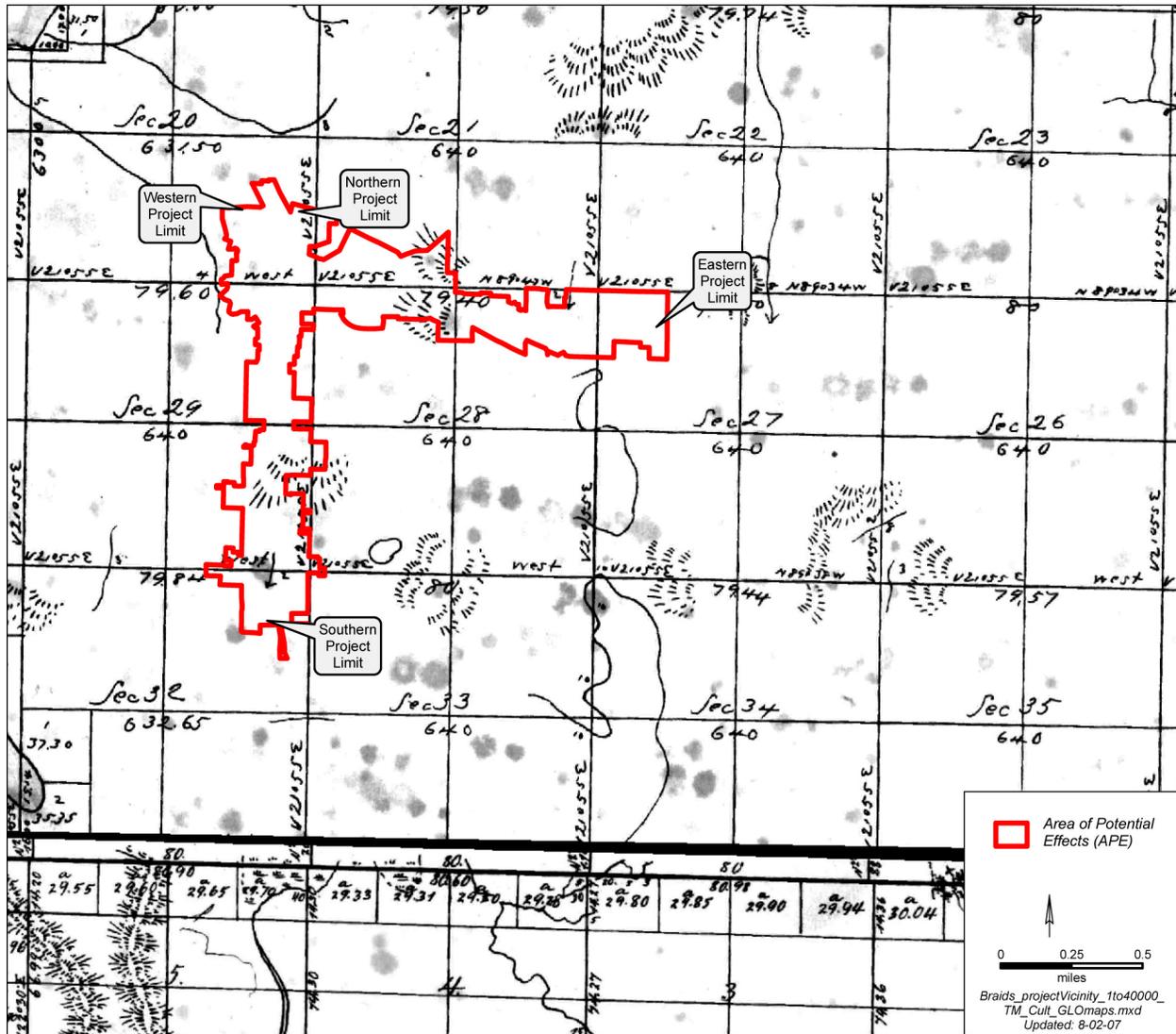
<sup>45</sup> *Ficken and LeWarne, 1988.*

<sup>46</sup> *Johansen and Gates, 1967.*

<sup>47</sup> *McDonald, 2000.*

<sup>48</sup> *Metsker, 1926.*

**Exhibit 3: Area of Potential Effects Overlaid on Historic General Land Office Maps**



Alvin Goff was one of the earliest pioneers to reach the Pacific Northwest, arriving in 1852. He settled in Bellevue in 1884, and was the first to establish a cattle ranch in the area, building a log house for his wife Mary Green Goff on his 120-acre claim. The Goffs also grew strawberries, cherries, and apples on their farm. Mary continued to live on their claim, located north of SR 520 at the intersection of NE 24th Street and 130th Avenue NE, through the 1930s. Mary Goff's sister Ann, wife of Roscoe Dunn, ran the Northrup post office. Her farm tract straddled what is now I-405.<sup>39, 40, 49</sup>

Bellevue's first post office opened in 1886, but the town of Bellevue was not platted until 1904, when Oliver and Laura Franz and William and Mary Raine created 0.5- to 1-acre lots in what is now downtown Bellevue.<sup>39, 41</sup> Supplies were brought by boat across Lake Washington until the

<sup>49</sup> Bagley, 1929.

Northern Pacific Railroad (NPRR) constructed the Washington Belt Line between Renton, Washington, and the Canadian border. By 1914, Bellevue's population had grown to 750 and students could attend one of four grade schools and a high school. The Highland grade school opened in 1887 at the intersection of NE 24th Street and 140th Avenue NE, and the Northrup School opened in the community of Northrup by 1890.<sup>39</sup> By the turn of the 20th century, much of the area was still rural and was advertised as prime farming country, particularly for berry growing, surrounded by marketable timber. Three local granges boasted a total of 103 members.<sup>39, 41, 50</sup>

Paved roads connecting Bellevue with other towns were contracted by the county in 1919. The first of these linked Newport with Bellevue, followed by the completion of Lake Washington Boulevard to Seattle in 1920.<sup>39</sup> Within two years, automobile travel around the circumference of Lake Washington was possible, although it was not always a recommended route because of the condition of the road surface in some places.<sup>39, 51</sup> Transportation growth mirrored civic development in Bellevue during the 1920s and 1930s. Downtown Bellevue supported a variety of businesses, including a nursery, a hardware store, a beauty parlor, doctors and a dentist, a feed store, cafes, a candy store, and garages and fuel stations. Plans for a bridge across Lake Washington linking the town more directly with Seattle were formulated as early as 1926. Although several routes were proposed, magazine magnate and civic developer Miller Freeman suggested constructing the shortest route toward Elliott Bay. The modern I-90 corridor, built in 1940, deviates less than 2,000 feet from the line Freeman drew. Plans for a north-south Eastside route were approved in 1952. Highway A-2, the precursor to I-405, was constructed. The present route of I-405 had been approved by 1961, and construction of the freeway had been started. Highway planners began proposing routes for what would become the second bridge across the lake, SR 520, in 1948. After 15 years of planning and construction, the new highway opened to traffic in 1963.<sup>39, 52</sup>

The late 1940s saw increased development as part of a post-World War II economic boom. Developers focused on former agricultural parcels located only 15 minutes from Seattle in Bellevue on the east side of Lake Washington upon which to build residences.<sup>53, 54</sup> Homebuyers wanting to live on the Eastside spurred the development of new neighborhoods.<sup>39</sup> Developers began platting other communities in a widening arc from Bellevue's Main Street. The population growth of Bellevue reflects the movement of people into the Eastside suburbs: 400 residents in 1900; 1,500 in 1920; more than 9,000 within 2 years after World War II; 12,800 in 1960; and more than 62,000 by 1970.<sup>39, 45, 55</sup>

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<sup>50</sup> USGS, 1897.

<sup>51</sup> Jones, 1963.

<sup>52</sup> Whitely, 2002.

<sup>53</sup> Brant, 1947.

<sup>54</sup> Cohn and Sellers, 1990.

<sup>55</sup> Stein, 2004.

## **Previous Cultural Resource Investigations**

This section provides information about archaeological investigations and field data in the project vicinity, as well as information on previously recorded historic buildings, structures, objects, or districts.

Four investigations have been conducted within 2 miles but outside of the project APE, and seven cultural resources investigations have been conducted within or immediately adjacent to the project APE (Exhibit 4).

### **In the Project Vicinity**

Four cultural resources investigations have occurred within 2 miles of the APE but not within or immediately adjacent to the APE. These assessments were associated with a state park development, a housing project, a telecommunications project, and a transportation project.<sup>56, 57, 58, 59</sup> Subsurface shovel probing at Bridle Trails State Park, one mile north of the project APE, yielded clear and brown glass fragments interpreted to indicate recent activity in the park.<sup>56</sup> The archaeological survey of the Crossroads Kensington Square Project uncovered a prehistoric-period lithic scatter (45KI718; see “Archaeological Sites” section below).<sup>55, 60</sup> The investigations for the telecommunication and transportation projects did not reveal any cultural resources.<sup>57, 58</sup>

### **In and Adjacent to the Project APE**

Recently, the Kirkland Nickel Project, I-405 between SR 520 and SR 522, assessed cultural resources along a 7.6-mile-long stretch of the highway but did not record any substantial cultural resources.<sup>61</sup> The I-405, NE 10th Street Overcrossing Project assessed cultural resources for a new bridge structure over I-405; one historic-period structure was recorded but was determined to be not eligible for listing on the National Register of Historic Places.<sup>62</sup> The Bellevue Nickel (I-405, SE 8th Street to I-90) Project assessed cultural resources along I-405 directly south of the current project limits and did not identify any substantial archaeological sites. However, a possible historic district was noted but not evaluated and the Wilburton Trestle was identified as listed on the WHR.<sup>63</sup>

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<sup>56</sup> *Jones and Stokes, 2005.*

<sup>57</sup> *Luttrell, 2003.*

<sup>58</sup> *Maurer and Blakeman, 2002.*

<sup>59</sup> *Rooke, 2002.*

<sup>60</sup> *Cooper, 2005.*

<sup>61</sup> *WSDOT, 2005a.*

<sup>62</sup> *WSDOT, 2005b.*

<sup>63</sup> *WSDOT, 2006a.*

**Exhibit 4: List of Previous Cultural Resource Survey Reports**

<b>Author</b>	<b>Date</b>	<b>Name of Report</b>	<b>Resource</b>
Robinson	1982	<i>SR 405: Factoria to Northup Way-HOV</i>	None
Robinson	1983	<i>A Preliminary Archaeological Reconnaissance of SR 520: 108th Avenue N.E. Transit Access Ramp, King County</i>	None
Lyons	1992	<i>A Cultural Resource Overview of the Proposed Modifications to SR 520 Between 104th Avenue NE and SR 901, King County, Washington</i>	None
Rooke	2002	<i>WA-479 (Texaco)</i>	None
Maurer and Blakeman	2002	<i>Cultural/Historical Resources Macleod WA-479-03</i>	None
Luttrell	2003	<i>Cultural Resources Investigations at Bridle Trails State Park, King County, Washington</i>	None
Jones and Stokes	2005	<i>Archaeological Survey of the Housing at the Crossroads Kensington Square Project, City of Bellevue, King County, Washington</i>	45KI718
WSDOT	2005a	<i>I-405, SR 520 to SR 522 Kirkland Nickel Project: Historic, Cultural, and Archaeological Resources Discipline Report and Supplemental Analysis</i>	None
WSDOT	2005b	<i>I-405, NE 10th Overcrossing Project Historic, Archaeological, and Cultural Resources Technical Report</i>	None
Goetz	2006	<i>Cultural Resources Assessment for NE 24th Street Improvement Project, Bellevue, Washington</i>	None
WSDOT	2006	<i>Bellevue Nickel Improvement Project Environmental Assessment</i>	Wilburton Trestle Historic District

In 1982, a cultural resources assessment was conducted for the construction of the high-occupancy vehicle (HOV) lanes on I-405 from Factoria to Northup Way. No cultural resources were recorded.<sup>64</sup> In 1983, an archaeological reconnaissance of SR 520 for a transit access ramp was conducted. No surface resources were discovered, but it was recommended that monitoring occur when the area was denuded prior to construction because it had not been disturbed during previous construction activities.<sup>65</sup> In 1992, a cultural resources overview for proposed modifications to SR 520 reviewed possible cultural resources that may be affected by the project. The assessment recommended that a cultural resource survey be conducted prior to construction.<sup>66</sup>

In 2006, a cultural resources assessment was conducted for NE 24th Street between Northup Way and 130th Avenue NE for proposed roadway improvements. The cultural resources

<sup>64</sup> Robinson, 1982.

<sup>65</sup> Robinson, 1983.

<sup>66</sup> Lyons 1992.

assessment did not identify any substantial archaeological resources. Two historic structures were recorded but were not eligible for listing in the NRHP.<sup>67</sup>

### **Previously Recorded Cultural Resources in and Adjacent to the Area of Potential Effects**

The project team reviewed archaeological site files, historic property inventory files, the Washington Heritage Register, and the National Register of Historic Places on file at DAHP to determine if previously recorded resources are located within or close to the project APE, and to provide context for historical buildings in the surrounding area.

#### **Archaeological Sites**

No previously recorded archaeological site is located within the APE, and the closest known site, 45KI718, is located about 2 miles from the project.<sup>55, 59</sup> The site is a prehistoric-period lithic scatter containing 11 chipped stone artifacts, one Cascade projectile point, and one fractured biface.

#### **Historic Buildings and Structures**

No previously recorded historic resources are located within the APE. Four historic buildings listed on the WHR are located within a 2-mile radius of the project and outside the APE. Three of them also are listed on the NRHP (Exhibit 5).

**Exhibit 5: Previously Recorded Historic Buildings and Districts**

Site Number	Site Name	Proximity of APE	Listing Status
45KI590	Louis S. Marsh House	approximately 2 miles	WHR/NRHP
45KI606	Frederick W. Winters House	approximately 2 miles	WHR/NRHP
KI193	The Moorings	approximately 1.5 miles	WHR/NRHP
45KI262	Wilburton Trestle	approximately 0.75 mile	WHR

### **Cultural Resource Expectations**

The project is located in an upland natural environment. In upland settings away from major rivers in the Puget Sound region, approximately 20 to 40 inches of Holocene sediments of the Alderwood soil series generally mantle glacial till. Archaeological materials will be limited to the Holocene sediments, above the glacial till, so in general should only be shallowly buried. There is a low probability of encountering cultural resources buried deeper than can be reached by shovel.

Ethnographically described settlement and subsistence patterns and the prehistoric-period archaeological record as known elsewhere in the region suggest that sites located in upland settings away from major water courses should be quite sparse in geographical distribution. Thus, in general terms, there is a low probability of sites occurring in the project APE. If

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<sup>67</sup> Goetz, 2006.

present, however, archaeological sites would tend to occur on relatively flat, elevated topographic positions. Early Holocene prehistoric sites would occur on late Pleistocene-age moraines, ridges, plateaus, elevated, but now abandoned terraces, and be more deeply buried than Middle- and Late-Period sites. Middle-, Late-, and Historic-Period materials should also be located on relatively flat, elevated positions, such as ridge tops overlooking lowlands, and lie on and just below the surface. More recent-aged sites would have a greater risk of being exposed and damaged by ground disturbance.

The most common Historic-Period resources in the APE would be associated with late 19th century through 20th century homesteading and farming. These site types would yield features associated with forest clearing, and architectural remains with their associated utilitarian items of glass, metal, ceramic, and brick, the condition and visibility of which would depend on vegetative cover, the age of the resource in question, or whether earlier structures had been leveled to make way for subsequent land use or early road construction.

## Methods

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The project team prepared this cultural and historic resources technical memorandum in accordance with the following guidelines: Section 456 of the WSDOT *Environmental Procedures Manual*;<sup>68</sup> Section 106 of the National Historic Preservation Act; the *I-405 Program Guidelines for Cultural Resource Surveys* (see Appendix C);<sup>69</sup> and the Washington State Department of Archaeology and Historic Preservation *Washington State Standards for Cultural Resource Reporting: Survey and Inventory Standards*.<sup>70</sup>

### Consultation and Coordination

In accordance with 36 CFR Part 800.2, WSDOT consulted with appropriate agencies, Native American tribes, and interested parties. WSDOT consulted with the DAHP to obtain concurrence with APE definition and in advance of fieldwork to discuss field methods for identifying any archaeological resources and for recording potentially historic structures. An interagency fieldtrip was conducted to visit all proposed construction areas and to view all potentially historic buildings in the APE. At each proposed construction area, including the proposed stream mitigation site, the archaeologists assessed the degree of previous ground disturbance and decided if archaeological subsurface investigation was warranted. Only two areas, both outside of and adjacent to the I-405 right-of-way, were considered to have any chance of retaining relatively undisturbed substrates. The remaining portions within the APE, including the entire I-405 and SR 520 affected WSDOT rights-of-way, exhibited extensive ground disturbance from excavation and re-grading during previous construction projects. No investigation of the proposed wetland mitigation site was required because approvals for use of this site were obtained by the Bellevue Nickel Improvement Project.

The review of historic-era buildings by the architectural historians suggested that none were likely to be eligible to the NRHP under criterion c (an important example of period architecture, landscape, or engineering). Consequently, the agencies agreed that after more thorough field inspection and recording, any building to be determined not eligible under criterion c could receive an abbreviated recording on the Historic Property Inventory Form and only the front façade needed to be photographed.

WSDOT initiated consultation with the following tribes: the Muckleshoot Indian Tribe, Snoqualmie Tribe, Tulalip Tribes of Washington, and the Confederated Tribes and Bands of the Yakama Nation. WSDOT also informed the Duwamish Tribe of this project and requested their participation. Consultation included letters that provided a project description, notification and requested input on the APE definition, and requested any information about historic land use, known resource areas, and any traditional cultural properties (TCPs) or places that would assist WSDOT in avoiding them. See Appendix A for agency and tribal correspondence.

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<sup>68</sup> WSDOT, 2007a.

<sup>69</sup> WSDOT, 2006b.

<sup>70</sup> Washington State Department of Archaeology and Historic Preservation, 2006.