

CULTURAL RESOURCES REPORT COVER SHEET

Author: Stevenson, Alexander and Kainoa Little

Title of Report: Archaeological Inventory for the University of Washington Burke-Gilman Trail, Pasadena Place NE to University Bridge (Northlake Reach) Segment, City of Seattle, King County, Washington

Date of Report: March 2014

County(ies): King Section: 17 Township: 25N Range: 4E

Quad: SE Acres: 0.6

PDF of report submitted (REQUIRED) Yes

Historic Property Inventory Forms to be Approved Online? Yes No

Archaeological Site(s)/Isolate(s) Found or Amended? Yes No

TCP(s) found? Yes No

Replace a draft? Yes No

Satisfy a DAHP Archaeological Excavation Permit requirement? Yes # No

Were Human Remains Found? Yes DAHP Case # No

DAHP Archaeological Site #:
45KI1181

- Submission of PDFs is required.
- Please be sure that any PDF submitted to DAHP has its cover sheet, figures, graphics, appendices, attachments, correspondence, etc., compiled into one single PDF file.
- Please check that the PDF displays correctly when opened.

Archaeological Inventory for the University of Washington Burke-
Gilman Trail, Pasadena Place NE to University Bridge (Northlake
Reach) Segment, City of Seattle, King County, Washington

Submitted to:
EA Engineering Science and Technology, Inc.

Submitted by:
Historical Research Associates, Inc.
Alexander E. Stevenson, MS
Kainoa Little

Seattle, Washington
March 2014



HISTORICAL
RESEARCH
ASSOCIATES, INC.

This report was prepared by HRA Principal Investigator Alexander E. Stevenson, MS, and Kainoa Little, B.A. Mr. Stevenson meets the Secretary of the Interior's professional qualifications standards for archaeology. This report is intended for the exclusive use of the Client and its representatives. It contains professional conclusions and recommendations concerning the potential for project-related impacts to archaeological resources based on the results of HRA's investigation. It should not be considered to constitute project clearance with regard to the treatment of cultural resources or permission to proceed with the project described in lieu of review by the appropriate reviewing or permitting agency. This report should be submitted to the appropriate state and local review agencies for their comments prior to the commencement of the project.

Executive Summary

The University of Washington (UW) is planning to widen the Burke-Gilman Trail between Pasadena Place NE and the University Bridge (Project). The Project is intended to provide increased space for this high traffic portion of the Burke-Gilman Trail. Limited ground disturbance is anticipated during the trail widening and will likely not exceed 2 feet in depth.

EA Engineering, Science and Technology, Inc. (EA), has overseen the management of the environmental review of this Project for the UW. In April of 2013, EA contracted with Historical Research Associates, Inc. (HRA), to conduct an archaeological inventory of the Area of Potential Effects (APE). Currently, funding for the Project is pending; however, it is anticipated that the Project will receive funds from the Federal Highway Administration (FHWA), which are administered by the Washington State Department of Transportation (WSDOT). The use of federal funds on projects requires compliance with Section 106 of the National Historic Preservation Act (NHPA). The Project is not expected to affect the built environment; as such, no architectural inventory was conducted within the APE.

Archival research indicated a number of Native American place names in the vicinity of the APE. Construction and operation of the Seattle, Lake Shore & Eastern Railroad and the growth of the UW and the City of Seattle have greatly modified and disturbed the landscape within the APE.

An archaeological inventory was conducted by HRA archaeologists on December 17, 2013. A number of marked utilities were noted along the Burke-Gilman Trail during the survey. No archaeological resources were encountered during the surface survey. A single basalt flake was recovered from disturbed context in shovel probe (SP) 2. As a result, three additional shovel probes were excavated within a 5 meter radius of SP2. These SPs encountered no archaeological materials and disturbed sediment was observed in each SP.

Despite the APE's proximity to known ethnographic sites and the presence of a precontact archaeological isolate, HRA recommends that no further archaeological work is necessary for this Project because of the high degree of disturbance noted during surface and subsurface survey, as well as the limited extent of vertical and horizontal ground disturbance. However, if the Project undergoes significant design changes, additional archaeological work may be necessary.

Table of Contents

EXECUTIVE SUMMARY	1
1. INTRODUCTION AND PROJECT DESCRIPTION	1
1.1 REGULATORY CONTEXT	1
1.2 AREA OF POTENTIAL EFFECTS	1
2. ARCHIVAL RESEARCH	4
2.1 RESEARCH METHODS AND MATERIALS REVIEWED	4
2.2 ARCHIVAL RESEARCH RESULTS	4
2.2.1 PREVIOUSLY RECORDED ARCHAEOLOGICAL SITES	6
2.2.2 CEMETERIES	6
2.2.3 HISTORIC BUILDINGS, STRUCTURES, AND OBJECTS	6
2.2.4 HISTORIC-PERIOD MAP RESEARCH	7
2.2.5 DAHP PREDICTIVE MODEL	7
3. ENVIRONMENTAL CONTEXT	8
3.1 TOPOGRAPHY AND GEOLOGY	8
3.2 CLIMATE AND VEGETATION	8
3.3 FAUNA	9
4. CULTURAL CONTEXT	10
4.1 PRECONTACT BACKGROUND	10
4.1.1 PALEOINDIAN (APPROXIMATELY 12,500 B.C. TO 10,500 B.C.)	10
4.1.2 ARCHAIC (10,500 B.C. TO 4400 B.C.)	11
4.1.3 PACIFIC (4400 B.C. TO A.D. 1775)	12
4.2 ETHNOGRAPHIC BACKGROUND	13
4.3 HISTORIC BACKGROUND	15
5. EXPECTATIONS FOR HUNTER-FISHER-GATHERER, ETHNOGRAPHIC PERIOD, HISTORIC INDIAN, AND HISTORIC EUROAMERICAN CULTURAL RESOURCES	18
6. FIELD STRATEGY AND METHODS	19
6.1 ARCHAEOLOGICAL INVENTORY	19
6.1.1 PEDESTRIAN SURVEY	19
6.1.2 SUBSURFACE SURVEY	19
7. ARCHAEOLOGICAL AND ARCHITECTURAL INVENTORY RESULTS	21
7.1 ARCHAEOLOGICAL INVENTORY	21

7.1.1	PEDESTRIAN SURVEY	21
7.1.2	SUBSURFACE SURVEY	23
8. SUMMARY AND RECOMMENDATIONS		29
8.1	ARCHAEOLOGICAL RESOURCES	29
8.2	ACCIDENTAL DISCOVERY OF ARCHAEOLOGICAL RESOURCES	29
8.3	DISCOVERY OF HUMAN REMAINS	29
9. REFERENCES CITED		31
APPENDIX A. ARCHAEOLOGICAL ISOLATE INVENTORY FORM HRA-2182-1		39

List of Figures

Figure 1-1.	Location of the APE and vicinity.	2
Figure 1-2.	Location of the APE on aerial photograph.	3
Figure 4-1	Native American place names in the vicinity of the APE (Hilbert et al. 2001; USGS 1865).	14
Figure 7-1.	Shovel probe locations (note: green area indicates area with many subsurface utilities).	22
Figure 7-2.	Utilities and slope noted along Burke-Gilman Trail just west of SP3 location (note slope at right), view west.	23
Figure 7-3.	SP3 overview.	25
Figure 7-4.	Basalt flake from SP2.	26
Figure 7-5.	SP2 overview (note abrupt contact between fill and sterile glacial sediment).	27
Figure 7-6.	Location of SP2 and radial SPs, view west.	27
Figure 7-7.	SP2c overview.	28

List of Tables

Table 2-1.	Previous Cultural Resources Studies within ½ mi of the APE.	4
Table 7-1.	Results Of Shovel Test Probes in the Northlake Reach of the APE.	24

1. Introduction and Project Description

The University of Washington (UW) is planning to widen the Burke-Gilman Trail between Pasadena Place NE and the University Bridge (Project) (Figure 1-1). The Project is intended to provide increased space for this high traffic portion of the Burke-Gilman Trail. Limited ground disturbance is anticipated during the trail widening and will likely not exceed 2 feet (ft) in depth.

EA Engineering, Science and Technology, Inc. (EA), has overseen the management of the environmental review of this Project for the UW. In July of 2013, EA contracted with Historical Research Associates, Inc. (HRA), to conduct an archaeological assessment of the Area of Potential Effects (APE).

1.1 Regulatory Context

Currently, funding for the Project is pending; however, it is anticipated that the Project will receive funds from the Federal Highway Administration (FHWA), which are administered by the Washington State Department of Transportation (WSDOT). The use of federal funds on projects requires compliance with Section 106 of the National Historic Preservation Act (NHPA).

1.2 Area of Potential Effects

The APE is defined here as the horizontal and vertical extent of ground disturbance and modification (Figure 1-2). The Project is planned to extend along the Burke-Gilman Trail for a total of 790 ft from Pasadena Place NE to the University Bridge. The Burke-Gilman Trail is currently approximately 11 ft wide in this area, but will be widened to approximately 22 ft by this Project. Ground disturbance is not expected to exceed 2 ft in depth.

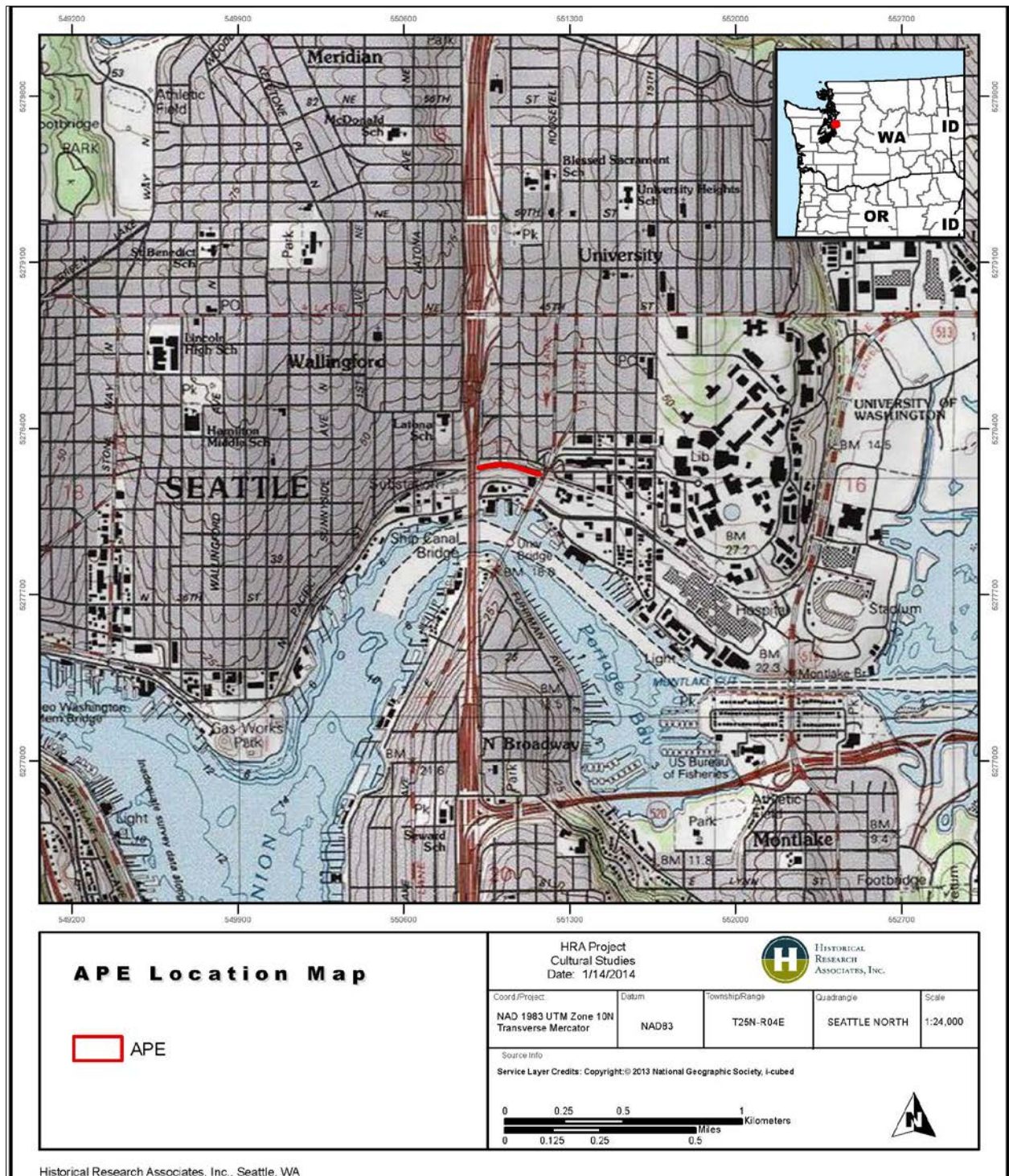


Figure 1-1. Location of the APE and vicinity.



Figure 1-2. Location of the APE on aerial photograph.

2. Archival Research

This chapter provides a review of archival data, including previous cultural resources surveys; documented archaeological sites, historic sites, structures, and objects; and historic maps. Understanding previous cultural resource surveys and known cultural resources in the vicinity of a project is important for understanding how intensively work has been conducted in the area. This archival research is necessary for developing expectations for this Project, which will be outlined in Section 5.

2.1 Research Methods and Materials Reviewed

HRA archaeologist Kainoa Little conducted an archival record search for records pertaining to locations within ½-mile (mi) of the APE. Mr. Little searched the Department of Archaeology and Historic Preservation’s (DAHP’s) online database (WISAARD) for archaeological site records, cultural resource survey reports, historic property inventory (HPI) forms, historic register information, and cemetery records. A statewide archeological predictive model on DAHP’s WISAARD was reviewed for probability estimates for archaeological resources, and to aid in developing the field strategy.

2.2 Archival Research Results

Thirteen previous cultural resource studies were conducted within ½ mi of the Project (Table 2-1).

Table 2-1. Previous Cultural Resources Studies within ½ mi of the APE.

Reference	NADB#	Title	Distance from APE	Cultural Materials Identified Within or Adjacent to the Project
Trudel 2004	1343204	<i>Letter to Merideth Redmon Regarding Final Archaeological Monitoring of Geotechnical Borings for the Proposed University/ Densmore CSO Control System Improvements Project</i>	Approximately 1/8 mi west	None
Courtois et al. 1998	1339816	<i>Sound Transit Central Link Light Rail Draft Environmental Impact Statement Historic and Archaeological Technical Report</i>	Adjacent	None
Courtois et al. 1999	1339836	<i>Central Link Light Rail Transit Project Final Environmental Impact Statement Technical Report</i>	Adjacent	None

Table 2-1. Previous Cultural Resources Studies within ½ mi of the APE.

Reference	NADB#	Title	Distance from APE	Cultural Materials Identified Within or Adjacent to the Project
Courtois & Associates 2003	1350148	<i>Preliminary Report on University of Washington Main Campus Seattle-Significant Buildings and Features Completed Prior to 1953, in Select Campus Area</i>	Approximately ½ mi east	None
Rooke 2002	1341144	<i>Letter to Jay Grenfell regarding Cingular Wireless Tower WA-539 (Cavilier Apartments)</i>	Approximately ¼ mi northeast	None
Emerson 2009a	1352771	<i>Letter to Adam Escalona regarding SE01126A UW Medical BB Tower</i>	Approximately ½ mi east	None
Emerson 2009b	1352800	<i>Letter to Adam Escalona regarding SE01124A Suzzallo Library</i>	Approximately ½ mi east	None
BOLA 2008a	1353338	<i>Johnson Annex-UW Historic Resources Addendum</i>	Approximately ½ mi east	None
BOLA 2008b	1353339	<i>Cunningham Hall-UW Historic Resources Addendum</i>	Approximately ¼ mi northeast	None
Minor and Meijer 2011	1680887	<i>Cultural Resource Inventory for Anderson Hall, University of Washington Campus, Seattle, Washington</i>	Approximately ½ mi east	None
Sharley and Smith 2011	1680533	<i>Cultural Resource Assessment for the Thomas Burke Memorial Washington State Museum Renovation Project, University of Washington</i>	Approximately ½ mi northeast	None
Stevenson et al. 2013	None	<i>University of Washington Burke-Gilman Trail, Rainier Vista to 15th Avenue NE Segment, Cultural Resources Inventory Project, Seattle, King County, Washington</i>	Approximately ¼ southeast	None
BOLA 2013	None	<i>DAHP Historic Inventory Report for Northern Pacific Railroad Bridge No. 4/Alaska Avenue Bridge</i>	Approximately ¼ southeast	Alaska Avenue Bridge

Monitoring was done during geotechnical borings for the proposed University/Densmore CSO Control System Improvements Project, but no significant archaeological resources were identified (Trudel 2004; see Table 2-1).

Three studies were for the Environmental Impact Statement (EIS) for the Central Link Light Rail Project (Courtois & Associates 2003; Courtois et al. 1998, 1999). Several historic-era resources were identified in various areas; however, none were located in or near the current Project (see Table 2-1).

Three surveys were conducted for cellular tower projects (Emerson 2009a, 2009b; Rooke 2002). The UW Medical BB Tower and Suzzallo Library were documented on HPI forms (Emerson 2009a, 2009b).

Three investigations were conducted as part of historic resources addendums and inventories for the UW. No fieldwork was done, but archival research was completed for Johnson Annex, Cunningham Hall, Husky Union Building, and Anderson Hall (BOLA 2008a, 2008b; Minor and Meijer 2011).

Two studies were completed for the cultural resource inventory of the first of five sections of this UW Burke-Gilman Trail Expansion Project (Stevenson et al. 2013). The research and subsurface survey was conducted for a section of the Burke-Gilman Trail near the APE, between Rainier Vista and 15th Avenue NE. As part of that study, BOLA's architectural historian recorded the Alaska Avenue Bridge, built in 1914, within that Project's APE (BOLA 2013).

2.2.1 Previously Recorded Archaeological Sites

One archaeological site was documented within ½ mi of the APE. Site 45KI957 is a precontact lithic scatter located on an eroded slope above the Burke-Gilman Trail, behind the Botany Greenhouse (Louderback and Jolivette 2009). Materials observed were two lithic quartzite flakes and a chert projectile point mixed with historic-period debris (iron fragments, hardware, gardening tags, and ceramic sherds) in redeposited soils. The soil was most likely redeposited during construction of the former railroad line that the Burke-Gilman Trail currently resides on and disturbed during use of the greenhouse. This site is roughly a half mile southeast of the APE.

2.2.2 Cemeteries

No cemeteries were identified within the ½-mi radius search of the Project.

2.2.3 Historic Buildings, Structures, and Objects

Durio (2009) documented and evaluated the Burke-Gilman Trail, which was built over the former alignment of the Seattle, Lake Shore & Eastern Railroad. The trail was determined not eligible for the National Register of Historic Places (NRHP). No other historic buildings, structures, or objects are known with the APE.

2.2.4 *Historic-Period Map Research*

General Land Office (GLO) plats

Historic nineteenth-century plats created by the United States Geological Survey (USGS) General Land Office (GLO) depict no features in the APE (USGS 1865, 1890). The closest cultural feature is the Native American overland trail used to travel between Portage Bay (Lake Union) and Lake Washington, which runs through the APE (see Figure 4-1).

Sanborn Maps

The vicinity of the APE was not included on early Sanborn Map Company maps. The earliest Sanborn map to include the APE was created in 1905 (Sanborn 1905). This map includes the Northern Pacific Railroad Company (NPRR) alignment (which is within the APE), as well as a few structures on the blocks north and south of the APE, but no features, other than the NPRR line within the APE. A small shed is depicted within the APE where the NPRR crosses 7th Avenue on the 1919–1950 Sanborn map (Sanborn 1919). The shed does not currently exist in this location and was likely demolished during modern development in the area. This map also shows an increase in the number of residential and commercial structures surrounding the APE.

2.2.5 *DAHP Predictive Model*

The DAHP predictive model for archaeological sites is based on statewide information, using large-scale factors. Information on geology, soils, site types, landforms, and from GLO maps was used to establish or predict probabilities for archaeological resources throughout the state. The DAHP model uses five categories of prediction: Low Risk, Moderately Low Risk, Moderate Risk, High Risk, and Very High Risk. The DAHP predictive model map indicated that the Project is located in a Very High Risk area. However, given the previous modifications in the vicinity with the construction of railroad lines, roadways, and the university, and the land alterations associated with the Alaska–Yukon–Pacific Exposition and the construction of UW facilities (discussed below), the probability for intact archaeological resources is low to moderate.

3. Environmental Context

This chapter provides a brief overview of the local environment, including historic modification to this landscape and natural resources. Understanding the local environment, including geology, climate, flora, and fauna, is important for understanding how people used the landscape in the past. This environmental context is necessary for developing expectations for this Project, which will be outlined in Section 5.

3.1 Topography and Geology

The APE is located on the northern edge of Lake Union, approximately 30 ft above mean sea level (amsl). It is located within the Southern Puget Sound Basin, a portion of the Puget Trough Physiographic Province (Franklin and Dyrness 1973). The north–south trough of the Puget Lowland separates the Olympic Mountains to the west from the Cascade Range on the east. The lowland was carved out during the last major glaciation of western Washington which ended approximately 16,000 years before present (B.P.) (Alt and Hyndeman 1995; Booth et al. 2004; Dethier et al. 1995; Easterbrook and Rahm 1970:49; Galster and Laprade 1991:249). As glaciers retreated, they left thick sediment deposits. This sediment forms the parent material of many soils throughout this part of King County, including the APE (Snyder et al. 1973). Sediments at the surface across the APE are glacial till deposited during the Vashon Stade of the last major glaciation (Booth et al. 2009). As glaciers retreated, the land on which they rested began to rebound, and would have become available for colonization by plant and animal communities as the climate began to ameliorate.

3.2 Climate and Vegetation

Between approximately 13,000 and 12,000 years ago, the region had developed a much cooler and drier climate, which supported an ecosystem characterized by lodgepole pine (*Pinus contorta*), sedges (*Cyperaceae* sp.), sage (*Artemisia*), and a variety of grasses and herbs. After 12,000 years ago, the climate warmed while continuing to dry, and Douglas fir (*Pseudotsuga menziesii*), western hemlock (*Tsuga heterophylla*), and red alder (*Alnus rubra*) joined the developing parkland forest. By around 6,000 years ago, the climate of the region had cooled and moistened to levels comparable to today's maritime regime, producing the current western hemlock (*Tsuga heterophylla*) vegetation zone. Presently, uplands are moderately to heavily forested with Douglas fir (*Pseudotsuga menziesii*), western hemlock (*Tsuga heterophylla*), and western red cedar (*Thuja plicata*). Red alder (*Alnus rubra*) and big-leaf maple (*Acer macrophyllum*) represent secondary species in forested habitats and are dominant in disturbed areas (Barnosky 1984; Barnosky et al. 1987; Brubaker 1991; Whitlock 1992).

3.3 Fauna

During the late Pleistocene, western North America would have provided habitat for a number of animal taxa not found in the region after about 11,000 B.P. (Gilmour 2011). These animals would have done well in the developing forested parkland environment in the Puget Sound region, which would have provided food for both grazers and browsers and, in turn, food for large carnivores. Climatic changes undoubtedly reduced the habitat for these animals, which would eventually become extinct across the North American landscape.

Throughout the Holocene, and prior to extensive Euroamerican influence in the area, larger terrestrial mammals would have included elk (*Cervus elaphus*), deer (*Odocoileus* spp.), black bear (*Ursus americanus*), coyote (*Canis latrans*), and mountain lion (*Felis concolor*) (Johnson and Cassidy 1997). Smaller mammals that inhabited the area included snowshoe hare (*Lepus americanus*), raccoon (*Procyon lotor*), and beaver (*Castor canadensis*) (Kruckeberg 1991; Larrison 1967). Avifauna found in the Puget Sound region include raptors such the bald eagle (*Haliaeetus leucocephalus*) and waterfowl (*Aix* and *Anas* species). Freshwater fish including trout (*Salmo* sp.), suckers (*Catostomidae* spp.), and minnows (*Gila* sp.) would have been readily available in in Lake Washington and Lake Union. Pacific salmon and trout (*Onchorhynchus* spp.), including land locked Kokanee (*O. nerka*), would have also been readily available in the region and from waterways near the APE (Berge and Higgins 2003; WDFW 2012). Freshwater mussels (*Unionida*) are found in Lake Washington and Lake Union (Xerces 2010).

4. Cultural Context

This chapter provides a brief overview of nearly 14,000 years of human occupation in North America, focusing specifically on western Washington and the Puget Sound area where possible. Understanding the history of human occupation and land use in an area is crucial for understanding how archaeological data is important and what kinds of archaeological sites may be encountered during a project. This context is necessary for outlining the current state of knowledge about past lifeways and contributes to the development of expectations for this Project, which will be discussed in Section 5.

4.1 Precontact Background

The current understanding of Pacific Northwest precontact lifeways is derived from the archaeological record, which is constantly changing as our knowledge grows. How archaeologists see archaeological data is conditioned by a number of factors, including natural (e.g., rising sea levels) and cultural (e.g., excavation, curation) processes, which selectively modify what remains for modern investigators to observe and analyze (Schiffer 1987). New discoveries can either change or reinforce prior notions of human lifeways, but the continually growing body of archaeological data helps give archaeologists a better understanding of the past (Trigger 2002).

In order to organize current knowledge of Pacific Northwest precontact lifeways, numerous investigators have proposed chronologies for the region's archaeological record (e.g., Ames and Maschner 1999; Kidd 1964; King 1950). Ames and Maschner's (1999) chronology is used here to structure discussion of precontact archaeology and inferred lifeways. Their chronological sequence is divided into three basic developmental periods: Paleoindian, Archaic, and Pacific. The archaeological evidence from these periods suggests a gradual shift from small nomadic groups relying on generalized hunting and gathering to larger sedentary groups with increased social complexity and specialized reliance on marine and riverine resources (Ames and Maschner 1999). In essence, the archaeological record in the region documents a shift from foraging to collecting strategies (*sensu* Binford 1980) and cultural change toward ethnographically observed lifeways.

4.1.1 *Paleoindian (Approximately 12,500 B.C. to 10,500 B.C.)*

Evidence for late Pleistocene occupation of western North America comes from a very small number of archaeological sites, including Paisley 5-miles Cave in Oregon (Gilbert et al. 2008) and sites on California's Channel Islands (Erlandson et al. 2011). Data from these sites have reinforced the idea that these first inhabitants of the region lived in small groups, were probably highly mobile, and followed the migration patterns of animals across the landscape. Mounting evidence (e.g.,

Dillehay et al. 2008) suggests that occupants of the “new world” exploited both marine and terrestrial environments, contrary to long held hypotheses (e.g., Martin 1967). Up to now, no archaeological sites dating to the late Pleistocene have been discovered in the Puget Sound region.

The earliest sites in the Pacific Northwest date to the early Holocene and are commonly associated with Clovis points, an iconic large spear point found across much of North America during this time (Meltzer and Dunnell 1987; Osborne 1956). These sites are said to represent the remains of mobile hunting activities and are scarce in the Pacific Northwest. Clovis points have been recovered from sites across the Puget Sound, including Olympia (Osborne 1956). Other early western Washington sites dating to this period include the Manis Mastodon Site (45CA218) near Sequim, and Site 45KI839 on Bear Creek in Redmond. The Manis Site dates to roughly 11,800 B.P., and consists of the remains of a mammoth found in a peat bog with a human-made bone point lodged in a rib fragment (Waters et al. 2011). Site 45KI839 dates to approximately 10,000 to 12,000 B.P., and consists of a highly diverse stone tool kit (Kopperl et al. 2010). This site has been interpreted as a short term occupation site and has yielded evidence of mammal, fish, and plant exploitation. The Manis and Bear Creek sites have demonstrated that the earliest inhabitants of western Washington were not simply big game hunters who used large stone tools to kill game. These sites demonstrate the implementation of diverse toolkits and subsistence strategies, signaling an excellent working knowledge of the landscape and available resources.

4.1.2 *Archaic (10,500 B.C. to 4400 B.C.)*

Sites dating to the Archaic period, especially prior to 5000 B.P., are rare, at least in part because of natural processes, like sea level rise, which have undoubtedly obscured sites that are currently underwater. The current view of this period is generally one of stasis, but this is likely at least partially conditioned by the rarity of sites dating to this period.

Lifeways during the Archaic period are thought to have changed little from the Paleoindian period. In essence, people are thought to have hunted game, exploited marine environments, and lived in small highly mobile egalitarian groups, as foragers (*sensu* Binford 1980). Microblades and leaf shaped projectile points (i.e., Cascade points) have been used to argue for Archaic period occupation across Western (e.g., Chatters et al. 2011; Greengo and Houston 1965). Identifiable faunal remains are rare at Archaic period sites, making inferences about subsistence difficult, but mammal and fish remains have been reported from Archaic period sites in the Puget Sound region (Chatters et al. 2011; Tait Elder, personal communication 2013; Stilson and Chatters 1981).

The most discussed sites dating to the Archaic period are often referred to as “Olcott” sites (Kidd 1964). These sites typically lack good absolute dates, are highly disturbed, are located near rivers, and contain expedient tools such as scrapers, flaked cobbles, and debitage in addition to large lanceolate and stemmed projectile points. Much discussion of these sites has taken place in the last 50 years (e.g., Chatters et al. 2011; Dancey 1969; Kidd 1964; Morgan 1999; Stilson and Chatters 1981). The sites were thought to represent short-term camps where hunting and game processing was the

primary focus of activity (Kidd 1964). Investigators like Dancey (1969), Morgan (1999), and others have refuted Kidd's (1964) initial interpretation, and Chatters et al. (2011) have recently suggested that "Olcott" sites represent the cultural remains of a group of people well adapted to unpredictability who used both at both plants and animals but were still highly mobile.

A number of Archaic period sites have been recorded in King County. Greengo and Houston (1965) excavated at the Marymoor Site, located in Marymoor Park, during the 1950s. This site yielded a large array of Archaic period artifacts, including large projectile points, modified cobbles, and microblades. The earliest component of the West Point sites (discussed below) also falls into the Archaic period.

4.1.3 Pacific (4400 B.C. to A.D. 1775)

Based on the archaeological record, the Pacific period is the most culturally dynamic precontact period in the Pacific Northwest (Chatters 1987; Larson and Lewarch 1995; Lewarch 2006; Lewarch and Larson 2002). Over time, changing technologies and site locations suggest increased sedentism and specialization in the use of particular environments and resources (Ames and Maschner 1999). During this period, evidence of exploitation of the littoral environment increases, and shell middens become a prominent site type across Puget Sound. After about 5000 B.P., populations on or near the Puget Sound coast grew and became more complex in organization. Technological organization and subsistence practices became increasingly complex during the Pacific period as well. During this period, there is apparent increasing emphasis on the use of plants including berries and root-vegetables. Social stratification and inequality, a hallmark of Northwest coast cultures, is thought to be less pronounced in the Puget Sound than in other parts of the Pacific Northwest; however, objects like labrets, indicative of social stratification, appear early in the Pacific period in the Puget Sound at sites like West Point (45KI248) (Larson and Lewarch 1995). By shortly after 2500 B.P., a variety of bone, chipped stone, and groundstone artifacts represent coastal marine-oriented cultures and inland hunting/fishing/gathering cultures (Ames and Maschner 1999; Nelson 1976, 1990).

A number of shell midden sites dating to the past several thousand years have been recorded in and around the Puget Sound area. The West Point sites (45KI428 and 45KI429), located at Discovery Park in West Seattle, have been interpreted as long-term camping and food-processing activity areas (Larson and Lewarch 1995). Five distinct cultural components indicate use of the sites between 4200 and 200 B.P. These sites included a number of personal items, including beads, bracelets, and labrets, which may be related to developing social inequality in the region (Ames and Maschner 1999). The West Point sites also yielded a highly diverse tool kit, including bone as well as ground and chipped stone implements used for capturing and processing prey (Larson and Lewarch 1995). The highly diverse faunal assemblage includes sea mammals, fish, terrestrial mammals, birds, and shellfish, indicating exploitation of a number of available niches.

4.2 Ethnographic Background

The APE is located within the traditional territory of the Duwamish Indians, members of the Coast Salish cultural group that spoke Southern Lushootseed (Suttles 1990). The Duwamish traditionally lived in winter villages on the shores of Elliott Bay, Salmon Bay, Lake Washington, and Lake Union, as well as along the Black, Cedar, and Duwamish Rivers (Ruby and Brown 1992; Stevens 1854; United States Court of Claims 1927). Ethnographer T. T. Waterman (in Hilbert et al. 2001:15–16), who worked in the Puget Sound region during the 1920s, pointed out that the Duwamish, like other groups, identified themselves in relation to their local geography. For example, a group who lived in the vicinity of the APE around Lake Union identified themselves as the *Xa³tcuaÉbc* (Waterman orthography), or “people of the small lake.” While this distinction is taken into account ethnographically, these groups have historically been grouped into a larger entity (the Duwamish) based on shared culture and language.

Ethnographic and archaeological evidence suggests that the Salish Lushootseed-speaking Duwamish, whose name means “inside [the bay] people,” practiced their life way of hunting, fishing, and gathering for centuries before contact with white settlers (Hilbert et al. 2001). Duwamish settlement and subsistence were inextricably linked throughout the year.

The Duwamish, like other Coast Salish groups, spent the majority of the winter inside large longhouses made from cedar planks that had “shed” roofs, which Waterman and Greiner (1921) note were common among tribes around the Sound. These houses could be massive, providing room for very large extended families and much of the food they would need for the cold months. The houses were often arranged into villages of two to five structures. The Duwamish occupied extended family villages and established a flexible system of intermarriage with the surrounding peoples, including the Sammamish and Snohomish (Ruby and Brown 1992). Winter was spent engaged in storytelling and ceremonial performances (Amoss 1978).

During spring, fall, and summer, people from the winter villages dispersed to hunt, fish, and gather plant foods for immediate consumption and winter storage (Buerge 1984; Haeberlin and Gunther 1930). Summer camps usually consisted of small, temporary reed or grass-mat structures occupied by a single family, although several families might join together to build a larger mat house (Haeberlin and Gunther 1930; Suttles 1990; Suttles and Lane 1990). Upland forested environment not only attracted and supported deer and elk populations for hunting, but likely also provided a variety of plant resources such as berries, nuts, and root foods.

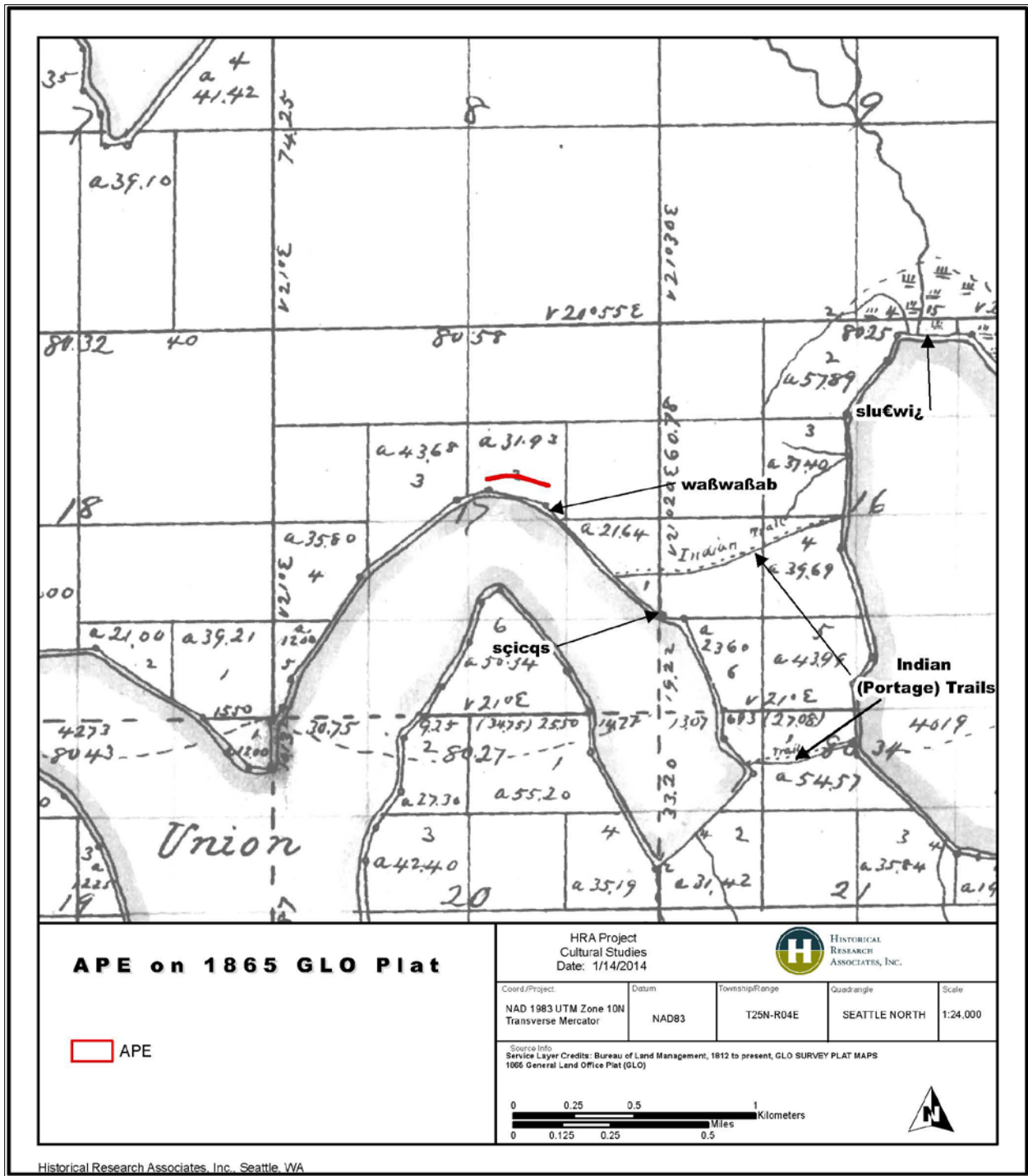


Figure 4-1 Native American place names in the vicinity of the APE (Hilbert et al. 2001; USGS 1865).

T. T. Waterman (Hilbert et al. 2001) identified several Duwamish ethnographic place names in the vicinity of the APE. He described identifiable physical locations along the lake shores and nearby landforms. Approximately 0.1 mi southeast of the APE is a location called *waq̄waq̄ab*, translated as “like a frog.” At this location, a small creek drains into Portage Bay. Along the Portage Bay shoreline, and approximately 0.3 mi south of the APE, Waterman’s informants identified a small promontory (now the location of the UW Boat Club) as *sq̄icqs*, “down river promontory.” The marsh between Laurel Point and the UW, now filled in, and the location of parking lots for the UW and Husky Stadium, was known as *sluʔwit*, translated as “perforation for a canoe.” A village with at least five longhouses was located here, along with a fish weir. This is the closest identified village, roughly 1.25 mi away from the APE. The small cove west of Laurel Point was referred to as *ʔadid(a)*, or “dear me/for gosh sakes”(Hilbert et al. 2001:77–80; Thrush 2007:251). This location is nearly 2.0 mi from the APE. An “Indian Trail” depicted on the 1865 GLO connects Lake Washington and Lake Union is approximately 0.4 mi east of the APE (USGS 1865). This trail, along with one located slightly farther to the south, both likely canoe portage routes, is evidence of the heavily used transportation corridor stretching between Shilshole Bay and Lake Washington, bringing people from various neighboring tribes into and through the project area vicinity (Miller and Blukis Onat 2004:70; USGS 1865).

4.3 Historic Background

European visitation to the Puget Sound region began in 1792 when George Vancouver and his crew explored the region. Within the next 100 years, native populations would plummet due to repeated outbreaks of introduced diseases such as small pox, influenza, and typhoid fever (Boyd 1990; Suttles and Lane 1990). Fort Nisqually, located approximately 40 mi southeast of the Duwamish headwaters, was established as a trading post by the Hudson’s Bay Company in 1833. The Treaty of Washington in 1852 conveyed the territory to the United States, and the Donation Land Claim Act drew settlers into land occupied by the Duwamish and their neighbors. In 1855, members of the Duwamish and neighboring Puget Sound tribes signed the Treaty of Point Elliott, which provided for the removal of tribal members to reservations, including the Port Madison Reservation (Suquamish/Fort Kitsap). Some Duwamish people continued to live in and around Seattle, maintaining friendly relations with, working for, and trading with incoming settlers. Many others, meanwhile, relocated to the Port Madison Reservation, but due to undesirable conditions were compelled to leave. Many then attempted to return to their ancestral lands, and a few were able to claim or purchase land (Ruby and Brown 1992; Thrush 2007).

Tribal lands and fishing rights continued to be eroded through the late 1800s and 1900s, culminating, in the late 1900s, in a series of lawsuits and court cases that upheld certain treaty rights (Marino 1990; Ruby and Brown 1992). The Duwamish Tribe is not currently federally recognized, but continues to fight for this distinction.

The first Euroamerican settlers in the vicinity of the project area were the Denny Party, who arrived in 1851 (Bagley 1929). Within a decade, the 302 ambitious settlers living in Seattle had requested and been granted the right to open the State University in the young city. In 1861, the first university building was constructed on 10 acres of “Denny’s Knoll,” which would eventually become Seattle’s commercial downtown district. The population of Seattle boomed in the following decades, to over 40,000 by the late 1880s. The city needed a university as well a major rail line; over the next decade it would get both.

In 1885, the Seattle, Lake Shore & Eastern Railroad (SLS&E) Company became a corporation (Bagley 1929). The company formed as a result of the efforts of Thomas Burke, a local judge, and Daniel Gilman. Although Seattle was a vibrant city during the late 1880s, major rail road companies like the Northern Pacific Railroad (NPRR) had yet to build a line through the town. Gilman and Burke, along with others, saw this as an opportunity, and built the SLS&E line to connect the burgeoning city to Canada. After years of dispute between NPRR and the city, the SLS&E line eventually became incorporated into the NPRR line in 1892. The line was actually acquired by NPRR in 1913.

The present UW campus location was selected in the early 1890s (Courtois & Associates 2003). In 1891, William Boone was the first architect to develop a campus plan. While his plan was never realized, it illustrates hypothetical building placement and also appears to show that the campus was forested at the time of his design; however, the APE is not included on available sketches of Boone’s plan. Construction on the campus began with the building of Denny Hall in 1895, followed by at least seven more buildings, including Lewis and Clark Halls, the Observatory, the Assay Laboratory (now demolished), Water Tank (later Chimes Tower, demolished), Powerhouse (demolished), and the Armory and Gymnasium (Bagley 1929; Courtois & Associates 2003:2; Johnston 2001:1–4).

Historic maps (e.g., Sanborn Fire Insurance Maps) demonstrate that as the UW grew during the twentieth century, the area surrounding the campus grew as well (Courtois & Associates 2003; Sanborn 1905, 1930). Commercial and residential development result from the growth of the university as well as local fishing and timber industries. Historically, commercial development in this area followed much the same trajectory as the rest of the City of Seattle. This growth came with a necessary expansion of public utilities to supply electricity, water, and sewer services to the buildings surrounding Lake Washington and Lake Union. In 1908, Seattle constructed an 8-ft diameter sewer by tunneling roughly 20 ft below surface in the vicinity of East Pacific Street, adjacent to the APE (Seattle Public Utilities 2013). Waterlines, natural gas lines, and a number of other utilities including fiber optic and electrical lines were installed in the vicinity of the APE during the late twentieth century (Jacobs, personal communication 2013; Seattle Public Utilities 2013).

The NPRR, owners of the segment of line within the APE, continued heavy use of the line until 1963 (City of Seattle 2011). The NPRR merged with two other railroad companies, Burlington and Great Northern, in 1970, and the new company, the Burlington Northern Railroad, abandoned the

line that would become the Burke-Gilman Trail in 1971. The first section of the line to be paved and turned into the Burke-Gilman Trail connected Gas Works Park (west of the APE) with Tracy Owen Park in Kenmore (north of the APE).

5. Expectations for Hunter-fisher-gatherer, Ethnographic Period, Historic Indian, and Historic Euroamerican Cultural Resources

Based on archival research, as well as the environmental and the cultural settings of the APE, there is a moderate to high probability for observing precontact to ethnohistoric period cultural remains. Settings similar to that of the APE would have been the focus of hunting and gathering activities and would have been ideal locations for long term occupation as well. Expected artifacts and features would relate to these activities. Although the APE has been the subject of significant development over the past 120 years, anticipated materials could include fragments of fire-modified rock (FMR), either singly or in intact clusters (sometimes with charcoal and/or oxidized soils), indicating the presence of cooking or processing hearths; lithic and/or bone tools and tool fragments; and isolated bone tools and tool fragments.

The likelihood of finding historic-period archaeological remains is moderate to high, given the use of the APE as an important transportation corridor early in the history of the development of Seattle. Historic features and artifacts encountered would likely be associated with the SLS&E railroad and NPRR. Artifacts and features may include railroad spikes, brick, nails, glass and metal refuse, building foundations, and objects related to operation of the railway (e.g., portions of signals).

6. Field Strategy and Methods

6.1 Archaeological Inventory

Surface and subsurface survey were performed along the APE in order to identify archaeological materials and to assess the potential of the APE to contain archaeological materials.

Utility locations were marked along the trail, within the APE. Representatives from two utilities met HRA archaeologists on site during the first day of fieldwork to discuss the scope and scale of the subsurface survey and the location of known natural gas and Seattle City Light electrical lines. A representative from Seattle City Light marked areas that included many electrical lines on aerial photographs of the APE. These areas were avoided during shovel probing.

6.1.1 Pedestrian Survey

HRA archaeologists walked parallel transects on the north and south sides of the Burke-Gilman Trail along the length of the APE. Surface survey was designed to identify cultural resources visible above ground, as well as marked utilities and other evidence of disturbance. Representative photographs were taken during the course of the survey in order to document the landscape, development, and the location of marked utilities.

6.1.2 Subsurface Survey

Shovel probes (SP) were excavated across the APE in order to identify buried cultural resources. Shovel probes were only excavated in unpaved areas where utilities were not located. Sediments recovered from each SP were screened through ¼-inch hardware mesh. Observations regarding SP sediments were documented on standardized forms. These observations included sediment grain size (e.g., sand, silt), gravel size and shape, contacts (e.g., abrupt, diffuse), color, presence of water, presence of roots, signs of soil development, origin of sediment, and disturbance. Cultural materials recovered during SP excavation were noted. Precontact and historic artifacts, if observed, would have been photographed from multiple angles. GPS points were taken for each SP in order to document their locations. Shovel probe excavation was terminated when impassible objects (e.g., large cobbles, wood) were encountered or when *in situ* (i.e., in place/not disturbed) glacially deposited sediment was encountered. Shovel probes were excavated to approximately 60 centimeters (cm) because this was the vertical extent of the APE.

If a SP was found to contain an artifact, shovel probes were excavated 5 meters away in each of the four cardinal directions, where possible. These radial shovel probes were excavated in an attempt to discover if the artifact was representative of an archaeological deposit or an isolate. This process was

repeated until no artifacts were encountered in the radial shovel probes or until excavation of shovel probes was impeded.

7. Archaeological and Architectural Inventory Results

7.1 Archaeological Inventory

HRA archaeologists Alexander Stevenson, Kainoa Little, and Angus Raff-Tierney performed archaeological inventory within the APE of the Northlake Reach on December 17, 2013.

7.1.1 *Pedestrian Survey*

In general, the landscape along the northern edge of the trail was either developed or was a steep slope up and was covered in thick brush. A cut slope was observed along the southern edge of the APE as well. Natural gas lines were marked along the northern edge of the trail (Figure 7-1). Markings indicating the presence of fiber optic lines were also observed along the southern edge of the trail in the APE. Seattle City Light personnel noted that there were many subsurface electrical lines in two locations within the APE, these areas are marked in green on Figure 7-1.

No cultural materials were observed during surface survey. Utility markings were observed along much of the Burke-Gilman Trail within the APE (Figure 7-2). Natural gas lines were located along the northern boundary of the trail edge and fiber optic lines were marked along the length of the APE on the south side of the trail. The cut/fill slopes were also observed along much of the trail within the APE (Figure 7-2).

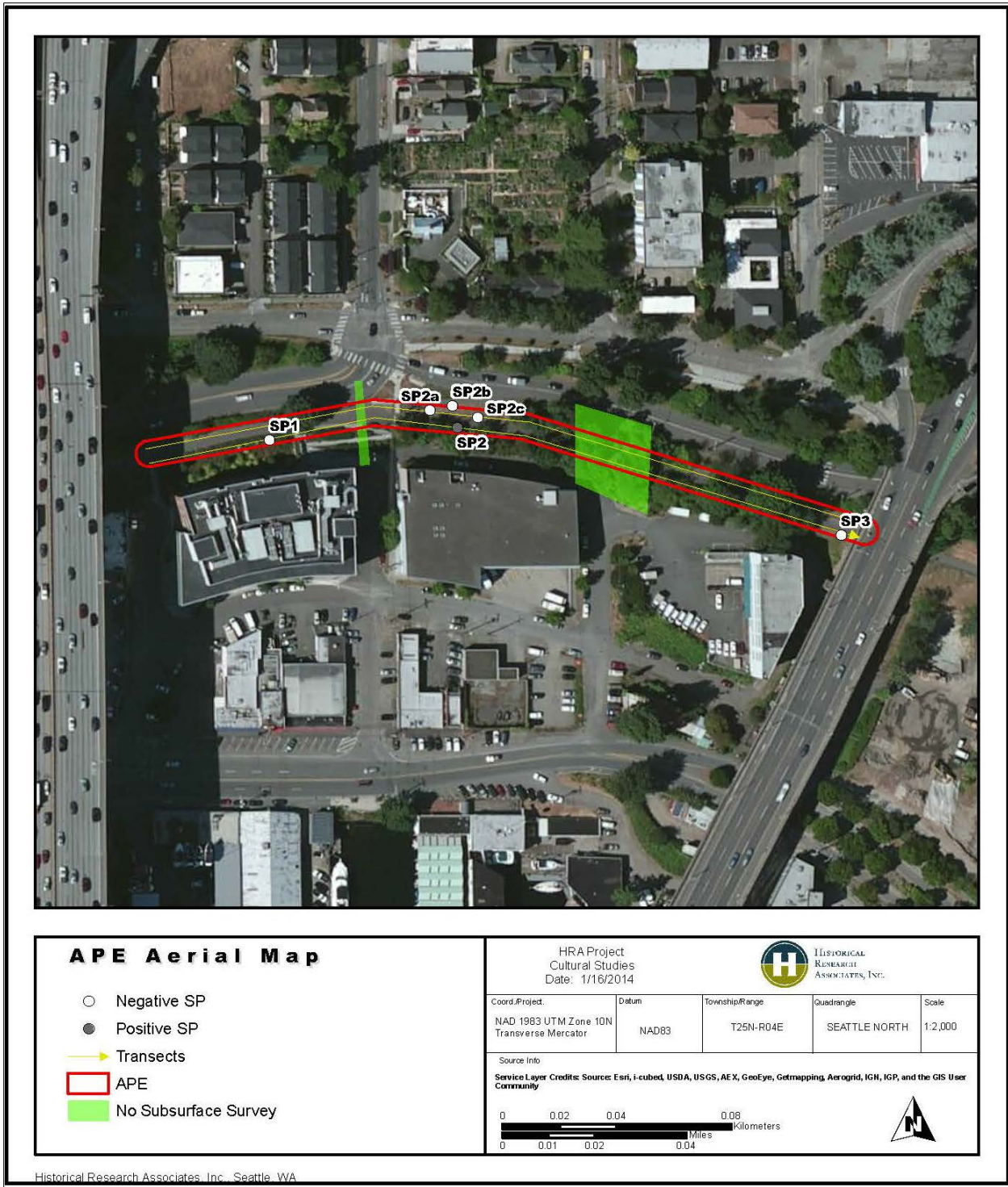


Figure 7-1. Shovel probe locations (note: green area indicates area with many subsurface utilities).



Figure 7-2. Utilities and slope noted along Burke-Gilman Trail just west of SP3 location (note slope at right), view west.

7.1.2 *Subsurface Survey*

A total of six shovel probes were excavated in the Northlake Reach (Table 7-1).

In general, brown sand and sandy silt was encountered in the upper 20 to 30 cm of each SP. This sediment was interpreted as fill and appeared to be disturbed, based on the presence of modern and/or temporally non-diagnostic artifacts. This fill laid directly over gray or brown silty sand with few to many round to subrounded gravels. This sediment was interpreted as glacially deposited till or outwash. Modern and/or temporally non-diagnostic artifacts were also occasionally encountered within this sediment, indicating disturbance of this sediment as well. Each of the shovel probes were terminated at the vertical extent of the APE.

Table 7-1. Results Of Shovel Test Probes in the Northlake Reach of the APE.

Shovel Probe	Maximum Depth (cm)	Description (cm): Description – <i>Comments</i>	Cultural Materials
1	61	0-14: Very dark brown, loose sandy silt. 14-61: Gray, moderately compact silty sand with some subrounded gravels – <i>fill</i> Terminated at vertical extent of APE	1 wire nail Temporally non-diagnostic glass, wire nails, and coal throughout
2	55	0-29: Brown sand with few rounded gravels – <i>disturbed/fill</i> 29-55: Gray silty sand, many subrounded to rounded small gravels, few cobbles – <i>Increasingly compacted with depth, glacial outwash</i> Terminated close to vertical extent of APE	1 basalt flake (29-31 cmbs) None
2A	59	0-15: Brown sandy silt with many organics 15-59: Light grayish-brown silty sand, many rounded and subrounded small to large gravels, very compact, charcoal flecking noted Terminated close to vertical extent of APE	None None
2B	60	0-30: Dark brown silty loose sands with 20 percent subrounded cobbles – <i>fill</i> 30-58: Gray sand, many angular gravels – <i>road bed</i> 58-60: Reddish-brown silty sand, very compact – <i>glacial till/outwash</i> Terminated at vertical extent of APE	Cement and brick noted (0-30 cmbs) None None
2C	61	0-18: Brown sandy silts with many organics 18-61: Light grayish-brown silty sand with many rounded and subrounded small to large gravels and few rounded cobbles, compact – <i>glacial outwash/till, disturbed</i> Terminated close to vertical extent of APE.	1 brown glass fragment (0-20 cmbs) 1 brown glass fragment (30-40 cmbs)

Table 7-1. Results Of Shovel Test Probes in the Northlake Reach of the APE.

Shovel Probe	Maximum Depth (cm)	Description (cm): Description – <i>Comments</i>	Cultural Materials
3	62	<p>0-18: Light brown silty sand, few subrounded gravels</p> <p>18-55: Very dark brown, silty coarse sand, some small to large-sized subrounded gravels, charcoal throughout – <i>fill</i></p> <p>55-62: Light brown, compacted sandy silt, few subrounded gravels – <i>glacial outwash</i>.</p> <p>Terminated at vertical extent of APE.</p>	<p>Styrofoam (10-20 cmbs)</p> <p>Oxidized unidentifiable metal fragments and pieces of charcoal throughout</p> <p>None</p>

No soil development was noted in any of the excavated shovel probes. The lack of soil development likely indicates recent disturbance of the ground surface within the APE. The abrupt contact between the fill and glacial sediment, along with the lack of developed soils, indicate that this reach was highly disturbed.



Figure 7-3. SP3 overview.

A single basalt flake (45KI1181) was encountered in SP2 (Figure 7-4; Appendix A). This flake was encountered in the sediment interpreted as fill, near the contact with the glacial sediment (Figure 7-5). No other cultural materials were recovered from the fill or glacial sediment in this SP. Three radial shovel probes were excavated near SP2 to determine if other cultural materials may be located in the vicinity (Figure 7-6). SP2a was excavated 5 meters west of SP2 and did not contain any cultural materials. No cultural materials were observed in SP2b or SP2c, which were located 5 meters north and east of SP2, respectively. Sediments observed in these SPs were indicative of a high degree of disturbance (Figure 7-7). No other radial SPs were excavated because paved surfaces were located near each of the chosen shovel probe locations.



Figure 7-4. Basalt flake from SP2 (45KI1181).



Figure 7-5. SP2 overview (note abrupt contact between fill and sterile glacial sediment).



Figure 7-6. Location of SP2 and radial SPs, view west.



Figure 7-7. SP2c overview.

8. Summary and Recommendations

8.1 Archaeological Resources

Surface survey within the APE identified no archaeological resources. Subsurface survey did identify a precontact isolate, a basalt flake, which was recovered from SP2 (45KI1181). Sediments in this SP were interpreted as disturbed/fill overlaying glacially derived sediment; as such, this flake was not recovered from archaeological context. Three exploratory radial SPs were excavated near SP2. These shovel probes did not yield any cultural materials or archaeological deposits, and sediments observed in these SPs were interpreted as disturbed/fill overlaying glacial sediment. Pavement and other development precluded the excavation of additional exploratory probes.

No further cultural resources work is recommended within this APE, unless the project undergoes significant design changes.

8.2 Accidental Discovery of Archaeological Resources

In the event that archaeological deposits are inadvertently discovered during construction in any portion of the APE, ground-disturbing activities should be halted immediately, and the UW should be notified. The UW would then contact DAHP and the interested Tribes, as appropriate.

8.3 Discovery of Human Remains

Any human remains that are discovered during construction of the Project will be treated with dignity and respect.

If ground-disturbing activities encounter human skeletal remains during the course of construction, then all activity that may cause further disturbance to those remains **must** cease, and the area of the find must be secured and protected from further disturbance. In addition, the finding of human skeletal remains **must** be reported to the county coroner **and** local law enforcement in the most expeditious manner possible. The remains should not be touched, moved, or further disturbed.

The county coroner will assume jurisdiction over the human skeletal remains, and make a determination of whether those remains are forensic or non-forensic. If the county coroner determines the remains are non-forensic, they will report that finding to the DAHP. DAHP will then take jurisdiction over those remains and report them to the appropriate cemeteries and affected tribes. The State Physical Anthropologist will make a determination of whether the remains are Indian or non-Indian, and report that finding to any appropriate cemeteries and the affected tribes.

The DAHP will then handle all consultation with the affected parties as to the future preservation, excavation, and disposition of the remains.

9. References Cited

- Alt, D. D., and D. W. Hyndeman
1995 *Northwest Exposures: A Geologic Story of the Northwest*. Mountain Press Publishing Co., Missoula, Montana.
- Ames, K. M, and H. D. G. Maschner
1999 *Peoples of the Northwest Coast: Their Archaeology and Prehistory*. Thames and Hudson, London.
- Amoss, P.
1978 *Coast Salish Spirit Dancing: The Survival of an Ancestral Religion*. University of Washington Press, Seattle.
- Bagley, C. B.
1929 *History of King County*, Vols. 1 and 3. S.J. Clarke Publishing Company, Seattle, Washington.
- Barnosky, Cathy W.
1984 Late Pleistocene and Early Holocene Environmental History of Southwestern Washington State, U.S.A. *Canadian Journal of Earth Science* 21:619–629.
- Barnosky, C. W., P. M. Anderson, and P. J. Bartlein
1987 Chapter 14: The Northwestern U.S. During Deglaciation; Vegetational History and Paleoclimatic Implications. In *The Geology of North America, Volume K-3: North America and Adjacent Oceans During the Last Deglaciation*, edited by W. F. Ruddiman and Herbert E. Wright, Jr., pp. 289–321. Geological Society of America, Boulder, Colorado.
- Belcher, W. R.
1985 Shellfish Utilization among the Puget Salish. Unpublished Master's Thesis, Western Washington University, Bellingham.
- Berge, H. B., and K. Higgins.
2003 *The current status of kokanee in the greater Lake Washington Watershed*. King County Department of Natural Resources and Parks, Water and Land Resources Division, Seattle, Washington.
- Binford, L. R.
1980 Willow Smoke and Dogs' Tails: Hunter-Gatherer Settlement Systems and Archaeological Site Formation. *American Antiquity* 45(1):4–20.
- BOLA
2008a *Johnson Annex-UW Historic Resources Addendum*. BOLA Architecture and Planning. Prepared for the University of Washington, Seattle.
2008b *Cunningham Hall-UW Historic Resources Addendum*. BOLA Architecture and Planning. Prepared for the University of Washington, Seattle.
2013 DAHP Historic Inventory Report (for Northern Pacific Railroad Bridge No. 4/Alaska Avenue Bridge). On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

- Booth, D. B., K.G. Troost, and S. A. Schimel
2009 *Geologic Map of Northeastern Seattle, King County, WA*. United States Geological Society, Denver, Colorado.
- Booth, Derek B., Kathy Goetz Troost, John J. Clague, and Richard B. Waitt
2004 The Cordilleran Ice Sheet. In *The Quaternary Period in the United States*, edited by A. R. Gillespie, S. C. Porter, and B. F. Atwater, pp. 17–43. *Developments in Quaternary Science 1*, series editor Jim Rose. Elsevier Science, New York, New York.
- Boyd, R. T.
1990 Demographic History, 1774–1874. In *Northwest Coast*, edited by Wayne Suttles, pp. 135–148. *Handbook of North American Indians*, Vol. 7, William C. Sturtevant, general editor, Smithsonian Institution, Washington, D.C.
1999 *The Coming of the Spirit of Pestilence: Introduced Infectious Diseases and Population Decline Among Northwest Coast Indians, 1774–1874*. University of Washington Press, Seattle.
- Brubaker, Linda B.
1991 Climate Change and the Origin of Old-Growth Douglas-Fir Forests in the Puget Sound Lowland. In *Wildlife and Vegetation of Unmanaged Douglas-Fir Forests*, edited by Leonard F. Ruggiero, Keith B. Aubry, Andrew B. Carey, and Mark F. Huff, pp. 17–24. U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station, General Technical Report PNW-GTR-285.
- Buerge, D.
1984 The Lost Tribes of Lake Washington: Reconstructing the prehistoric world of the Lake People. *Seattle Weekly* (August 1–7):29–33.
- Castille, G.P.
1985 *The Indians of Puget Sound: The notebooks of Myron Eells*. University of Washington Press, Seattle.
- Chatters, J. C.
1987 Tualdad Altu: A 4th Century Village on the Black River, King County, Washington. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.
- Chatters, J. C., J. B. Cooper, P. D. LeTourneau, and L. C. Rooke
2011 *Understanding Olcott: Data Recovery at 45SN28 and 45SN303, Snohomish County, Washington*. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.
- City of Seattle
2011 Burke-Gilman History. Electronic document, <http://www.seattle.gov/transportation/burkegilmantrailhistory.htm>, accessed December 20, 2013.
- Courtois & Associates
2003 *Preliminary Report on University of Washington Main Campus Seattle-Significant Buildings and Features Completed Prior to 1953, in Select Campus Area*. Courtois & Associates, Seattle, Washington. Prepared for Sound Transit, Central Puget Sound Regional Transit Authority, Seattle, Washington.
- Courtois, S. L., K. H. Krafft, C. Wickwire, J. C. Bard, and R. McClintock
1998 *Sound Transit Central Link Light Rail Draft Environmental Impact Statement Historic and Archaeological Technical Report*. Courtois and Associates, Seattle, Washington, and CH2M Hill,

- Inc., Bellevue, Washington. Prepared for Central Puget Sound Regional Transit Authority, Seattle, Washington.
- 1999 Central Link Light Rail Transit Project Final Environmental Impact Statement Technical Report. Courtois and Associates, Seattle, Washington, and CH2M Hill, Inc., Bellevue, Washington. Prepared for Central Puget Sound Regional Transit Authority, Seattle, Washington.
- Dancey, W. S.
1969 *Archaeological Survey of Mossyrock Reservoir*. Reports in Archaeology No. 3. University of Washington Press, Seattle.
- Dethier, D. P., F. Pessl, Jr., R. F. Keuler, M. A. Balzarini, and D. R. Pevear
1995 Later Wisconsinan Glaciomarine Deposition and Isostatic Rebound, Northern Puget Lowland, Washington. *Geological Society of America Bulletin* 107(11):1288–1303.
- Dillehay, T. D., C. Ramirez, M. Pino, M. B. Collins, J. Rossen, and J. D. Pino-Navarro
2008 Monte Verde: Seaweed, Food, Medicine, and the Peopling of South America. *Science* 320:784–786.
- Durio, Lori
2009 *Burke-Gilman Trail Parallel to NE Pacific St.-Historic Property Inventory Report*. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington. Accessed May 14, 2013.
- United States Court of Claims
1927 Duwamish et al. vs. United States of America, F-275. Washington DC: US Court of Claims
- Easterbrook, D. J., and D. A. Rahm
1970 *Landforms of Washington: The Geologic Environment*. Union Printing Co., Bellingham, Washington.
- Erlandson, J. M., T. C. Rick, T. J. Braje, M. Casperson, B. Culleton, B. Fulfrost, T. Garcia, D. A. Guthrie, N. Jew, D. J. Kennett, M. L. Moss, L. Reeder, C. Skinner, J. Watts, and L. Willis
2011 Paleoindian Seafaring, Maritime Technologies, and Coastal Foraging on California's Channel Islands. *Science* 331:1181–1185.
- Emerson, S.
2009a *Letter to Adam Escalona regarding SE01126A UW Medical BB Tower*. Archisto Enterprises, Spokane, Washington. Prepared for Adapt Engineering, Inc., Seattle, Washington.
2009b *Letter to Adam Escalona regarding SE01124A Suzzallo Library*. Archisto Enterprises, Spokane, Washington. Prepared for Adapt Engineering, Inc., Seattle, Washington.
- Franklin, J. F., and C. T. Dyrness
1973 *Natural Vegetation of Oregon and Washington*. USDA Forest Service, General Technical Report PNW-8.
- Galster, R. W., and W. T. LaPrade
1991 Geology of Seattle, Washington, United States of America. *Bulletin of the Association of Engineering Geologists* 28(3):235–302.

- Gilbert, M. T. P., D. L. Jenkins, A. Götherstrom, N. Naveran, J. J. Sanchez, M. Hofreiter, P. F. Thomsen, J. Binladen, T. F. G. Higham, Robert M. Yohe II, R. Parr, L. S. Cummings, and E. Willerslev
 2008 DNA from Pre-Clovis Human Coprolites in Oregon, North America. *Science* 320:786–789.
- Gilmour, D. M.
 2011 Chronology and Ecology of Late Pleistocene Megafauna in the Northern Willamette Valley, Oregon. Unpublished Master's Thesis, Portland State University, Portland, Oregon.
- Greengo, R. E., and R. Houston
 1965 *Excavations at the Marymoor Site*. Magic Machine Press.
- Haeberlin, H., and E. Gunther
 1930 *The Indians of Puget Sound*. University of Washington Press, Seattle.
- Hilbert, V., J. Miller, and Z. Zahir
 2001 *Puget Sound Geography: Original Manuscript from T. T. Waterman*. Zahir Consulting Services, Federal Way, Washington.
- Johnson, R. E., and K. M. Cassidy
 1997 *Terrestrial Mammals of Washington State: Location Data and Predicted Distributions. Vol. 3 Washington State gap analysis – Final Report*. Edited by K. M. Cassidy, C. E. Crue, M. R. Smith, and K. M. Dvornich. Washington Cooperative Fish and Wildlife Research Unit, University of Washington, Seattle.
- Johnston, Norman J.
 2001 *University of Washington*. Princeton Architectural Press, New York.
- Kidd, Robert S.
 1964 A Synthesis of Western Washington Prehistory from the Perspective of Three Occupation Sites. Unpublished Master's Thesis, Department of Anthropology, University of Washington, Seattle.
- King, Arden
 1949 Archaeology of the San Juan Islands: A Preliminary Report of the Cattle Point Site. In *Indians of the Urban Northwest*, edited by Marian W Smith, pp. 131–146. Columbia University Press, New York.
- Kopperl, R. E., C. J. Miss, and C. M. Hodges
 2010 *Results of Testing at the Bear Creek Site 45-KI-839, Redmond, King County, Washington*. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.
- Kruckeberg, Arthur R.
 1991 *The Natural History of Puget Sound Country*. University of Washington Press, Seattle.
- Larrison, Earl J.
 1967 *Mammals of the Northwest: Washington, Oregon, Idaho, and British Columbia*. Seattle Audubon Society, Seattle, Washington.
- Larson, Lynn L., and Dennis E. Lewarch (editors)
 1995 *The Archaeology of West Point, Seattle, Washington: 4,000 Years of Hunter-Fisher-Gatherer Land Use in Southern Puget Sound Volume 1, Parts 1 and 2*. Larson Anthropological Archaeological Services, Ltd., Seattle, Washington. Prepared for King County Department of Metropolitan Services, Seattle, Washington. Submitted to CH2M Hill, Bellevue, Washington.

- Lewarch, D. E.
 2006 Renton High School Indian Site (45KI501) Archaeological Data Recovery, King County, Washington. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.
- Louderback, L., and S. Jolivet
 2009 *45KI957 State of Washington Archaeological Site Inventory Form*. Burke Museum, Seattle, Washington. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.
- Marino, C.
 1990 History of Western Washington Since 1846. In *Northwest Coast*, edited by Wayne Suttles, pp. 169–179. Handbook of North American Indians, Vol. 7, William C. Sturtevant, general editor, Smithsonian Institution, Washington, D.C.
- Martin, P. S.
 1967 Prehistoric overkill. In *Pleistocene Extinctions: The Search for a Cause*, edited by P. S. Martin, and H. E. Wright, Jr., pp. 75–120. Yale University Press, New Haven, Connecticut.
- Meltzer, D. J., and R. C. Dunnell
 1987 Fluted Points from the Pacific Northwest. *Current Research in the Pleistocene* 4:64–67.
- Miller, Jay, and Astrida R. Blukis Onat
 2004 *Winds, Waterways, and Weirs: Ethnographic Study of the Central Link Light Rail Corridor*. BOAS, Inc., Seattle, Washington. BOAS Project No. 20005. Submitted to Sound Transit, Central Light Link Rail.
- Minor, K., and P. Meijer
 2011 *Cultural Resource Inventory for Anderson Hall, University of Washington Campus, Seattle, Washington*. Peter Meijer, Architect PC, Portland, Oregon. Prepared for the University of Washington, Seattle.
- Morgan, V. (editor)
 1999 *The SR-101 Sequim Bypass Archaeological Project: Mid- to Late-Holocene Occupations on the Northern Olympic Peninsula, Clallam County, Washington*. Volume 1. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.
- Nelson, Charles M.
 1976 The Radiocarbon Age of the Biderbost Site (45SN100) and Its Interpretive Significance for the Prehistory of the Puget Sound Basin. *Washington Archaeologist* 20(1):1–17.
 1990 Prehistory of the Puget Sound Region. In *Northwest Coast*, edited by Wayne Suttles, pp. 481–484. Handbook of North American Indians, Vol. 7, William C. Sturtevant, general editor, Smithsonian Institution, Washington, D.C.
- Osborne, D.
 1956 Early Lithic in the Pacific Northwest. *Research Studies of the State College of Washington* 24:38–44.
- Ruby, R. H., and J. A. Brown
 1992 *A Guide to the Indian Tribes of the Pacific Northwest, Revised Edition*. University of Oklahoma Press, Norman, Oklahoma, and London, England.

Sanborn Map Company

- 1905 *Seattle, Washington: Volume 3 1904-1905*. Sanborn-Perris Map Company, the Sanborn Map Company, Sanborn Library, LLC. Electronic document, [http://www.spl.org/default.asp?pageID=collection_db_list&dB.P.age=9#Maps%20\(Local%20History\)](http://www.spl.org/default.asp?pageID=collection_db_list&dB.P.age=9#Maps%20(Local%20History)), accessed May 29, 2013.
- 1919 *Seattle, Washington: Volume 4 1905-1950*. Sanborn-Perris Map Company, the Sanborn Map Company, Sanborn Library, LLC. Electronic document, [http://www.spl.org/default.asp?pageID=collection_db_list&dB.P.age=9#Maps%20\(Local%20History\)](http://www.spl.org/default.asp?pageID=collection_db_list&dB.P.age=9#Maps%20(Local%20History)), accessed May 29, 2013.
- 1930 *Seattle, Washington: Volume 10 1905-March 1951*. Sanborn-Perris Map Company, the Sanborn Map Company, Sanborn Library, LLC. Electronic document, [http://www.spl.org/default.asp?pageID=collection_db_list&dB.P.age=9#Maps%20\(Local%20History\)](http://www.spl.org/default.asp?pageID=collection_db_list&dB.P.age=9#Maps%20(Local%20History)), accessed May 29, 2013.

Schiffer, Michael B.

- 1987 *Formation processes of the archaeological record*. University of Utah Press, Salt Lake City.

Snyder, D. E., P. S. Gale, and R. F. Pringle

- 1973 *Soil Survey: King County Area, Washington*. USDA Soil Conservation Service.

Stevens, I. I.

- 1854 Report on Tribes between the Head of Navigation of the Mississippi River to the Pacific Ocean: Indian Tribes West of the Cascades. Letter from Isaac I. Stevens, Governor and Superintendent of Indian Affairs, Washington Territory to George W. Maypenny, Commissioner of Indian Affairs, Washington D. C., 16 September. In *Message from the President of the United States to the Two Houses of Congress, Part 1*, pp. 392-459. A.O.P. Nicholson Printer, Washington, D.C.

Stevenson, A., J. Dellert, and S. Molchany

- 2013 *University of Washington Burke-Gilman Trail, Rainier Vista to 15th Avenue NE Segment, Cultural Resources Inventory Project, Seattle, King County, Washington*. Historical Research Associates, Inc. and BOLA, Seattle, Washington. Prepared for EA Engineering, Science and Technology, Inc.

Stilson, M. L., and J. C. Chatters

- 1981 *Excavations at 45-SN-48N and 45-SN49A, Snohomish County, Washington*. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

Suttles, W.

- 1990 Environment. In: *Northwest Coast*, edited by Wayne Suttles, pp. 16–29. Handbook of North American Indians, Vol. 7, William C. Sturtevant, general editor, Smithsonian Institution, Washington, D.C.

Suttles, W., and B. Lane

- 1990 Southern Coast Salish. In *Northwest Coast*, edited by Wayne Suttles, pp. 485–502. Handbook of North American Indians, Vol. 7, William C. Sturtevant, general editor, Smithsonian Institution, Washington, D.C.

Thrush, C.

- 2007 *Native Seattle: Histories from the Crossing-Over Place*. University of Washington Press, Seattle.

Trigger, B.

- 2002 *A History of Archaeological Thought*. Second Ed. Cambridge University Press, Cambridge.

Trudel, Stephanie E.

- 2004 *Letter to Merideth Redmon Regarding Final Archaeological Monitoring of Geotechnical Borings for the Proposed University/ Densmore CSO Control System Improvements Project*. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

United States Geological Survey (USGS)

- 1865 General Land Office Map, Township 25 North, Range 4 East, Willamette Meridian. On file at the Washington State Department of Natural Resources, Olympia.
- 1890 General Land Office Map, Township 25 North, Range 4 East, Willamette Meridian. On file at the Washington State Department of Natural Resources, Olympia.

Washington Department of Fish and Wildlife (WDFW)

- 2012 Fish Washington: Lake Washington. Electronic document, <http://wdfw.wa.gov/fishing/washington/37/>, accessed December 20, 2013.

Washington State Department of Natural Resources (DNR)

- 2012 Washington Interactive Geologic Map. Electronic document, <https://fortress.wa.gov/dnr/geology/?Theme=wigm>, accessed December 20, 2013.

Waterman, T. T., and R. Greiner

- 1921 *Indian Houses of the Puget Sound*. Museum of the American Indian, New York.

Waters, M. R., T. W. Stafford Jr., H. G. McDonald, C. Gustafson, M. Rasmussen, E. Cappellini, J. V. Olsen, D. Szklarczyk, L. J. Jensen, M. T. Gilbert, and E. Willerslev

- 2011 Pre-Clovis Mastadon Hunting 13,800 Years Ago at the Manis Site, Washington. *Science* 334: 351–353.

Whitlock, C.

- 1992 Vegetational and Climatic History of the Pacific Northwest during the last 20,000 Years: Implications for Understanding Present-Day Biodiversity. *The Northwest Environmental Journal* 8:5–28.

Xerces

- 2010 Unpublished Data from the Xerces Society, Portland, Oregon.

Appendix A. Archaeological Isolate Inventory Form 45KI1181



STATE OF WASHINGTON

ARCHAEOLOGICAL ISOLATE INVENTORY FORM

Smithsonian Number:

45KI1181

***County:** King

***Date:** 1/6/13 ***Compiler:** Alexander Stevenson

ISOLATE DESIGNATION

Isolate Name:

Field/ Temporary ID: 45KI1181

***Site Type:** Precontact Isolate

ISOLATE LOCATION

***USGS Quad Map Name:** Seattle North

***Legal Description:** T 25 N R 4E Section(s): 17

Quarter Section(s): SE

***UTM: Zone 10 Easting 551009.34 Northing 5278248.56**

Latitude: 47.655616

Longitude: -122.320699

Elevation (FT/M): 30 ft asl

Other Maps: none

Type: none

Scale: n/a

Source: n/a

Drainage, Major: Lake Union

Drainage, Minor: none **River Mile:** n/a

Aspect: none

Slope: flat

***Location Description:** This isolate is located in King County within the limits of the City of Seattle, approximately 0.5 miles (KM) west of the University of Washington campus, approximately 600 feet (M) north of the shore of Lake Union, near the intersection of 7th Avenue Northeast and Northeast 40th Street, on the north side of the Burke-Gilman Trail.

Approach: From Interstate-5 (I-5) north near downtown Seattle, proceed 1.7 miles to exit 168A for Lakeview Boulevard and continue to Lakeview Boulevard East. Turn left (north) onto Lakeview Boulevard East and proceed for 0.2 miles (KM) and continue straight onto Boylston Avenue East. Continue on Boylston Avenue East for 0.4 miles (KM) and then turn right (east) onto East Roanoke Street. Proceed east along East Roanoke Street for approximately 300 feet and turn left (north) on Harvard Avenue East. Drive north on Harvard Avenue East for 0.5 miles (KM). Harvard Avenue East becomes Eastlake Avenue East, continue along Eastlake Avenue East for 0.4 miles (KM). Take the Northeast 40th Street exit at right and proceed along Northeast 40th Street for 0.1 miles. The isolate is located on the north side of the Burke-Gilman Trail just east of the intersection of Northeast 40th Street and 7th Avenue Northeast.

***Mandatory Information for Official Smithsonian Number designation.**

Revised 2/2010

--

ISOLATE DESCRIPTION

***Narrative Description:** A single basalt flake (45K11181) was encountered in on the Northside of the Burke-Gilman Trail (Figure 1). This flake was encountered in the sediment interpreted as fill, near the contact with the glacial sediment. No other cultural materials were recovered from the fill or glacial sediment in this SP. Three radial shovel probes were excavated near SP2 to determine if other cultural materials may be located in the vicinity. SP2a was excavated five meters west of SP2 and did not contain any cultural materials. No cultural materials were observe in SP2b or SP2c which were located five meters north and west of SP2, respectively. Sediments observed in these SPs were indicative of a high degree of disturbance (Figure 7-6). No other radial SPs were excavated because paved surfaces were located near each of the chosen shovel probe locations.

***Vegetation (On Site):** Grass

Local: manicured grass

Regional: western hemlock forest

Landforms (On Site): lakeshore

Local: lakeshore

Water Resources (Type): Lake

Distance: 0.2 miles

Permanence: permanent

***Method of Collection(s):** none

***Location of Artifacts (Temporary/Permanent):** isolate location

ISOLATE AGE

***Component:** precontact

***Dates:** unknown

***Dating Method:** none

Phase: none

Basis for Phase Designation: artifact type

ISOLATE RECORDERS

Observed by: Kai Little **Address:** 1904 Third Avenue, Suite 240, Seattle, WA 98101
***Date Recorded:** 1/15/14
***Recorded by** (*Professional Archaeologist*): Alexander E. Stevenson
***Affiliation:** Historical Research Associates ***Affiliation Phone Number:** 206-343-0226
***Affiliation Address:** 1904 Third Avenue, Suite 240, Seattle, WA 98101
***Affiliation E-mail:** astevenson@hrassoc.com
Date Revisited: n/a **Revisited By:** n/a

ISOLATE HISTORY

Previous Work (*Done on Area Where Isolate was Found*): NONE

LAND OWNERSHIP

***Owner:** University of Washington
***Address:** Northeast Pacific Street, Seattle, WA 98105
***Tax Lot/ Parcel No:** 1725049001

RESEARCH REFERENCES

***Items/Documents Used In Research** (*Specify*): None

USGS MAP

*Quad Name: Seattle North

*Series: 7.5 Minute

*Date: 2013

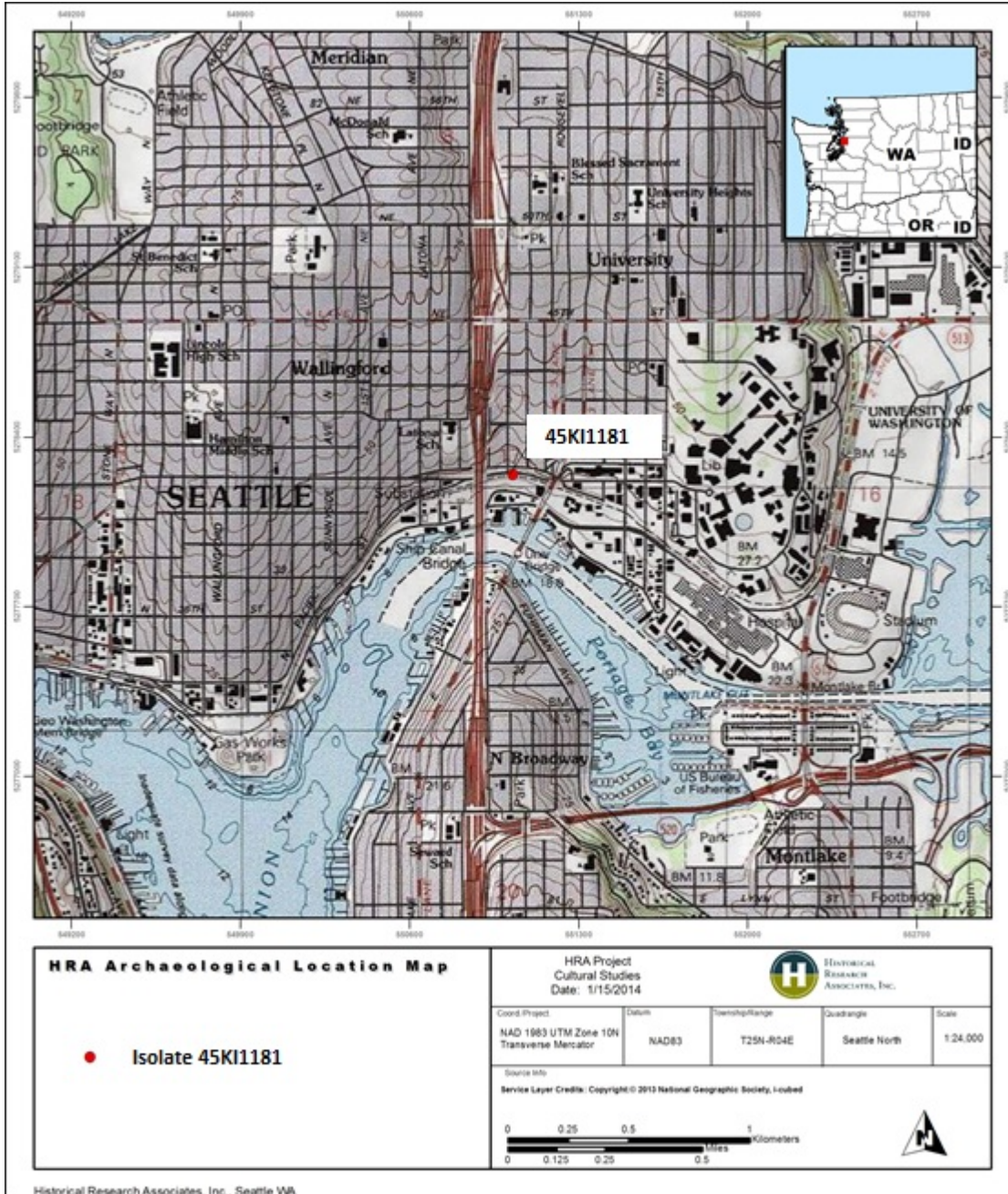


Figure 1. Location of 45KI1181

PHOTOGRAPH(S)

***Photograph Description(s):** Flake recovered from shovel probe

