
**CULTURAL RESOURCES ASSESSMENT FOR THE UNIVERSITY OF
WASHINGTON WEST CAMPUS HOUSING PROJECT
SEATTLE, KING COUNTY, WASHINGTON**



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May 18, 2009

NWAA Report Number WA09-051

NORTHWEST ARCHAEOLOGICAL ASSOCIATES, INC.
SEATTLE, WASHINGTON

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WASHINGTON WEST CAMPUS HOUSING PROJECT
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Report Prepared for

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By

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May 18, 2009

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CULTURAL RESOURCES SURVEY COVER SHEET

Author: Jessie Piper

Title of Report: Cultural Resources Assessment for the University of Washington West
Campus Housing Project Seattle, King County, Washington

Date of Report: May 13, 2009

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ABSTRACT

Northwest Archaeological Associates, Inc. (NWAA) was retained to construct a cultural resources assessment of a proposed construction for the University of Washington West Campus Housing Project in the southwestern portion of the University campus in the City of Seattle, King County, Washington (Township 25 N., Range 4 E., Section 17). Because the proposed development is within 200 feet of the U.S. Government Meander line, which provides an indication of where the historic shoreline existed prior to recent fill or alteration, it is subject to the City of Seattle Director's Rule 2-98. No recorded archaeological properties were identified within or adjacent to the project area.

Background investigation indicates that prior disturbance for historic period and recent construction has disturbed or removed pre-contact archaeological resources if they were present, and no additional archaeological investigation is recommended for pre-contact resources.

Because background investigations indicate the potential for that historic archaeological resources to be present in some portions of the project area, NWAA recommends additional investigation, including archival research into structures that historic maps indicate existed within the project area in the early 20th century, along with field investigation in areas of the project where they are identified to determine if these potential archaeological resources are still present.

Although research has not indicated the potential for significant pre-contact archaeological resources on the proposed work site, there is always a possibility that archaeological resources (pre-contact, as well as historic period resources other than those identified in the background research) could be present within the project area. If resources of potential archaeological significance are encountered during construction, or excavation, the responsible project director should stop work immediately and notify the City of Seattle Department of Planning and Development and the Department of Archaeology and Historic Preservation so that appropriate evaluation and consultation can take place before construction resumes.

Permit/SEPA Mitigation

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INTRODUCTION

Northwest Archaeological Associates, Inc. (NWAA) has conducted an assessment of the potential effects to cultural resources from proposed construction for the University of Washington West Campus Housing Project in the southwestern portion of the University campus in the City of Seattle, King County, Washington (Township 25 N., Range 4 E., Section 17)(Figure 1). This report presents the results of cultural and environmental background research, along with recommendations for avoiding effects to archaeological resources.

NWAA's review consisted of a check of Washington State site inventory records at the Department of Archaeology and Historic Preservation (DAHP), records of the King County Historic Preservation Office, and the City of Seattle database of historic inventories to determine the distribution of previously recorded historic and prehistoric archaeological sites, ethnographic sites, and historic buildings and landmarks in and near the project area. In addition, NWAA consulted the results of previous cultural resources investigations in the project area, numerous published ethnographic and historical works, and historic maps. NWAA also conducted site reconnaissance on May 5, 2009, to photograph and gather information that would assist in assessing the probability for archaeological resources to be present in the project area.

Because the proposed development is within 200 feet of the U.S. Government Meander line, which provides an indication of where the historic shoreline existed prior to recent fill or alteration, it is subject to the City of Seattle Director's Rule 2-98.

No recorded archaeological properties were identified within or adjacent to the project area. Background investigation indicates that prior disturbance for historic period and recent construction has disturbed or removed pre-contact archaeological resources if they were present, and no additional archaeological investigation is recommended for pre-contact resources.

Because background investigations indicate the potential for historic archaeological resources to be present in some portions of the project area, NWAA recommends additional investigation of the early 20th century structures within the project area, including archival research in the City of Seattle records as well as the Washington State archives in Bellevue, and field investigation in specific areas of the project identified by the archival research to determine if potential historic archaeological resources are still present.

Although research has not indicated the potential for significant pre-contact archaeological resources on the proposed work site, there is always a possibility that archaeological resources (pre-contact, as well as historic period resources other than those identified in the background research) could be present within the project area. If resources of potential archaeological significance are encountered during construction, or excavation, the responsible project director should stop work immediately and notify the City of Seattle Department of Planning and Development and the Department of Archaeology and Historic Preservation so that appropriate evaluation and consultation can take place before construction resumes.

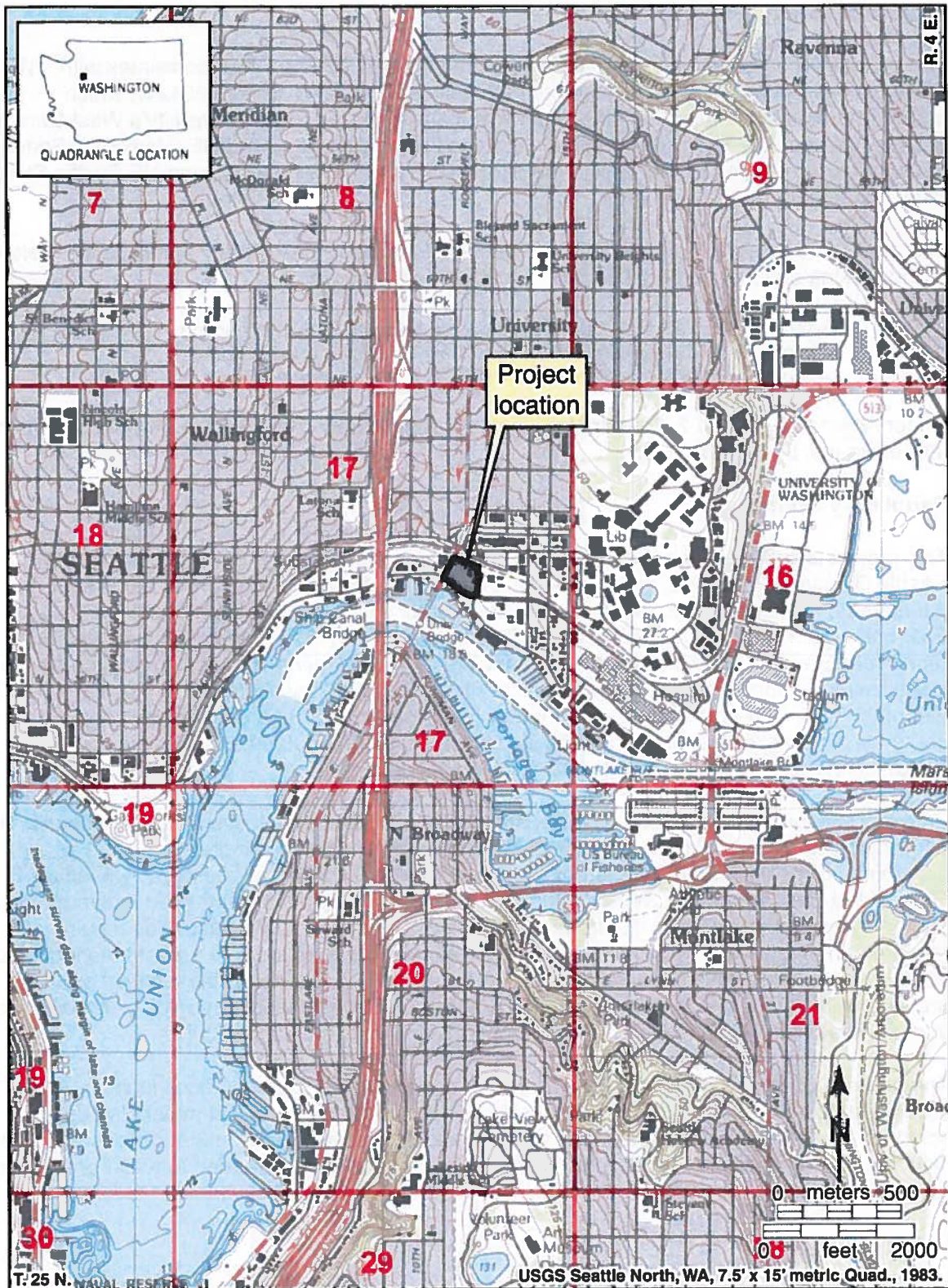


Figure 1. Project location.

Project Description and Location

The project will be constructed within parcel number 1142002970, which correlates with *UW Campus Master Plan (CMP) Development 2003* sites 29W/42W. Site 29W/42W, which currently contains a campus residence, Mercer Hall, is located in the University's West Campus area in subarea S/W-6 which is generally bounded by Eastlake Avenue NE (University Bridge) to the west, the Burke Gilman Trail to the north, Adams Lane to the east, and NE Pacific Street to the south (Figure 2).

The project would entail development of a multi-building apartment facility that includes below grade parking spaces. Three alternatives are being considered.

- Alternative 1: 3 six-story buildings with 2.5 levels below-ground parking
- Alternative 2: 3 six-story buildings with 2 levels below-ground parking
- Alternative 3: 1 six-story building with 2.5 levels below-ground parking

Under Alternatives 1 and 2, Mercer Hall would be demolished. Construction will involve grading, utilities tie-ins, and landscaping.

Regulatory Context

This project is subject to the Washington State Environmental Policy Act (SEPA) and City of Seattle Director's Rule 2-98, which requires that impacts to cultural resources be considered during the environmental review process. The Director's Rule, *Clarification of State Environmental Policy Act (SEPA) Historic Preservation Policy for Potential Archeologically Significant Sites and Requirements for Archeological Assessments*, provides guidance on the identification and treatment of archaeological sites. It requires applicants for projects within 200 feet of the U.S. Government Meander Line to conduct research regarding the probable presence on the site of archaeologically significant sites or resources and identifies potential mitigation depending on the results of that investigation.

Relevant Washington state laws address archaeological sites and Native American burials. The Archaeological Sites and Resources Act [RCW 27.53] prohibits knowingly excavating or disturbing prehistoric and historic archaeological sites on public or private land. The Indian Graves and Records Act [RCW 27.44] prohibits knowingly destroying American Indian graves and provides that inadvertent disturbance through construction or other activities requires reinterment under supervision of the appropriate Indian tribe. In order to prevent the looting or depredation of sites, any maps, records, or other information identifying the location of archaeological sites, historic sites, artifacts, or the site of traditional ceremonial, or social uses and activities of Indian Tribes are exempt from disclosure [RCW 42.56.300].

The purpose of this report is to aid the project in complying with these various legal requirements by assessing the probability of encountering archaeological materials during construction based on existing sources and field reconnaissance. Recommendations are also included for any additional archaeological resources investigations needed to avoid or mitigate adverse effects.



Figure 2. Current conditions in project area.

ENVIRONMENT

Geology and Geomorphology

Landforms in the Seattle area are the result of long periods of glacial activity followed by postglacial sea level fluctuations, fluvial re-working of the land surface, landslides, and seismic events. Geomorphology of the Seattle area is dominated by north-trending ridges and extensive drift uplands on which numerous surface depressions, now filled by small lakes and peat bogs, were created as ice sheets of the final phase of Pleistocene glaciation retreated about 13,600 years ago (Borden and Troost 2001; Porter and Swanson 1998). Drift uplands are separated by large glacial troughs now occupied by tidal waters or large lakes, including Lake Washington, Lake Sammamish, Puget Sound, and the Duwamish-Green River valley (Galster and Laprade 1991; Yount 1993).

The project area is near the shoreline of Portage Bay, an arm of Lake Union, and lies west of Union Bay, a formerly marshy area on the northern shoreline of Lake Washington. South of the project, a former canoe portage route between Union Bay and Portage Bay became the site of a log canal and later the Montlake Cut when Lake Washington and Lake Union were joined during construction of the Lake Washington Ship Canal.

With opening of the Lake Washington Ship canal in 1916, the surface waters of Lake Washington were lowered nearly 9 feet. Previously, the mean level of the lake had fluctuated by as much as seven feet over time due to changes in hydrology and tectonic events that affected the lake's outflow near Renton (Chrzastowski 1983). Earthquakes throughout the past 7,000 years have triggered underwater slumping, landslides, ground elevation changes, and tsunamis. A massive earthquake on the Seattle Fault 1,100 years ago caused slides and subsidence (Atwater and Moore 1992).

The project area sits near the base of a broad, low north-east trending ridge that descends gradually north-south to Portage Bay. Wide contours form intermittent flatter areas that can be distinguished on topographic maps and older photos (Curtis 1907; United States Geologic Survey/National Ocean Survey 1983). Before development, the Portage Bay shoreline was closer to the southern boundary of the project, and the area was an open, possible meadow like area (Figure 3).

Geotechnical information within the project area comes from a 1966 investigation (Dames and Moore 1966). Four 6-inch diameter bores were drilled to depths of 30-35 feet below surface within the project area in locations that today are the northeast corner of Mercer Hall, the south end of the parking lot location, the south-central lawn area, and the southeast corner respectively. Two additional bores in the southeast end of the project were drilled to a depths of 13 feet below surface (fbs).

Fill consisting of silty sand ranging from 3 to 9 feet fbs was found overlying a compact glacial till in the form of silty sand with gravel. Partial weathering on the surface of the fill appears to be very shallow. The till layer slopes downward to the south and in keeping with the surface topography becomes slightly deeper on the south portion of the property. In one bore, immediately adjacent to the SE edge of the project area, an underlying a 3-foot layer of soft silty clay was found beneath fill.

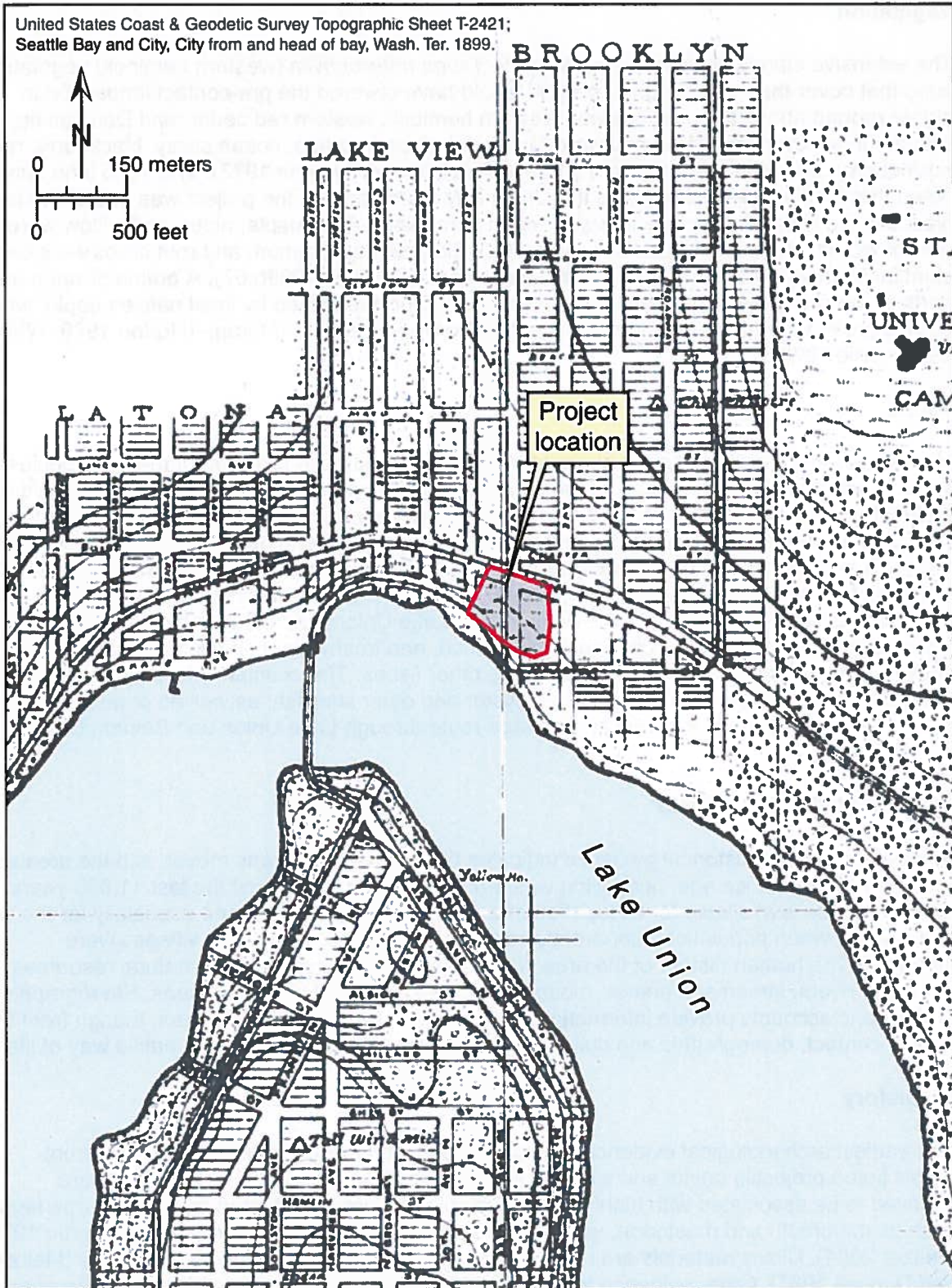


Figure 3. Project area in 1899.

Vegetation

The extensive stands of forest comprising the *Tsuga heterophylla* (western hemlock) vegetation zone that cover the Puget Sound Lowland would have covered the pre-contact landscape in higher ground above the project area. Western hemlock, western red cedar, and Douglas fir, with an understory dominated by sword fern, salal, Oregon grape, ocean spray, blackberry, red huckleberry, and elderberry typify this forest (Franklin and Dyrness 1973). The 1855 land survey noted that the flat area surrounding the Union Bay marsh east of the project was one of the few places in the area where cedar (*Thuja plicata*) dominated. Ash, maple, alder, and willow were also noted (cf. Higman and Larrison 1951:160). Blackberries, salmon, and root crops were once plentiful in areas around the current University lands (Courtois 1999b:67). A prairie or open area north of the project area may have been created and/or maintained by local native people, who burned areas to enhance the productivity of certain food plants and forage (Norton 1979; White 1980; Willis 1973).

Fauna

Marshlands to the east along the shore of Union Bay would have provided numerous species such as wapato, skunk cabbage, sedges, and cattails that provided food for people and wildlife, materials for baskets and mats, as well as habitat for beavers, muskrat, and nesting waterfowl. Deer and elk were hunted along the margins of the swamps and in upland areas (Buerge 1984). Two native informants apparently informed Seattle historian Edmund Meany that they were still able to find wolves, elk, deer, cougar, and bears in the University area as late the early 1900s (cf. Courtois 1999b:67). Lake Washington, Lake Union, and the nearby rivers and streams supported chinook, coho, sockeye salmon, and freshwater fish such as bulltrout, suckers, Dolly Varden, sculpin, and numerous other fishes. The coastal waters and tideflats in Elliott Bay offered a variety of fish, clams, oyster and other shellfish, as well as other marine resources accessible via a canoe and portage route through Lake Union and Salmon Bay.

CULTURAL BACKGROUND

Archaeological and historical evidence indicates that Native Americans moved into the area at the close of the last ice age, occupying western Washington for at least the last 11,000 years. More evidence is available for occupation after about 5,000 years ago and especially for the last 2,500 years when populations apparently increased and large, permanent villages were inhabited. The human history of the area is a response to the availability of natural resources along the rivers, streams, marshes, sloughs, prairies, and nearby coastal areas. Ethnographic and historic accounts provide information on land use in the Puget Sound area, though from the time of contact, demographic and cultural changes were already altering the native way of life.

Prehistory

The earliest archaeological evidence of human presence in Washington state comes from Clovis fluted projectile points and stone tools dating to about 11,000 BP. These tools are believed to be associated with highly mobile Paleoindian groups adapted to hunting large fauna such as mammoth and mastodon, with some reliance on other plants and animals (Martin 1973; Meltzer 2004). Clovis materials are rare in Washington, known from nine isolated finds (Meltzer and Dunnell 1987). Other evidence for this adaptation includes the Manis Mastodon site near the town of Sequim where extinct bison and mastodon remains dating from 12,000 BP and

10,000 BP were found in possible association with cultural remains (Gustafson and Manis 1984; Kirk and Daugherty 1978).

The Early period in western Washington spans from approximately 8,000-5,000 BP. Artifacts are referred to as "Olcott" after the site type in Snohomish County and referred to in adjacent areas as "Old Cordilleran" or "Early Lithic" (Butler 1961; Fladmark 1982; Kidd 1964). The distinctive Olcott stone tool assemblage consists of large, leaf-shaped and stemmed points and cobble and flake tools, often made of heavily weathered volcanic rock like dacite or basalt (Carlson 1990; Mattson 1971). Sites with Olcott assemblages, which generally lack organics and features, are usually found inland on raised terraces where human occupation likely became established as landforms stabilized during the middle Holocene (Blukis Onat et al. 2000).

The Middle period in Puget Sound prehistory, from approximately 5,000 BP to 2,500 BP, is characterized by increasing populations with more complex socio-economic organization and evidence for greater reliance on marine and riverine resources (Ames and Maschner 1999). Marine resource use may extend back further in time; however, earlier shoreline sites would have been inundated by rising sea levels which reached near-modern elevations by about 5,000 BP. Middle period sites yield more stone and bone tools in addition to chipped stone tools (Matson and Coupland 1995). The developing importance of woodworking is evident in the presence of tools such as adzes, wedges, and mauls. A diversification of economic pursuits in this period is indicated by sites in a variety of environmental settings and common finds of the remains of sea mammals, fish, and shellfish (Ames and Maschner 1999).

The Late period of the last 2,500 years in the Pacific Northwest is marked by sites and assemblages that indicate development of craft specialization and a significant concentration of wealth, both traits being representative of the "classic" Northwest Coast cultural complex (Ames and Maschner 1999). Of note are abundant shells, an increase in art objects and status markers, and a large variety of tools including ground slate knives and points, celts, and bone harpoons and points. The seasonal use of resources and locations continued, and permanent and semi-permanent winter villages were established. Archaeological sites of the Late period provide evidence of subsistence and settlement patterns including hunting, fishing, woodworking, and plant processing.

Native Americans

The project area was formerly occupied by the Duwamish or *Xacho-absh*, a Lushootseed speaking group who inhabited all of present-day Seattle and Renton, and who occupied villages along the shorelines of Lake Union (*Xa'atchu*), Lake Sammamish, Lake Washington (*Xatcu*), Elliott Bay, Shilshole Bay, and the Duwamish, Black and Cedar rivers (Harrington 1909; Ruby and Brown 1992; Smith 1940; Waterman 2001:41, 77-78). The Duwamish maintained close ties with neighboring groups, including the Snoqualmie, Suquamish, Puyallup, and people living on the Upper Green and White Rivers (Ballard 1929; Smith 1940). Known as the *xa'tcoabc* (*lake people*), the Lake Washington people were considered by some to be intermediate between the Duwamish and Snoqualmie, the Lake Washington people (Ballard [1929] 1999).

Recorded place names indicate native presence in the project vicinity as well as throughout the environs of greater Seattle. East of the project area, longhouses of the group living at *SWAH-tsu-gweel* on the shore of Union Bay near the present-day University of Washington campus marked the eastern end of an important portage route that led to salt water (Buege 1984). An

"Indian trail" marked on the 1856 land survey map is shown from the northwest side of Union Bay and entering Portage Bay on the east side just south of the Project area. Another trail farther south connects the lower end of Union Bay with the southern end of Portage Bay and continues across the terrain to reach the east side of Lake Union, crossing land again in the vicinity of today's Gaswork's Park (United States Surveyor General 1856; Figure 4).

Baqwob [BaRob, Baq^wab]) referred to a prairie or open space north of Portage Bay. *Waq³e'q³ab*, [WaQwaQab] from the word for frog, was a small creek that entered Lake Union just east of today's Interstate 5 Bridge. A small promontory, *Sqwitsqs* [sRicqs, sq^wicqs], jutted into Lake Union where the University Boat Club once stood. *Sslu?wi't* (*perforation for a canoe*) referred to a creek passage from the north shore of Union Bay through the marsh lying between Webster Point and the buildings of the University. It may have been the location of a fish trap (Waterman 2001:77-78; Buerge 1984). In Union Bay on today's Foster Island, the Duwamish had a burial ground, *Stitici*, where the dead were placed in boxes placed up in the branches of trees. (DuwamishTribe.org 2009). Other places were noted in the vicinity of Webster Point, Sand Point, and Laurel Point.

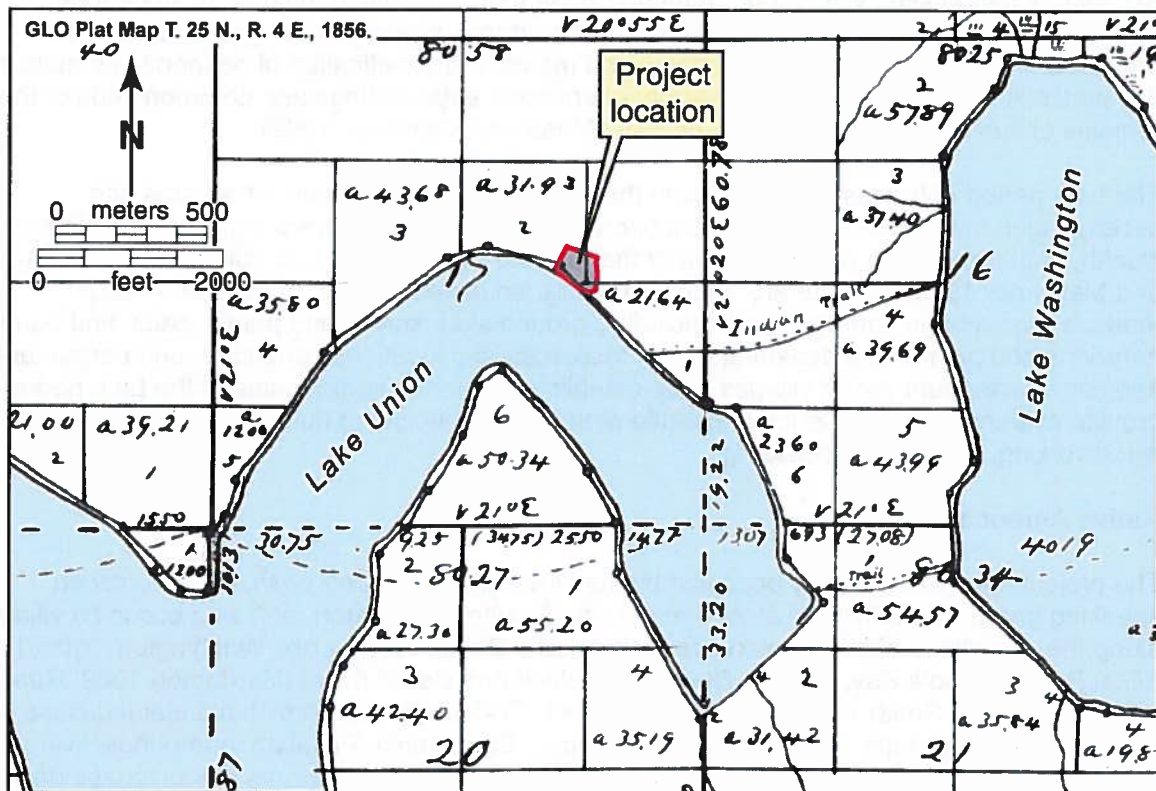


Figure 4. General land plat, 1856.

The annual cycle of activities was based on the availability of resources in different seasons and varied environments. In spring and summer, traveling along trails or by dugout canoe, small groups set up temporary camps to fish, hunt, harvest shellfish, and gather berries, roots, bulbs, and other plant resources (Haeberlin and Gunther 1930; Smith 1940). Salmon and shellfish, especially clams, formed the most important part of their diet. Other resources included freshwater fish caught in the lakes and streams throughout the area; deer, bear, and small mammals hunted in the valleys, uplands and lake shores, waterfowl found on the numerous waterways; and marine resources including sea mammals, clams, crabs, shrimp, oysters, mussels, and other invertebrates found along the coast.

The Duwamish spent the winter months in cedar plank houses built along shorelines and riverbanks living on the salmon, clams, berries, roots and other foods they had preserved by smoking or drying and tending to social relationships through visiting, trading, and engaging in festivities and ceremonies (Haeberlin and Gunther 1930; Miller 1999; Smith 1940). The Duwamish were linked by marital ties as well as by shared use of some resources areas with the Suquamish to the west, Snohomish to the north, Snoqualmie to the east, and with groups on the White and Green Rivers to the south now collectively referred to as Muckleshoot.

The Duwamish maintained friendly relations with Seattle pioneers, providing them with labor, salmon, shellfish, baskets, and other resources and continuing to live among them in spite of treaty-era tensions and diminishing means of pursuing a traditional lifestyle (Thrush 2007). The last Duwamish natives known to live in the project vicinity were Cheshiahud (also known as Lake John), a canoe-maker and lake guide who lived with his family at the foot of today's Shelby St. on Portage Bay until about 1900. Formerly the leader of a village on Lake Union, he and his family lived on a small piece of land with a cabin and potato patch (Bass 1947). He is believed to have moved to the Suquamish Reservation following the death of his wife Madeline (DuwamishTribe.org 2009; Unknown ca. 1885; Unknown 1904). A trail recently opened around Lake Union was named the Cheshiahud Lake Union Loop Trail in honor of the association of Duwamish natives with the area (Office of the Mayor 2008). Today many people of Duwamish descent live among the Muckleshoot, Snoqualmie, Suquamish, and Tulalip Tribes as a result of the 1854-1855 treaties that led to the creation of area reservations and to shifts in settlement and inter-group relationships. Others continue to seek independent Duwamish tribal status (Ruby and Brown 1992).

History

The original settlement of Seattle began with the landing of the Arthur Denny Party at Alki in 1852 and was concentrated in the Duwamish River area in the south part of present-day downtown (Bass 1937; Denny-Lindsley 1906; Watt 1931). The town gradually expanded north to Belltown as tideflats along Elliott Bay were filled and farther north when pioneer David Denny relocated in 1871 to a claim southwest of Lake Union in the area of today's Seattle Center. At the time, the slopes above the lake were just beginning to be logged to feed the sawmills, including the Lake Union Mill (later Denny's Western Mill), that were beginning to operate around the shoreline (Watt 1931; Reinartz 1993).

The narrow isthmus of land between the Lake Washington and Lake Union, once a native canoe passage, was the focus of early attempts to connect the two lakes. In 1860, settler Harvey Pike attempted to dig a ditch across the area of today's Montlake Cut hoping to float logs though to Lake Union (Dorpat 2001; Gould 2000). Later, the Washington Improvement Company headed by Judge Thomas Burke used Chinese laborers to improve Pike's ditch,

digging the Portage Canal log flume and building a wagon bridge over the canal (Bass 1947; Dorpat 2001; Gould 2000).

In 1872, an economic venture linked the two lakes when the Seattle Coal and Transportation Company (SCTC) built a narrow gauge railroad to link coal bunkers on Pike St. at Elliott Bay with a wharf on the south end of Lake Union. Coal from mines in Renton and Newcastle was transported across the narrow isthmus between the lakes by tramway, then barged to the south end of Lake Union where it was loaded on SCTC cars (Crowley 2005; Dorpat 1984, 1989:85; Mackintosh Searcher of Records and Dealer in Real Estate 1874; Reinartz 1993).

The first land claim in the University District was made north of Portage Bay in 1867 by Christian and Harriet Brownfield. Later, developer James Moore laid out part of their farm site for his Brooklyn settlement and by 1885, much of the area had been logged for his development (Dorpat 2001). The Seattle Lake Shore and Eastern Railroad (SLS&E), built in 1887, ran from Elliott Bay, behind Queen Anne Hill across a trestle to Fremont, following the north shore of Lake Union and Union Bay near the UW power plant (Dorpat 2001). Today's recreation Burke-Gilman Trail along the north side of the UW West Campus Housing Project follows the former SLS & E Railroad line.

In 1892, pioneer entrepreneur David Denny laid electric trolley tracks up University Way (then Columbus Avenue) (Dorpat 2001). Expansion into the area accelerated when the Territorial University, later to become the University of Washington, relocated from its original downtown location on Denny's Knoll to the area north of the isthmus, beginning with construction of Denny Hall in 1894 (Gould 2000). Streetcar service began along 45th St. in 1907 (Dorpat 2001). Transformation of the area was completed with the 1909 Alaska Pacific Exposition, which led to construction of an elaborate Exposition village on University lands and the rise of numerous businesses such as hotels and apartment complexes that would cater to visitors. A double decker trolley line was built in 1909 from Capitol Hill from 24th St. up Montlake to AYP fairgrounds. Charles Cowan's addition offered house lots and he also developed the College Inn to house exposition guests (Dorpat 2001; Gould 2000). In the summer of 1909, an estimated four million people visited the exposition (Dorpat 2001). As a result of development related to the fair, the district's center moved from its previous center along today's 15th Ave. to 45th Street (Dorpat 2001).

Construction of the Lake Washington Ship Canal began in the area of the old Portage Canal route in 1911, physically connecting Lake Washington to Lake Union via the Montlake Cut and Puget Sound at Shilshole Bay via the Chittenden Locks in Ballard (Gould 2000; Chrzastowski 1883; Dorpat 2001). Opening of the University Bridge in 1919 completed the connection of the central city core with the areas north of Portage and Union Bay.

The University of Washington was originally established in 1861 with construction of a two-story building on a ten-acre site known as "Denny's Knoll", a ten-acre parcel donated by pioneer Arthur A. Denny. As the growing town of Seattle encroached on the site, the State Legislature voted on a 160-site between Lake Washington and Lake Union, an area then known as "Interlaken" north of the city. From its initial construction beginning in 1891, the University has gone through a gradual evolution with differing periods of building design and landscaping schools represented in some of the buildings and landscaped spaces that remain today (Courtois and Associates 2003). Between 1960 and 2003, approximately 100 new buildings have been added on University property, including Mercer Hall, a campus residence, located on the UW West Campus project parcel.

A map from the early part of the 20th century shows small wood frame houses and smaller outbuildings (sheds or privies) within lots in the on either side of a north-south alley that ran through the eastern portion of the West Campus Housing Project area. A building that may have been a stable was located within the footprint of today's Mercer Hall (Sanborn Map Company 1905; Figure 5).

A later map shows a similar line of buildings along the western side of the alley, with those on the north end labeled as a machine shop and outboard motor repair shop. In the northeastern portion of the project area where Mercer Hall is situated today, a larger construction footprint with bigger buildings is evident and includes a boarding house. Larger buildings are also present on the area that today is the south lawn (Sanborn Map Company 1919). A large mill complex, the Federal Mill Company is shown along Portage Bay southeast of the project. During this same period, another large firm, the Ranning Lumber Company, was located west of Brooklyn Avenue, and service shops including sheet metal, black-smithing, and auto repair garages were in the vicinity along with numerous small residences and rooming houses (Sanborn Map Company 1919).

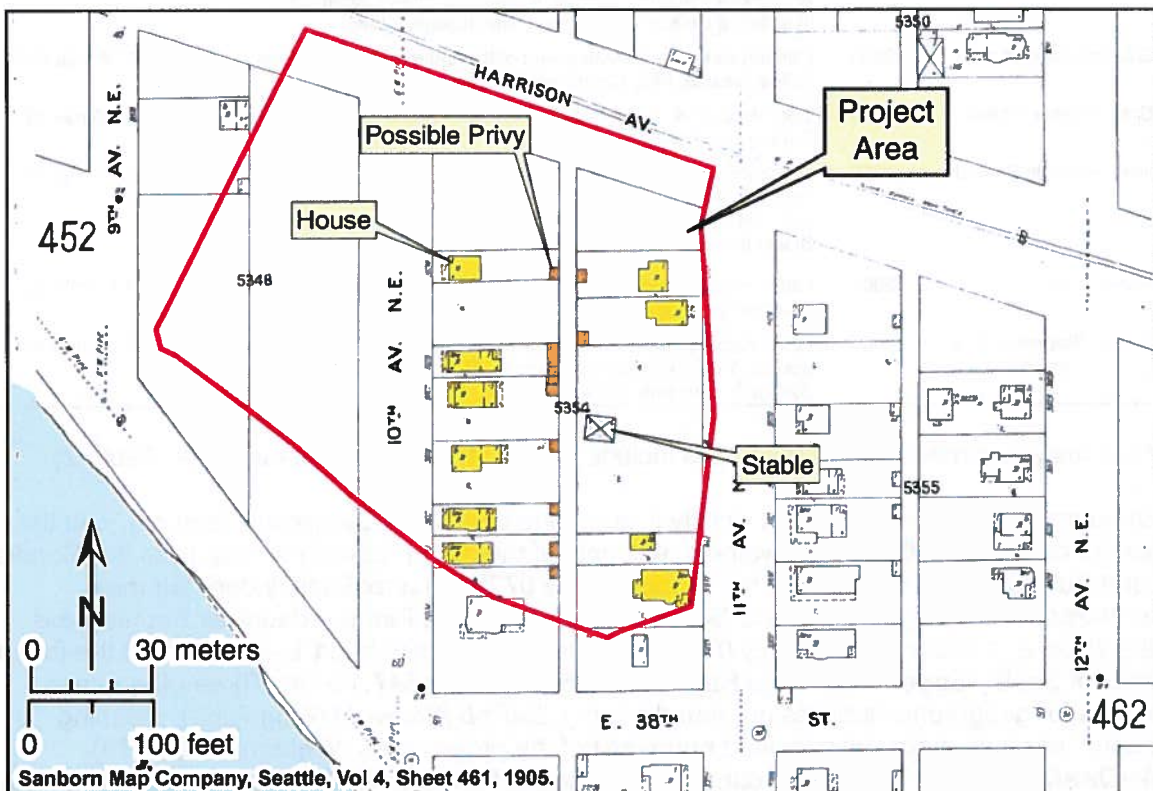


Figure 5. Sanborn Insurance Map showing historic features, 1905.

Previous Archaeological Studies

No previous archaeological sites are located within or adjacent to the project area. No known archaeological resources have been recorded within or adjacent to the project area. Previous cultural resources investigations nearest to the project area involved investigations related to University buildings, or for transportation and telecommunication infrastructure carried out along corridors to the west and north of the project area. No archaeological resources were identified in these studies (Table 1).

Table 1. Previous Cultural Resource Investigations Within Approximately ½ Mile of Project.

AUTHOR	DATE	PROJECT	RELATION TO APE
Courtois & Associates	2003	Preliminary Report on University of Washington Main Campus, Seattle, Significant Buildings and Features Completed Prior to 1953, In Selected Campus Area	0.21 mile W
Courtois, Shirley et.al.	1999a	Central Link Light Rail Transit Project Seattle, Tukwila and SeaTac, Washington, Final Technical Report, Historic and Prehistoric Sites, Historic Resources, Native American Traditional Cultural Properties, Paleontological Sites	adjacent
Courtois, Shirley et.al.	1999b	Central Link Light Rail Transit Project, Final Environmental Impact Statement, Technical Report, Historic and Prehistoric Archaeological Sites, Historic Resources, Native American Traditional Cultural Properties, Paleontological Sites	adjacent
Gillespie, Ann et.al.	2008	Cultural Resources Assessment of the University District Post Office, Seattle, King County, Washington	0.38 mile SW
Gray, Connie Walker	2008	Short Report: Ship Canal Bridge Survey Office - Lease to Lincoln Towing Company	0.16 mile W
Juell, Kenneth E. et.al.	2000	Cultural Resources Inventory of the Proposed Washington Light Lanes Project, Route 2 Backbone: Downtown Seattle to Interstate-5 (MP 164), Interstate-5 Seattle to Blaine (MP 164 to MP 276), and Blaine to the Canadian Border	0.18 mile W
Rooke, Lara C.	2001	Letter Report: Cingular Wireless Tower Site WA-539, Cavalier Apartments, King County, Washington	0.12 mile NE
Trudel, Stephanie E. & Lynn L. Larson	2004	Letter Report: Final Archaeological Monitoring of Geotechnical Borings for the proposed University / Densmore CSO Control System Improvements Project	0.27 mile W

Previously-recorded cultural resources include ethnographic sites and buildings (Table 2).

Ethnographic sites in the project vicinity include one trail, three geographic features, and the residence of one of the last Duwamish residents of the area (Table 2). A map from the General Land Survey shows an "Indian Trail" (King County 07260) approximately one-half mile southwest of the project area (U.S Surveyor General 1856). Pioneer daughter Sophie Bass described a cabin (King County 07452) occupied by Cheshiahud ("Lake John") at the foot of present Shelby Street on Portage Bay in the 1850s (Bass 1947:18-19). Three other place names for geographic features are found nearby. *BaRob [Baqwob]* (King 7265), meaning "a 'prairie' or open space, was located northwest of the project area (Waterman 2001:79). *WaQwaQab [Waq³e³ab]* (King County 7266), derived from the word for frog, referred to a small creek entering Lake Union west of the project (Waterman 2001:79). Southeast of the project, *sRiqqs [Sqwitsqs]* (King County 7267) denoted "a little promontory" jutting into Lake Union near the former (1917) campus boathouse (Waterman 2001:80).

Table 2. Previously Recorded Sites Within Approximately ½ Mile of Project.

SITE NO.	COMPILER/DATE	AGE	DESCRIPTION	RELATION TO APE	ELIGIBILITY
King 7260	US Surveyor General 1856	c. 1856	"Indian Trail"	0.15 mile SE	Eligibility Not Determined
King 7265	Waterman 1922, 2001	pre-contact	baRob, "a 'prairie' or open space",	0.32 mile NW	Eligibility Not Determined
King 7266	Waterman 1922; 2001	pre-contact	waQwaQab, "frog", "a small creek entering Lake Union",	0.1 mile W	Eligibility Not Determined
King 7267	Waterman 1922, 2001	pre-contact	sRiqqs, "little promontory"	0.25 mile SE	Eligibility Not Determined
King 7452	Bass 1947	1850s	Lake John's Cabin	0.4 mile S	Eligibility Not Determined
45KI151	M. Corely 1969	1909	Architecture Hall	0.25 mile E	WHR
45KI152	M. Corely 1969	1902	Parrington Hall	0.35 mile NE	WHR
45KI154H	M. Corley 1969	1895	Denny Hall (original Administration Building)	0.45 mile NE	WHR
45KI156H	W.K. Wright	unknown	University Methodist-Episcopal Church	0.25 mile NE	Seattle Landmark
45KI157H	S. Courtois 1980	unknown	Ye College Inn	0.23 mile NE	NRHP/WHR
45KI223H	L. Soderberg 1980	unknown	University Bridge	adjacent to APE	NRHP, WHR
45KI557	M. Corley 1969	1861, 1893	University of Washington Columns	0.5 mile E	WHR
King 7452	Bass 1947	1850s	Lake John's Cabin	0.4 mile S	Eligibility Not Determined

NRHP = National register of Historic Places; WHR = Washington Heritage Register

One historical structure in the project vicinity, the University Bridge (45-KI-223) is listed on the National Register of Historic Places (Soderberg 1980)(Table 2). It crosses Portage Bay immediately west of the project area

Four historic University of Washington (UW) buildings and one structure are within one-half mile of the proposed project (Table 2). The University Bridge and Ye Old College Inn are listed on the National Register of Historic Places and the Washington Heritage Register (WHR). Architecture Hall, Parrington Hall, and Denny Hall are also on the WHR, as are the University Columns, four white painted columns from the front portico of the UW building built in the center of Seattle in 1861, were moved to their current setting on the UW campus when the building was torn down when the campus was moved to north Seattle in 1893 (Corley 1969d). Another historic building in the area is the University Methodist-Episcopal Church, a City of Seattle Landmark (City of Seattle Department of Neighborhoods 2009).

METHODS

The cultural resources assessment relied on documents, maps, research publications, assessor records, geotechnical data, and popular articles and books that provided information about settlement and land use within the project vicinity. The principle sources of information included Suzzallo Library at the University of Washington, the Seattle Public Library, the King County Assessors' Record database, and historical documents in NWAA's corporate library. A check was made of Washington state site inventory and records at the Department of Archaeology and Historic Preservation (DAHP), the King County Historic Preservation Office records, and Seattle Landmarks information.

NWAA staff member Jessie Piper conducted a site visit on May 5, 2009 to verify current conditions and to gather information to assist in assessing the potential for significant cultural and archaeological resources. Digital photographs were taken of the project area from various directions and distances during the fieldwork, and photographic information, including direction of view and subject, was recorded on a photo log. An NWAA daily work record describing field conditions, procedures, and contacts was also completed.

Site Reconnaissance

The project is located on the southwest edge of the University of Washington campus, immediately north of NE Pacific Street and directly east of the University Bridge. The northern boundary is the Burke Gilman Trail, which lies south of Cowlitz Road (Figure 6). The project is proposed for the western portion of the parcel that is bounded on the east by Adams Lane and on the west by the parking lot lane from NE Pacific Street.

The project area slopes from south to north and drops over a banked cut where it meets NE Pacific Street along the southern boundary (Figure 7). A University residence building, Mercer Hall, is situated in the northeast portion of the project area, with a parking lot to the east (Figure 8). A volley ball court with unpaved ground is located directly south of the Hall, and there is a small barbecue area with built in benches directly southeast of the building (Figure 9 and 10). Other residence halls are located north and east of the project area. South across NE Pacific Street is a strip of commercial concerns fronting Portage Bay along NE Boat Street.



Figure 6. Burke Gilman Trail along north end of project.



Figure 7. South end of project area sloping to NE Pacific Street.



Figure 8. View of parking lot and Mercer Hall, facing east.



Figure 9. Volley ball court on lawn south of Mercer Hall.



Figure 10. Barbecue area between parking lot and Mercer Hall.

A strip of lawn approximately 15 feet wide, and a landscaped strip approximately 20 feet wide, border the project area along the north between the Burke Gilman Trail and Mercer Hall. Large conifers line the north and west side of the parking lot. South of Mercer Hall and the parking lot an expansive lawn ends at a low steel mesh fence. A border of ornamental trees and shrubs lies outside the fence, and terrain dips down sharply to NE Pacific Street.

Mercer Hall, the asphalt-covered parking lot, and asphalted entry paths surrounding the residence hall cover approximately half of the project area. The remainder consists of grass and low shrubby ground-covers.

Mercer Hall and the parking lot are situated in cut and graded areas; however, the terrain surrounding them exhibits variable contours. The general slope of the project area is south to north, with smaller gently sloped areas that indicate the project area may not have been completely graded during construction of existing and previous features (Figure 11 and 12).



Figure 11. View of contours in lawn area, facing north.



Figure 12. View of contours in lawn area, facing east.

DISCUSSION

No previously recorded archaeological resources were identified within or adjacent to the proposed University of Washington Campus Housing Project area.

Topographic maps and photographs of Portage Bay, University of Washington, and surrounding area on the north side of Lake Union indicate the project area is on terrain that sloped down gradually toward Portage Bay from the north (Curtis 1902; United States Geologic Survey/National Ocean Survey 1983). A complicated interplay of factors influenced shoreline and landforms within the area of Lake Washington and Lake Union during the past 14,000 years, including changes in sea level, shifting drainages patterns that created fluctuation in lake levels over time, as well as numerous tectonic events, including a powerful earthquake that occurred about 1,100 years ago.

The project is located in an area less than a mile west of a known Native American settlement area and approximately one-half mile northwest of the important trail that connected the resource-rich Union Bay marshes with the Portage Bay arm of Lake Union. The nearby Montlake cut for the Washington Ship Canal was formerly also a route between Lake Washington and Lake Union and an important connecting point between settlements around the two lakes and Elliott Bay saltwater resources. A prairie north of the project area would have been a valuable plant-gathering and hunting area for native people. Numerous place names for landforms such as creeks and points in the area around Lake Union and Lake Washington also attest to the presence of native people in the general area. Although the proposed project is in a sensitive ethnographic area, cutting and grading for construction of railroad, streets, and

buildings over time within the project has probably disturbed or removed any pre-contact materials that may have been in the area.

Maps from the early part of the 20th century show houses and outbuildings lining a north-south alley and various commercial concerns in the vicinity, including a large lumber mill complex along the wharves on Portage Bay south of the project (Chapman 1909; H.A. Carestrian & Co/Jackson Realty & Loan Co.1907; Sanborn Map Company 1905, 1919). A row of small buildings along the east side of the alley, situated in what is now an open area between Mercer Hall and the parking lot, may have been privies, a feature of early home sites that later often served as trash dumping sites and then were buried over, preserving a record that often provides valuable historic information.

Several periods of construction activity have been carried out in and adjacent to the project area. The Seattle Lake Shore and Eastern Railroad was constructed along the north edge of the property in the late 1800s, and in recent years the Burke Gilman recreation trail was built on the former railroad grade. In the early part of the 20th century, an alley and numerous small buildings were built within the project parcel. Development of existing Mercer Hall and the parking lot was carried out in 1970. Some of the contoured areas of the lawn and landscaping on the project site may reflect where late 19th and early 20th century activities did not disturb or remove all previous remains. These are the areas where vertical shafts related to former privies/refuse dumps may have been left under fill or buried by spoils from the construction of Mercer Hall and the parking lot.

In spite of past activities, there is still potential for remains of some historic structures and associated artifacts to be present in undeveloped areas of the project (Dames and Moore 1966). The most likely historic period resource is a series of the vertical shafts related to former privies/refuse dumps. Other potential resources include the alley grade, structural foundations, and associated artifacts. If present, these resources, particularly the vertical privy/refuse shafts, can provide information on the household life of city residents in the early 20th century.

RECOMMENDATIONS

Background investigation indicates that prior disturbance for historic period and recent construction has disturbed or removed pre-contact archaeological resources if they were present, and **no additional archaeological investigation is recommended for pre-contact resources.**

Because background investigations indicate the potential for historic archaeological resources to be present in some portions of the project area, NWAA recommends additional archaeological investigations, including archival research on the early 20th century structures within the project area, followed by field investigations.

To focus the field investigation in areas of the project where the historic resources may be present, archival research should be carried out in the City of Seattle records as well as the Washington State archives in Bellevue to try to determine the dates when first structures were erected on the project parcel, if homes sites there included privies, and other relevant data pertaining to potential subsurface remains. If archival research indicates the home sites included these vertical shaft structures, field investigation that includes subsurface testing should be carried out in areas of the project where they are identified on historic documents to

determine if these potential archaeological resources are still present. If archaeological remains of these features are identified during fieldwork, they should be evaluated for their significance and potential project effects to them assessed.

Although research has not indicated the potential for significant pre-contact archaeological resources on the proposed work site, there is always a possibility that archaeological resources (pre-contact, as well as historic period resources other than those identified in the background research) could be present within the project area. If resources of potential archaeological significance are encountered during construction, or excavation, the responsible project director should stop work immediately and notify the City of Seattle Department of Planning and Development and the Department of Archaeology and Historic Preservation so that appropriate evaluation and consultation can take place before construction resumes.

This review is based on information provided to NWAA on the proposed action. Additional review may be required if the scope of the project is changed. A copy of this report should be submitted to the Department of Archaeology and Historic Preservation in Olympia.

REFERENCES CITED

- Ames, Kenneth M. and Herbert D.G. Maschner
1999 *Peoples of the Northwest Coast: Their Archaeology and Prehistory*. Thames and Hudson, London.
- Atwater, B. F. and A. L. Moore
1992 A Tsunami About 1000 Years Ago in Puget Sound, Washington. *Science* 258:1614-1617.
- Ballard, Arthur C.
[1929] 1999 *Mythology of Southern Puget Sound*. University of Washington. Publications in Anthropology, Vol. 3 No. 2, December, 1929, pp. 31-150, reprinted, 1999, Snoqualmie Valley Historical Museum, with new material by Kenneth (Greg) Watson.
- Bass, Sophie Frye.
1937 *Pig-Tail Days in Old Seattle*. Binford & Mort, Publishers, Portland, Oregon.
1947 *When Seattle was a Village*. Lowman and Hanford Company, Seattle.
- Borden, R.K. and K.G. Troost
2001 *Late Pleistocene Stratigraphy in the South-Central Puget Lowland, Pierce County, Washington. Olympia, Washington*. Washington Department of Natural Resources Division of Geology and Earth Resources.
- Blukis Onat, Astrida, Maury E. Moregenstein, Philippe D. LeTourneau, Robert P. Stone, Jerre Kosta, and Paula Johnson
2000 *Archaeological Investigations at stuwe'yug - Site 45K464, Tolt River, King County, Washington*. BOAS, Inc., Seattle, Washington.
- Buerge, David
1984 Indian Lake Washington. *The Seattle Weekly*: 29-33.
- Butler, B. Robert
1961 *The Old Cordilleran Culture in the Pacific Northwest*. Occasional Papers of the Idaho State College Museum, No. 5, Pocatello, ID.
- Carlson, R.L.
1990 History of Research in Archaeology. In *Central Coast Salish*. W. Suttles (ed.), Washington D.C., Smithsonian Institute 7:107-115. Washington, D.C.
- Chapman, H. D.
1909 City of Seattle drawn from official records in the city engineer's office by H. D. Chapman (1909). Manuscripts, Archives, and Special Collections, Washington State University Libraries.
- Chrzastowski, M.
1983 *Historical Changes to Lake Washington and Route of the Lake Washington Ship Canal, King County, Washington*. Open-File Report 81-1182. Department of the Interior, United States Geological Survey.

City of Seattle Department of Neighborhoods

- 2009 Historic Preservation Program/Individual Landmarks.
<http://www.cityofseattle.net/neighborhoods/preservation/NE.htm>, online data accessed 5/11/2009.

Corley, Margaret A.

- 1969a Washington State Master Site File, 45KI151H, Architecture Hall of University of Washington. On file, Department of Archaeology and Historic Preservation, Olympia, Washington.
- 1969b Washington State Master Site File, 45KI152H, Parrington Hall at University of Washington. On file, Department of Archaeology and Historic Preservation, Olympia, Washington.
- 1969c Washington State Master Site File, 45KI154H, Denny Hall at University of Washington. On file, Department of Archaeology and Historic Preservation, Olympia, Washington.
- 1969d Washington State National Register of Historic Places Inventory Form, 45KI1557, University of Washington Columns. On file, Department of Archaeology and Historic Preservation, Olympia, Washington.

Courtois & Associates

- 2003 *Preliminary Report on University of Washington Main Campus, Seattle, Significant Buildings and Features Completed Prior to 1953, In Selected Campus Area.* Courtois & Associates, Seattle, Washington.

Courtois, Shirley L.

- 1980 Washington State Master Site File, 45KI157H, Ye College Inn. On file, Department of Archaeology and Historic Preservation, Olympia, Washington.

Courtois, Shirley L., Katheryn H. Krafft, Catherine Wickwire, James C. Bard and Robin McClintock

- 1999a *Central Link Light Rail Transit Project Seattle, Tukwila and SeaTac, Washington. Final Technical Report, Historic and Prehistoric Sites, Historic Resources, Native American Traditional Cultural Properties, Paleontological Sites.* Courtois and Associates, Seattle, Washington and CH2MHILL, Inc., Bellevue, Washington.
- 1999b *Central Link Light Rail Transit Project, Final Environmental Impact Statement. Technical Report: Historic and Prehistoric Archaeological Sites, Historic Resources, Native American Traditional Cultural Properties, Paleontological Sites.* Courtois and Associates, Seattle, Washington and CH2MHILL, Inc., Bellevue, Washington.

Crowley, Walt

- 2005 *HistoryLink's Moving Washington Timeline. The First Century of the Washington State Department of Transportation, 1905-2005.* University of Washington Press.

Curtis, Asahel

- 1902 Brooklyn and University Heights, Seattle. Negative number A. Curtis 00464, Asahel Curtis Collection. University of Washington Libraries, Special Collections, University of Washington.

Dames and Moore

- 1966 *Report of Soils Investigation, Proposed Residence V, 11th Avenue N.E. and N.E. Pacific Street, Seattle, Washington.* Prepared for the University of Washington.

Denny-Lindsley, A.

- 1906 When Seattle Was an Indian Camp Forty-five Years Ago. *Seattle Post-Intelligencer*, April 15, 1906. Seattle, WA.

Dorpat, Paul

- 1984 *Seattle Now and Then. Volume I.* Tartu Publications, Seattle, Washington.

- 1989 *Seattle Now and Then. Volume III.* Tartu Publications, Seattle, Washington.

- 2001 Seattle Neighborhoods: University District - Thumbnail History. HistoryLinkeEssay 3380.HistoryLink.org: The Online Encyclopedia of Washington History. http://www.historylink.org/essays/output.cfm?file_id=3380, online article accessed 5/11/09.

DuwamishTribe.org

- 2009 Culture and History: Cheslahud and Family on Lake Union circa 1885. <http://duwamishtribe.org/html/lake-john.html>, online document accessed 5/11/09.

Fladmark, Knut R

- 1982 An Introduction to the Prehistory of British Columbia. *Canadian Journal of Archaeology* No. 6.

Franklin, J. F. and C. T. Dyrness

- 1973 *Natural Vegetation of Oregon and Washington.* Pacific Northwest Forest and Range Experiment Station, Forest Service, U. S. Department of Agriculture, U. S. Government Printing Office, Washington D. C.

Galster, Richard W. And William T. Laprade

- 1991 Geology of Seattle, Washington, United States of America. *Bulletin of the Association of Engineering Geologists* 28:239-302.

Garfield, Leonard T.

- 1986 Washington State National Register of Historic Places Inventory Form, 45KI580, Showboat Theater. On file, Department of Archaeology and Historic Preservation, Olympia, Washington.

Gillespie, Ann, Derek Shaw and Heather Lee Miller

- 2008 *Cultural Resources Assessment of the University District Post Office, Seattle, Washington, King County, Washington.* Historical Research Associates, Inc., Seattle, Washington.

Gould, Jim

- 2000 The Montlake Neighborhood. Brubaker's Lake Washington Online: Lake Washington: The Early Years - Industrial Development.
http://www.scn.org/neighbors/montlake/mcc_history.Jim_Gould.html, online article accessed 5/11/2009.

Gray, Connie Walker

- 2008 *Short Report: Ship Canal Bridge Survey Office - Lease to Lincoln Towing Company.* Washington Department of Transportation, Olympia, Washington.

Gustafson, Carl E. and Clare Manis

- 1984 *The Manis Mastodon Site: An Adventure in Prehistory.* Manis Enterprises, Sequim, Washington.

H.A. Carestrian & Co/Jackson Realty & Loan Co.

- 1907 Jackson Realty & Loan Co's new guide map of Seattle (1907). University of Washington Libraries Manuscripts, Special Collections, University Archives Division.

Haeberlin, H. and E. Gunther

- 1930 The Indians of Puget Sound. University of Washington Publications in Anthropology 4(1):1-84.

Harrington, J. P.

- c.1909 J.P. Harrington Papers. National Anthropological Archives. Smithsonian Institution. Reel 15, 1907-21957, on microfilm at Suzallo Library, University of Washington, Seattle.

Higman, Harry W. And Earl J. Larrison

- 1951 *Union Bay: The Life of a City Marsh.* University of Washington Press, Seattle.

Juell, Kenneth E., Michele E. Parvey, Janet A Liddle, Margaret A. Nelson and Leslie K. Norman

- 2000 *Cultural Resources Inventory of the Proposed Washington Light Lanes Project, Route 2 Backbone: Downtown Seattle to Interstate-5 (MP 164), Interstate-5 Seattle to Blaine (MP 164 to MP 276), and Blaine to the Canadian Border.* Northwest Archaeological Associates, Inc., Seattle, Washington.

Kidd, R. S.

- 1964 A Synthesis of Western Washington Prehistory from the Perspective of Three Occupation Sites, University of Washington.

Kirk, Ruth and Richard Daugherty 1978

- 1978 *Exploring Washington Archaeology.* University of Washington Press, Seattle.

Mackintosh Searcher of Records and Dealer in Real Estate

- 1874 City of Seattle Washington Territory, Seattle, Washington Territory. University of Washington Libraries. Manuscripts, Archives, and Special Collections, Seattle, Washington. Map WSU 177 HE2791.S42 1874.

Martin, Paul S.

- 1973 The Discovery of America. *Science* 179:969-974.

- Matson, R.G. and Gary Coupland
1995 *The Prehistory of the Northwest Coast*. Academic Press, San Diego.
- Mattson, John Lyle
1971 A Contribution to Skagit Prehistory. Master's thesis, Department of Anthropology, Washington State University, Pullman.
- Meltzer, David J.
2004 Peopling of North America. *Developments in Quaternary Science* 1:539-563.
- Meltzer, D. J. and R. C. Dunnell
1987 Fluted Point from the Pacific Northwest. *Current Research in the Pleistocene* 4:64-67.
- Miller, Jay
1999 *Lusootseed Culture and the Shamanic Odyssey: An Anchored Radiance*. University of Nebraska Press, Lincoln and London.
- Office of the Mayor, City of Seattle
2008 Mayor opens Cheshiahud Lake Union Loop Trail.
<http://www.seattle.gov/mayor/newsdetail.asp?ID=9090&dept=40> Online article accessed 5/1/09.
- Pacific Northwest Center for Geologic Mapping Studies
2009 GeoMap Northwest. <http://geomapnw.ess.washington.edu> Online geodatabase accessed April 27, 2009.
- Porter, Stephen C, and Terry W. Swanson
1998 Radiocarbon Age Constraints on Rates of Advance and Retreat of the Puget Lobe of the Cordilleran Ice Sheet during the Last Glaciation. *Quaternary Research* 50:205-213.
- Reinartz, K. F.
1993 *Queen Anne: Community on the Hill*. Queen Anne Historical Society, Seattle, Washington.
- Rooke, Lara C.
2002 Letter Report: *Cingular Wireless Tower Site WA-539, Cavalier Apartments, King County, Washington*. Cascadia Archaeology, Seattle, Washington.
- 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 and London.
- Sanborn Map Company
1905 Sanborn Insurance Maps, Seattle, WA. 1904-1905, vol. 4, 1905: sheet 461.

1919 Sanborn Insurance Maps, Seattle, WA. 1905-1950, vol. 6, 1919: sheet 687, 688, 689.
- Smith, M. W.
1940 *The Puyallup-Nisqually*. Columbia University Press, New York.

Soderberg, Lisa

- 1980 Washington State Archaeological Site Form, 45K1223H, University Bridge. On file, Department of Archaeology and Historic Preservation, Olympia, Washington.

Thrush, Coll

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

Trudel, Stephanie E. and Lynn L. Larson

- 2004 *Letter Report: Final Archaeological Monitoring of Geotechnical Borings for the Proposed University / Densmore CSO Control System Improvements Project*. Larson Anthropological, Archaeological Services, Ltd., Gig Harbor, Washington.

United States Geologic Survey/National Ocean Survey

- 1983 1:25,000-scale metric topographic bathymetric map of Seattle-North, Washington.

United States Surveyor General

- 1856 General Land Office Plat, T25N, R4E, Willamette Meridian.

Unknown

- c.1885 Chudups John and others in a canoe on Lake Union, ca. 1885. Seattle Historical Society Collection, negative number SHS 2228. Museum of History and Industry, Seattle.

Unknown

- c. 1904 Duwamish man and woman known as Old tom and Madeline, Portage Bay, Seattle, Washington, ca. 1904. University of Washington Libraries, General Indian Collection no. 564, reference no. 564:Aa-8, University of Washington Libraries, Special Collections Division, Seattle.

Waterman, T. T.

- 1922 *The Geographical Names Used by the Indians of the Pacific Coast. The Geographical Review* 12.

- 2001 *Puget Sound Geography* [edited with additional material from Vi Hilbert, Jay Miller, and Zalmai Zahir]. Zahir Consulting Services/Lushootseed Press, Federal Way, Washington.

Watt, R. F.

- 1931 *Four Wagons West: The Story of Seattle*. Metropolitan Press, Portland, OR.

Wright, W. Kenneth

- n.d. Washington State Master Site File, 45K1156H, University Methodist-Episcopal Church. On file, Department of Archaeology and Historic Preservation, Olympia, Washington.

Yount, J. C., J. P. Minard and G. R. Dembroff

- 1993 Geologic Map of Surficial Deposits in the Seattle 30 x 60 Quadrangle. OFR 93-233. U. S. Geological Survey, Washington, D.C.