Volume 5 of 6:
Appendix L

SUBMITTED TO:
PACCAR Inc

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FINAL COMPLIANCE MONITORING REPORT

Remedial Excavations

8801 EAST MARGINAL WAY S., TUKWILA, WASHINGTON
AGREED ORDER NO. 6069

SHANNON & WILSON

October 17, 2023

Shannon & Wilson No: 108056-004

APPENDIX L: CULTURAL RESOURCES MONITORING REPORT

Appendix L

Cultural Resources Monitoring Report

CULTURAL RESOURCES REPORT COVER SHEET

Author: James W. Brown, Aimee Steele, Nichole Padovano, and Sarah M.H. Steinkraus

Title of Report: 8801 East Marginal Way South, Remedial Excavations Project, Cultural Resources Monitoring Report

Date of Report: August 30, 2023

County(ies): King Section: 33 Township: 4 Range: 4E
Quad: South Park Acres: 24.3

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

Archaeological Site #:

_____
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FINAL: 8801 EAST MARGINAL WAY SOUTH REMEDIAL EXCAVATIONS PROJECT

CULTURAL RESOURCES MONITORING AND REPORT

King County, Washington

August 30, 2023

Prepared for:

Shannon & Wilson, Inc.
400 N 34th Street, Suite 100
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Mountlake Terrace, WA 98043

By: James W. Brown, MS., Aimee L. Steele, MA., Nichole Padovano, BA., Sarah M.H. Steinkraus, MS.

Stell Project No.: SHW004

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Acronyms and Abbreviations

APE	Area of Potential Effect
BP	Before Present
CFR	Code of Federal Regulations
cm	centimeter(s)
DAHP	Washington Department of Archaeology and Historic Preservation
EPA	United States Environment Protection Agency
GLO	Government Land Office
LDW	Lower Duwamish Waterway
m	meter(s)
NA	Not Applicable
NRHP	National Register of Historic Places
Project	8531 East Marginal Way South Remedial Excavations Project Cultural Resources Monitoring
RE	Remedial Excavations
Stell	Stell Environmental Enterprises, Inc.
U.S.	United States
USC	United States Code
USDA	United States Department of Agriculture
USGS	United States Geological Survey
WISAARD	Washington Information System for Architectural and Archaeological Records Data

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EXECUTIVE SUMMARY

Stell Environmental Enterprises, Inc. was contracted by Shannon & Wilson, Inc. to conduct cultural resources monitoring for the 8801 East Marginal Way South Remedial Excavations (RE) Project, King County, Washington (the Project). The Project area is located on the right (eastern) bank of the Duwamish River, approximately four miles upstream from the mouth of the Duwamish River. A literature review of Washington Information System for Architectural and Archaeological Records Data, as well as other cultural and environmental documents, revealed that a total of 22 cultural resource surveys, 10 archaeological sites, 2 cemeteries, 5 registered historic properties, and 1,504 historic properties have been previously recorded within 1 mile of the Project area. None of the archaeological sites were identified as being within the Project area. A Monitoring and Inadvertent Discovery Plan was developed and followed for this Project (Breidenthal and Steinkraus 2020; **Appendix A**). Archaeological monitoring was conducted during several mobilizations for a total of 33 days over 2 years.

- 2021
  - February 22
  - March 1, 2021
  - September 15–16, 20–23, and 28–29
  - October 11, 14, 18, 20, and 29
  - November 3–4
  - December 14–17
- 2022
  - January 21
  - August 16–18, 22, and 26
- 2023
  - March 23
  - May 2–5, and 8

No significant cultural resources were discovered during monitoring.

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1 INTRODUCTION

1.1 PROJECT INFORMATION

Stell Environmental Enterprises, Inc. (Stell) was contracted by Shannon & Wilson, Inc. to conduct cultural resources monitoring for the 8801 East Marginal Way South Remedial Excavation (RE) Project, King County, Washington project (the Project) (**Figure 1-1**); see **Appendix A** for the Monitoring and Inadvertent Discovery Plan. Contaminated soil have been identified in a few locations within the Project area. Shannon & Wilson, Inc. is proposing to undertake a remediation of contaminated soil and water throughout the project area.

1.2 PROJECT LOCATION

The Project area is on the right (eastern) bank of the Duwamish River, approximately four miles upstream from the mouth of the Duwamish River, in Section 33 of Township 4 North, Range 4 East, Willamette Meridian (**Figure 1-2**). The Project is located in King County Parcel No. 5422600060, King County, Washington (**see Figure 1-1**). The total acreage of the Project area is 24.3 acres near the Duwamish River; this report documents the monitoring of discrete sampling areas within the Project Area of Potential Effect (APE) (see **Appendix A)**.

The upland portion of the Project area is relatively flat, with a ground surface elevation of approximately 20 feet above mean sea level (msl). The upland portion of the Project area is owned by Centerpoint 8801 Marginal LLC (Centerpoint). The Project area has been leased to Insurance Auto Auctions, Inc. (IAAI) since 2004, although the property is currently vacant. Zoning by the City of Tukwila is manufacturing industrial center/heavy industry.

1.3 PROJECT BACKGROUND

The Project area is in Tukwila,Washington. The Duwamish River and adjacent upland areas have served as Seattle's major water-dependent industrial corridor since the river was created by widening and straightening much of the Duwamish River in the early 1900s. The Duwamish River flows north through Tukwila and Seattle, splitting at the southern end of Harbor Island to form the East and West Waterways, which discharge into Elliott Bay in Seattle, Washington.

1.4 REGULATORY ENVIRONMENT

This project is subject to the State Environmental Policy Act (SEPA), which mirrors the National Environmental Policy Act. SEPA requires that all major actions sponsored, funded, permitted, or approved by Washington State and/or local agencies consider the impacts of the planned action on the environment and properties of historical, archaeological, scientific, or cultural importance (Washington Administrative Code 197-11-960). Especially those that are or could be listed on the National Register of Historic Places (NRHP) or other historic registers, including the Washington Heritage Register or King County Landmarks. The Department of Archaeology and Historic Preservation (DAHP) is the lead agency for considering the effects of a proposed action on cultural resources and provides formal recommendations to local governments and other Washington State agencies for appropriate treatments or actions.

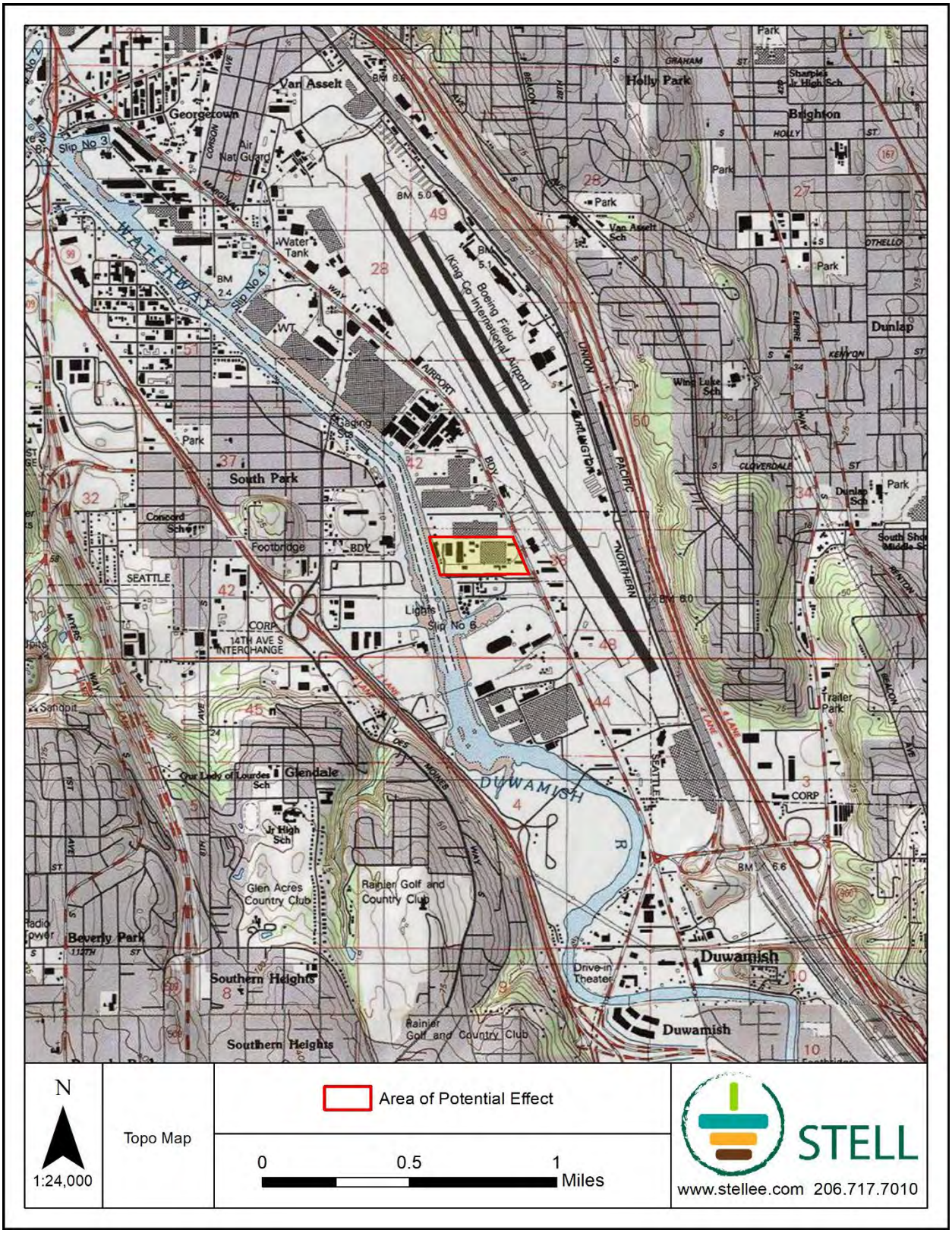

Figure 1-1 Topographic map of the Project area

Figure 1-2. Aerial map of the Project area

Historic properties that could be eligible for the NRHP include any artifacts, records, and remains that are related to such a district, site, building, structure, or object (16 United States Code [USC] 470[5]). The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association. They also:

- Are associated with events that have made a contribution to the broad pattern of our history;
- Are associated with the lives of people significant in our past;
- Embody the distinct characteristics of a type, period, or method of construction, represent the work of a master, possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; or
- Have yielded, or are likely to yield, information important for understanding prehistory or history (36 Code of Federal Regulations [CFR] 60.4).

2 ENVIRONMENT AND CULTURAL SETTING

This section describes the environmental context of the Project area. Elements of the environmental context include geology, soils, plants, and animal habitats. Knowledge of the geologic processes associated with the landforms in this area can assist in locating archaeological resources. Geographic features, such as shorelines, rivers, lakes, and terraces, are often correlated with the archaeological record. Throughout prehistory, these locations provided an abundance of plant resources and fish and often attracted terrestrial animals. As a result, sites tend to be found at locations along shorelines, within active floodplains, or along associated terraces. The depth of soils and potential for buried deposits can be derived from soil surveys and geomorphologic descriptions of the landscape. Understanding the extent of native plant and ecological habitats provides a context for interpreting archaeological sites and activity locations.

2.1 ENVIRONMENTAL CONTEXT

Environmental data for the Project area were gathered from geologic and soils maps and reports of recent geological and geomorphological investigations describing subsurface conditions and the post-depositional processes that may have impacted the Project area's cultural deposits.

2.1.1 PHYSIOGRAPHIC PROVINCE

The Project is within the Puget Sound Area of the western hemlock (*Tsuga heterophylla*) vegetation zone within the Puget-Willamette Lowland physiographic province (Franklin and Dyrness 1988). The Western Hemlock Zone is the most extensive vegetation zone in western Washington and Oregon (Franklin and Dyrness 1988). It extends from British Columbia through the Olympic Peninsula, Coast Ranges, Puget Trough, and both Cascade physiographic provinces in western Washington (Franklin and Dyrness 1988). Major forest tree species in this zone are Douglas-fir (*Pseudotsuga menziesii*), western hemlock, and western red cedar (*Thuja plicata*). Less common conifers include grand fir (*Abies grandis*), Sitka spruce (*Picea sitchensis*), and western white pine (*Pinus monticola*). Western white pine and lodgepole pine (*Pinus contorta*) are common on glacial drift in the Puget Sound area. The Project area presently contains standing structures, asphalt, and manicured garden areas and lawns.

2.1.2 GEOMORPHOLOGY

The Project area is in the southern Puget Lowlands. The Puget Lowlands are a north-south-trending geological and physiographic province bordered by the Cascade Mountains on the east and the Olympic Mountains on the west (Franklin and Dyrness 1988; Troost and Stein 1995). It was shaped by at least four periods of extensive glaciation during the Pleistocene epoch (Easterbrook 2003; Lasmanis 1991). The bedrock was depressed and deeply scoured by glaciers, and sediments were deposited and often reworked as the glaciers advanced and retreated. This can be seen in the overall rolling, low-relief topography of the area that is deeply incised by large troughs/ravines. The elevation of the area is generally within 500 feet above mean sea level (Troost and Stein 1995). The scoured troughs left by the glaciers are currently occupied by the Puget Sound and freshwater lakes, such as Lake Washington and Lake Sammamish (Galster and Laprade 1991; Liesch et al. 1963; Yount et al. 1993).

A mantle of glacial drift and outwash deposits were left across much of the Puget Lowland at the end of the Fraser Glaciation (the last of the four glacial periods) (Booth et al. 2003; Easterbrook 2003). The Vashon Stade of the Fraser Glaciation began around 18,000 years before present (BP) with an advance of the Cordilleran Ice Sheet into the lowlands (Porter and Swanson 1998). The

Puget Lobe rapidly advanced into the Puget Lowland and reached its maximum extent near what is now the town of Centralia by about 15,000 BP. The glacier remained this way for approximately 1,000 years until the ice began to retreat. The retreating Puget Lobe reached Seattle by about 13,600 BP (Borden and Troost 2001; Porter and Swanson 1998). The Puget Lobe was thicker towards the north and thinned towards its terminus in the south.

The Project area is located within the Geologic unit Quaternary alluvium (Qal), indicating alluvium ranging from a few meters to 30 meters (m) deep (United States [U.S.] Geological Survey [USGS] 2005). The Duwamish River is part of the greater Duwamish-Green River system, which is within a glacial trough formed by melting and incision beneath the Puget Lobe (Montgomery et al. 2003). This river system, along with other sub-glacial river systems in the region, aggraded throughout the Holocene and developed long, meandering channels running through what were often far-reaching wetland environments (Montgomery and Wohl 2004). The Duwamish-Green River delta reached its present position via repeated lahar events deriving from Mount Rainier, which helped shape and provide delta expansion material over the past 5,700 years (Dragovich et al. 1994). A lahar is a sediment-laden debris and/or mudflow that originates from the flanks of a volcano (Smith and Lowe 1991). The largest of these events was the Osceola mudflow. Approximately 5,700 years ago it flowed from the summit and northeastern flank of Mount Rainier down the White River drainage into the Green and Puyallup river drainages, covering a total area of 195 square miles (Dragovich et al. 1994). This lahar event, and subsequent, smaller lahar events, extended the Puyallup and Duwamish River deltas out into the marine embayments for these rivers and provided material for future delta advancement as the rivers downcut into the lahar material and deposited the sediment further downstream (Dragovich et al. 1994). Today, the sea level is approximately 5 feet higher than it was 5,700 years ago when the Duwamish deltas first began prograding into its current location, resulting in a slight increase in the elevation of the lower Duwamish floodplain (Steinkraus and Hodges 2018). In the 1800s, the Duwamish delta exhibited a complicated series of streams and channels extending across it (Collins and Sheikh 2005).

2.1.3 PALEOECOLOGY

Pollen samples collected through lake and wetland coring throughout the Puget Sound area suggest that paleoecology varied greatly over time (Tsukada 1982; Whitlock 1992). Lodgepole pine, bracken fern (*Pteridium aquilinum*), and red alder (*Alnus rubra*) were the first to populate the landscape after the glaciers receded. These were followed by Douglas-fir a few centuries later (Barnosky 1985).

At the beginning of the Holocene (10,000 BP–present), the climate continued to warm, and grasslands, as well as oak (*Quercus* sp.) and hazel (*Corylus* sp.) woodlands, established themselves on the landscape between 10,000 and 5000 BP. Douglas-fir became the dominant tree species in the area. At this time, precipitation became more seasonal, and summers saw increased levels of droughts, which increased fire frequency and expanded prairies. Cedar (*Thuja* sp.) and Hemlock (*Tsuga* sp.) populations increased between 7000 and 5000 BP, as canopy forests dominated the landscape and weather conditions became cool and moist (Tsukada 1982; Whitlock 1992). The climate since this time has remained fairly stable with small fluctuations between warmer/drier and cooler/moister conditions (Leopold et al. 1982).

2.1.4 SOILS

As defined by the U.S. Department of Agriculture (USDA) soil survey, the soils within the Project area are composed of Urban land and Water. The Urban Land comprises all the soils surrounding

the Project area. No subsurface characteristics are defined for these soils (USDA Web Soil Survey 2021).

2.2 CULTURAL CONTEXT

This section describes the cultural context of the Project area, which will inform the evaluation of findings from any future field investigations performed as part of this Project. Elements of the cultural context include cultural chronologies developed for the precontact occupation through archaeological research, information derived from oral histories, and documented historic events and land use patterns. Reviewing archival archaeological, historical, and ethnographic documents provides insight toward developing hypotheses and a research design. The completion of this section included reviewing information from the DAHP, the Washington State Archives, Government Land Office (GLO) records, King County records, University of Washington Libraries, and multiple historic imagery sources.

2.2.1 ARCHAEOLOGICAL CONTEXT

The first human occupation of western Washington may date back about 14,000 BP, as evidenced at the Manis Mastodon site in Sequim, where a bone point and the spirally fractured bones of a mastodon suggest possible human hunting and butchering (Gustafson et al. 1979; Waters et al. 2011). Artifacts of the Clovis period, which began between 13,500 and 13,000 BP elsewhere in North America, have been found in isolated locales in southern and central Puget Sound. Still, no occupation sites of this period have yet been found in Washington. The Richey Roberts site, a cache of Clovis blades, is the sole in-situ discovery of Clovis archaeology in Washington (Gramly 1991; Mehringer 1985). Several similar early sites that are coeval and possibly predating Clovis in the region are presented in recent literature (Huckleberry et al. 2003). While archaeologists have traditionally assumed that Clovis peoples focused heavily on big game for subsistence, there is increasing evidence that Clovis groups also relied on plants and smaller animals and had considerable dietary variability across North America (Cannon and Meltzer 2004).

As early as 9000 BP, as the climate stabilized, cultural complexes with distinct lithic technological assemblages emerged in the region (Carlson 1990; Fladmark 1979). These assemblages demonstrate a "foraging" economy based on generalized resource procurement for immediate consumption and high-residential group mobility (Ames 1981; Binford 1978). One of these distinct technologies is named the Old Cordilleran Tradition (Butler 1961). In western Washington, the Old Cordilleran Tradition manifestations are recognized by unifacial pebble and cobble tools and chopper-like cores (Butler 1961).

Other contemporary technologies include the Northwest Coast Microblade Tradition, identified by a rather diverse assemblage that includes microblade and microblade cores, leaf-shaped bifaces, and bifacial cores (Borden 1975; Fladmark 1979). The variety of technologies found in the archaeological record suggests the establishment of multiple well-defined cultural groups populating the Northwest Coast vicinity early on in prehistory. The post-Clovis prehistory of Western Washington is commonly divided into three cultural periods—Early, Middle, and Late—defined by a series of technological characteristics found at archaeological sites.

2.2.1.1 Early Period

The Early Period, which lasted from approximately 12,000 to 7000 BP, is classified archaeologically by the Old Cordilleran Tradition (Matson and Coupland 1995), with regional manifestations defined as the Olcott Complex in the Puget Sound and the western Cascade Range regions and the Cascade Phase east of the Cascade Range. Sites of this period in western

Washington typically occur on high marine and river terraces, sometimes at significant distances from modern watercourses; they consist of concentrations of cobble cores; flakes; large, ovate knives; and broad-stemmed and leaf-shaped projectile points (Wessen 1990). These people are thought to have relied more on inland hunting than on fishing and shellfish procurement for subsistence. However, finds along the British Columbia coast indicate aquatic resources were sometimes important (Blukis-Onat 1987).

2.2.1.2 Middle Period

The Middle Period, lasting from 7000 to 4500 BP, incorporates a continuation of the Old Cordilleran Tradition and the emergence of a distinct Northwest Coastal culture; however, few sites in Washington can be attributed to this time interval (Blukis-Onat et al. 2001; Morgan 1999). Toward the end of this period, as sea levels stabilized, the focus of subsistence activity seems to have changed from reliance on terrestrial to marine resources; most sites appear along the coasts or major river systems. It is thought that this adaptation may have occurred earlier in the Gulf of Georgia and Fraser Valley regions of Canada (Stein 2000).

Archaeological sites associated with this cultural period are found to be technologically more complex and more diverse. They often include tools and ornaments of bone and antler, along with flaked stone. In the Puget Sound and western Washington, the Middle period is a transitional time represented archaeologically by a shift toward marine resource utilization (Morgan 1999).

2.2.1.3 Late Period

Human lifeways changed radically in the Late Period (4500 to 250 BP), as people focused even more strongly on marine resources; during this time period, the number and diversity of sites markedly increased (Matson and Coupland 1995). People maintained permanent villages on the coast and along the lower reaches of inland rivers. They used these as home bases and storage warehouses for fish, shellfish, game, and plant foods systematically amassed during the warm seasons (Matson and Coupland 1995). Cemeteries and petroglyph sites are often associated with significant places, such as villages and seasonal habitation areas; petroglyphs also occur occasionally in higher montane settings. Blazed cedars, stripped of bark for basketry or with planks removed from their living trunks, can still be found throughout the region. Seasonal habitation areas and task-specific locations have been documented in the lowlands and up into the subalpine zone of the mountains. Still, they usually remain close to larger, permanent sources of water. These places typically are concentrated along trade routes that linked communities living on both sides of the Cascade Mountains.

2.2.2 ETHNOGRAPHIC BACKGROUND

Prior to the arrival of Europeans, the Northwest coast was one of the most densely populated nonagricultural areas in the world. Between the mid-1700s and late 1800s, numerous outbreaks of infectious diseases, including smallpox and measles, decimated the population of the Northwest coast (Boyd 1990). Despite the massive reduction of the local population, when the first Euroamerican settlers arrived at Alki Point in 1851, at least 17 Duwamish villages, including over 90 longhouses, were present along Elliott Bay and local river systems (Duwamish Tribe 2008).

The Duwamish people primarily utilized the Project area. Neighboring groups, including members of what are now the Suquamish, Puyallup, and Yakima Tribes, also traditionally utilized this region. The Duwamish Tribe is a Southern Coast Salish group who speak the southern dialect of the Lushootseed language (Suttles and Lane 1990). Duwamish, or *Dk̲hʷ'Duw'Absh* in the Lushootseed language, means "the people of the inside." The name refers to Elliott Bay, the

Duwamish River, and the other waterways that connect the people to the land. Upon the arrival of the first European explorers, the Duwamish people occupied at least 17 winter villages, living in over 90 longhouses throughout the Duwamish River basin and surrounding landscape (Speer 2004). Winter villages were the nexus of natural resources, political power, and ideological systems. These winter villages, including nearby seasonal habitation areas and spiritual places, were linked to the broader geographic community through kinship, trade, and diplomacy (Thrush 2007). Indigenous peoples in the area hunted deer, elk, and bear across the land, and ducks, geese, and other waterfowl from the estuarine environment. They fished for salmon, cod, halibut; harvested clams; gathered berries, camas, and other plants for food and medicine.

Although some of these places have undergone a complete transformation with the industrial development of the Duwamish River watershed in the twentieth century, these locations and resources remain important to the Duwamish people. They are significant in the understanding of the development of Seattle. The area surrounding the Lower Duwamish Superfund Project area still holds significance for the Duwamish people. The following place names are from Thomas T. Waterman's ethnographic book *Puget Sound Geography* (2001) and are written using his linguistic characters (**Figure 2-1**). One such place is Lwalb, which means "abandoned" (Waterman 2001:120). Lwalb refers to an abandoned river channel on the southwestern side of the Duwamish. Another place name is T³ a'Lt³aLusid or "where there is something overhead across the path" (Waterman 2001:120). This place was on the western side of the river, which now is filled in. hÛtesa'tci or "cut in two with reference to the hand," has a malevolent connotation with the Duwamish people (Waterman 2001:120–121). As Waterman retells the legend, an evil supernatural being's mangled hand rose from the water. Waterman is unsure where exactly this spot is located along the Duwamish.

The closest Duwamish villages located to the Project area are Tuqwe'Ltid or "a large open space" (Waterman 2001:45, 121). There is some debate where the village of Tuqwe'Ltid was located, but it is accepted it was near the South Park Bridge (Berger and Hartmann 2013:5; Blukis-Onat et al. 2008:21). "A brace supporting a rafter," or TEtc³gwEs, is for an area where trees fell over a trail, possibly caused by a landslide, on the northern side of the Duwamish River (Waterman 2001:121). This place is now somewhere underneath the King County International Airport.

The area where the Duwamish River narrowed and made a sharp turn was called cka'lapsEb or "neck" (Waterman 2001:121). This area was once where the Duwamish people could collect lily bulbs (Waterman ca. 1920, 2001:121). Hwa'pitcld means "where one throws something," for this area was wide and flat near an old river channel (Waterman 2001:121). Qiyawa'lapsEd or "eel's throat" is a place name for three knolls situated on the western side of the Duwamish River, which is in the South Park neighborhood (Waterman 2001:121). Xo'bxobti, or "canoe paddles," is where the Duwamish people harvested ash trees to make paddles (Waterman 2001:121, ca. 1920). This area is described as a flat in a bend of the river on the eastern side of the Duwamish River. The last placename is tsitskad'b, which refers to a small promontory that stuck out in the river (Waterman 2001:121). This could refer to Turn Basin Number 3.

Another Duwamish village sqoa'l-qo, or "meeting of rivers," was approximately 3 miles upstream from the Project area (Berger and Hartmann 2013:5; Waterman 2001:45). This village was near where the Black and White rivers met. Waterman claimed there were additional villages near the Duwamish River, but the names were not known to him (Berger and Hartmann 2013:5; Waterman 2001:45).

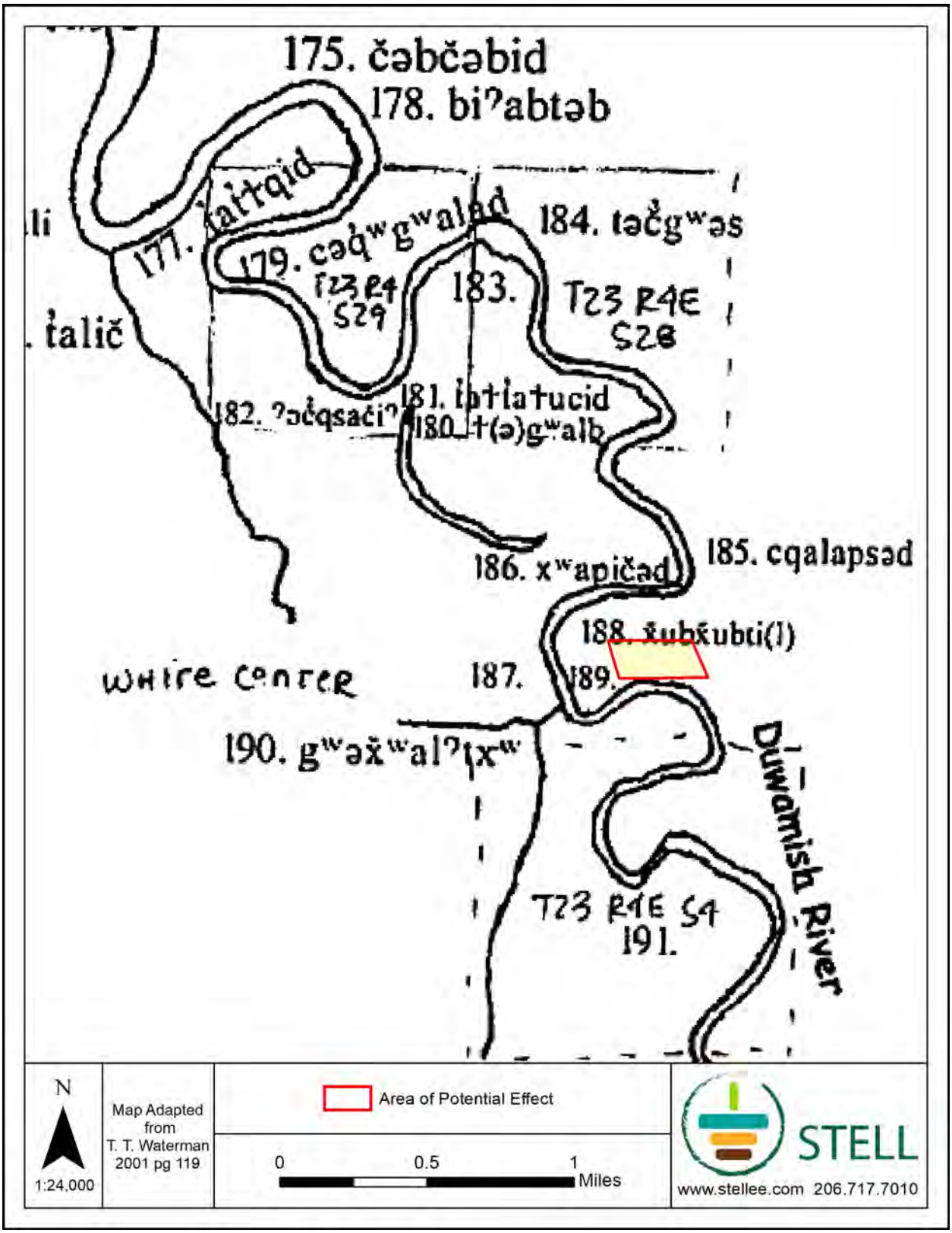

Figure 2-1. Waterman (2001) place names map with project APE.

Once non-native settlers moved into this area, the Duwamish people were pushed out of their traditional lands, especially after the 1855 Treaty of Point Elliott. The Sackman and Dewatto Duwamish communities chose to stay within the area and formed new communities with other tribes in the area (Tollefson 1992:214–216). These communities were forced to live outside of the city of Seattle. They were able to retain some of their seasonal gathering, hunting, and fishing traditions that helped supplement their diet (Tollefson 1992:214–216).

2.2.3 HISTORIC BACKGROUND

Following the arrival of non-Native settlers in the Pacific Northwest (by the mid-1850s), many Native village/habitation sites were subsequently homesteaded or platted as towns. This was especially true for locations near water, at river confluences, or along traditionally utilized travel corridors/trails, many of which were in use into the historical period, if not into modern times. Extensive logging and mining activity took place throughout the region from the mid-1800s to the present. The construction and expansion of transportation corridors associated with railroads and roadways had a profound effect on the landscape in this area (Marino 1990).

2.2.3.1 History of King County

The first Euroamerican explorers to visit King County were Colonel Isaac Ebey and, later, John Holgate. European settlement of the area started in 1852, with lumber, hops, coal, and fish constituting the area's first industries (Long 2006). King County was formed on December 22, 1852, by the Oregon Territorial Legislature and, 3 months later (in 1853), was included in the newly created Washington Territory. The county was originally named for William Rufus DeVane King, a senator from Alabama who was elected as the U.S. vice president in 1853 and died shortly after the election. In 1986, this was officially changed to honor the Rev. Dr. Martin Luther King Jr. (Long 2006).

The first settlers of King County were a group of farmers led by Luther Collins who claimed land inland along the Duwamish River on September 14, 1851 (later called Georgetown). A week after the Collins party claimed their land, the initial vanguard of the Denny Party (the group credited with the founding of Seattle) arrived on Alki Point (near what is now West Seattle). The rest of the Denny Party arrived on November 13, 1851 (Long 2006).

The major industries in King County in the late 1800s were logging and coal mining. By the 1880s, sawmills and shingle mills were main industries in many towns throughout the Puget Sound (Long 2006). Throughout this decade, hops were a major King County crop until hop lice/aphid infestations that started in 1889 prompted growers to turn to dairy farming, orchards, and other crops (Bagley 1929; Long 2006). Native Americans provided much of the labor for harvests in King County. The hop lice crisis was exacerbated by a national economic depression in the 1890s. Overall, King County recovered quickly due to the 1897 Klondike Gold Rush, during which Seattle and King County merchants provided supplies to those headed north to the goldfields (Long 2006).

2.2.3.2 History of the Project Area

Seattle's earliest non-native settlers first arrived in the Puget Sound via canoes floating down the Duwamish River from Nisqually. They were the Collins Party and settled along the Duwamish River in late September 1851, about 2 miles south of the mouth of the Duwamish River. Eventually, Luther Collins filed for a Donation Land Claim. Other parties of settlers were quick to join the Collins Party in acquiring lands around Elliott Bay. These included John Holgate, William Latimer, the Denny Party, and others (Lange 2000). The Duwamish River was a river that

meandered in curves through the valley floor and eventually discharged into the southern end of Elliott Bay through a delta of intertidal marshlands **(Figure 2-1**).

Much of the surrounding land was submerged at high water and plus tides. Seattle was incorporated on December 2, 1869, and by the 1890s, the population was well established, and maritime traffic became a common site on Elliott Bay. Steamboats could navigate the Duwamish River as far as Kent, but ocean-going vessels could not use the river. Eugene Semple, in 1895, proposed a plan of public works, which included digging a canal from Elliott Bay to Lake Washington, filling the tide flats west of Beacon Hill (**Figure 2-2**), and straightening the Duwamish River. The Washington State Legislature authorized the formation of diking and dredging districts in that same year. By 1901, Semple began construction, sluicing the soils of Beacon Hill and transporting soil from Seattle regrade projects for filling the tide flats south of downtown Seattle.

Figure 2-2. East Marginal Way, view to the southwest. Dated: February 24, 1916 (Source: Seattle Municipal Archive Photograph Collection # 941).

In 1909, City Engineer R. H. Thomson formed the Duwamish Waterway Commission to sell bonds for rechanneling the river. The straightening and dredging of the Duwamish River began on October 14, 1913 (Wilma 2001; **Figure 2-3** and **Figure 2-4**). The channel would allow larger ships to access the reclaimed land and alleviate the flooding that frequently occurred throughout the valley.

Dredging began at the County Poor Farm in Georgetown, filling the meanders, except for a few recessed in the channel to accommodate high water levels and turning ships. By 1920, the Duwamish Waterway reached a depth of 50 feet for 4.5 miles (Wilma 2001). All of the original meanders were filled except for one—a short section of the original course of the Duwamish delta channels, which is still present along the southwestern shore of Kellogg Island (Thrush 2007).

It is known that dredge spoils were used for the creation of Harbor Island, which was finished in 1909 by the Puget Sound Bridge and Dredging Company. At the time, Harbor Island was the largest artificial island in the world. Soil from the Beacon Hill, Denny Hill, Yesler Hill, Jackson

Hill, and Dearborne Street regrades were used in the construction of Harbor Island, in addition to the filling of the greater Duwamish delta tidelands (Stein and Goodman 2001; Wilma 2001).

Figure 2-3. Historic photograph of the Seattle tidelands looking southeast. Taken from Centennial Mill in 1902 (University of Washington digital archives, Asahel Curtis Photo Company Photographs Collection, # CUR118)

By 1920, the indigenous people, who traditionally utilized resources from the Duwamish River, could no longer safely gather food from that area (Thrush 2006:110). The channelization of the Duwamish River was complete and industrial factories were established along its banks. The 1949 USGS Seattle, South Quadrangle 7.5-minute series shows structures of all sizes, up and down the Duwamish River.

2.2.3.3 Project Area Background

The Project area is first seen in an 1862 GLO Cadastral survey map (GLO 1862) (**Figure 2-5**) and an 1863 GLO Cadastral survey map (GLO 1863) (**Figure 2-6**). Both of these maps show the APE prior to any channeling of the river, with the APE present east of the river course. The APE does not appear in 1862 to be in an area that is privately owned.

The following year in 1863, Francis McNalt owned the lands that included the present-day APE. Based on later maps, it appears that McNalt owned the property from 1863 through to at least 1907, although his name appeared on a 1926 map, as well. GLO and census searches returned no results for Francis McNalt, aside from a 1907 death certificate from Seattle.

A 1907 Anderson map shows the Duwamish River still following a natural channel but with multiple landowners occupying the surrounding area (**Figure 2-7**). Francis McNalt owned the land that the APE is located within in 1907.

A 1912 Kroll map shows the Duwamish River remaining in its natural channel; however, the course appears to have shifted slightly west on the bend of the river that the APE is located within

(Kroll 1912) (**Figure 2-8**). Many of the landowners changed in this period. The large property that Mr. McNalt owned had expanded and was entitled “The Meadows” with no owner listed.

Figure 2-4. Map showing route of Duwamish Waterway, Commercial Waterway, Commercial Waterway District No. 1, revised September 1, 1919 (King County Road Services Map Vault Image No. 20100824-17370)

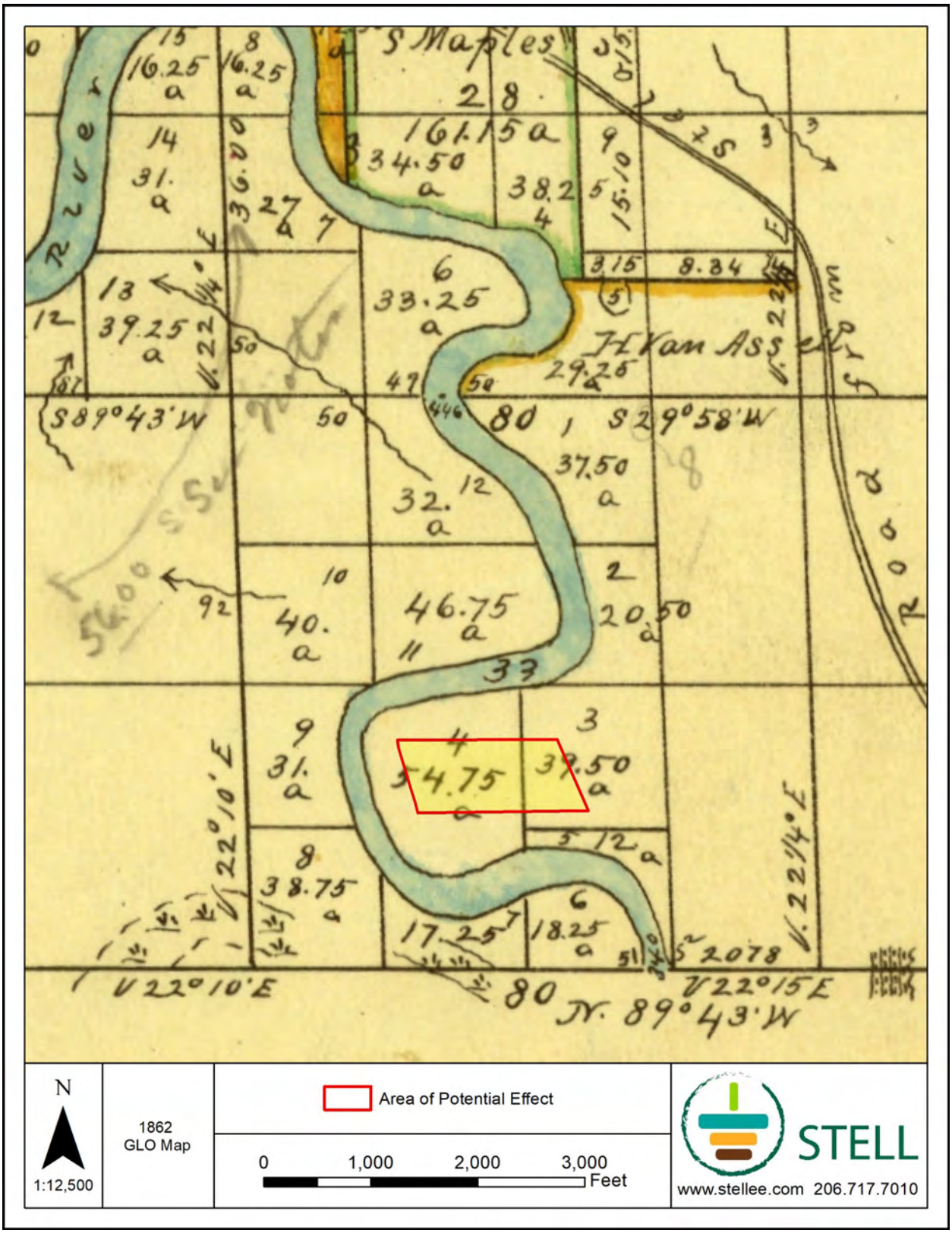

Figure 2-5. GLO Cadastral Survey from 1862 with the APE overlayed (GLO 1862)

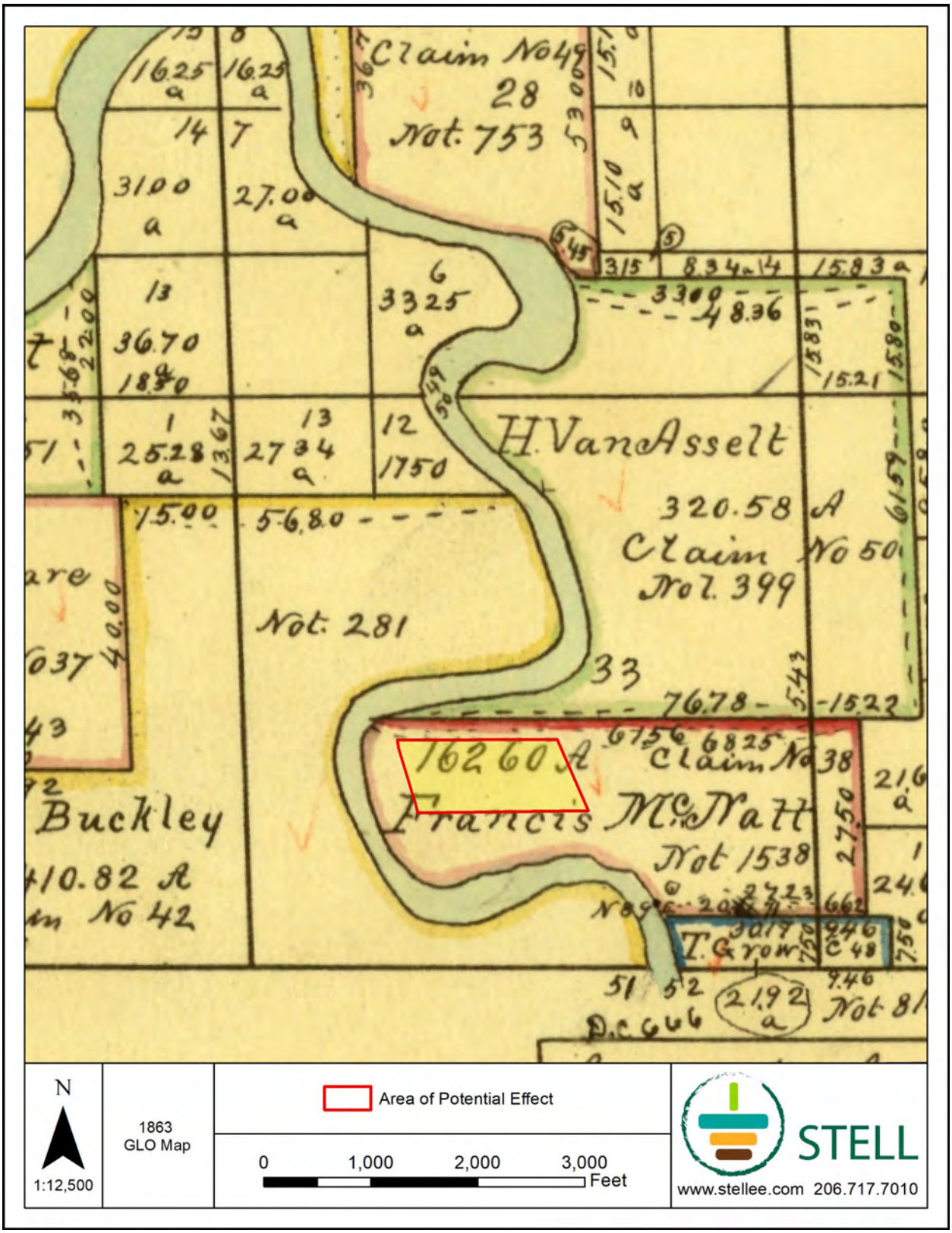

Figure 2-6. GLO Cadastral Survey from 1863 with the APE overlayed and Francis McNalt's name listed (GLO 1863)

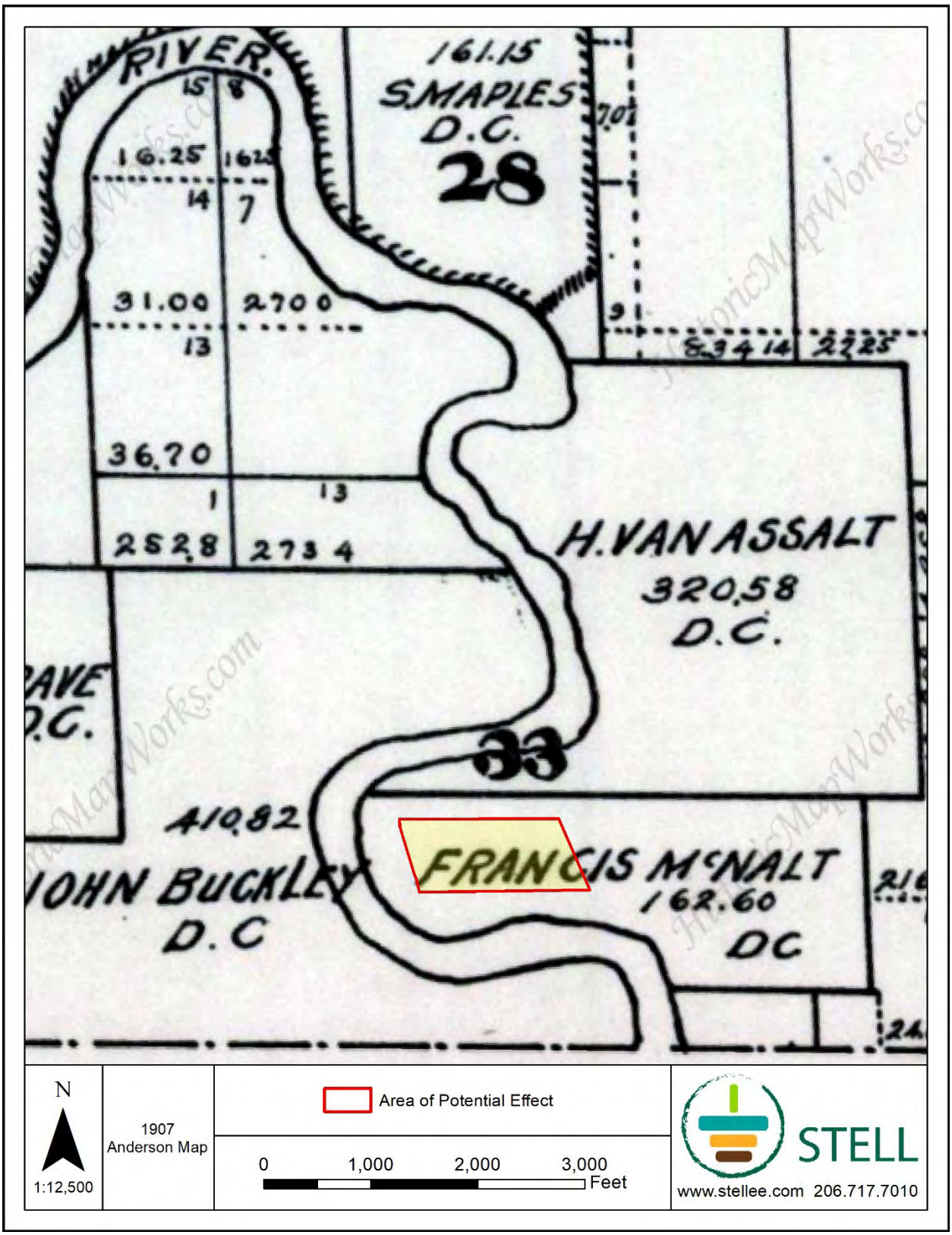

Figure 2-7. 1907 Anderson Map with APE overlayed (Anderson 1907)

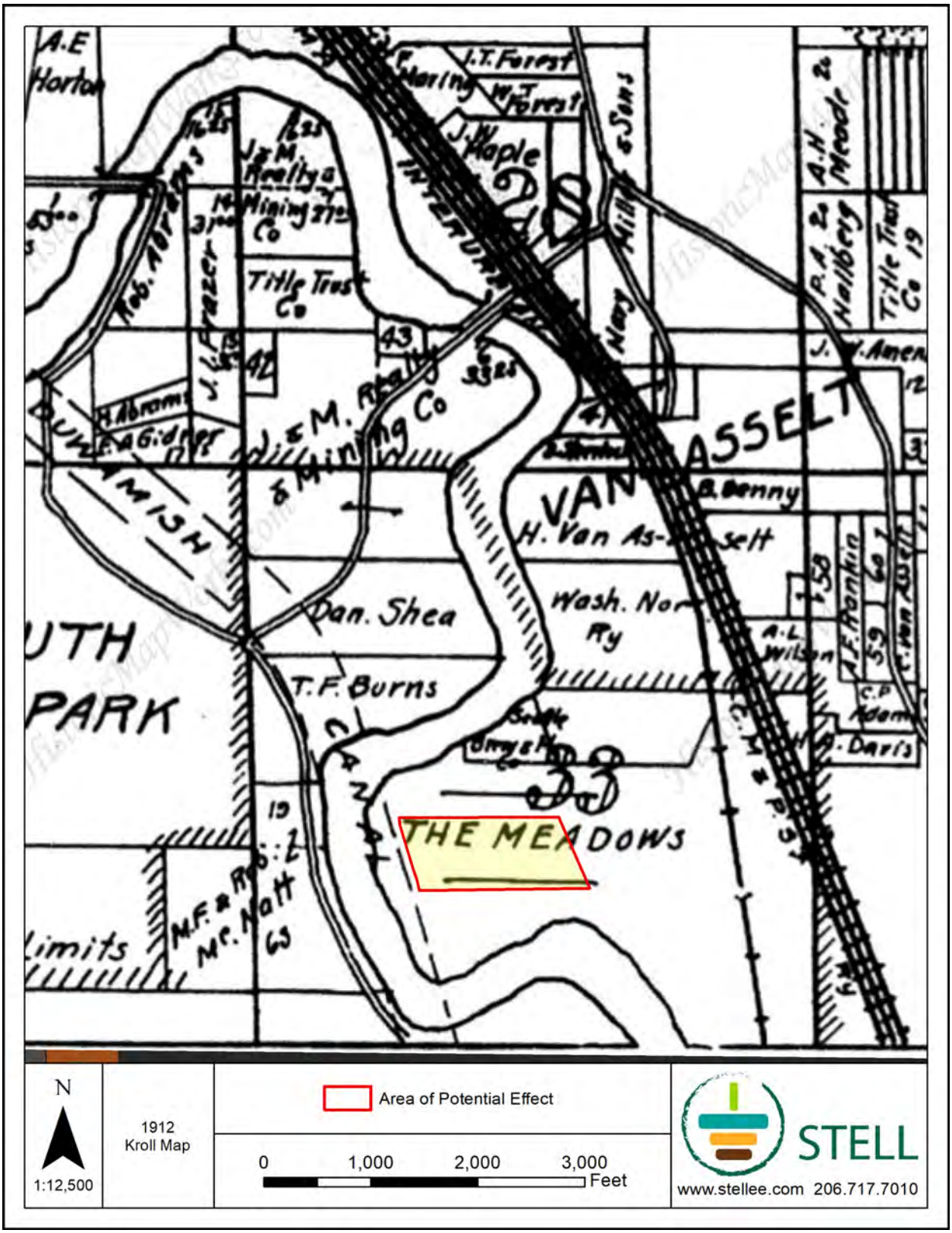

Figure 2-8. 1912 Kroll Map with APE overlayed (Kroll 1912)

A 1926 Kroll map shows the Duwamish River as being fully canaled and removed from its original channel north of the Project area (**Figure 2-9**). The 1926 Kroll map does show the proposed path of the Duwamish Canal as it is labeled on the map. The Meadows tract was still listed, although several names also appeared: Francis McNatt, Jas. F. McElroy, Geo w. Dickerson, Minnie (illegible), and a final illegible name. The city limits of South Park were expanded from the 1912 map.

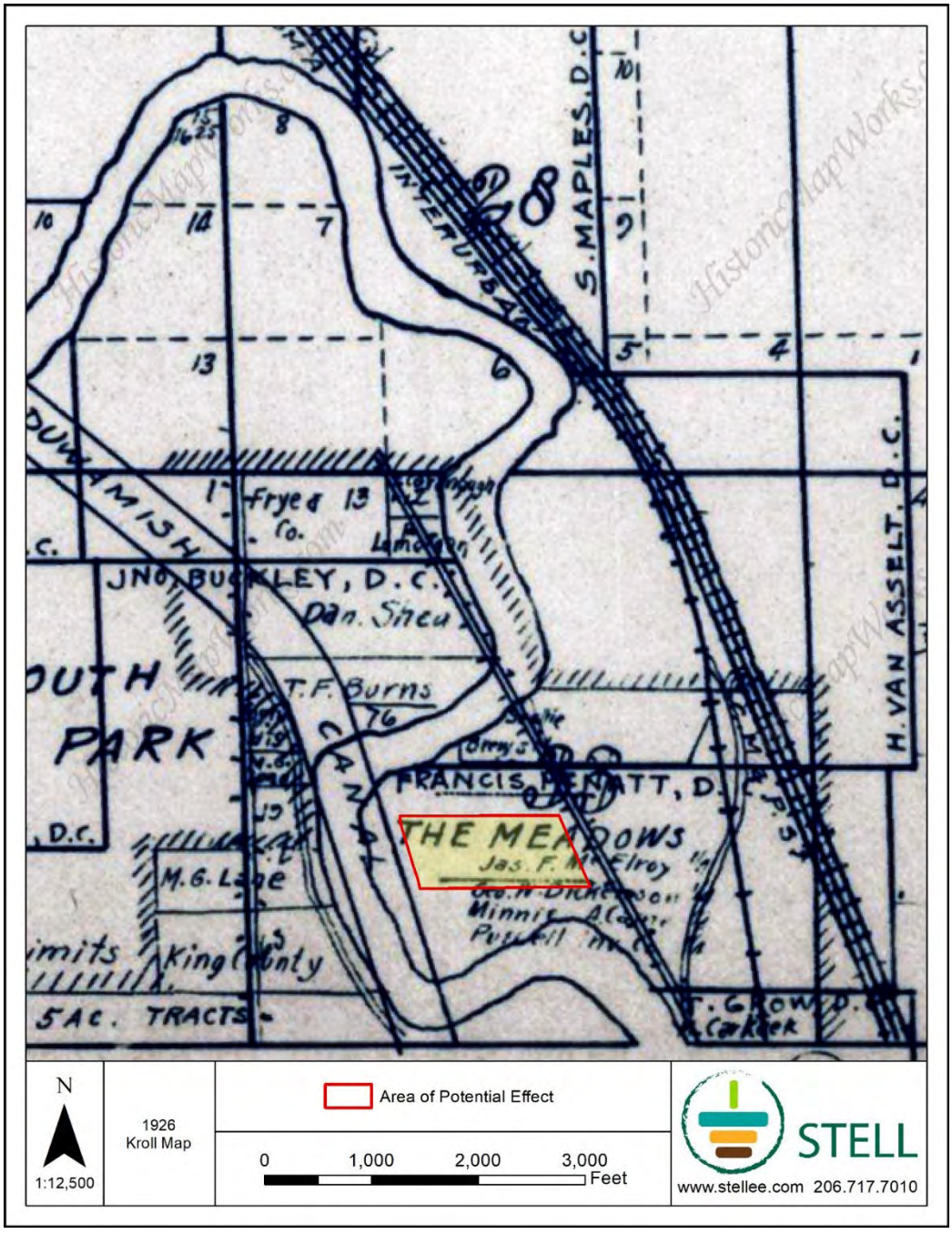

Figure 2-9. 1926 Kroll Map with APE overlayed (Kroll 1926)

The 1936 Metsker map shows a landscape similar to what is seen today around the APE, with the Duwamish River in its current orientation and many roads seen today (**Figure 2-10**). To the east of the APE, Boeing Field was present. Many of the large parcels that had been previously noted are no longer located on this map, with many smaller parcels having taken their place.

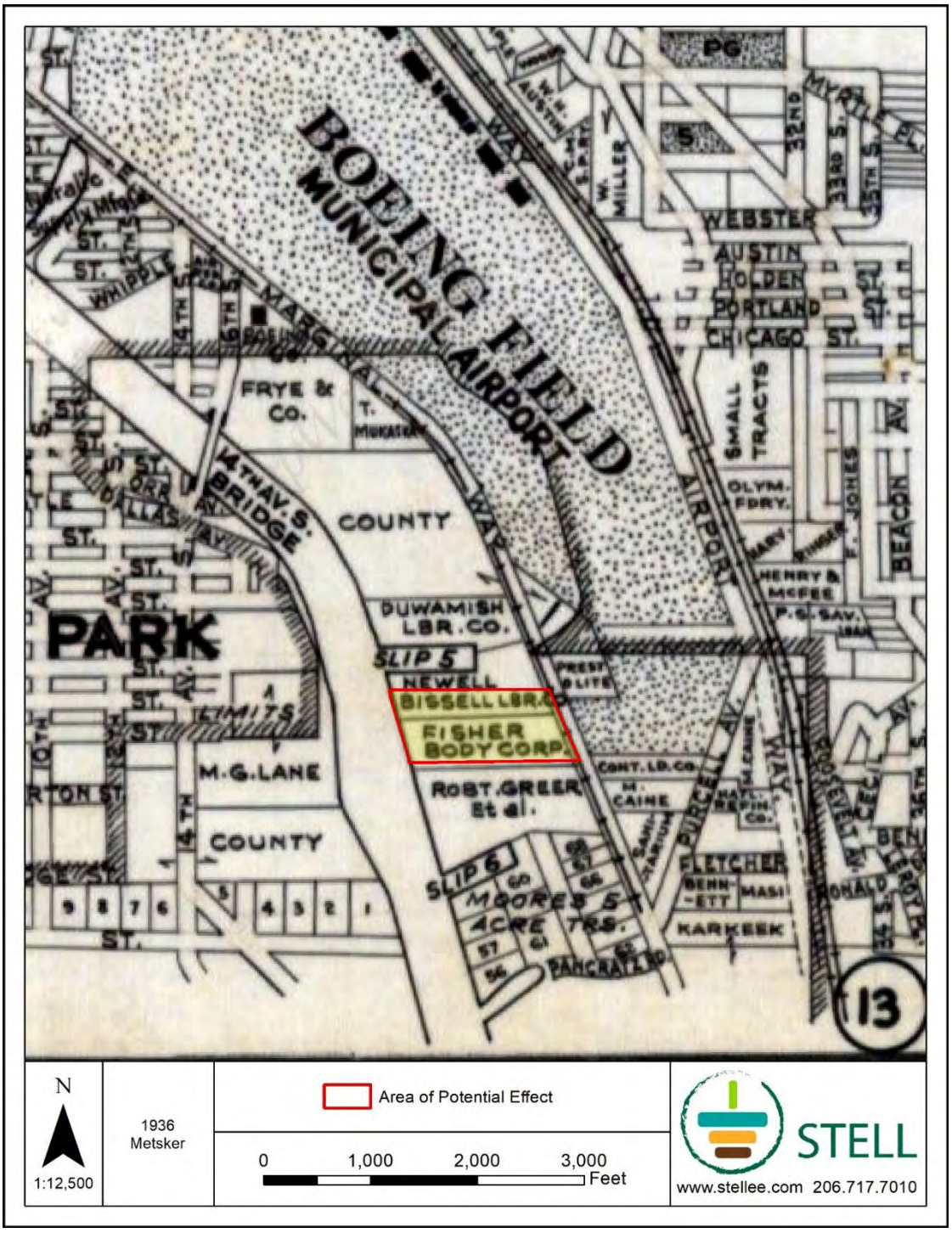

Figure 2-10. 1936 Metsker Map with APE Overlayed (Metsker 1936)

The parcel that the Project area is located in appears to have been owned by the Bissell Lumber Company and the Fisher Body Corporation; Fisher Body was an automobile coachbuilder founded in Detroit in 1908 and the Bissell Lumber Company originated when the Newell Mill & Lumber company changed the company name in 1917 (Jackson 2021; Lumber World Review 1917; **Figure 2-11**).

Figure 2-11. 1907 photograph of the Newell Mill in Seattle. The record notes that the site sat on the corner of S Bradford St & 7th Ave (not within the APE) and focused on manufacturing sashes and doors (Asahel Curtis, 1907)

The 1937 aerial imagery shows the development of South Park to the west of the river. More open large tracts of land to the east of the river were noted in these images (**Figure 2-12**). To the east of the Duwamish River, it appears as though East Marginal Way and railroad lines are present in their modern layout. A portion of the Project area appears to have been inundated by the river in 1937, with a large semi-circular area covered by water.

Figure 2-12. 1937 Aerial Imagery with APE overlayed (King County Road Services Map Vault Image No. 240433)

3 RECORD SEARCH AND LITERATURE REVIEW

Stell conducted a literature review and record search for this Project by consulting the DAHP Washington Information System for Architectural and Archaeological Records Database (WISAARD), reviewing historical land records and maps, and online archives.

3.1 PROJECT BACKGROUND

The DAHP Predictive Model places the Project area as very high risk for locating cultural materials. This model is based primarily upon distance to water and soil types. No previous archaeological work has occurred within the Project area.

3.2 PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS

3.2.1 PREVIOUSLY RECORDED CULTURAL RESOURCES WITHIN 1 MILE OF THE PROJECT AREA

Twenty-two archaeological investigations have occurred within 1 mile of the APE. The earliest cultural survey within a mile of the APE was completed in 1997, in which a historic property survey report was conducted for Georgetown, resulting in the identification of 34 historic properties (Krafft and Wickwire 1997). In 2001, two investigations were conducted, one by Kurt Roedel for the South Park Bridge Project, and one by Roedel and others (2001) for the Boeing Field Runway Safety Area. No significant archaeological resources were identified during either project (Roedel 2001; Roedel et al. 2001). In 2004, Historical Research Associates indicated there was a moderate potential for archaeological resources on either side of the South Park Bridge. They identified 12 NRHP-eligible structures (Historical Research Associates 2004).

Jennifer Gilpin monitored work in 2006 along Slip 6 and observed a possible historic trash dump. It was determined the historic trash dump was in a disturbed context and held no archaeological integrity (Gilpin 2006). It was determined that no additional archaeological investigation was necessary. Demuth and others (2008) returned in 2008 and documented three prehistoric archaeological sites along the western bank of the Duwamish River. The sites, 45KI815, 45KI816, and 45KI817, were determined to be precontact shell middens that contained mammal bones, fire-modified rock, and charcoal. These shell middens were determined to reside in an old meander of the Duwamish River. The 45KI815 shell-midden deposit was identified between 50 and 240 centimeters (cm) below surface at 1430 S. Thistle Street (Demuth et al. 2008).

In 2013, two surveys occurred along the Lower Duwamish River. Margaret Berger surveyed the Duwamish Substation North Property located between Highway 99 and the Duwamish River, and did not observe any above-ground cultural resources during the survey (Berger and Hartmann 2013). Downstream from Berger's survey, Jason Cooper monitored sediment removal along the eastern bank of the Duwamish River at Township 24, Range 4, Section 29 on the Boeing property (Cooper 2013). During the monitoring process, Mr. Cooper observed a wooden wagon wheel being dredged up. The area where the wagon wheel was recovered was given a site number, 45KI1142 (Cooper 2013).

In 2014, archaeologists monitored hydraulic work that was located between Michigan Ave and 8th Avenue in the South Park neighborhood (Lockwood and Hoyt 2014:1–8). One resource was recorded during their work, 45KI1183. It was determined to be an isolated find consisting of bricks, whiteware, and charcoal (Lockwood and Hoyt 2014:3–7). This area was once within the Duwamish River. Later that year, another monitored survey was conducted by Jaqueline Marcotte,

monitoring the infrastructure improvement efforts along South Portland Street and 8th Avenue South Street (Marcotte and Johnson 2015). No intact buried archaeological deposits were recorded, and the project area was outside of the Lower Duwamish Superfund boundary. Carol Schultze monitored the South Park Bridge replacement project in 2014. Schultze extended the site boundary for 45KI815, the shell midden that was identified in 2008 (Schultze et al. 2014). 45KI815 is 46 m south of the Duwamish River. A geoarchaeological boring survey was conducted north of the APE at the 8th Avenue Terminals. No archaeological material was recovered, but it was recommended that deep excavations take place to understand the soil morphology of the river and to identify any cultural deposits (Hodges 2015).

In 2016, a wooden stave pipe associated with the Georgetown Steam Plant was uncovered on accident, requiring monitoring (Carrilho and Rink 2016), but no other cultural resources were found. Also, in 2016, Jason Cooper recorded a subsurface debris concentration associated with the historic Butler Hotel, which was previously located on Pioneer Square in Seattle. The debris concentration measured 6 square meters and was 30–50 cm below the surface and likely dates to 1913 based on the Hotel Butler logo present on a number of ceramic plate fragments. It included 20 metal objects, over 100 bone fragments, over 75 oyster and clam shell fragments, 55 glass vessel fragments, and 316 ceramic tableware fragments. The Hotel Butler debris concentration is approximately 550 meters north of the Project APE. In addition, a concentration of nine cow bones was discovered at the King County International Airport during the excavation of a utility trench in 2016. While the depth of the cow bones was unknown, one was saw cut, and the concentration was determined by Amec-Wheeler to be older than 50 years. This concentration is 659 m north of the Project APE.

The last survey that occurred within the Lower Duwamish Superfund APE happened in 2017. Jana Boersema resurveyed a portion of the Duwamish Substation North Property for the Technical Training Center and wetland mitigation (Boersema and Cagle 2017). No precontact or significant cultural material was identified within the Duwamish APE.

Within 1 mile of the APE, there are 22 cultural resource surveys, 10 archaeological sites, 2 cemeteries, 5 registered historic properties, and 1,504 structures.

For additional information, please see **Table 3-1**, **Table 3-2**, **Table 3-3**, and **Table 3-4**.

Table 3-1. Previous cultural resources investigations within 1 mile of the APE.

Author(s)	Date	NADB No.	Title	Distance from Current Project	Findings Relevant to the Current Project
Cooper, Jason	06/2013	1683973	Archaeological Monitoring Program Synopsis Construction Season 1: Duwamish Sediment Other Area and Southwest Bank Corrective Measure and Habitat Project	Outside of APE; .6 miles northwest of APE	No archaeological material was identified; isolate: one historic object (45KI1142) was recorded.
Historical Research Associates	8/1/2004	1344408	South Park Bridge Project Cultural and Historical Resources Technical Report	Outside of APE; 434 m northwest of APE	Moderate potential for the presence of intact subsurface archaeological resources. No archaeological sites have been previously recorded in the project area. 80 historic resources; South Park Bridge is listed on NRHP; 12 others are NRHP eligible, of those, 2 are located along the Duwamish (Boeing Property and Red Brick Road are potentially eligible).
Lockwood, Chris and Brian Hoyt	4/17/2014	1691098	Archaeological Monitoring of South Park Hydrological Investigations, GSI Project - West Michigan and 8th Avenue, King County, Washington	Outside of APE; .6 miles west of APE boundary	South Park Basin is considered to have a very high likelihood for deeply buried precontact and historic archaeological resources. Isolate 45KI1183 comprised fragments of 3 to 5 bricks and one non-diagnostic whiteware sherd, associated with bash and dispersed charcoal. The isolate is in an area that was formally a meander of the Duwamish River.

Author(s)	Date	NADB No.	Title	Distance from Current Project	Findings Relevant to the Current Project
Demuth, Kimberly, Craig Smith, Robin Hoffman, Kirk Ranzetta, Jennifer Flathman, David Harvey, Jeannie Cziesla, Lucy Zuccotti, Astrida Onat, and Timothy Cowan	6/1/2008	1351645	Cultural Resources Survey for the South Park Bridge Project	Outside of APE; 611 m northwest of APE boundary	3 precontact archaeological sites identified on the southern side of the Duwamish waterway: 45KI815, 45KI816, and 45KI817. One site is within the APE and two are outside of the APE. It is likely they are connected to the abandoned meander channel. Three Historic Properties within the APE: Boeing Building, Brick Road, and South Park Bridge.
Schultze, Carol, Amy Jordan, Justin Butler, Jennifer Gebhardt, Angus Tierney, and Daniel Schau	09/2014	1686020	Archaeological Monitoring Report for the South Park Bridge Replacement Project	Outside of APE; 450 m west of APE boundary	45KI815: during monitoring, 8 additional locations associate with site extended the site boundary. New boundaries identified.
Roedel, Kurt W.	6/6/2001	1339904	Letter to Ronda Smith Regarding Archaeological Resources Monitoring for the South Park Bridge Project	Outside of APE; 482 m west of APE boundary	No significant archaeological resources were identified during excavation monitoring.
Gilpin, Jennifer	10/5/2006	1348322	Archaeological Monitoring at 9229 E. Marginal Way, Tukwila	Outside of APE; 643 m south of APE boundary	No sites recorded, a pocket of historic artifacts including ceramics and glass was observed as likely remnants of a historic trash dump with no identifiable integrity.
Berger, Margaret	4/8/2013	1691049	Cultural Resources Assessment of the Duwamish Substation North Property	Outside of APE; .6 miles southwest of APE boundary	No above-ground cultural resources were identified within the subject property.
Boersema, Jana and Anthony Cagle	8/3/2017	1689679	Cultural Resources Assessment for the Seattle City Light Technical Training Center, King County, Washington	Outside of APE; .6 miles south of APE boundary	No precontact or significant cultural material was discovered in the APE. The only cultural material found during this survey was scattered debris within the fill deposit that was not directly datable.

Author(s)	Date	NADB No.	Title	Distance from Current Project	Findings Relevant to the Current Project
Marcotte, Jaqueline and Paula Johnson	12/2014	1686226	West Duwamish Trail Extension Project, Seattle, Results of Archaeological Monitoring	Outside of APE; .76 miles northwest of APE boundary	No significant archaeological resources were identified during excavation monitoring.
Hodges, Charles	01/30/2015	1686270	Results of Geoarchaeological Monitoring at 8th Avenue	Outside APE; .75 miles north- northwest of APE boundary	Multiple boring locations east of Slip 4. Possible buried archaeological deposits, but boring results are unclear and not consistent.
Zuccotti, Lucy, Jennifer Flathman, Kimberly Demuth and Robin Hoffman	11/4/2008	1352098	Cultural Resources Section 106 Technical Report Georgetown Steam Plant Flume Project, EOA Slip 4 Early Action Area, Lower Duwamish Waterway Superfund Site, Seattle	Outside of APE, .85 miles northwest of APE boundary	Surface and subsurface surveys did not locate any archaeological resources. Five historic properties in the APE: Boeing Buildings 3-323 and 3-346, the Steam Plant building, holding tank, and flume.
Carrilho, Yonara, and Brandy Rink	06/17/2016	1689109	Pipe Documentation at the Georgetown Steam Plant, Seattle	Outside of APE; .89 miles northwest of APE boundary	Wooden stave pipe associated with the Georgetown Steam Plant was uncovered, requiring monitoring
Marcotte, Jacqueline, Bryan Hoyt, Chris Lockwood, and Paula Johnson	05/17/2013	1684370	West Duwamish Trail Extension Project	Outside of APE; .78 miles northwest of APE boundary	No buried archaeological resources uncovered during monitoring. Three historic-aged properties (all commercial warehouses) identified within the APE.
Lockwood, Chris and Ostrander, Tom	03/21/2014	1691097	Archaeological Monitoring of Geotechnical Boring and Monitoring Well Installation, West Michigan and 8th Avenue, King County, Washington	Outside of APE; .7 miles west-northwest of APE boundary	No prehistoric or historic archaeological resources observed during monitoring.
Krafft, Katheryn and Wickwire, Cathy	09/30/1997	1350146	Historic Property Survey Report: Georgetown (Seattle, Washington)	Outside of APE, .97 miles northwest of APE boundary	34 historic properties within APE

Author(s)	Date	NADB No.	Title	Distance from Current Project	Findings Relevant to the Current Project
BOLA Architecture and Planning	09/24/2012	1682897	Historical Documentation King County International Airport/Boeing Field Seattle	Outside of APE, but directly across Marginal Way from the east boundary of the APE	Eight significant or potentially significant historic structures identified: Administration building, North Annex building, Civil Aeronautics Building, B29 Revetment Hangar/Hangar No. 5, Hangar No. 3, Air Traffic Control Tower, West Coast Airlines Hangar, Three Small Plane Hangars.
Roedel, Kurt, Leonard Forsman, Dennis Lewarch, and Lynn Larsen	07/05/2001	1681071	Boeing Field Runway Safety Area Compliance Archaeological Resources and Traditional Cultural Places Assessment	Outside of APE; .9 miles north of APE boundary	No significant archaeological deposits
Stropes, Tracy, J.R.K. Stropes, and Brian Smith	10/08/2019	1695191	A Cultural Resources Assessment for the 8801 East Marginal Way Project, City of Tukwila, King County, Washington	Outside of APE; 265 meters south of APE boundary	No archaeological resources identified; four historic properties identified: warehouse building, office facility, water tower, groundwater treatment facility.
Foutch, Amy, Michele Punke, Jon Held, Elizabeth O'Brien, and John Fagan	07/01/2009	1353867	Cultural Resources Study for the SR 99 Intelligent Transportation System Improvements Project	Outside of APE; .6 miles southwest of APE boundary	No archaeological deposits identified. One historic resource identified: North 46th Street/SR 99 Overcrossing.
Cole, Steve	5/14/2001	1339898	Heritage Resources Investigation of the South Park Cell # 41982 Tower	Outside of APE; .6 miles west-southwest of APE boundary	No archaeological or historic deposits identified.
Kopperl, Robert and Charles Hodges	02/15/2017	1694843	Archaeological Resources Assessment for the 8430 Dallas Ave Warehouse Project, King County, Washington	Outside of APE; 482 meters west of APE boundary	No archaeological or historic deposits identified.

Note:
NADB = National Archaeological Database
No. = Number

Table 3-2. Previously recorded archaeological sites within 1 mile of the APE.

Site Trinomial	Description	Distance from Project	Comments
45KI1142	Wooden Wagon Wheel	.64 miles northwest of APE	Isolate
45KI815	Lwalb Old Channel One	482 m west-northwest of APE	Precontact Site: Shell midden, bird bone, mammal bone, fish bone, and fire-cracked rock; depth: 50–240 cm; Determined NRHP eligible by officer of the DAHP.
45KI816	Lwalb Old Channel Two	627 m west-northwest of APE	Precontact Site: shell midden, fire-cracked rock, mammal bone, bird bone, fish bone; depth: 24–195 cm.
45KI817	Site Three	579 m west of APE	Precontact Site: charcoal, shell, bird bone, fish bone, and mammal bone; depth: 190–225 cm.
45KI01149	Hamm Creek Pilings	.6 miles south of APE boundary	Historic Site: Waterfront structure remnants.
45KI1183	Not applicable	Outside of APE, .6 miles northwest of APE boundary	Isolate: single whiteware fragment and 3 to 5 red brick fragments.
45KI1280	Wood-stave Pipe Segment at the Georgetown Steam Plant	.89 miles northwest of the APE boundary	A wood-stave pipe associated with the Seattle Electric Company Georgetown Steam Plant. 23.5 m of the pipe was exposed in a utility trench.
45KI1352	King County International Airport Historic Debris	659 m north of APE boundary	Concentration of nine cow bones found during the excavation of a utility trench from an unknown depth. One of the bones exhibited a saw cut.
KI01351	Hotel Butler Historic Debris Concentration	515 m north of the APE boundary	A subsurface debris concentration 30-50 cm below the surface, measuring 6 m^2. Associated with Hotel Butler, dating to 1913, and includes historic ceramics, glass, animal bone, oyster shells, and metal plate/cup fragments.

Table 3-3. Previously recorded cemeteries within 1 mile of the APE.

Site Trinomial	Description	Distance from APE	Comments
45KI01526	Rose Street	.7 miles west-northwest of APE	Human Remains found in 1925. The remains found at a depth of 18 inches in sandy clay soil.
45KI00910	Maple Grave/Memorial	.67 miles north of APE	A monument and urn of the ashes of John and Samuel, son, Maple.

Table 3-4. Historic register listed properties within 1 mile of the APE.

Site Trinomial	Listing Number	Property Name	Register	Address
45KI138	78002755	Seattle Electric Company Georgetown Steam Plant	National Historic Landmark	6605 13th Ave S, Seattle, Washington, USA
45KI136	NA	Maple Donation Claim	Washington Heritage Register	Airport Way South, Seattle, WA
45KI139	71000872	Building No. 105, Boeing Airplane Company	National Register; Washington Heritage Register	Purcell Avenue, Tukwila, WA
45KI259	82004228	14th Avenue South Bridge - Seattle	National Register; Washington Heritage Register	Spans Duwamish River, Seattle, WA
45KI1440	100004460	Eng, Jimmie & Betty, House	National Register; Washington Heritage Register	8310 Beacon Ave. S, Seattle, WA 98118

4 METHODS

Stell Archaeologists Mark Steinkraus, MS, James Brown, MS, and Nichole Padovano, BA, conducted archaeological monitoring that observed percussion coring for sediment sampling. The ground-disturbing activity consisted of sample collection for the chemical analysis of sediment. Sample collection occurred within the Project APE to define the extent of soil contamination. Archaeological monitoring was conducted during several mobilizations.

- 2021
    - February 22
    - March 1, 2021
    - September 15–16, 20–23, and 28–29
    - October 11, 14, 18, 20, and 29
    - November 3–4
    - December 14–17
- 2022
    - January 21
    - August 16–18, 22, and 26
- 2023
    - March 23
    - May 2–5, and 8

All other monitoring activities were conducted following the monitoring plan developed by Stell (Breidenthal and Steinkraus 2020). See Appendix A for a full copy of the Monitoring and Inadvertent Discovery Plan.

5 RESULTS

Archaeological monitoring was conducted during several mobilizations for a total of 33 days over 2 years. See **Section 4** (Methods) for exact dates.

Monitoring was conducted by Stell archaeologists Mark Steinkraus, MS, and James Brown, MS, and Nichole Padovano, BA, as needed based on the monitoring plan (**Appendix A**). Monitoring of cores focused on observing the opening and sampling of the cores; observation of sample collection was conducted as well. See **Table 5-1** and **Appendix B** for additional details.

Table 5-1. Monitoring Table

Date	Monitor	Cultural Materials (Y/N)	Cultural Materials Description	Work Undertaken
2/22/2021	James Brown	N	NA	Core processing and sampling
3/1/2021	James Brown	N	NA	Core processing and sampling
9/15/2021	James Brown, Mark Steinkraus	N	NA	Excavation
9/16/2021	James Brown, Mark Steinkraus	N	NA	Excavation
9/20/2021	James Brown, Mark Steinkraus	N	NA	Excavation
9/21/2021	James Brown, Mark Steinkraus	N	NA	Excavation
9/22/2021	James Brown, Mark Steinkraus	N	NA	Excavation
9/23/2021	James Brown, Mark Steinkraus	N	NA	Excavation
9/28/2021	Mark Steinkraus	N	NA	Excavation
9/29/2021	Mark Steinkraus	N	NA	Excavation
10/11/2021	James Brown	N	NA	Excavation
10/14/2021	James Brown	N	NA	Excavation
10/18/2021	James Brown	N	NA	Excavation
10/20/2021	James Brown	N	NA	Excavation
10/29/2021	James Brown	N	NA	Core processing and sampling
11/3/2021	James Brown	N	NA	Excavation
11/4/2021	James Brown	N	NA	Excavation
12/14/2021	James Brown, Mark Steinkraus	N	NA	Core processing and sampling
12/15/2021	James Brown, Mark Steinkraus	N	NA	Core processing and sampling
12/16/2021	James Brown, Mark Steinkraus	N	NA	Core processing and sampling
12/17/2021	James Brown, Mark Steinkraus	N	NA	Core processing and sampling
1/21/2022	James Brown	N	NA	Core processing and sampling
8/16/2022	Mark Steinkraus	N	NA	Excavation
8/17/2022	Mark Steinkraus	N	NA	Excavation
8/18/2022	Mark Steinkraus	N	NA	Excavation
8/22/2022	Mark Steinkraus	N	NA	Excavation
8/26/2022	Mark Steinkraus	N	NA	Excavation
3/23/2023	Nichole Padovano	N	NA	Sonic drill core barrel extraction
5/02/2023	Nichole Padovano	N	NA	Sonic drill core barrel extraction

Date	Monitor	Cultural Materials (Y/N)	Cultural Materials Description	Work Undertaken
5/03/2023	Nichole Padovano	N	NA	Sonic drill core barrel extraction
5/04/2023	Nichole Padovano	N	NA	Sonic drill core barrel extraction
5/05/2023	Nichole Padovano	N	NA	Sonic drill core barrel extraction
5/08/2023	Nichole Padovano	N	NA	Sonic drill core barrel extraction

Note:
NA = Not Applicable

Several modern materials were identified during excavation and core processing. These materials included: brick and concrete fragments, sawn creosote poles, modern metal and garbage debris, an asbestos pipe, a modern glass bottle embossed with a "2" on the base and seams present from base to opening, pipe insulation, large and small metal fragments, a smashed oil drum and pipes, metal cabling, plastic pipe fragments, pilings, and one Owens-Illinois twist top brown glass bottle embossed "One Pint" and "WINE." Due to the non-diagnostic nature of these materials, they could not be identified to a specific time period and are, therefore, not considered to be significant cultural resources.

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6 INTERPRETATIONS AND CONCLUSIONS

Shannon and Wilson, Inc. contracted Stell to conduct cultural resource monitoring for the 8801 East Marginal Way South RE Project. The Project area is located in King County in the city of Tukwila. The Project area covers 24.3 acres, discrete areas within this Project's APE were used for sampling.

Several modern materials were identified during excavation and core processing. These materials included: brick and concrete fragments, sawn creosote poles, modern metal and garbage debris, an asbestos pipe, a modern glass bottle embossed with a "2" on the base and seams present from base to opening, pipe insulation, large and small metal fragments, a smashed oil drum and pipes, metal cabling, plastic pipe fragments, pilings, and one Owens-Illinois twist top brown glass bottle embossed "One Pint" and "WINE." Due to the non-diagnostic nature of these materials, they could not be identified to a specific time period and are, therefore, not considered to be significant cultural resources.

The findings of this report concur with prior cultural resource investigations within the vicinity that identified large fill deposits and that likely any intact precontact or early historic-era cultural resources will be deeply buried.

Archaeological monitoring was conducted for a total of 33 days over 2 years. **This report is a summary of monitoring activities. No significant cultural resources were discovered during monitoring.**

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APPENDIX A
Monitoring and Inadvertent Discovery Plan

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CULTURAL RESOURCES REPORT COVER SHEET

Author: Matthew Breidenthal and Sarah M.H. Steinkraus
Title of Report: Cultural Resources Monitoring and Inadvertent Discovery Plan for 8801 East Marginal Way South, Tukwila, Washington

Date of Report: January 12, 2020

County(ies): King Section: 33 Township: 4 Range: 4E
Quad: South Park Acres: 25

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

Archaeological Site #:

_____
_____
_____
_____
_____
_____
_____
_____
_____

8801 East Marginal Way South Remediation Project
Cultural Resources Monitoring
and Inadvertent Discovery Plan
Tukwila, Washington

January 12, 2020

Prepared for:

Shannon & Wilson, Inc.
400 N 34th Street, Suite 100
Seattle, WA 98103

DAHP Project #2019-03-01609.

Prepared by:

Stell
22617 76th Avenue West, Suite 205
Edmonds, WA 98026

By and Matthew Breidenthal, MS and Sarah M.H. Steinkraus, MS, RPA

Stell Project Number: 4005

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FIGURES

1 INTRODUCTION

1.1 PROJECT INFORMATION

Stell was contracted by Shannon & Wilson, Inc. to create a cultural resources monitoring and inadvertent discovery plan for the 8801 East Marginal Way South Remediation Project, Tukwila, Washington project (Project) (Figure 1) (see Appendix A for Inadvertent Discovery Plan). Contaminated soil have been identified in a few locations within the Project area. Shannon & Wilson, Inc. is proposing to undertake a remediation of contaminated soil and water throughout the project area. Seven discrete excavations are proposed to remove contaminated soil (as shown in Figure 3).

Areas with elevated concentrations of contaminants will be excavated and the soil disposed of off-site. Groundwater is also contaminated with halogenated volatile organic compounds across much of the western portion of the Project area. Remedial activities to address the groundwater contamination consist of injection of various chemicals into the subsurface, and the installation of an additional line air sparge (AS)/ soil vapor extraction (SVE) system west of the existing line along the western boundary of much of the width of the project area. In the northwestern corner of the project area, air knifing (a method of using compressed air or water to remove soil) will be used to remove soil adjacent to the pile wall and grout will be injected into the holes. The purpose of the grout is to prevent injected chemical entering the river. The chemical injections will be via borings drilled for the purpose. The AS/SVE will be trenched into place.

The western edge of the project area has a sheet pile wall bulkhead built in approximately 1929 that extends along the approximate northern two-thirds of the western edge of the project area to a depth of approximately 30 feet below ground surface. The sheet pile wall bends into the upland area of the Project area and extends approximately 100 feet to the east along the former southern property line. In the southwest corner of the project area, a riprap embankment or berm was built in approximately 1969 along the southern one-third of the western property boundary and to the east on the southwestern corner of the Project area. After the berm was constructed, approximately 13.5 feet of fill was placed on the east side of the embankment, bringing the ground surface to roughly its present grade.

The project area is within an area designated as very highly likely to yield cultural materials by the Department of Archaeology and Historic Places (DAHP) predictive model. A total of 29 Cultural Resources surveys, 10 archaeology sites (including precontact, historic-era, and multicomponent sites), 1 cemetery, 2 historic properties listed on a historic register, and 2,636 Historic Property Inventory forms have been conducted/recorded and reported to DAHP within 1 mile of the project area. Two ethnographic place names were recorded within or in the immediate vicinity of the project area. The area was originally homesteaded in the 1860s and has been in continuous use since that time.

1.2 PROJECT AREA

The Project area is located on the right (eastern) bank of the Lower Duwamish Waterway (LDW), approximately four miles upstream from the mouth of the Duwamish River, in Section 33 of Township 24 North, Range 4 East, Willamette Meridian. The upland portion of the Project area occupies 24.30 acres at 8801 East Marginal Way South (King County Parcel No. 5422600060), in the City of Tukwila, Washington (see Figure 1 through Figure 3).

The upland portion of the Project area is relatively flat, with a ground surface elevation of approximately 20 feet above mean sea level (msl). The upland portion of the Project area is owned by Centerpoint 8801 Marginal LLC (Centerpoint). The Project area has been leased to Insurance Auto Auctions, Inc. (IAAI) since 2004, although the property is currently vacant. Zoning by the City of Tukwila is manufacturing industrial center/heavy industry.

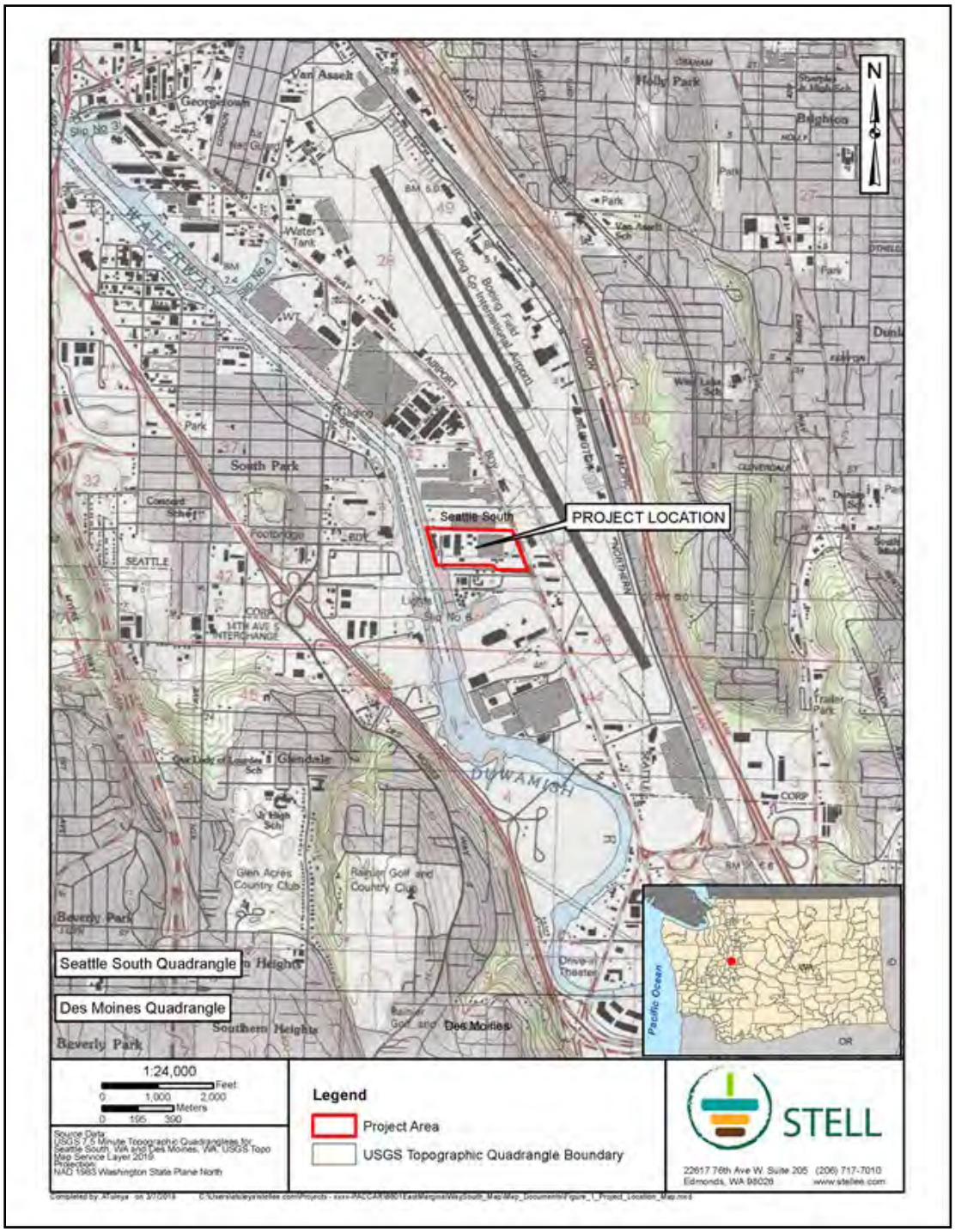

Figure 1. Project area location map projected on the USGS (2019) topographic quadrangle.

Figure 2. Project area location map projected on an aerial photograph (2017).

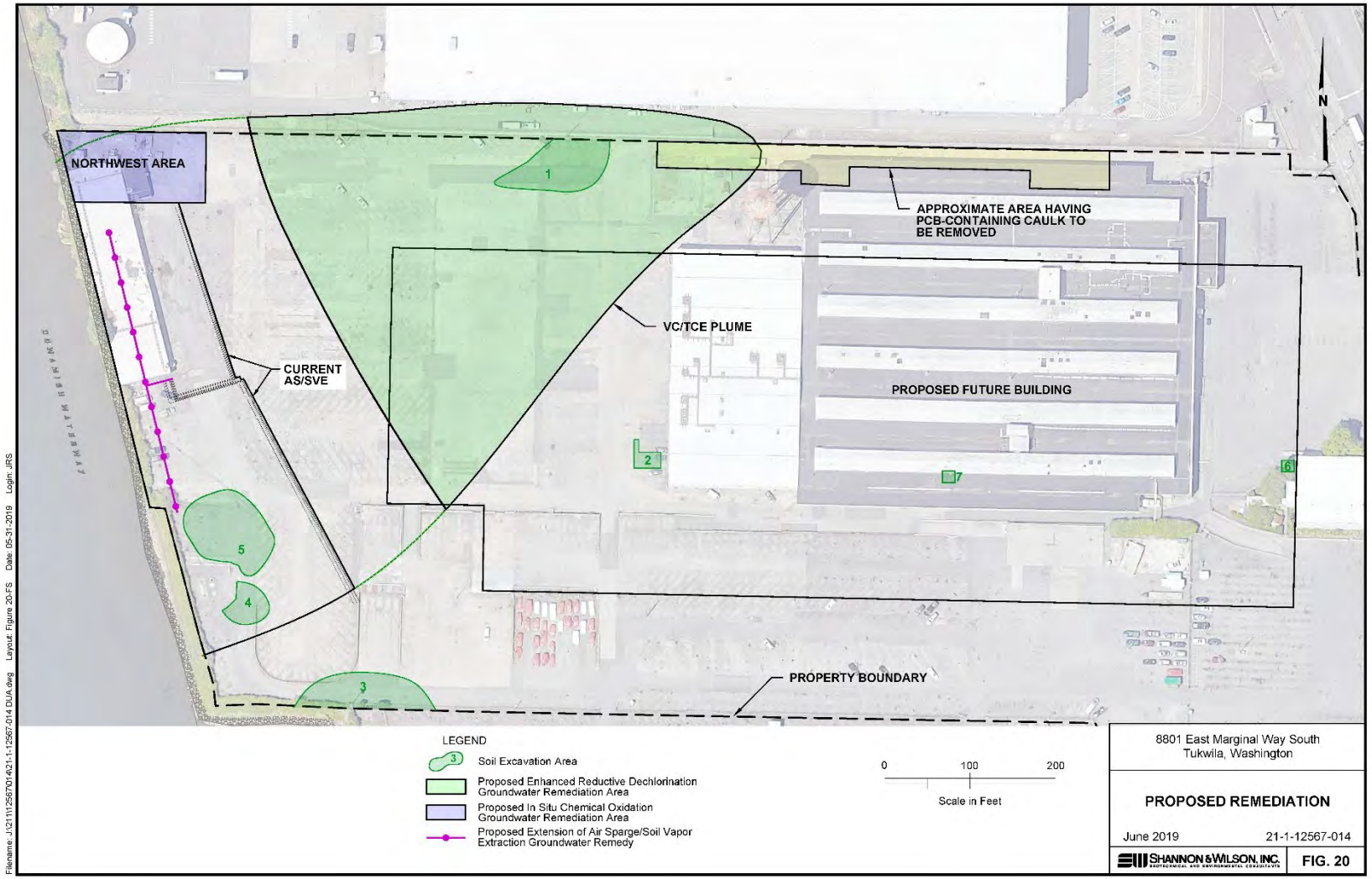

Figure 3. Draft project plan map from Shannon & Wilson.

1.3 PROJECT BACKGROUND

A cultural resources review of the project (which did not include any fieldwork) was conducted in August of 2018 by Stell (Steinkraus and McWilliams 2018). In the report it was recommended that the City of Tukwila consult with local Affected Tribes regarding future project work and that a Monitoring and Inadvertent Discovery Plan (this document) be created. These recommendations were based on DAHP recommendations for the project (see Appendix A in Steinkraus and McWilliams 2018) The DAHP Project Number is 2019-03-01609. This number should be attached to all cultural resources documentation and DAHP communications associated with this project.

Stell's cultural resources review (Steinkraus and McWilliams 2018) found that previously recorded archaeological sites in the area consist of precontact isolates and several shell middens, as well as historic features and refuse concentrations. In terms of archaeological expectations, it is possible that these types of materials may also be located within the project area. This area is along the meander belt of the Lower Duwamish River which was a major travel corridor until the Puget Sound region was logged and roads were constructed in the late 1800s and early 1900s. The placement of the Project area on a notable bend in the river (prior to channelization efforts in the early 1900s) increases the likelihood that humans stopped in this area and therefore increases the odds that cultural materials are present (Figure 4).

This area was also an early farm from 1866 until the land was industrialized in the 1930s, so evidence of agricultural activities such as pieces of farming equipment, horse or other domesticated animal skeletal materials, and domestic materials dating from the late 1800s and early 1900s may also be present subsurface. There may also be evidence of early logging activities as the farmland would have needed to be cleared in order to create agricultural fields (Steinkraus and McWilliams 2018).

Soils in the area are slightly to moderately acid and poorly drained. Soils with low acid levels are generally better for the preservation of any cultural materials that are present, and the anaerobic conditions created in slow-draining soils also increase preservation. Acidic soils can degrade artifacts until they are no longer recognizable, or in extreme cases, until they degrade completely. This means that the subsurface preservation of cultural materials would be quite high in this location (Steinkraus and McWilliams 2018).

A study of the built environment was also conducted for the property in 2019 (Stropes et al. 2019) for a separate project (DAHP Project #2019-10-08110). This review documented four historic properties that include Property #720344, 720349, 720352, and 720356 (see Appendix B for HPI forms). The review recommended that none of these properties were eligible for the National Register of Historic Places or the Washington Heritage Register. All four properties will be demolished for Project #2019-10-08110.

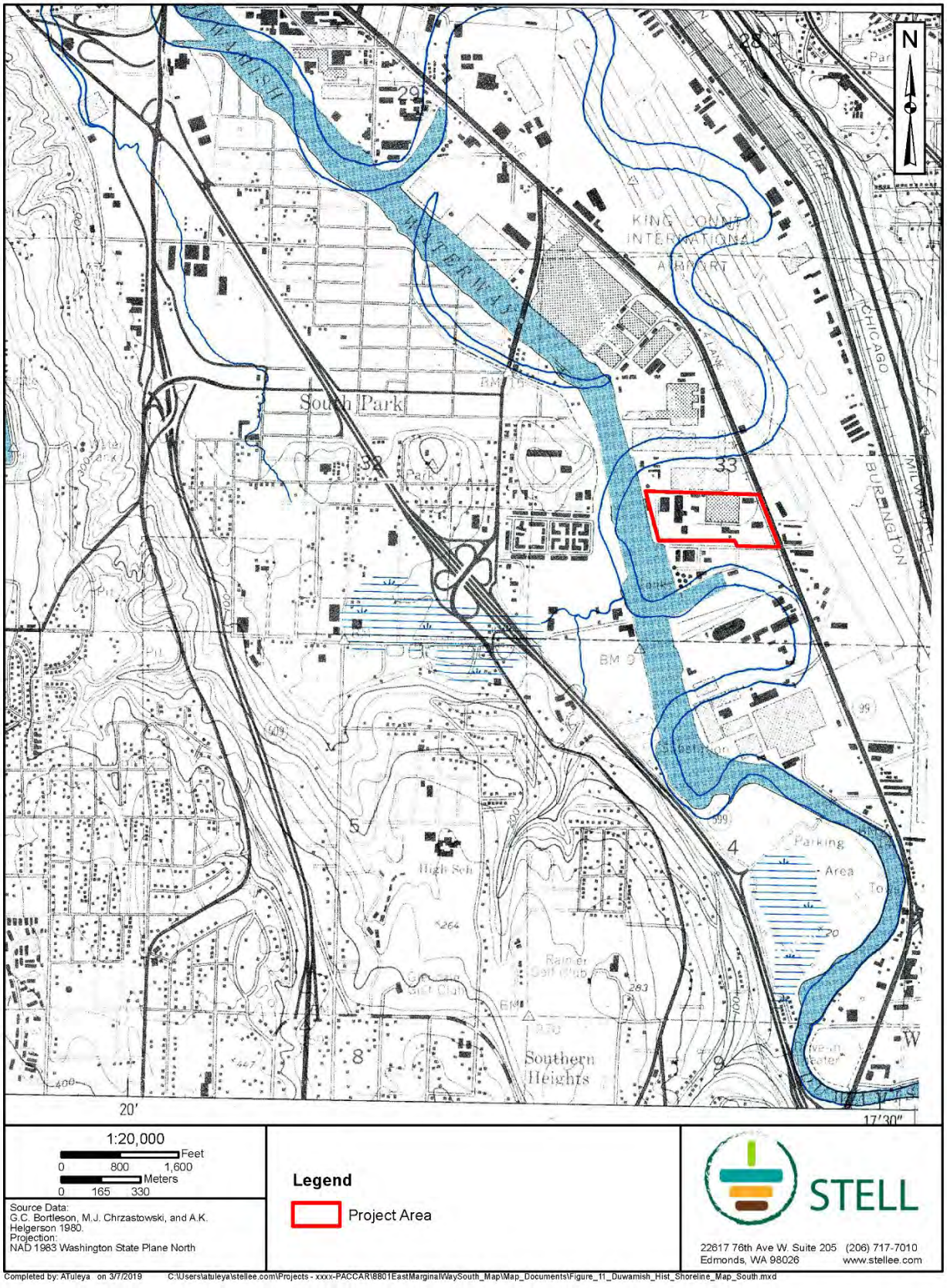

Figure 4. Duwamish River historical channel map.

1.4 REGULATORY ENVIRONMENT

This project is subject to the State Environmental Policy Act (SEPA), which mirrors the National Environmental Policy Act. SEPA requires that all major actions sponsored, funded, permitted, or approved by Washington State and/or local agencies consider the impacts of the planned action on the environment and properties of historical, archaeological, scientific, or cultural importance (Washington Administrative Code 197-11-960). Especially those that are or could be listed on the National Register of Historic Places (NRHP) or other historic registers including the Washington Heritage Register or King County Landmarks. The Department of Archaeology and Historic Preservation (DAHP) is the lead agency for considering the effects of a proposed action on cultural resources and provides formal recommendations to local governments and other Washington State agencies for appropriate treatments or actions.

Historic properties that could be eligible for the NRHP include any artifacts, records, and remains that are related to such a district, site, building, structure, or object (16 United States Code [USC] 470[5]). The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association. They also:

a) Are associated with events that have made a contribution to the broad pattern of our history;
b) Are associated with the lives of people significant in our past;
c) Embody the distinct characteristics of a type, period, or method of construction, represent the work of a master, possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; or
d) Have yielded, or are likely to yield, information important for understanding prehistory or history (36 Code of Federal Regulations [CFR] 60.4).

2 ARCHAEOLOGICAL MONITORING PLAN

To satisfy the requirements of Washington State DAHP, Stell will provide on-site monitoring, daily logs during monitoring activities, and a technical report at the close of monitoring for the 8801 East Marginal Way South Project. Sarah M.H. Steinkraus, MS, RPA will be the lead archaeologist on this project. Ms. Steinkraus meets the Secretary of the Interior's, and thus Washington State's, criteria for a Professional Archaeologist. Ms. Steinkraus has extensive experience in conducting archaeological surveys, assessments, and monitoring in the Puget Sound region.

2.1 ON-SITE MONITORING

The archaeological monitor will watch any ground disturbing activities within the Project area. The monitor will closely look for any organic or shell midden deposits, signs of soil oxidation, lithic or bone artifacts, or animal or human bones. No previously recorded cultural resources are located within the project area. If artifacts or other potential archaeological deposits are observed, the archaeological monitor will direct the contractor to temporarily cease work in the immediate vicinity while the monitor conducts a close inspection.

The archaeological monitor may from time to time request a temporary halt to work activities in order to document archaeological materials or for a closer inspection of the trench sidewall. Such documentation usually takes a few minutes (entailing photographs and written descriptions) but may take longer. The archaeologist will give an estimate of the amount of time needed to document materials to the equipment operator and/or foreman and will update them of any changes to the estimate.

If potentially significant archaeological deposits are discovered during construction while the archaeological monitor is on site, the monitor will direct the contractor to cordon off the area within 30 feet of the discovery and initiate the find reporting and evaluation processes described in the Inadvertent Discovery Plan (Attachment A). If evidence of cultural resources is found in exposed surfaces within the Project Area, it will be further investigated to establish whether it is eligible for listing in the National Register of Historic Places (NRHP).

If human remains are encountered, the King County Sherriff and Medical Examiner will be immediately notified (Attachment A). If the remains are determined not to be associated with a criminal investigation, the DAHP will be immediately contacted, as well as any affected tribes, if applicable (Attachment A).

2.1.1 MONITORING LOG

The archaeological monitor will complete a monitoring log for each monitoring session to document time in the field, the day's progress and findings, and any difficulties encountered, and actions proposed or taken to alleviate them.

2.1.2 MONITORING REPORT

Following the conclusion of archaeological monitoring activities, Stell will prepare a report describing the conduct and findings of this work effort. The report will include a discussion of the project, the methods used in monitoring, and observations about site geology, environmental history, and any cultural resources that were observed. Photographs, sketches, or maps may be included, as needed. The report will be submitted to Shannon & Wilson, Inc. in complete draft form prior to it being sent to the Washington State DAHP and affected tribes for review.

2.1.3 HEALTH AND SAFETY

The archaeological monitor will be working under an approved health and safety plan provided by the Client's Contractor. That individual will at all times be in compliance with the health and safety plan of the contractor. Staff will be briefed on that plan and will at all times comply with it. Field staff will have all necessary training and certification prior to commencing monitoring activities.

3 REFERENCES

Steinkraus, S.M.H., and T.A. McWilliams

2018 *Cultural Resources Review for 8801 East Marginal Way South, Tukwila, Washington*. Prepared for Shannon & Wilson, Inc. Prepared by Stell, Edmonds, Washington.

Stropes, Tracy A., J.R.K Stropes, Brian F. Smith

2019 Cultural Resources Assessment for the 8801 East Marginal Way Project, City of Tukwila, King County, Washington. Prepared for CenterPoint Properties Trust. Prepared by Brian F. Smith & Associates, Poway, California.

APPENDIX A:
INADVERTENT DISCOVERY PLAN

Inadvertent Discovery Plan for the 8801 East Marginal Way South Remediation Project
City of Tukwila, King County, Washington

INTRODUCTION

Shannon & Wilson, Inc. plans to undertake a remediation of contaminated soil and water throughout the project area in Tukwila, Washington. Seven discrete excavations are proposed to remove contaminated soil. Areas with elevated concentrations of contaminants will be excavated and the soil disposed of off-site. The following Inadvertent Discovery Plan (IDP) outlines procedures to follow, in accordance with federal laws, if archaeological materials or human remains are discovered.

State laws are in place which protect archaeological resources. The Archaeological Sites and Resources law (RCW Chapter 27.53) outlines the protection of archaeological resources. Shannon & Wilson, Inc. will act in accordance with State laws in dealing with the treatment of cultural resources and the consultation of concerned parties. Potentially concerned parties include: the Duwamish Tribe, Suquamish Tribe, Snoqualmie Tribe, Tulalip Tribes, Muckleshoot Tribe, Stillaguamish Tribe, and the Department of Archaeology & Historic Preservation (DAHP), and the City of Tukwila.

A cultural resources review from Stell (Steinkraus and McWilliams 2018), discusses the cultural resources nearest to the Project Area and an assessment of the likelihood that cultural materials may be located within the Project Area. It recommends the creation of a Monitoring and Inadvertent Discovery Plan (this document) and that an archaeological monitor observe all soils removed from the Project area.

A study of the built environment was also conducted for the property in 2019 (Stropes et al. 2019) for a separate project (DAHP Project #2019-10-08110). This review documented four historic properties that include Property #720344, 720349, 720352, and 720356 (see Appendix B for HPI forms). The review recommended that none of these properties were eligible for the National Register of Historic Places or the Washington Heritage Register. All four properties will be demolished for Project #2019-10-08110.

The DAHP Project Number for this Project is 2019-03-01609. This number should be attached to all cultural resources documentation and DAHP communications associated with this project.

The monitoring archaeologist will have the ability to halt construction if they observe or identify any cultural materials and will have adequate time to assess, record, and potentially analyze any resources that might be uncovered. DAHP will be notified of all discoveries that occur during the course of the Project. The results of this monitoring effort will be documented at the completion of the project.

This document serves as the plan for dealing with any discoveries of human skeletal remains, artifacts, sites, or any other cultural resources that are potentially eligible for listing in the National

Register of Historic Places (NRHP). This plan is intended to provide guidance to Shannon & Wilson, Inc. so they can:

1. Comply with applicable local and State laws and regulations, particularly Title 27 Revised Codes of Washington Chapter 27.44 Indian Graves and Records, Chapter 27.53 Archaeological Sites and Resources, and Title 68 Chapter 60.050 Protection of historic graves,
2. Describe to regulatory and review agencies the procedures that Shannon & Wilson, Inc. will follow to prepare for and deal with inadvertent discoveries, and
3. Provide direction and guidance to project personnel on the proper procedures to be followed should an inadvertent discovery occur.

RECOGNIZING CULTURAL MATERIALS

A cultural resource discovery could be from the precontact or historic eras. Examples include:

- An accumulation of shell, burned rocks, or other food related materials;
- Bones or small pieces of bone;
- An area of charcoal or very dark stained soil with artifacts;
- Stone tools or waste flakes (i.e. an arrowhead, or stone chips);
- Clusters of tin cans or bottles, logging or agricultural equipment that appears to be older than 50 years;
- Buried railroad tracks, decking, or other industrial materials; and
- Historic structures, portions of historic structures, or associated utilities aged 40 years or older. These do not include structures that have already been documented and determined not eligible for the National Register of Historic Places by DAHP.

When in doubt, assume the material is a cultural resource.

ON-SITE RESPONSIBILITIES

STEP 1: STOP WORK. If any Shannon & Wilson, Inc. employee, contractor, or subcontractor believes that they have uncovered a cultural resource at any point during the project, all work adjacent to the discovery must stop. The discovery location should be secured at all times.

STEP 2: NOTIFY MONITOR. If there is an archaeological monitor for the project, notify that person. If there is a monitoring plan in place, the monitor will follow its provisions. If there is no archaeological monitor in place the Project Manager should be notified at which time they should contact a professional archaeologist to examine the find and determine if it is a cultural resource or not and provide significance recommendations.

STEP 3: NOTIFY AND CONSULT WITH DAHP. Immediately contact DAHP to assist in the significance evaluation of all inadvertent discoveries of cultural resources. Any discovery deemed eligible for listing in the National Register of Historic Places (NRHP) will be assessed and treated per the provisions set forth in this document (Attachment A). If the state agency representatives determine that the discovery is an eligible cultural resource, they and the affected tribe(s), will

consult to determine appropriate treatment to be presented and agreed upon in a Memorandum of Agreement (MOA) or other appropriate documentation.

Mitigation measures will be developed in consultation with City of Tukwila, DAHP, and the affected tribes (where appropriate), which could include avoidance through redesign, conducting data recovery and/or relocating materials or remains. Agreed upon treatment measures performed by Shannon & Wilson, Inc. may include protecting in place or data recovery such as mapping, photography, limited probing, and sample collection, or other measures. This information is covered by the Public Records Act (RCW 42.17.250) and specific components of the records are exempt from disclosure (RCW 42.17.310(1)(k)) to avoid the looting or depredation of such sites.

PROTOCOL FOR TREATMENT OF HUMAN REMAINS

As per RCW 68.50.645, in the event that human remains, or material evidence of burial sites are encountered within the Project Area, whether during planned maintenance and construction activities, authorized archaeological excavations, or as a result of natural processes, the following protocol will be strictly followed:

1. If human skeletal remains are located within the Project Area, then all activity that may cause further disturbance to the remains will cease within at least 30 feet.
2. The area of the find will be secured and protected from further disturbance.
3. The finding of human skeletal remains will be reported to the King County Medical Examiner and local law enforcement in the most expeditious manner possible. The remains will not be touched, moved, or further disturbed.
4. The county medical examiner will assume jurisdiction over the human skeletal remains and make a determination of whether those remains are forensic or non-forensic. If the county medical examiner determines the remains are non-forensic, then they will report that finding to the Department of Archaeology and Historic Preservation (DAHP) who will then take jurisdiction over the remains.
5. The DAHP will notify any appropriate cemeteries and all affected tribes of the find.
6. 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.
7. The DAHP will then handle all consultation with the affected parties as to the future preservation, excavation, and disposition of the remains.

Failure to follow this human remains protocol is a misdemeanor in Washington State.

PROTOCOL FOR RESPONSE TO VANDALISM

Vandalism consists of disturbance to historic properties, including unauthorized digging into archaeological sites or collection of artifacts. The probability for vandalism within the project is low; however, if at any time, employees or contractors encounter unauthorized visitors who appear to be digging or collecting materials from the ground surface, or are in possession of excavation equipment, or if a Shannon & Wilson, Inc. representative encounters evidence of recent unauthorized excavations or abandoned digging equipment (such as screens or shovels), the following protocol will be implemented.

1. If a possible vandal or looter is present, the Shannon & Wilson, Inc. representative will note information about the person, their equipment, and their vehicle and immediately relay the information to the work supervisor, who will confirm the information and notify the King County Sheriff's Office.
2. If the Shannon & Wilson, Inc. representative notes abandoned excavations or digging equipment, they will notify within 24 hours the cultural resources coordinator, who will notify the King County Sheriff's Office and the DAHP. The cultural resources coordinator will visit the site as soon as possible to assess any damage.
3. If a Native American site has been vandalized, the cultural resources coordinator will notify representatives of the affected tribes and the DAHP about this assessment and will invite them to attend the site inspection.
4. The assessment of impact will be described in a formal letter report from Shannon & Wilson, Inc. to the City of Tukwila, affected tribes, and DAHP, if applicable.
5. In consultation with the City of Tukwila, affected tribes, and DAHP, Shannon & Wilson, Inc. will identify what actions, if any, should be taken to mitigate damage to an affected site and/or prevent further damage.
6. Any act of vandalism or looting that involves human remains will also trigger the protocol for the treatment of human remains outlined above.
7. All acts of vandalism or looting will be referred to the King County Sheriff for investigation and possible prosecution.

PROTOCOL FOR EMERGENCY RESPONSE

A number of events can occur within the Project that require a rapid response in order to safeguard facilities, provide for protection of wildlife habitat, protect public and private property, and prevent serious injury or loss of human life. These include, but are not limited to; wild fire, wind and electrical storms, mass wasting events (erosion), flood, earthquake, and dam or other Project facility failure. The emergency response protocol is designed to be implemented after such events have occurred.

1. The supervisor of response will notify the cultural resources coordinator of the location and nature of the emergency activities.
2. The cultural resources coordinator will check relevant databases for historic properties in the vicinity of the emergency.
3. If historic properties are in the area of the emergency or the response (for example, both the area of the wild fire and the location of the construction of a fire line), then the cultural resources coordinator will be responsible for conducting a professional review by a qualified person of the condition of those properties.
4. The cultural resources coordinator will use existing documentation as a comparison to a field visit to determine if historic properties and/or cultural resources have been destroyed, damaged, or endangered by the emergency event or the response. If any of these conditions exist, then the cultural resources coordinator will document them in the field with mapping, photographs, and, in the case of imminent loss, collection of artifacts. The cultural resources coordinator will prepare a report documenting the nature and location of the emergency event, the nature of the response, the impact on the historic properties and/or cultural resources, and any proposals to prevent further damage to the properties and to mitigate for the loss. This report will be submitted to the City of Tukwila, affected tribes, and DAHP within 4 months of the event for review and comment. After a 30-day comment period, the comments of all of the consulting parties will be incorporated into a final report and copies will be sent to all of the participating parties.
5. If no alteration to the condition of the properties has occurred, a letter to that effect noting the date(s) of the field visit(s) will be placed on file in lieu of the formal report.

AGENCY CONTACTS

Shannon & Wilson, Inc.
Primary Contact: Meg Strong
Mobile: 206-695-6787

Cultural Resources Specialist, Stell
Primary Contact: Sarah Steinkraus, Principal Investigator/ Senior Archaeologist
Mobile: 360-620-5840

Washington Dept. of Ecology
Primary Contact: Erin Hobbs
Mobile: 425-649-7231

King County Medical Examiner
Contact Number: 206-731-3232

King County Sheriff
Contact Number: 206-296-3311 or 911

City of Tukwila Police Department
Business Contact Number: 206-433-1808

City of Tukwila
Office: 6200 Southcenter Blvd. Tukwila, WA
Contact Number: 206-433-1800

Department of Archaeology & Historic Preservation Office
Primary Contact: Stephanie Jolivette, Local Government Archaeologist
Office: 360-586-3088

Secondary Contact: Dr. Guy Tasa, State Physical Anthropologist
Office: 360-586-3534

Tribal Contacts:

Duwamish Tribe
Primary Contact: Cecile Hansen, Chairwoman
Office: 206-431-1582

Suquamish Tribe
Primary Contact: Dennis Lewarch, Tribal Historic Preservation Officer
Office: 360-394-8529

Snoqualmie Nation
Primary Contact: Steve Mullen-Moses, Director of Archaeology and Historic Preservation
Office: 425-495-6097

Tulalip Tribes
Primary Contact: Richard Young, Cultural Resources Director
Office: 360-716-2652

Muckleshoot Indian Tribe
Primary Contact: Laura Murphy, Archaeologist
Office: 253-876-327

Stillaguamish Tribe
Primary Contact: Kerry Lyste, Tribal Historic Preservation Officer
Office: 360-652-7362 ext. 226

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APPENDIX B
Monitoring Logs

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Stell

8801 East Marginal Way Weekly Summary

Monitor: James Brown

Date: January 17 - 21st, 2022

Provenience:
Location: 8801 East Marginal Way, Tukwila, WA

Excavation Summary:
Visibility: Good
NRHP eligible: Y **N**

Summary (including daily excavation goal/achievement of crew, soil observations, cultural material observed and context, and additional comments):

1/21
Today there was drilling done in Area 4. Here is a list of depths and the timestamps for each sample.

- Area 4-Side 99: Negative (see Figure 1)
  - 0-5ft 8:37am
  - 5-8ft 8:38am
  - 8-12ft 8:42am
  - 12-15ft 8:47am
- Area 4-Side 120: Negative (Run 2) (see Figure 2)
  - 0-5ft 8:53am
  - 5-8ft 8:56am
- Area 4-Side 121: Negative (Run 2) (see Figure 3)
  - 0-5ft 9:01am
  - 5-8ft 9:05am
  - 8-12 9:09am
  - 12-15 (no photo)
- Area 4-Side 122: Negative (see Figure 4)
  - 0-5ft 9:29am
  - 5-8ft 9:33am
- Area 4-Side 123: Negative (see Figure 5)
  - 0-5ft 9:40am
  - 5-8ft 9:43am
  - 8-12ft 9:46am
  - 12-15ft 9:51am
- Area 4-Side 124: Negative (see Figure 6)
  - 0-5ft 10:01am
  - 5-8ft 10:03am
- Area 4-Side 125: Negative (see Figure 7)
  - 0-5ft 10:11am

    - 5-8ft 10:13am
    - 8-12ft 10:18am
    - 12-15ft 10:23am
- Area 4-Side 126: Negative (see Figure 8)
    - 0-5ft 10:35am
    - 5-8ft 10:39am
- Area 4-Side 127: Negative (see Figure 9)
    - 0-5ft 10:45am
    - 5-8ft 10:48am
    - 8-12ft 10:52am
    - 12-15ft 10:57am
- Area 4-Side 128: Negative (see Figure 10)
    - 0-5ft (no photo)
    - 5-8ft 11:07am
- Area 4-Side 129: Negative (see Figure 11)
    - 0-5ft 11:14am
    - 5-8ft 11:18am
- Area 4-Side 130: Negative (see Figure 12)
    - 0-5ft 12:34pm(A)
    - 5-10ft 12:34pm(B)
    - 10-15ft 12:34pm(C)
- Area 4-Side 131: Negative (see Figure 13)
    - 0-5ft 12:41pm
    - 5-10ft 12:45pm
- Area 4-Side 132: Negative (see Figure 14)
    - 0-5ft 1:00pm
    - 5-10ft 1:04pm
- Area 4-Side 133: Negative (see Figure 15)
    - 0-5ft 1:09pm
    - 5-10ft 1:13pm
- Area 4-Side 134: Negative (see Figure 16)
    - 0-5ft 1:19pm
    - 5-10ft 1:21pm

Stell

8801 East Marginal Way Weekly Summary

Figure 1. Area 4-Side 99: 0-5ft 8:37am

Figure 2. Area 4-Side 120: 5-8ft 8:56am

Figure 3. Area 4-Side 121: 8-12ft 9:09am

Figure 4. Area 4-Side 122: 5-8ft 9:33am

Figure 5. Area 4-Side 123: 8-12ft 9:46am

Figure 6. Area 4-Side 124: 5-8ft 10:03am

Figure 7. Area 4-Side 125: 0-5ft 10:11am

Figure 8. Area 4-Side 126: 5-8ft 10:39am

Figure 9. Area 4-Side 127: 12-15ft 10:57am

Figure 10. Area 4-Side 128: 5-8ft 11:07am

Figure 11. Area 4-Side 129: 5-8ft 11:18am

Figure 12. Area 4-Side 130: 10-15ft 12:34pm(C)

Figure 13. Area 4-Side 131: 5-10ft 12:45pm

Figure 14. Area 4-Side 132: 5-10ft 1:04pm

Figure 15. Area 4-Side 133: 0-5ft 1:09pm

Figure 16. Area 4-Side 134: 5-10ft 1:21pm

Stell

8801 East Marginal Way Weekly Summary

Monitor: James Brown

Date: February 22 - 26th, 2021

Provenience:
Location: 8801 East Marginal Way, Tukwila, WA

Excavation Summary:
Visibility: Good
NRHP eligible: Y **N**

Summary (including daily excavation goal/achievement of crew, soil observations, cultural material observed and context, and additional comments):

02/25
Today drilling occurred in Areas 8,7,4, and 5. Here is a list of depths with context notes for each hole:
Area 8-1: Started at 11:20/30am (Figure 1); Negative

- 0-4ft: Grey-brown sand
- 4-6ft: Brown silty clay
- 6-10ft: Grey clay
- 10-12ft: River silt/clay
- 12-15ft: Fine grey sand

Area 7-1: Started at 12:30pm (Figures 2 and 3); Negative

- 0-8ft: Sand
- 8-10ft: Silty/clay
- 10-12ft: Sand
- 12-15ft: Clay

Area 4: All drilled to 10ft

- Area 4-1 (Figure 4):
    - Sand and gravel with clay in the last foot
    - Piece of brick observed at 8-9ft
- Area 4-3 (Figure 5):
    - 0-6ft: Sand
    - 6-10ft: Clay with interbed sand, chunk of wood observed at 6-7ft
- Area 4-4 (Figure 6):
    - Shifted over 1ft, first attempt hit a rock

    - 0-10ft: Dark brown sand
- Area 4-2 (Figure 7):
    - 0-10ft: Dark brown sand

Area 5: All drilled to 15ft (Figure 8)

- Area 5-10 (Figure 9):
    - 0-10ft: Coarse sand, water at 9-10ft
    - 10-15ft: Sand
- Area 5-9 (Figure 10):
    - 0-4ft: Sand, gravels at 3-4ft
    - 4-6ft: Sandy clay
    - 6-15ft: Sand
- Area 5-6 (Figure 11):
    - 0-2ft: Sand
    - 2-6ft: Gravelly sand with red oxidization and some asphalt chunks
    - 6-15ft: River sand and silt.

Stell

8801 East Marginal Way Weekly Summary

Figure 1. Area 8-1: 0-4ft, 6-10ft and 10-15ft, 11:36am

Figure 2. Area 7 overview 12:20pm

Figure 3. Area 7-1: 0-8ft, 8-10ft and 10-15ft, 12:46pm

Figure 4. Area 4-1: 0-10ft, 1:27pm

Figure 5. Area 4-3: 0-6ft and 6-10ft, 1:52pm

Figure 6. Area 4-4: 0-10ft, 2:31pm

Figure 7. Area 4-2: 0-10ft 2:43pm

Figure 8. Drill rig being set up in area 5 3:35pm

Figure 9. Area 5-10: 0-10ft and 10-15ft, 3:33pm

Figure 10. Area 5-9: 0-4ft, 4-6ft and 6-15ft, 4:15pm

Figure 11. Area 5-6: 0-2ft, 2-6ft and 6-15ft, 4:39pm

Stell

8801 East Marginal Way Weekly Summary

Monitor: James Brown

Date: March 01 - 05th, 2021

Provenience:
Location: 8801 East Marginal Way, Tukwila, WA

Excavation Summary:
Visibility: Good
NRHP eligible: Y **N**

Summary (including daily excavation goal/achievement of crew, soil observations, cultural material observed and context, and additional comments):

03/01
Today there was drilling done in Area 5. Here is a list of depths with context notes for each hole:
Area 5: All drilled to 15ft

- Area 5-4 (Figures 1-2):
  - 0-2ft: Gravelly fill
  - 2-6ft: Sandy silt with iron oxidization
  - 6-13ft: Fine sand
  - 13-15ft: Coarser sand
- Area 5-5 (Figure 3):
  - 0-7ft: Gravelly fill with sand
  - 7-8ft: Silt with iron oxidization
  - 8-10ft: Black silty sand (contaminated)
  - 10-13ft: Fine sand with pebbles
  - 13-15ft: Coarser sand
- Area 5-3 (Figure 4):
  - 0-4ft: Gravelly fill with sand
  - 4-5ft: Concrete
  - 5-8ft: Sand
  - 8-10ft: Concrete
  - 10-15ft: Sand
  - Concrete is noted to be river bank reinforcement
- Area 5-7 (Figures 5 and 6):
  - 0-6ft: Sand
  - 6-10ft: Sandy with brick chunks and concrete
  - 10-13ft: Fine sand with more brick around 10ft
  - 13-15ft: Coarse sand

- Area 5-8 (Figure 7):
    - 0-6ft: Sand
    - 6-7ft: Silty sand with brick and concrete
    - 7-9ft: Black sand (contaminated)
    - 9-15ft: Grey sand
- Area 5-1 (Figure 8):
    - 0-1ft: Concrete/fill
    - 1-6ft: Silty clay loam with concrete lens at 6ft
    - 6-13ft: Fine sand
    - 13-15ft: Coarse sand
- Area 5-2:
    - 0-5ft: Sand
    - 5-7ft: Sandy clay
    - 7-9ft: Sandy silt
    - 9-15ft: Sand

Stell

8801 East Marginal Way Weekly Summary

Figure 1. Drill rig being set up in Area 5-4, 10:47am

Figure 2. Area 5-4: 0-6ft, 6-13ft and 13-15ft, 11:01am

Figure 3. Area 5-5: 0-7ft, 7-10ft and 10-15ft, 11:20am

Figure 4. Area 5-3: 0-5ft, 5-10ft and 10-15ft,11:41am

Figure 5. Drilling being done in Area 5-7, 11:58am

Figure 6. Area 5-7: 0-6ft, 6-13ft and 13-15ft, 12:11pm

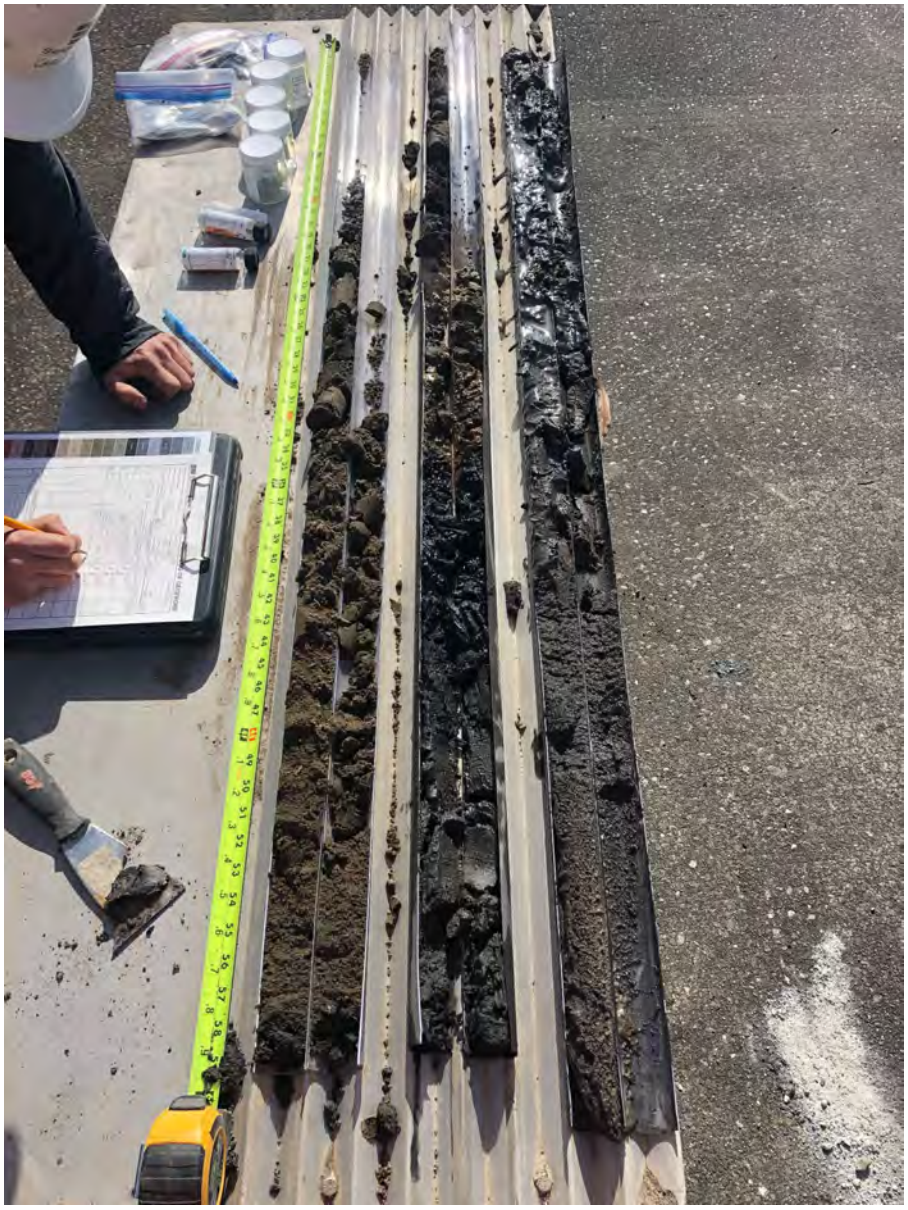

Figure 7. Area 5-8: 0-6ft, 6-9ft and 9-15ft, 12:59pm

Figure 8. Area 5-1: 0-6ft, 6-13ft and 13-15ft, 1:17pm

Stell

8801 East Marginal Way Weekly Summary

Monitor: Mark Steinkraus, James Brown

Date: September 13-17th, 2021

Provenience:
Location: 8801 East Marginal Way, Tukwila, WA

Excavation Summary:
Visibility: Good
NRHP eligible: Y **N**

Summary (including daily excavation goal/achievement of crew, soil observations, cultural material observed and context, and additional comments):

September 15th—Today there is an area being excavated for a retaining pond, as well as 2 more areas of exposed soil to be removed. Excavation began at 4am in Area 4 and revealed modern debris in the top 20-30cm consisting of metal and garbage. Also observed was an asbestos pipe, a modern glass bottle embossed with a "2" on the base and seams present from base to opening, pipe insulation, and a large metal fragment at 8ft deep. A concentration of brick that appears to be a relict water line was present in the northwest corner of the excavation Area 4. See Figures 1-10.

September 16th—Watched excavation of Area 5. This area was approximately 30 x 40 meters and was excavated to a depth of 7ft. There was a considerable amount of brick at the floor of the excavated area, loosely piled. The pile was comprised of 80% red and 20% yellow fire brick. There was no glass or other materials observed. The excavation floor was inundated when the tide came in. See Figures 11-14.

Stell

8801 East Marginal Way Weekly Summary

Figure 1. Area 4 prior to excavation

Figure 2. Area 5 prior to excavation

Figure 3. Area 4

Figure 4. Metal debris and garbage from Area 4

Figure 5. Asbestos pipe from Area 4

Figure 6. Asbestos pipe from Area 4

Figure 7. Modern glass bottle from Area 4

Figure 8. Modern glass bottle from Area 4 base view

Figure 9. Modern glass bottle from Area 4 side view

Figure 10. Pipe insulation from Area 4

Figure 11. Area 5 overview

Figure 12. Area 5 overview

Figure 13. Loosely piled bricks in Area 5

Figure 14. Area 5 inundated with water

Stell

8801 East Marginal Way Weekly Summary

Monitor: Mark Steinkraus, James Brown

Date: September 20-24th, 2021

Provenience:
Location: 8801 East Marginal Way, Tukwila, WA

Excavation Summary:
Visibility: Good
NRHP eligible: Y **N**

Summary (including daily excavation goal/achievement of crew, soil observations, cultural material observed and context, and additional comments):

September 20th—Observed excavation of Area 2, which can be described as a small area along the southwest corner of the building. Excavated to a depth of 2.5ft. Under the pavement there was 1.5ft of burnt woody debris with metal, followed by 1ft of silt with redox, then sand to the floor of the excavated area. An oil drum and pipes were found smashed in the fill along the southeast corner of the dig. Area 1 was excavated to a depth of 4ft and was located along the northern side of the property. A third of this area was excavated, with no cultural materials observed. Area 5 was half excavated to depth and still inundated, this caused the water to be too murky to observe any possible materials. See Figures 1-5.

September 21st—Area 1 has finished excavation to a depth of 4ft. The soil profile is as follows:

1. 6in of reinforced concrete
2. Dark contaminated matrix for 6in-1.5ft
3. 1-1.5ft of reddish brown silty loam sand
4. Silty sands with some mottling of grey sands with yellow brown silt sands

In area 4 the removal of soil further to the east side of the pit began. There were continued problems with the water pump. No new materials observed, with the water still being dark and murky, as well as slightly viscous. See Figures 6 and 7.

September 22nd—Finished Area 5 today. What was excavated today was the most eastern side of the pit. This took half the day. No new materials observed. Work in Area 3 began at 1:00pm. There was some woody debris, dimensioned lumber. This area was very contaminated and most likely will be done tomorrow. See Figure 8.

September 23rd—Excavation in Area 3, observed were some brick fragments, metal cabling, and some wood fragments. See Figures 9-11.

Stell

8801 East Marginal Way Weekly Summary

Figure 1. Area 2 side wall

Figure 2. Area 2 sidewall with redox

Figure 3. Oil drum and pipes in fill in Area 2

Figure 4. Partial excavation of Area 1

Figure 5. Area 5 inundated with water

Figure 6. Area 1 overview

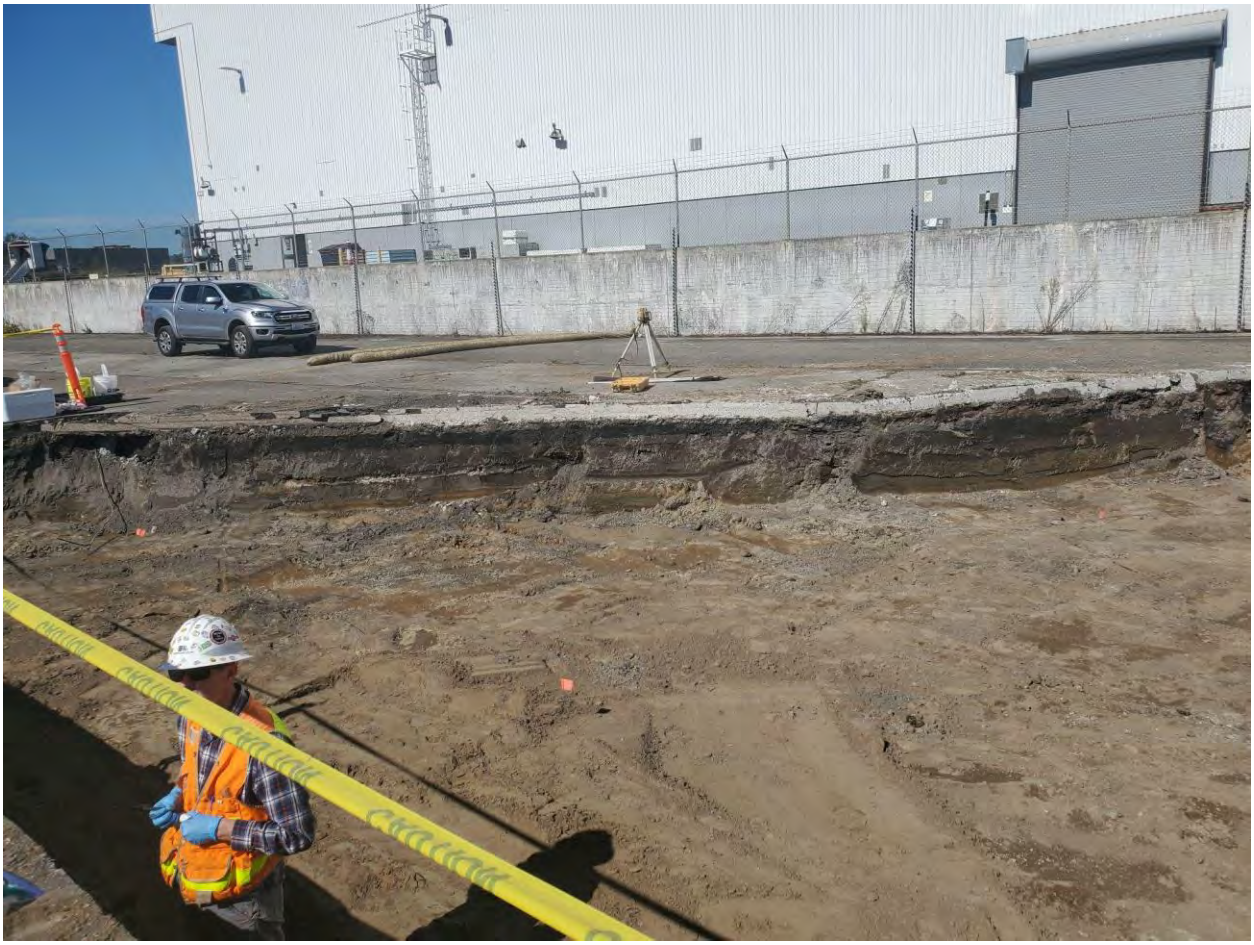

Figure 7. Area 1 side wall

Figure 8. Area 3 overview with woody debris

Figure 9. Area 3 overview

Figure 10. Brick fragments, metal cabling in Area 3

Figure 11. Wood fragments in Area 3

Stell

8801 East Marginal Way Weekly Summary

Monitor: Mark Steinkraus

Date: September 27- October 01st, 2021

Provenience:
Location: 8801 East Marginal Way, Tukwila, WA

Excavation Summary:
Visibility: Good
NRHP eligible: Y **N**

Summary (including daily excavation goal/achievement of crew, soil observations, cultural material observed and context, and additional comments):

September 28th—There was excavation of sediment under the asphalt ramp. Excavation ceased at around a depth of 4ft below grade where large boulders were found with concrete that looked like bank armouring for the river. There is expected to be an early start tomorrow. See Figures 1 and 2.

September 29th—Area 5 was finished this morning. The water table was pumped out and there was brick clearly visible in the side wall. Unfortunately, it was unsafe to obtain measurements due to risk of wall collapse. Area 3 was expanded to the north and east. No new cultural materials observed. See Figures 3 and 4.

Stell

8801 East Marginal Way Weekly Summary

Figure 1. Large boulder from under asphalt ramp

Figure 2. Concrete, possible bank armoring for river, found under asphalt ramp

Figure 3. Brick visible in side wall in Area 5

Figure 4. Area 3 expansion overview

Stell

8801 East Marginal Way Weekly Summary

Monitor: James Brown

Date: October 11-15th, 2021

Provenience:
Location: 8801 East Marginal Way, Tukwila, WA

Excavation Summary:
Visibility: Good
NRHP eligible: Y **N**

Summary (including daily excavation goal/achievement of crew, soil observations, cultural material observed and context, and additional comments):

October 11th—Excavations today went as follows:
Area 1-Northwestern corner
Area 8-Excavated down 10ft, then back filled to 8ft to protect integrity of sheet pile wall.
Area 4- Expanded
Area 2-Expanded, metal fragments, brick, and flat glass observed in the top 30-40cm.
Area 7-Observed to be at a depth of 10ft, concrete vault pulled out.
Area 6-Observed to be 6ft deep, with a water line and wood pile.

October 14th—Excavation in Area 6 began at 11:30am. Excavation of Area 2 began at noon. Observed were 3 pilings, some brick fragments and plastic pipe fragments on the edge of a demolition area, and lots of pea gravel. There was mostly a "clean up" effort today. There were covers on an exposed area measured at 5 X 4 meters. Area 3 began excavation at 2:20pm. See Figures 1-4.

Stell

8801 East Marginal Way Weekly Summary

Figure 1. Area 2 Brick and plastic pipe fragments in sidewall

Figure 2. Area 2 Brick and plastic pipe fragments

Figure 3. Area 6 excavation

Figure 4. Area 3 overview

Stell

8801 East Marginal Way Weekly Summary

Monitor: James Brown

Date: October 18-22th, 2021

Provenience:
Location: 8801 East Marginal Way, Tukwila, WA

Excavation Summary:
Visibility: Good
NRHP eligible: Y **N**

Summary (including daily excavation goal/achievement of crew, soil observations, cultural material observed and context, and additional comments):

October 18th—Excavation of the west side of Area 3 began prior to when the monitor arrived on site (9:50am). Area 4 excavations began at 1pm and involved the extension of the perimeter where some brick fragments were observed. See Figures 1-3.

October 20th—Excavations continued for Area 4 with some sheet metal fragments observed. See Figures 4-7.

Stell

8801 East Marginal Way Weekly Summary

Figure 1. Area 3 overview

Figure 2. Area 3 overview

Figure 3. Area 4 brick fragments in sidewall

Figure 4. Area 4 perimeter

Figure 5. Area 4 perimeter (cont.)

Figure 6. Area 4 perimeter (cont.)

Figure 7. Area 4 sheet metal fragment

Stell

8801 East Marginal Way Weekly Summary

Monitor: James Brown

Date: October 25-29th, 2021

Provenience:
Location: 8801 East Marginal Way, Tukwila, WA

Excavation Summary:
Visibility: Good
NRHP eligible: Y **N**

Summary (including daily excavation goal/achievement of crew, soil observations, cultural material observed and context, and additional comments):

October 29th—Drilling was carried out in Area 4 today, starting at 10am. Listed below are the core sample notes. See Figures 1-31.

Area 4-Side 29: Observed were some wood and concrete chunks present at 10ft. Wood at 6ft. 10:10am, negative. See Figure 2.
Area 4-Side 30: 10ft final depth, 10:12am and 10:17am, negative. See Figures 3-4.
Area 4-Side 31: 10ft final depth, 10:30am and 10:33am, negative. See Figures 5-6.
Area 4-Side 32: 10ft final depth, 10:35am 10:38 10:39am, negative. See Figures 7-8.
Area 4-Side 33: 10ft final depth, 10:43am and 10:46am, negative. Observed were some gold/metallic flakes at around 6ft. See Figures 9-10.
Area 4-Side 34: 10ft final depth, 10:52am and 10:56am, negative. Observed were some metallic flecking at around 6ft. See Figures 11-12.
Area 4-Side 35: 10ft final depth, 11:03am and 11:07am, negative. See Figures 13-14.
Area 4-Side 36: 10ft final depth, 11:10am and 11:13am, negative. See Figures 15-16.
Area 4-Side 37:10ft final depth, 11:16am, 11:19am, and 11:24am, negative. See Figure 17.
Area 4-Side 38: 10ft final depth, 11:28am and 11:32am, negative. See Figures 18 and 19.
Area 4-Side 39: 10ft final depth, 11:34am and 11:40am, negative. Wood observed at the bottom of the second core. See Figures 20 and 21.
Area 4-Side 40: 7ft final depth (due to refusal), 12:33pm and 12:37pm, negative. See Figure 22.
Area 4-Side 41: 7ft final depth, 12:40pm and 12:43pm, negative. See Figures 23 and 24.
Area 4-Side 42: 8ft final depth, 12:46pm: observed brick fragments at 2ft; 12:51pm: observed brick fragments and metal shavings at 4ft-4ft6in. See Figures 25 and 26.
Area 4-Side 43: 7ft final depth, 12:57pm and 1:02pm, negative. Observed mostly wood. See Figure 27.
Area 4-Side 44: Collected by augur, 1:05pm a/b negative. See Figure 28.

Area 4-Side 45: 7ft final depth, 1:04pm and 1:07pm, negative. 5ft6in red rubber observed. See Figure 29.
Area 4-Side 46: 7ft final depth, 1:12pm and 1:16pm, observed wood at the bottom. See Figure 30.
Area 4-Side 47: 7ft final depth, 1:20pm 1:23pm observed wood at bottom. See Figure 31.

Figure 1. Area 4 drill

Figure 2. Area 4-Side 29, 5-10 ft. 10:10am

Figure 3. Area 4-Side 30, 0-5ft. 10:12am

Stell

8801 East Marginal Way Weekly Summary

Figure 4. Area 4-Side 30, 5-10ft. 10:17am

Figure 5. Area 4-Side 31, 0-5ft, 10:30am

Figure 6. Area 4-Side 31, 5-10 ft. 10:33am

Figure 7. Area 4-Side 32, 0-5 ft. 10:35am

Figure 8. Area 4-Side 32, 5-10ft. 10:38am

Figure 9. Area 4-Side 33, 0-5ft. 10:43am

Figure 10. Area 4-Side 33, 5-10ft. 10:46am

Figure 11. Area 4-Side 34, 0-5ft. 10:52am

Figure 12. Area 4-Side 34, 5-10ft. 10:56am

Figure 13. Area 4-Side 35, 0-5ft. 11:03am

Figure 14. Area 4-Side 35, 5-10ft. 11:07am

Figure 15. Area 4-Side 36, 0-5ft. 11:10am

Figure 16. Area 4-Side 36, 5-10ft. 11:13am

Figure 17. Area 4-Side 37, 5-10ft. 11:16am

Figure 18. Area 4-Side 38,0-5ft. 11:28am

Figure 19. Area 4-Side 38. 5-10ft. 11:32am

Figure 20. Area 4-Side 39, 0-5ft. 11:34am

Figure 21. Area 4-Side 39,5-10ft. 11:40am.

Figure 22. Area 4-Side 40, 0-4ft. 12:33pm.

Figure 23. Area 4-Side 41, 0-4ft. 12:40pm

Figure 24. Area 4-Side 41, 4-7ft. 12:43pm

Figure 25. Area 4-Side 42, 0-4ft. 12:46pm

Figure 26. Area 4-Side 42, 4-8ft. 12:51pm

Figure 27. Area 4-Side 43, 0-4ft. 12:57pm

Figure 28. Area 4-Side 44. 1:05pm.

Figure 29. Area 4-Side 45, 0.8-4ft. 1:04pm

Figure 30. Area 4-Side 46, 0.8-4ft. 1:12pm.

Figure 31. Area 4-Side 47. 1:20pm

Stell

8801 East Marginal Way Weekly Summary

Monitor: James Brown

Date: November 01-05th, 2021

Provenience:
Location: 8801 East Marginal Way, Tukwila, WA

Excavation Summary:
Visibility: Good
NRHP eligible: Y **N**

Summary (including daily excavation goal/achievement of crew, soil observations, cultural material observed and context, and additional comments):

November 3rd—Excavations began at Area 2 with a few brick fragments and metal observed. Excessive brick and metal was observed in the west portion of Area 2, between 7:43am and 9:03am. Area 3 excavations began at the east and west ends of the trench today with the western end having some brick and concrete chunks observed and the eastern end having some wood and concrete chunks. These were observed between 9:34am and 11am. Area 5 was excavated, at 11:14am there was some brick and concrete observed. See Figures 1-8.

November 4th—The excavation of Area 5 continued with large concrete chunks being observed in the fill layer. See Figure 9.

Stell

8801 East Marginal Way Weekly Summary

Figure 1. Area 2 Brick fragments and metal

Figure 2. Area 2 overview

Figure 3. Area 3 western end (prior to start)

Figure 4. Area 3 western end with brick and concrete

Figure 5. Area 3 western end overview

Figure 6. Area 3 eastern end overview

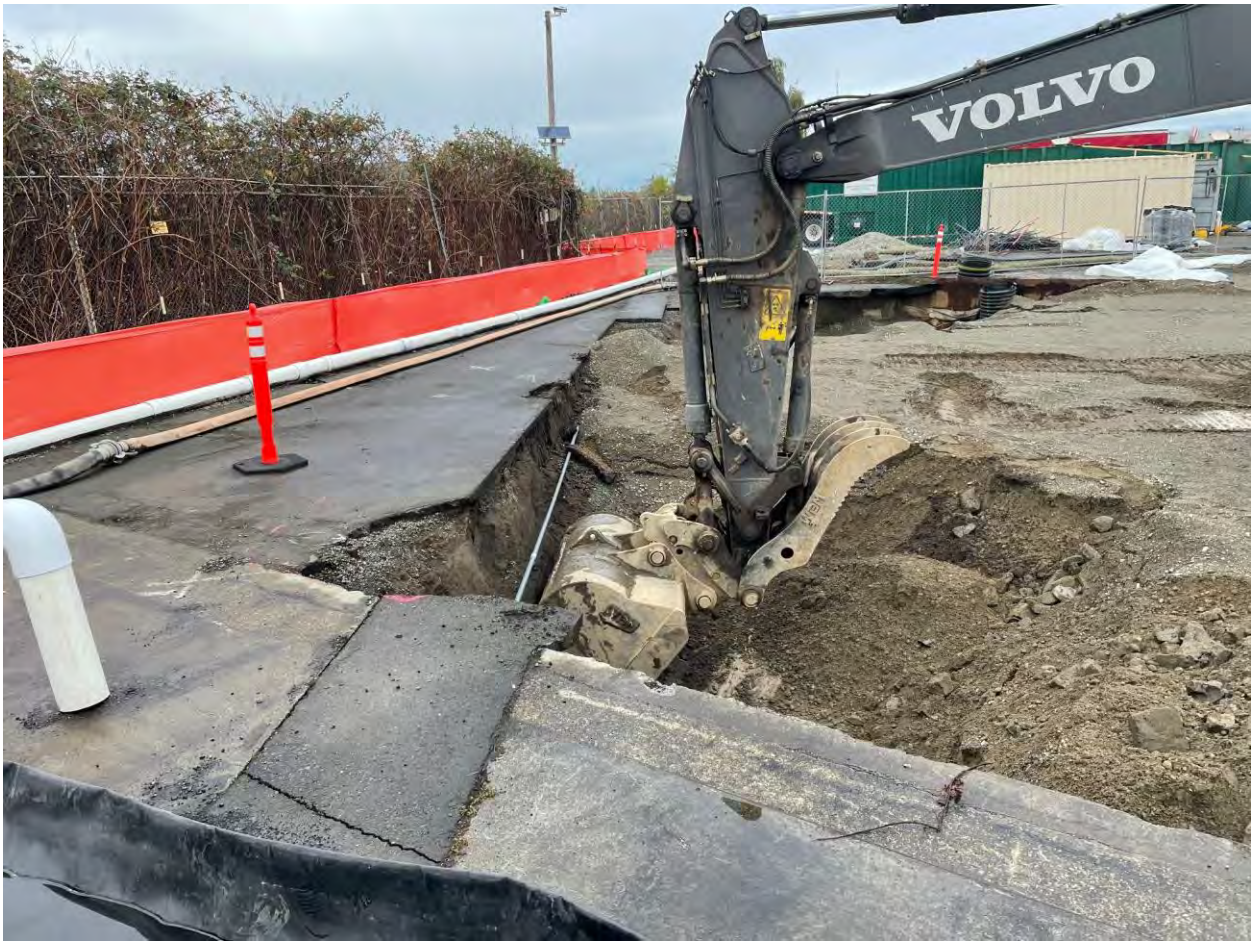

Figure 7. Area 5 Brick and concrete

Figure 8. Area 5 Concrete in fill layer.

Figure 9. Area 5 More concrete in fill layer

Stell

8801 East Marginal Way Weekly Summary

Monitor: Mark Steinkraus, James Brown

Date: December 13- 17th, 2021

Provenience:
Location: 8801 East Marginal Way, Tukwila, WA

Excavation Summary:
Visibility: Good
NRHP eligible: Y **N**

Summary (including daily excavation goal/achievement of crew, soil observations, cultural material observed and context, and additional comments):

December 14th (12325.9 to 12415.9) — Today there was carpet bombing of Area 4 and the greater perimeter in order to test for contamination in roughly 60 1in auger holes. This is planned for the rest of the week as well. Holt is doing the drilling today. Due to heavy rain and standing water on muddy surfaces, auger returns are very poor. There was roughly 3ft of soil for every 8-10ft of drilling. Brick and concrete came out of a 5-10ft deep spot between Area 4 and 5. This might be an extension of the brick foundation found at 8-10ft in Area 4. The soil from augered probes 48-64 were mostly medium to coarse sandy with some silt pockets. See Figures 1-5.

December 15th (12415.9 to 12495.0) — Originally Mark Steinkraus was monitoring, but broke his finger while on site. James Brown covered monitoring of the site in place of Mark.
Today there was drilling done in Area 4. Below is a list of the depths and times at which the cores were recorded and photographed.
Area 4-Side 71: 10ft-13ft, 11:39am, negative. See Figure 7.
Area 4-Side 72: 0-5ft 1:19pm, 5-10ft 1:24pm, negative. See Figure 8.
Area 4-Side 73: 0-5ft 1:29pm, 5-10ft 1:33pm, negative. See Figure 9.
Area 4-Side 74: 0-5ft 1:42pm, 5-10ft 1:45pm, negative. See Figure 10.
Area 4-Side 75: 0-5ft 1:58pm, 5-7ft 1:59pm, 7-10ft 2:02pm, 10-13ft 2:08pm, 13-15ft 2:13pm, negative. See Figure 11.
Area 4-Side 76: 0-5ft 2:27pm, 5-7ft 2:29pm, 7-10ft 2:32pm, 10-13ft 2:39pm, 13-15ft 2:46pm, negative. See Figure 12.
Area 4-Side 77: 0-5ft 2:55pm, 5-10ft 3:00pm, negative. See Figure 13.
Area 4-Side 78: 0-5ft 3:09pm, 5-7ft 3:15pm, 7-10ft 3:17pm, 10-13ft 3:20pm, 13-15ft 3:25pm, negative. See Figure 14.

Stell

8801 East Marginal Way Weekly Summary

December 16th—Today there was drilling done in Area 4 (Figure 15). Here is a list of the depths and times at which the cores were recorded and photographed.
Area 4-Side 80: 0-5ft 10:11am, 5-7ft 10:18am (6in of concrete at the bottom of run), 7-10ft 10:38am, 10-13ft 10:48am A, 13-15ft 10:48am B. See Figure 16.
Area 4-Side 81: 0-5ft 10:57am, 5-10ft 11:01am. See Figure 17.
Area 4-Side 82: 0-5ft 11:22am, 5-7ft 11:25am, 7-10ft 11:29am, 10-13ft 11:35am, 13-15ft 11:40am. See Figure 18.
Area 4-Side 83: 0-3ft 12:58pm, 3-6ft 1:04pm (concrete at around 4-5ft), 6-9ft 1:13pm, 9-12ft 1:21pm, 12-15ft 1:27pm. See Figure 19.
Area 4-Side 84: 0-3ft 1:38pm, 3-6ft 6-9ft 9-12ft Stop in “berm”. See Figure 20.
Area 4-Side 85: 0-5ft 1:58pm, 5-7ft 7-10ft 10-13ft 13-15ft Stop in “berm”. See Figure 21.
Area 4-Side 86: 0-5ft 2:15pm (concrete at 5ft), 5-7ft 2:18pm, 7-10ft 2:27pm, 10-13ft 2:34pm, 13-15ft 2:39pm. See Figure 22.
Area 4-Side 87: 0-5ft 3:04pm, 5-10ft, 3:11pm. See Figure 23.

December 17th—Today there was drilling done in Area 4 (Figure 24). Here is a list of the depths and times at which the cores were recorded and photographed.
Area 4-Side 88: 0-5ft 9:49am, 5-7ft 9:53am, 7-10ft 9:56am, 10-13ft 10:02am, 13-15ft 10:09am, negative. See Figure 25.
Area 4-Side 89: 0-5ft 10:20am, 5-7ft 10:27am, 7-10ft no recovery, 10-13ft 10:36am, 13-15ft 10:42am, negative. See Figure 26.
Area 4-Side 90: 0-5ft 10:50am, 5-10ft 10:53am, negative. See Figure 27.
Area 4-Side 91: 0-5ft 11:00am, 5-10ft 11:04am, 10-15ft 11:09am, negative. See Figure 28.
Area 4-Side 92: 0-5ft 11:20am, 5-10ft 11:23am, 10-15ft 11:27am, negative. See Figure 29.
Area 4-Side 93: 0-5ft 11:33am, 5-10ft 11:36am, negative. See Figure 30.
Area 4-Side 94: 0-5ft 11:42am, 5-10ft 11:45am, 10-15ft 11:50am, negative. See Figure 31.
Area 4-Side 95: 0-5ft 11:58am, 5-10ft 12:01pm, negative. See Figure 32.
Area 4-Side 96: 0-5ft 12:07pm, 5-10ft 12:10pm, negative. See Figure 33.
Area 4-Side 97: 0-5ft 12:26pm, 5-10ft 12:32pm, negative. See Figure 34.

Stell

8801 East Marginal Way Weekly Summary

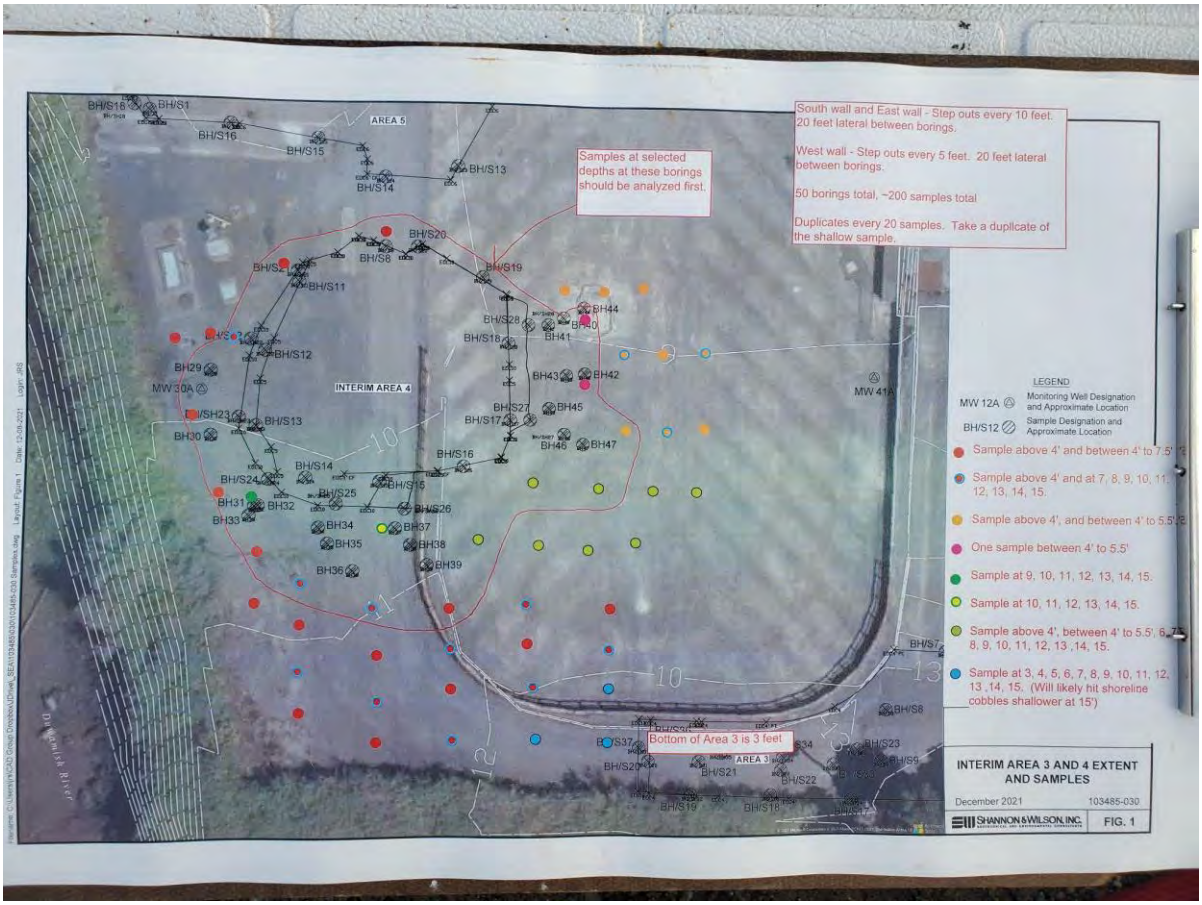

Figure 1. Map of Area 4 holes and perimeter

Figure 2. Holt drilling

Figure 3. Standing water, muddy surfaces throughout most of drilling areas

Figure 4. Brick and concrete found 5-10ft between area 4 and 5

Figure 5. Area 4-Side 50: 0-5ft

Figure 6. Area 4 drilling area overview

Figure 7. Area 4-Side 71: 10-13ft ,11:39am

Figure 8. Area 4-Side 72: 0-5ft, 1:19pm

Figure 19. Area 4-Side 73: 0-5ft, 1:29pm

Figure 10. Area 4-Side 74: 0-5ft, 1:42pm

Figure 11. Area 4-Side 75: 0-5ft, 1:58pm

Figure 12. Area 4-Side 76: 10-13ft, 2:39pm

Figure 13. Area 4-Side 77: 5-10ft, 3:00pm

Figure 14. Area 4-Side 78: 7-10ft, 3:17pm

Figure 15. Area 4 drilling area overview

Figure 16. Area 4-Side 80: 10-13ft, 10:48am A (To the right)

Figure 17. Area 4-Side 81: 5-10ft, 11:01am

Figure 18. Area 4-Side 82: 0-5ft, 11:22am

Figure 19. Area 4-Side 83: 3-6ft, 1:04pm (concrete at around 4-5ft)

Figure 20. Area 4-Side 84: 0-3ft, 1:38pm

Figure 21. Area 4-Side 85: 0-5ft, 1:58pm

Figure 22. Area 4-Side 86: 0-5ft, 2:15pm (concrete at 5ft)

Figure 23. Area 4-Side 87: 5-10ft, 3:11pm

Figure 24. Area 4 drilling area overview

Figure 25. Area 4-Side 88: 0-5ft 9:49am

Figure 26. Area 4-Side 89: 13-15ft, 10:42am

Figure 27. Area 4-Side 90: 5-10ft, 10:53am

Figure 28. Area 4-Side 91: 10-15ft, 11:09am

Figure 29. Area 4-Side 92: 5-10ft, 11:23am

Figure 30. Area 4-Side 93: 0-5ft, 11:33am

Figure 31. Area 4-Side 94: 10-15ft, 11:50am

Figure 32. Area 4-Side 95: 5-10ft, 12:01pm

Figure 33. Area 4-Side 96: 5-10ft, 12:10pm

Figure 34. Area 4-Side 97: 0-5ft, 12:26pm

Stell

8801 East Marginal Way Weekly Summary

Monitor: Mark Steinkraus, MS

Date: August 16-18, 2022

Provenience:
Location: 8801 East Marginal Way, Tukwila, WA

Excavation Summary:
Visibility: Good
NRHP eligible: No

Summary (including daily excavation goal/achievement of crew, soil observations, cultural material observed and context, and additional comments):

August 16, 2022

Mark Steinkraus monitored the removal of PCB contaminated sediment along the southwest corner of the property, see Figure 1. Excavations conducted ranged from 8 to 15 feet deep, and all spoils were stored on site. Excavation activities removed an estimated 1/3 of the planned sediment removal and was focused along the western edge working east. Sediment is being pulled back and stockpiled to be trucked off at a later date. Sediment observed consisted of oily-black coarse silty sands with an estimated 35% cobble to boulder sized gravels and are believed to be built up fill created from re-routing the Duwamish River. No cultural materials were observed this day.

8/17/2022

Mark Steinkraus monitored the continuation of excavation efforts along the SW corner of 8801 E. Marginal Way Tukwila, WA. Sediment removed today was the same oily-black coarse sand with lots of small to large sized gravels. Cultural materials observed included buried concrete chunks and saw cut creosote poles. These materials were observed along the southern edge of excavation and increased in occurrence as the excavation continued eastward. This further supports the argument that the sediments observed thus far,

are composed of historical fill associated with land reclamation. No other cultural materials were observed. Half of the days efforts were focused on the removal of the previous days stockpiled spoils by truck.

8/18/2022

Mark Steinkraus was on site to monitor any ground disturbing activities at the site, see Figure 2. Excavation activities were minimal this day. The pit was extended to the east by 10 meters and parts of the previous excavation were slightly widened and deepened by a couple of feet. No excavation exceeded 15 feet of depth, and groundwater inundates the deepest portions of pit as the tide rolls in and out. Sediments observed continue to be black-oily coarse to medium grained sand with 35% gravels consisting of round to subrounded cobbles and boulders. Cultural materials observed included large chunks of cement and 4-5 cut segments of creosote poles, one Owens-Illinois twist top brown glass bottle with embossing reading: “One Pint” and “WINE” was also observed. Sediments still appear to be fill; the original shoreline may start being exposed as the excavation continues east. No further excavations are planned for this week.

Stell

8801 East Marginal Way Weekly Summary

Figure 1. Map of planned excavation extent for PCB remediation.
. Area circled in red is current extent of excavation as of 8/19/2022.

Stell

8801 East Marginal Way Weekly Summary

Figure 2. Extent of excavation as of 8/18/2022. Photo taken from the SW corner of the property facing NE.

Stell

8801 East Marginal Way Weekly Summary

Monitor: Mark Steinkraus, MS

Date: August 22-26, 2022

Provenience:
Location: 8801 East Marginal Way, Tukwila, WA

Excavation Summary:
Visibility: Good
NRHP eligible: No

Summary (including daily excavation goal/achievement of crew, soil observations, cultural material observed and context, and additional comments):

August 22, 2022

Mark Steinkraus monitored the removal of PCB contaminated sediment along the southwest corner of the property, see Figure 1. Excavations conducted ranged from 8 to 15 feet deep, and all spoils were hauled off by truck. Excavation activities removed an estimated 90% of the planned sediment and was focused along the eastern edge working north. Sediment observed consisted of oily-black coarse silty sands with an estimated 35% cobble to boulder sized gravels and are believed to be built up fill created from re-routing the Duwamish River. There was quite a bit of historic debris that came out of the northeast corner of the pit. Debris identified included cut creosote poles and the crushed frame to a large metal structure. (See figure 2). All materials were covered in contaminated soil and were immediately deposited into the back of trucks after exposure to be hauled to the landfill. It is the archaeologist's interpretation that the debris is related to old sections of the factory that were discarded and used as fill during past retrofitting. No cultural materials were potentially eligible to meet NRHP standards. Within the last hour of the day, ground water brought in by the tide, inundated the entire pit and fieldwork was halted for the remainder of the day (Figure 3).

Stell

8801 East Marginal Way Weekly Summary

8/26/2022

Mark Steinkraus was on site to monitor any ground disturbing activities at the site. Excavation activities were minimal this day and focused along the north edges of the pit and excavation depth was 11 feet. Sediments observed continue to be black-oily coarse to medium grained sand with 35% gravels consisting of round to subrounded cobbles and boulders. Cultural materials observed included some concrete and a considerable amount of brick located directly beneath a stormwater pipe at a depth of 8 feet. No soils observed appeared to be intact sediments and appeared to be entirely of fill. All ground disturbing activities are completed at the site, and the pit was filled with quarry spalls (Figure 4). There is no need for further archaeological monitoring at the site. No cultural materials observed meet NRHP Standards for eligibility.

Stell

8801 East Marginal Way Weekly Summary

Figure 1. Map of planned excavation extent for PCB remediation.
. Area circled in red is current extent of excavation as of 8/19/2022.

Figure 2. Metal debris observed during excavations on 8/22/22, aspect facing North.

Figure 3. Excavation pit after groundwater breach on 8/22/22, aspect is facing Southeast.

Figure 4. Excavations completed and pit being refilled with quarry spalls on 8/26/22, aspect facing Northeast.

Stell
8801 East Marginal Way South Weekly Summary

Monitor: Nichole Padovano

Date: March 23rd, 2023

Provenience:
Location: 8801 East Marginal Way South, Tukwila, WA 98108

Excavation Summary:
Visibility: Good
NHRP Eligible: No

Summary (including daily excavation goals/achievements of crew, soil observations, cultural material observed and context, and additional comments):

Along the southwest end of the APE boundary, air sparging wells (wells) were drilled approximately 30 feet below ground surface (bgs) where the contaminated ground water source lies as part of the Soil Vapor Extraction (SVE) plan to draw out contaminated soils and vapors. 3 borings were pre-plotted approximately 70 feet apart, running north to south, where each boring would serve as the foundation for a single screened well that would be inserted before the next boring was to be drilled. Soil extractions intervals were approximately planned at 10 ft (0-10 ft bgs), 5 ft (10-15 ft bgs) and 10 ft bgs (15-25 ft bgs), with slight variations depending on well depth placement. All extracted soil was bagged right out of the drill and observed by the archaeologist and Geotech, with soil descriptions read from left to right, (increasing depth). Soil was not collected for sampling. More of this task is scheduled to be completed in early May of 2023.

March 23rd, 2023

The ground disturbing activity of the day was 4" core barrel extractions by a sonic drill rig in the SW section of the APE. 3 of the 3 pre-plotted borings were extracted (MW-43A(R), MW-30A(R), and MW-50A). The crew starting at the most northern boring, MW-43A(R), working south to boring MW-30A(R). Nichole Padovano, archaeologist, arrived on site at 08:00; drilling began at 08:31 and ended at 13:30. Archaeologist left site at 14:00. Weather during drilling fluctuated between periods of drizzling rain and overcast with no rain.

Monitor Table

MW-43A(R) Sonic Drilling Soil Description

Depth of Core Extraction	Cultural Materials	Cultural Materials Description	Soil Description	Photo Log
0-10 ft bgs	Negative	Terracotta fragment	0-1 ft: Pale Brown Clay, Very Dry, Cemented, Poorly Sorted, Many Sub-Rounded Fine-Medium Gravels (Surface Layer, actually about 4 ft in depth) 1-2.5 ft: Gray Sandy Clay, Many Fine Very Angular Gravels, Loose, Dry, Very Poorly Sorted; Clear Abrupt Boundary 2.5-4 ft: Brown Silty Sand, Dry, Loose, Poorly Sorted, Some Fine Sub-Rounded Gravels 4-7.5 ft: Dark Gray Sandy Clay, Very Poorly Sorted, Loose, Wet, Many Fine-Medium Sub-Rounded Gravels	Figures 2-3
11-16 ft bgs	Negative	N/A	0-1 ft: Gray Brown Sandy Clay, Very Wet, Very Loose, Very Poorly Sorted 1-2.5 ft: Very Dark Gray/Black Silty Sand, Very Fine, Very Wet, Cemented	Figure 4
16-26 ft bgs	Negative	N/A	0-1 ft: Very Dark Gray/Black Silty Sand, Very Fine, Very Wet, Cemented 1-3.5 ft: Very Dark Gray Silty Sand, Wet, Very Well Sorted, Slightly Cemented 3.5-5 ft: Black Sands, Angular, Fine, Poorly Sorted, Very Loose, Wet, Some Small Angular Gravels	Figure 5

Located 1 meter East of Lower Duwamish Waterway at South end of South lot. Drilling started at 08:31 and ended at 08:55. Well was inserted from 15 ft bgs to 25 ft bgs.

MW-30A(R) Sonic Drilling Soil Description

Depth of Core Extraction	Cultural Materials	Cultural Materials Description	Soil Description	Photo Log
1-11 ft bgs	Negative	N/A	0-3 ft: Light Gray Clay, Very Wet, Cemented, Many Fine-Medium Sub-Rounded Gravels; Clear Abrupt Boundary 3-3.5 ft: Dry Angular Gravely Clay, Very Loose 3.5-5 ft: Brown Silty Sand, Loose, Dry, Many Fine-Medium Gravels	Figure 9

Depth of Core Extraction	Cultural Materials	Cultural Materials Description	Soil Description	Photo Log
11-17 ft bgs	Negative	N/A	Gray Silty Sand, Very Wet, Slightly Cemented, Poorly Sorted, Some Fine Sub-Rounded Gravels	Figure 10
17-27 ft bgs	Negative	3 in metal wire, ~ 17 ft bgs	0-8 ft: Very Dark Gray/Black Silty Clay, Very Fine, Wet, Cemented, Well Sorted, Some Small Angular Gravels 8-10 ft: Black Angular Sand, Loose, Dry, Poorly Sorted	Figures 12-16

Located ~70 ft S from MW-43A(R), about 2 meters E from Lower Duwamish Waterway; post moved 3 ft E to accommodate Sonic Drill. Drilling started at 10:20 and ended at 10:54. Wells inserted from 16 ft bgs to 26 ft bgs.

MW-50A Sonic Drilling Soil Description Log

Depth of Core Extraction	Cultural Materials	Cultural Materials Description	Soil Description	Photo Log
1-11 ft bgs	Negative	N/A	0-3 ft: Light Gray Gravely Clay, Very Poorly Sorted, Wet, Cemented, Many Angular/Subangular Gravels 3-5 ft: Gray Brown Sandy Loam, Very Gravelly, Poorly Sorted, Cemented, Fine-Medium Sub-Rounded/Sub-Angular Gravels, Some Small Cobbles 5-6 ft: Reddish Brown Sandy Loam, Very Gravelly	Figure 18
11-27 ft bgs	Negative	N/A	0-2 ft: Reddish Brown Sandy Loam, Very Gravelly, Very Wet 2-8 ft: Dark Gray Silty Clay, Wet, Very Cemented, Very Fine, Very Well Sorted, Some Small Cobbles; Some shredded wooden bits present 6-9 ft: Black Angular Sands, Loose, Dry, Poorly Sorted	Figures 19-20

Located ~70 ft S from MW-30A(R), about 5 meters E from Lower Duwamish Waterway, in SW corner of property. Drilling started at 12:57 and ended at 13:30. Wells inserted from 16 ft bgs to 26 ft bgs.

Photo Log

Figure 1: MW-43A(R) Overview at Start of Drilling, Facing W

Figure 2: MW-43A(R) Soil Extraction 0-10 ft bgs

Figure 3: Terracotta Fragment found ~10 ft bgs MW-43A(R)

Figure 4: MW-43A(R) Soil Extraction 11-16 ft bgs

Figure 5: MW-43A(R) Soil Extraction 16-26 ft bgs

Figure 6: MW-43A(R) Overview at End of Drilling, Facing W

Figure 7: MW-43A(R) Overview of all Extracted Soil 0-26 ft bgs

Figure 8: MW-30A(R) Overview at Start of Drilling, Facing W

Figure 9: MW-30A(R) Soil Extraction 1-11 ft bgs

Figure 10: MW-30A(R) Soil Extraction 11-17 ft bgs

Figure 11: MW-30A(R) Overview at End of Drilling, Facing W

Figure 12: MW-30A(R) Soil Extraction 17-27 ft bgs Overview

Figure 13: MW-30A(R) Soil Extraction 17-27 ft bgs pt 1

Figure 14: MW-30A(R) Soil Extraction 17-27 ft bgs pt 2

Figure 15: MW-30A(R) Soil Extraction 17-27 ft bgs pt 2

Figure 16: 6 in wire found around 17-20 ft bgs in MW-30A(R)

Figure 17: MW-50A Overview at Start of Drilling, Facing S

Figure 18: MW-50A Soil Extraction 1-11 ft bgs

Figure 19: MW-50A Soil Extraction 11-27 ft bgs pt 1

Figure 20: MW-50A Soil Extraction 11-27 ft bgs pt 2

Figure 21: MW-50A Overview at End of Drilling, Facing S

Figure 22: Completed Screen Well

Monitor: Nichole Padovano

Date: May 2-8, 2023

Provenience:
Location: 8801 East Marginal Way South, Tukwila, WA 98108

Excavation Summary
Visibility: Good
NHRP Eligible: No

Summary (including daily excavation goals/achievements of crew, soil observations, cultural material observed and context, and additional comments):

Around the North and Western borders of the Warehouse building in the center of the APE boundary, 14 wells were replaced approximately 20 feet below ground surface (bgs) as part of the Monitoring Well Network Modification Task (the Task). The tentative locations of all 14 wells were predetermined before the monitoring project commenced. Soil extractions were conducted at 5 ft intervals, soil depending. Extracted soil was not collected; after observations, extracted soils were properly **discarded** on-site. Drilling occurred May 2-5, 2023, and May 8, 2023, for a total of 5 days. No significant cultural resources were identified at this time.

May 2nd, 2023

The ground disturbing activity of the day was 4" core barrel extractions by a sonic drill rig in the NW section of the APE. 2 of the 14 pre-plotted wells were replaced: MW-44A(R) and MW-7A(R). Weather conditions were overcast, but clear with good visibility. Nichole Padovano arrived on site at 09:00 and left at 15: 30. A brief safety meeting lead by Ryan Peterson, PE, PMP**,** was conducted prior to drilling. Drilling began at 09:26 and ended at 13:20. No cultural resources were identified.

May 3rd, 2023

The ground disturbing activity of the day was 4" core barrel extractions by a sonic drill rig in the NW section of the APE. 4 of the 14 pre-plotted wells were replaced: MW-25A(R), MW-32A(R), MW-28A(R), and MW-47A(R). Weather conditions were sunny and clear with good visibility. Nichole Padovano arrived on site at 08:00 and left site at 16:20. Drilling began at 08:05 and ended at 16:15. No cultural resources were identified.

May 4th, 2023

The ground disturbing activity of the day was 4" core barrel extractions by a sonic drill rig in the SW and N sections of the APE. 3 of the 14 pre-plotted wells were replaced: MW-41A(R), MW-48A(R), and MW-18A(R). Drilling for pre-plotted well, MW-12A(R), was started not completed until May 8th, 2023, due to drilling into an older, unspecified weather pipe at 2.5-3 ft bgs. The pipe was concluded to not be historic based on the PVC material. Weather conditions were overcast

with good visibility. Nichole Padovano arrived on site at 0800 and left site at 16:30. Drilling began at 09:20 and ended at 16:27. No significant cultural resources were identified.

May 5th, 2023

The ground disturbing activity of the day was 4" core barrel extractions by a sonic drill rig in the N sections of the APE. 3 of the 14 pre-plotted wells were replaced: MW-14A(R), MW-34A(R), and MW-16A(R). Weather conditions were overcast and rainy with good visibility. Nichole Padovano arrived on site at 0800 and left site at 13:00. Drilling began at 09:00 and ended at 14:087. MW-16A(R) revealed 2 old wires (14 cm and 20 cm), multiple red brick pieces (1-4 cm), 1 clear glass shard (3.5 cm), and 1 red rubber piece (9 cm). **These materials were undiagnostic and concluded to be insignificant for historic purposes.**

May 8th, 2023

The ground disturbing activity of the day was 4" core barrel extractions by a sonic drill rig in the NE and SW sections of the APE. The final 2 of the 14 pre-plotted wells were replaced: MW-12A(R) (continued) and MW-1A(R). The pavement surrounding 2 completed wells, MW-16A(R) and MW-18A(R), were redrilled to level out the surface. Weather conditions were sunny and clear with good visibility. Nichole Padovano arrived on site at 0800 and left site at 13:00. Drilling began at 08:00 and ended at 12:56. No cultural resources were identified.

Monitoring Table

MW-44A(R) Sonic Drilling Description Log

Depth (bgs)	Cultural Materials	Soil Description	Photo Log
0-5 ft	Negative	0-5 in: Organic Material; Very Dark Brown Mulch; Clear Abrupt Boundary 15-26 in: Gray Clay, Cemented; 30% Fine Angular Gravels 26-36 in: Gray Silty Gravel Fill; 90% Fine/Medium Angular Gravels	Figure 2
5-10 ft	Negative	0-31 in: Reddish Brown, Very Fine Silty Sand, Loose; Becomes More Cemented and Wet at 14 in; Clear Abrupt 31-42 in: Reddish Brown, Very Fine Angular/Gritty Silty Sand, Very Cemented; Clear Abrupt 42-52 in: Dark Gray, Very Fine Angular/Gritty Sand, Very Cemented, Very Wet; Clear Abrupt 52-55 in: Very Dark Gray Silty Sand, Very Loose, Wet, Poorly Sorted *31-55 in: Smells like Gasoline	Figure 3
10-15 ft	Negative	0-10 in: Very Dark Gray Silty Sand, Very Loose, Wet, Poorly Sorted 10-18 in: Very Dark Gray Silty Sand, Cemented, Very Wet; Wooden Debris Present	Figure 4
15-20 ft	Negative	0-12 in: Very Dark Gray Silty Sand, Cemented, Very Wet; < 5% Fine Rounded Gravels 12-24 in: Very Dark Gray Silty Sand, Very Loose, Wet, Poorly Sorted 24-30 in: Very Dark Gray Silty Sand, Cemented, Very Wet 30-60 in: Black, Coarse, Angular Sand, Very Loose, Very Poorly Sorted *Wooden Debris Present Throughout from 12-60 in	Figure 5

Located in NW portion of lot, ~ 10 meters E of Lower Duwamish Waterway. Drilling started at 09:26 and ended at 10:11, May 2nd, 2023.

MW-7A(R) Sonic Drilling Description Log

Depth (bgs)	Cultural Materials	Soil Description	Photo Log
0-5 ft	Negative	0-12 in: Pale Silty Sand, Very Dry, Very Loose; 30% Fine/Medium Sub-Rounded/Sub-Angular Gravels 12-18 in: Dark Brown Fine Silty Sand; 30% Fine Sub-Angular Gravels 18-26 in: Very Dark Brown Fine Silty Sand, Very Loose, Very Dry, Poorly Sorted; Gravel Fill, Sub-Rounded Pebbles	Figure 8

Depth (bgs)	Cultural Materials	Soil Description	Photo Log
5-10 ft	Negative	*Giant Rock Compressed All Soils / Soil Could Not be Extracted at this Depth	
10-15 ft	Negative	0-10 in: Black, Coarse, Angular Sand, Very Loose, Very Poorly Sorted 10-14 in: Pale Brown Silty Sand, Very Fine, Very Well Sorted, Very Cemented 14-28 in: Black, Coarse, Angular Sand, Very Loose, Very Poorly Sorted	Figure 9
15-20 ft	Negative	0-28 in: Black Angular Silty Sand, Very Loose, Very Poorly Sorted 28-48 in: Black, Coarse, Angular Sand, Very Loose, Very Poorly Sorted; Wooden Debris Throughout	Figure 10

Located in NW lot, ~ 10 meters SE of MW-44A(R). Drilling started at 12:25 and ended at 13:20, May 2nd, 2023.

MW-25A(R) Sonic Drilling Description Log

Depth (bgs)	Cultural Materials	Soil Description	Photo Log
0-5 ft	Negative	0-6 in: Light Brown Silty Sand, Very Loose, Very Poorly Sorted; 40% Fine Sub-Rounded/Sub-Angular Gravels 6-18 in: Light Brown Silty Sand, Very Loose, Poorly Sorted; 15% Fine Sub-Rounded/Sub-Angular Gravels 18-36 in: Very Light Brown Silty Loam, Slightly Cemented, Well Sorted, Wet 36-56 in: Light Brown Silty Sand, Fine, Well Sorted, Loose	Figure 13
5-10 ft	Negative	0-48 in: Gray Brown Silty Sand, Very Well Sorted, Cemented; Becomes More Wet and Silty with Depth 48-60 in: Dark Gray Brown Silty Loam, Very Fine, Well Sorted, Wet, Cemented	Figure 14
10-15 ft	Negative	1-9 in: Brown Gray Silty Loam, Very Poorly Sorted, Wet, Slightly Cemented; 30% Fine Sub-Rounded/Sub-Angular Gravels 9-24 in: Very Dark Gray, Very Fine Silty Loam, Wet, Cemented 24-43 in: Very Dark Gray Very Fine Silty Sand	Figure 15
15-20 ft	Negative	1-4 in: Very Dark Gray Very Fine Silty Sand 4-54 in: Black, Coarse, Angular Sand, Very Loose, Very Poorly Sorted, Wet; Some Wooden Debris	Figure 16
20-25 ft	Negative	0-28 in: Black, Coarse, Angular Sand, Very Loose, Very Poorly Sorted	Figure 17

Located in NW Section, ~ 2 meters S of Northern border of APE, ~ 30 meters E of Lower Duwamish Waterway. Drilling started at 08:05 and ended at 09:06, May 3rd, 2023.

MW-32A(R) Sonic Drilling Description Log

Depth (bgs)	Cultural Materials	Soil Description	Photo Log
0-5 ft	Negative	0-12 in: Very Dark Brown Silty Sand, Poorly Sorted, Dry; 25% Sub-Rounded/Sub-Angular Gravels 12-26 in: Reddish Brown, Very Fine Silty Clay, Cemented, Well Sorted, 26-44 in: Reddish Brown, Very Fine Sandy Clay, Looser but Still Nodules, Poorly Sorted 44-50 in: Dark Brown, Fine Silty Sand, Loose, Dry	Figure 20
5-10 ft	Negative	1-15 in: Reddish Brown, Fine Sandy Silt, Well Sorted, Gritty, Cemented, Wet 15-24 in: Gray, Very Fine Sandy Silt, More Cemented, Very Well Sorted 24-48 in: Gray Brown Sandy Loam, Cemented, Wet 48-60 in: Gray Silty Clay, Cemented, Wet; Wooden Debris	Figure 21
10-15 ft	Negative	1-18 in: Gray Brown, Very Fine Silty Loam, Very Wet, Cemented, Very Well Sorted 18-30 in: Dark Gray Silty Sand, Wet, Cemented; 20% Fine Rounded Pebbles 30-56 in: Black Angular Silty Sand, Very Loose, Poorly Sorted	Figure 22
15-20 ft	Negative	0-42 in: Black Angular Sand, Very Loose, Poorly Sorted; Wooden Debris	Figure 23
20-25 ft	Negative	0-32 in: Black Angular Silty Sand, Very Loose, Poorly Sorted 32-36 in: Black, Coarse, Angular Sand, Very Loose, Very Poorly Sorted	Figure 24

Located Along Northern Boundary, ~500 ft E from MW-25A(R). Drilling started at 10:25 and ended at 11:40, May 3rd, 2023.

MW-28A(R) Sonic Drilling Description Log

Depth (bgs)	Cultural Materials	Soil Description	Photo Log
0-5 ft	Negative	0-18 in: Brown, Silty Sand, Very Poorly Sorted, Very Loose; 30-40% Fine/Medium Sub-Rounded/Sub-Angular Gravels 18-48 in: Very Dark Gray, Very Fine, Silty Loam, Very Poorly Sorted, Slightly Wet, Cemented; 30-40% Fine/Medium Sub-Rounded/Sub-Angular Gravels	Figure 27
5-10 ft	Negative	0-12 in: Black, Very Fine, Silty Loam, Dry, Loose; 20% Fine Gravels 12-36 in: Brown Sand, Loose, Wet, Poorly Sorted 36-50 in: Gray Very Fine, Silty Clay, Very Cemented Wet, Well Sorted	Figure 28

Depth (bgs)	Cultural Materials	Soil Description	Photo Log
		50-55 in: Gray, Very Fine Sandy Clay, Cemented Wet, Poorly Sorted	
Fig10-15 ft	Negative	0-18 in: Dark Gray Silty Sand, Wet, Cemented but Looser 18-30 in: Gray Silty Loam, Gritty, Cemented, Well Sorted 30-42 in: Brown Gray, Silty Sand, Loose, Wet	Figure 29
15-20 ft	Negative	0-5 in: Brown Gray, Silty Sand, Loose, Wet 5-50 in: Very Dark Gray/Black Silty Sand, Loose, Poorly Sorted	Figure 30
20-25 ft	Negative	0-52 in: Very Dark Gray/Black Silty Sand, Loose, Poorly Sorted	Figure 31

Located on NW boundary of Warehouse, ~1 ft W from sidewalk bordering Warehouse. Drilling began at 13:22 and ended at 14:26, May 3rd, 2023.

MW-47A(R) Sonic Drilling Description Log

Depth (bgs)	Cultural Materials	Soil Description	Photo Log
0-5 ft	Negative	0-18 in: Brown Silty Sand, Loose, Dry, Poorly Sorted; 30% Fine/Medium Sub-Rounded/Sub-Angular Gravels 18-48 in: Dark Brown Silty Sand, Cemented, Dry; 20-30% Fine/Medium Sub-Rounded/Sub-Angular Gravels	Figure 34
5-10 ft	Negative	0-36 in: Dark Brown Silty Sand, Slightly Cemented, Dry; 30-40% Fine/Medium Sub-Rounded/Sub-Angular Gravels 36-60 in: Gray Brown, Very Fine Silty Sand, Very Cemented, Well Sorted, Wet	Figure 35
10-15 ft	Negative	0-36in: Gray Brown, Fine Silty Sand, Cemented, Wet; Becomes Darker around 24 in 36-50 in: Black Silty Sand, Fine, Loose, Very Poorly Sorted	Figure 36
15-20 ft	Negative	0-42 in: Black Silty Sand, Fine, Loose, Very Poorly Sorted	Figure 37

Located ~ 20 meters W of MW-28A(R). Drilling Started at 15:35 and ended at 16:15, May 3rd, 2023.

MW-12A(R) Sonic Drilling Description Log

Depth (bgs)	Cultural Materials	Soil Description	Photo Log
0-5 ft	PVC Pipe (4.75 in X 4.75 in) 2-3 ft bgs	0-12 in: Gray/Brown/Gray Brown/ Gravel Fill, Dry, Loose 12-30 in: Brown/Black/Red Brown Silty Clay, Cemented, Wet, Well Sorted; < 5% Sub-Rounded Pebbles 30-36 in: Brown Silty, Fine Sand, Slightly Cemented 36-60 in: Brown/Black/Red Brown Silty Clay, Cemented, Wet, Well Sorted; < 5% Sub-Rounded Pebbles	Figure 41

Depth (bgs)	Cultural Materials	Soil Description	Photo Log
5-10 ft	Negative	0-8 in: Light Reddish Brown, Fine Silty Sand, Cemented, Wet, Well Sorted 8-18 in: Brown Silty Sand, Loose 18-26 in: Light Reddish Brown, Silty Sand, Very Cemented, Wet, Well Sorted 26-30 in: Dark Brown Silty Sand, Loose 30-60 in: Light Reddish Brown, Silty Sand, Very Cemented, Wet, Well Sorted	Figure 45
10-12 ft	Negative	0-26 in: Dark Brown, Fine Silty Sand, Wet, Well Sorted, cemented; Becomes Finer/Wetter/More Cemented at 20 in	Figure 46
12-18 ft	Negative	0-12 in: Gray Dark Brown Silty Sand, Cemented, Wet, Fine/Gritty 12-60 in: Dark Brown Sand, Loose, Coarse, Poorly Sorted, Wet	Figure 47
18-22 ft	Negative	0-43 in: Black Sand, Loose, Less Coarse, Poorly Sorted, Wet	Figure 48

Located ~ 5 meters S of Warehouse, at the corner of the West and South walls; Drilling for 0-10 ft bgs started at 09:20 and ended at 09:30, May 4th, 2023. Drilling for 10-22 ft bgs started at 08:00 and ended at 08:24, May 8th, 2023.

MW-41A(R) Sonic Drilling Description Log

Depth (bgs)	Cultural Materials	Soil Description	Photo Log
0-5 ft	Negative	0-5 in: Gray Gravel Fill, Loose, Wet; 80 Fine Angular Gravels 5-30 in: Brown/Gray Silty Sand, Cemented, 60% Fine/Medium, Sub-Rounded/Sub-Angular Gravels 30-40 in: Very Dark Gray, Very Fine Silty Sand, Loose; < 5% Fine Sub-Rounded/Sub-Angular Gravels 40-60 in: Black, Very Fine Silty Clay, Very Well Sorted, Wet, Cemented	Figure 51
5-10 ft	Negative	0-36 in: Very Dark Gray/Gray, Very Fine Silty Clay, Very Well Sorted, Wet, Cemented 36-40 in: Brown, Very Fine Sand, Well Sorted, Loose, Wet 40-55 in: Yellowish Brown Very Fine Silty Clay, Very Well Sorted, Very Wet, Very Cemented 55-60 in: Darker Yellowish Brown, Sandy Loam, Gritty, Cemented, Wet	Figure 52
10-15 ft	Negative	0-12 in: Yellow/Brown/Gray Silty Sand, Very Wet, Slightly Cemented 12-48 in: Brown, Very Fine Sand, Well Sorted, Loose, Wet 48-60 in: Black, Angular Sand, Very Loose, Coarse, Very Poorly Sorted	Figure 53

Depth (bgs)	Cultural Materials	Soil Description	Photo Log
15-20 ft	Negative	0-60 in: Black, Angular Sand, Very Loose, Coarse, Very Poorly Sorted	Figure 54
20-21 ft	Negative	0-12 in: Black, Angular Sand, Very Loose, Coarse, Very Poorly Sorted	Figure 55

Located ~ 10 meters S of MW-12A(R), 2 ft North of berm. Drilling started at 10:41 and ended at 11:30, May 4th, 2023.

MW-48A(R) Sonic Drilling Description Log

Depth (bgs)	Cultural Materials	Soil Description	Photo Log
0-5 ft	Negative	0-24 in: Grayish Brown Silty Sand, Dry, Loose; 20% Fine Sub-Rounded Gravels 24-36 in: Grayish Brown Silty Sand, Cemented, Dry, Poorly Sorted; 30% Fine Sub-Rounded Gravels 36-50 in: Gravel Fill; Gray Silty Sand, Loose, Coarse; 75% Fine/Medium, Sub-Angular Gravels	Figure 57
5-10 ft	Negative	0-9 in: Dark Brown Silty Sand, Coarse, Wet; 70% Fine/Medium Sub-Angular Gravels; Becomes Yellowish Brown and Dry at 6 in 9-24 in: Reddish Brown, Very Fine Sandy Silt, Slightly Cemented, Dry 24-46 in: Gray Brown, Silty Sand, Loose, Poorly Sorted, Dry, Cemented 46-56 in: Reddish Brown, Very Fine Sandy Silt, Cemented, Very Wet 56-60 in: Very Dark Brown Sand, Loose,	Figure 58
10-15 ft	Negative	0-36 in: Dark Brown Silty Sand, Dry, Loose; Becomes More Cemented with Depth and Cemented at 24 in; 70% Medium Sub-Rounded Gravels 36-48 in: Dark Brown, Very Fine Sand, Loose, Wet 48-56 in: Reddish Brown/Gray, Very Fine Sandy Loam, Wet, Cemented, Well Sorted	Figure 59
15-20 ft	Negative	0-44 in: Gray, Very Fine Silty Loam, Very Well Sorted, Cemented, Wet 44-55n: Yellow/Gray/Dark Gray Silty Sand, Dry, Cemented 55-60 in: Dark Brown Sand, Coarse, Loose, Very Poorly Sorted	Figure 60

Located ~ 6 meters West of Warehouse. Drilling started at 15:15 and ended at 13:54, May 4th, 2023.

MW-18A(R) Sonic Drilling Description Log

Depth (bgs)	Cultural Materials	Soil Description	Photo Log
0-5 ft	Negative	0-30 in: Gray Brown, Fine, Silty Sand, Cemented; 80% Angular/Sub-Angular Gravels 30-48 in: Dark Brown, Very Fine Sandy Silty, Loose 48-60 in: Gray/Brown, Very Fine Silty Sand, Gritty, Slightly Cemented, Wet	Figure 62
5-10 ft	Negative	0-24 in: Brown/Gray/Orange, Fine Silty Sand, Very Wet, Slightly Cemented 24-36 in: Gray/Orangish Brown, Very Fine Silty Sand, Very Cemented, Wet 36-44 in: Very Dark Brown, Very Fine Sand, Wet, Slightly Cemented 44-54 in: Gray/Orangish Brown, Very Fine Silty Sand, Very Cemented, Wet 54-60 in: Black, Very Fine Sand; Large Wood Debris	Figure 63
10-15 ft	Negative	0-24 in: Dark Brown, Fine Silty Sand, Slightly Cemented, Wet, Well Sorted; Becomes Dark Gray and Siltier at 24 in 48-60 in: Black, Fine Sand, Slightly Cemented	Figure 64
15-20 ft	Negative	0-6 in: Very Dark Gray, Fine, Silty Sand, Slightly Cemented, Wet, Well Sorted 6-44 in: Very Dark Gray/Black Sand, Coarse, Loose, Wet, Poorly Sorted	Figure 65

Located on N side of Warehouse, ~3 meters N of Warehouse. Drilling started at 14:57 and ended at 16:30, May 4th, 2023.

MW-14A(R) Sonic Drilling Description Log

Depth (bgs)	Cultural Materials	Soil Description	Photo Log
0-5 ft	Negative	0-12 in: Gray Brown Silty Sand, Very Poorly Sorted, Loose, Dry; 60% Gravels 12-18 in: Dark Brown Sand, Loose, Poorly Sorted; 45% Gravels 18-36 in: Reddish Brown, Very Fine Silty Sand, Cemented	Figure 68
5-10 ft	Negative	0-6 in: Brown, Very Fine Silty Sand, Slightly Cemented, Wet 6-30 in: Reddish Brown/Gray, Fine Silty Clay 30-36 in: Brown, Very Fine Silty Sand, Slightly Cemented, Wet 36-42 in: Reddish Brown/Gray, Fine Silty Clay 42-50 in: Brown Silty Sand 50-55 Brown, Very Fine Clay 55-60 in: Brown Silty Sand	Figure 69
10-15 ft	Negative	0-24 in: Black/Gray, Very Fine Silty Sand, Poorly Sorted, Cemented, Wet	Figure 70

Depth (bgs)	Cultural Materials	Soil Description	Photo Log
		24-60 in: Black Sand, Coarse, Loose, Wet, Very Poorly Sorted	

Located 5 meters N and 10 meters E from MW-18A(R). Drilling started at 09:00 and ended at 09:47, May 5th, 2023.

MW-34A(R) Sonic Drilling Description Log

Depth (bgs)	Cultural Materials	Soil Description	Photo Log
0-5 ft	Negative	0-24 in: Light Gray Brown Silty Sand, Loose, Dry, Coarse, Very Poorly Sorted; 85% Fine/Medium Angular/Sub-Angular Gravels 24-36 in: Dark Brown, Fine Silty Sand Loose, Dry; 70% Fine Sub-Rounded/Sub-Angular Gravels	Figure 73
5-10 ft	Negative	0-24 in: Dark Brown Gravel Fill; 80% Fine Angular/Sub-Angular Gravels 24-48 in: Light Gray Brown Very Fine Silty Clay, Very Wet, Cemented, Well Sorted; Fine Angular Gravels from 24-36 in 48-56 in: Gray, Very Fine Silty Sand, Well Sorted, Wet, Cemented 56-60 in: Light Gray Brown Very Fine Silty Clay, Very Wet, Cemented, Well Sorted	Figure 74
10-15 ft	Negative	0-40 in: Brown Gray (0-8 in) and Gray (8-40 in) Very Fine Sandy Silt, Very Cemented, Very Wet, Very Well Sorted	Figure 75
15-20 ft	Negative	0-36 in: Very Dark Gray, Very Fine Silty Sand, Well Sorted, Cemented, Wet 36-60 in: Black Sand, Coarse, Loose, Wet, Very Poorly Sorted	Figure 76

Located ~ 20 meters N of Warehouse building. Drilling started at 10:43 and ended at 11:23, May 5th, 2023.

MW-16A(R) Sonic Drilling Description Log

Depth (bgs)	Cultural Materials	Soil Description	Photo Log
0-5 ft	2 old wires (14 cm and 20 cm); Multiple Red Brick Pieces (1-4 cm); 1 clear glass shard (3.5 cm); 1 red rubber piece (9 cm)	0-27 in: Light Brown Silty Sand, Dry, Loose; 40% Sub-Rounded/Sub-Angular Gravels 27-42 in: Brown Gravel Fill; 80% Medium Sub-Angular Gravels	Figure 79
5-10 ft	Negative	0-8 in: Brown Gravel Fill; 80% Medium Sub-Angular Gravels	Figure 81

Depth (bgs)	Cultural Materials	Soil Description	Photo Log
		8-20 in: Black Silty Sand, Loose, Wet; 60% Fine/Medium Sub-Rounded Gravels 20-38 in: Gray, very Fine Silty Clay, Very Cemented, Very Wet	
10-15 ft	Negative	0-24 in: Gray/Pinkish Gray, Very Fine Silty Clay, Very Well Sorted, Very Cemented, Very Wet 24-30 in: Gray Silty Clay, Coarse, Poorly Sorted, Cemented, Wet; 60% Fine, Sub-Rounded Gravels 30-48 in: Gray/Pinkish Gray, Very Fine Silty Clay, Very Well Sorted, Very Cemented, Very Wet	Figure 82
15-17 ft	Negative	0-20 in: Dark Gray, Very Fine Silty Clay, Very Well Sorted, Very Cemented, Wet 20-24 in: Black Sand, Coarse, Loose, Wet, Very Poorly Sorted	Figure 83

Located ~ 20 meters N of Warehouse building. Drilling started at 13:13 and ended at 14:08, May 5th, 2023.

MW-1A(R) Sonic Drilling Description Log

Depth (bgs)	Cultural Materials	Soil Description	Photo Log
0-5 ft	0-20 in: Red Brick Piece (1/2 in) 32-36 in: Many Red Brick Pieces (< 0.1 in)	0-20 in: Gray Brown Silty Sand, Very Poorly Sorted, Dry, Loose; 60% Fine Angular Gravels 20-32 in: Gray Brown Silty Sand, Very Poorly Sorted, Wet, Slightly Cemented; 60% Fine Angular Gravels 32-36 in: Brown, Very Fine Sandy Silt, Very Well Sorted, Very Cemented, Wet 36-40 in: Light Brown Silty Clay, Wet, Cemented	Figure 86
5-10 ft	Negative	0-30 in: Light Brown Silty Clay, Wet, Cemented 30-48 in: Light Gray Sandy Silt, Very Wet, Cemented, Well Sorted 48-60 in: Black, Fine Sand, Wet, Loose	Figure 87
10-15 ft	Negative	0-30 in: Black, Fine Sand, Wet, Loose 30-40 in: Brown, Fine Sand, Wet, Loose; < 5% Fine, Sub-Rounded Gravels 40-60 in: Black Sand, Coarse, Loose, Wet, Very Poorly Sorted	Figure 88

Located on East side of Warehouse, ~ 5 meters W of E Marginal Way S Highway/Train Tracks; Drilling Started at 10:00 and ended at 10:57, May 8th, 2023.

Photo Log

Figure 1: MW-44A(R) at start of drilling, facing W

Figure 2: MW-44A(R) 0-5 ft bgs

Figure 3: MW-44A(R) 5-10 ft bgs

Figure 4: MW-44A(R) 10-15 ft bgs

Figure 5: MW-44A(R) 15-20 ft bgs

Figure 6: MW-44A(R) at end of drilling, facing W

Figure 7: MW-7A(R) at start of drilling, facing N

Figure 8: MW-7A(R) 0-5 ft bgs

Figure 9: MW-7A(R) 10-15 ft bgs

Figure 10: MW-7A(R) 15-20 ft bgs

Figure 11: MW-7A(R) end of drilling, facing W

Figure 12: MW-25A(R) at start of drilling, facing E

Figure 13: MW-25A(R) 0-5 ft bgs

Figure 14: MW-25A(R) 5-10 ft bgs

Figure 15: MW-25A(R) 10-15 ft bgs

Figure 16: MW-25A(R) 15-20 ft bgs

Figure 17: MW-25A(R) 20-25 ft bgs

Figure 18: MW-25A(R) end of drilling, facing NE

Figure 19: MW-32A(R) start of drilling, facing N

Figure 20: MW-32A(R) 0-5 ft bgs

Figure 21: MW-32A(R) 5-10 ft bgs

Figure 22: MW-32A(R) 10-15 ft bgs

Figure 23: MW-32A(R) 15-20 ft bgs

Figure 24: MW-32A(R) 20-25 ft bgs

Figure 25: MW-32A(R) end of drilling, facing SE

Figure 26: MW-28A(R) start of drilling, facing E

Figure 27: MW-28A(R) 0-5 ft bgs

Figure 28: MW-28A(R) 5-10 ft bgs

Figure 29: MW-28A(R) 10-15 ft bgs

Figure 30: MW-28A(R) 15-20 ft bgs

Figure 31: MW-28A(R) 20-25 ft bgs

Figure 32: MW-28A(R) end of drilling, facing S

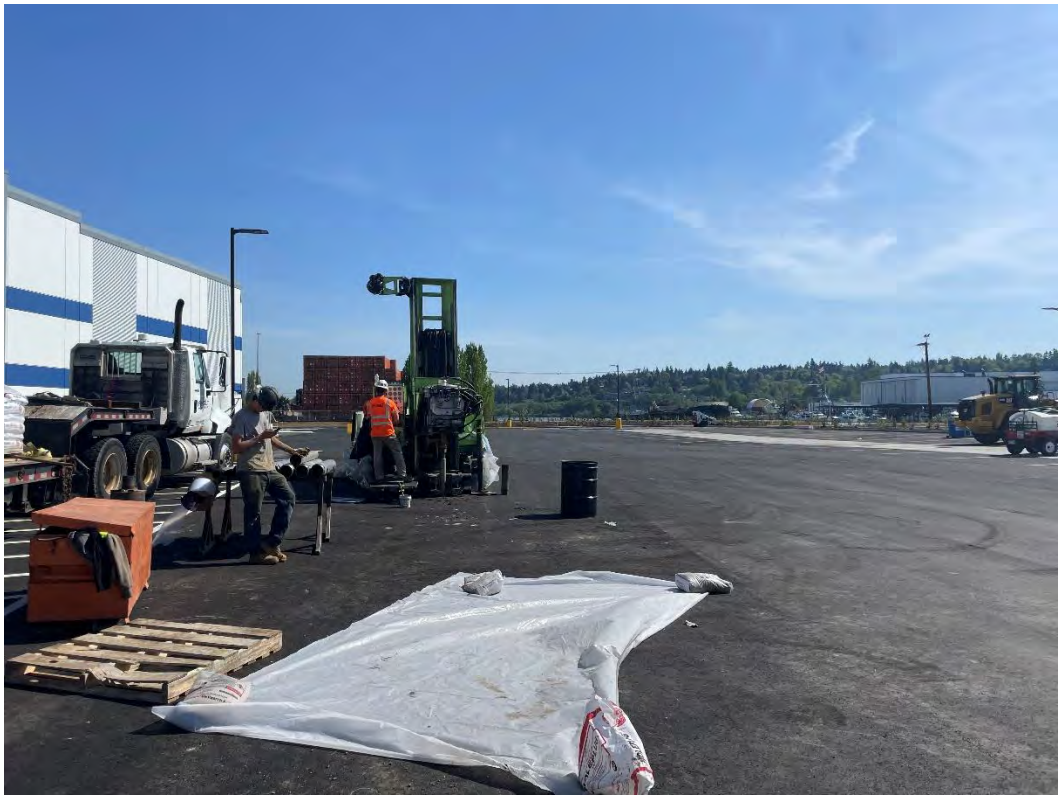

Figure 33: MW-47A(R) start of drilling, facing S

Figure 34: MW-47A(R) 0-5 ft bgs

Figure 35: MW-47A(R) 5-10 ft bgs

Figure 36: MW-47A(R) 10-15 ft bgs

Figure 37: MW-47A(R) 15-20 ft bgs

Figure 38: MW-47A(R) end of drilling, facing SE

Figure 39: MW-12A(R) start of drilling, facing S

Figure 40: MW-12A(R) 0-5 ft bgs

Figure 41: MW-12A(R) 5-10 ft bgs

Figure 42: Unspecified PCV Weather Pipes drilled into at ~2.5-3 ft bgs

Figure 43: Unspecified PCV Weather Pipe drilled into at ~2.5-3 ft bgs

Figure 44: Drill depth that Unspecified PVC Weather Pipe was drilled into

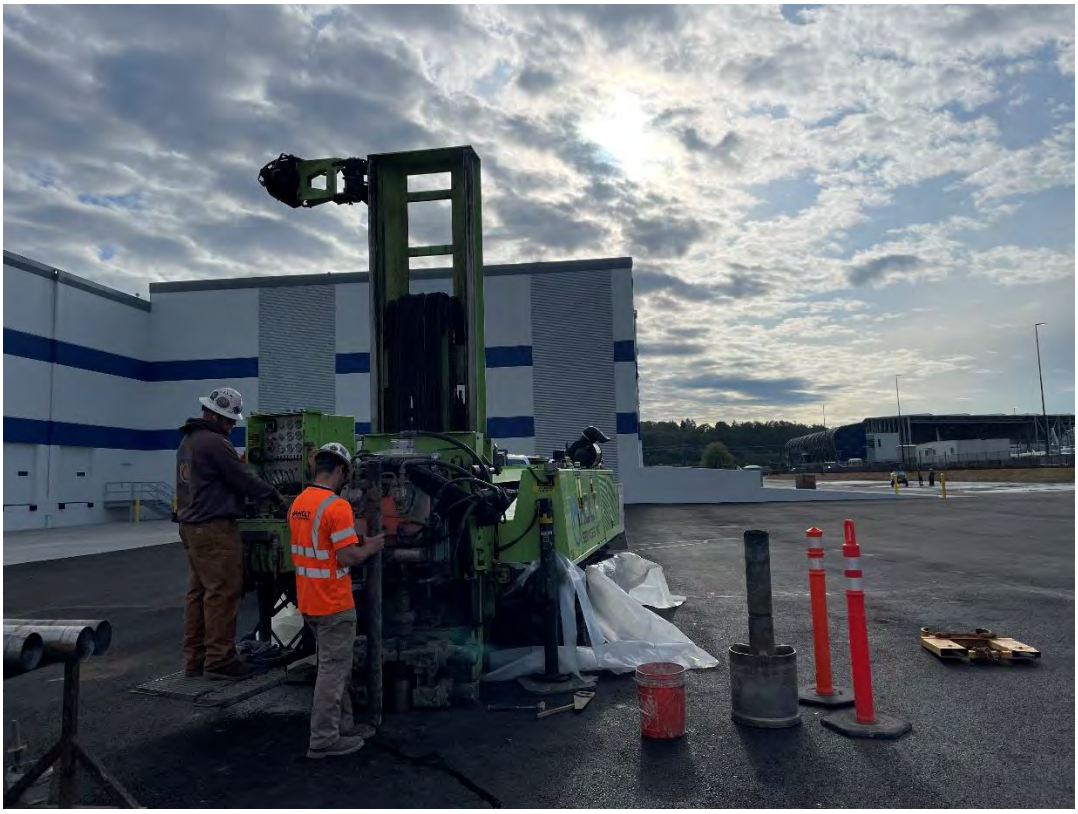

Figure 45: MW-12A(R) Start of drilling, (continued 5/8/2023), facing E

Figure 46: MW-12A(R) 10-12 ft bgs

Figure 47: MW-12A(R) 12-18 ft bgs

Figure 48: MW-12A(R) 18-22 ft bgs

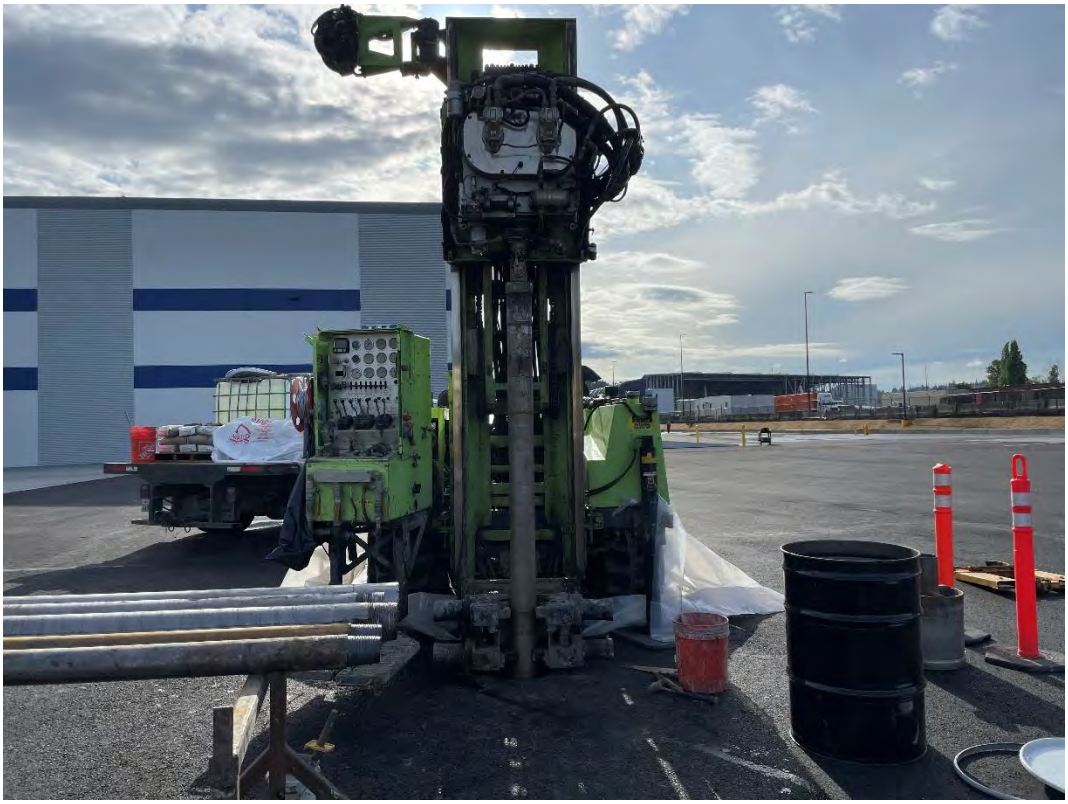

Figure 49: MW-12A(R) end of drilling

Figure 50: MW-41A(R) start of drilling, facing N

Figure 51: MW-41A(R) 0-5 ft bgs

Figure 52: MW-41A(R) 5-10 ft bgs

Figure 53: MW-41A(R) 10-15 ft bgs

Figure 54: MW-41A(R) 15-20 ft bgs

Figure 55: MW-41A(R) 20-21 ft bgs

Figure 56: MW-48A(R) start of drilling, facing N

Figure 57: MW-48A(R) 0-5 ft bgs

Figure 58: MW-48A(R) 5-10 ft bgs

Figure 59: MW-48A(R) 10-15 ft bgs

Figure 60: MW-48A(R) 15-20 ft bgs

Figure 61: MW-18A(R) start drilling, facing W

Figure 62: MW-18A(R) 0-5 ft bgs

Figure 63: MW-18A(R) 5-10 ft bgs

Figure 64: MW-18A(R) 10-15 ft bgs

Figure 65: MW-18A(R) 15-20 ft bgs

Figure 66: MW-18A(R) end drilling, facing W

Figure 67: MW-14A(R) start drilling, facing W

Figure 68: MW-14A(R) 0-5 ft bgs

Figure 69: MW-14A(R) 5-10 ft bgs

Figure 70: MW-14A(R) 10-15 ft bgs

Figure 71: MW-14A(R) end of drilling, facing W

Figure 72: MW-34A(R) start of drilling, facing W

Figure 73: MW-34A(R) 0-5 ft bgs

Figure 74: MW-34A(R) 5-10 ft bgs

Figure 75: MW-34A(R) 10-15 ft bgs

Figure 76: MW-34A(R) 10-20 ft bgs

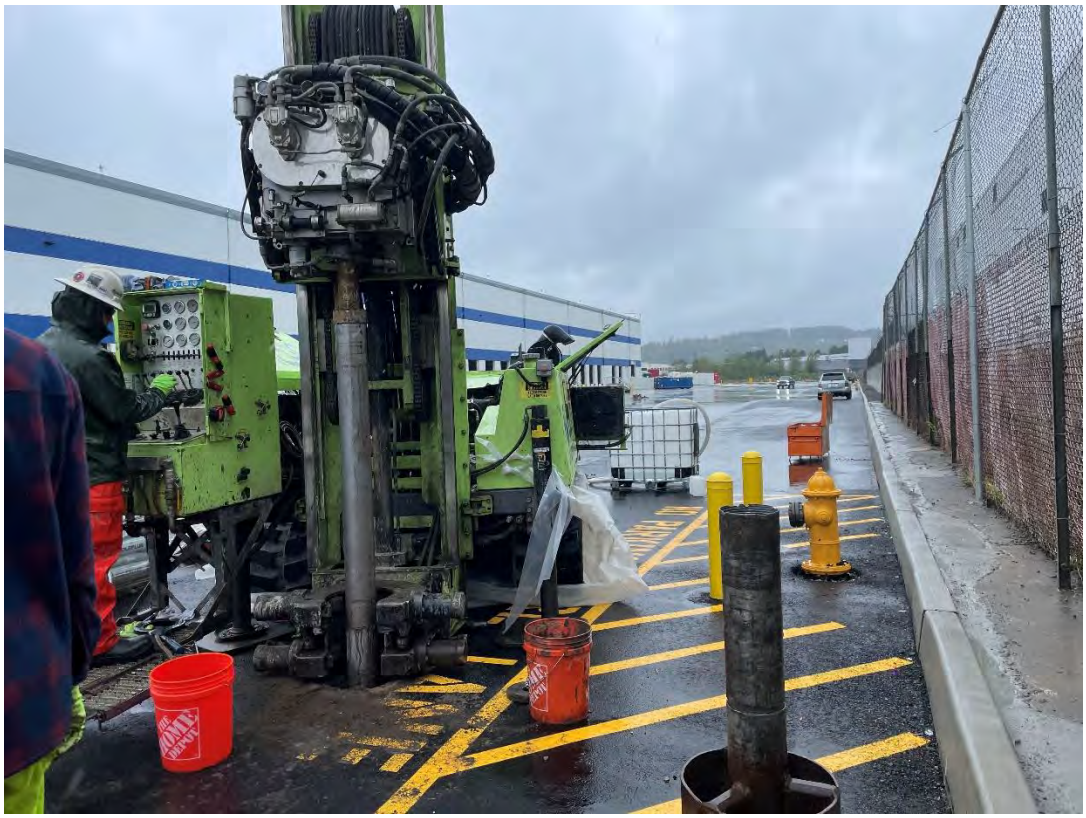

Figure 77: MW-34A(R) end of drilling, facing SW

Figure 78: MW-16A(R) start drilling, facing W

Figure 79: MW-16A(R) 0-5 ft bgs

Figure 80: MW-16A(R) cultural materials discovered 0-5 ft bgs

Figure 81: MW-16A(R) 5-10 ft bgs

Figure 82: MW-16A(R) 10-15 ft bgs

Figure 83: MW-16A(R) 15-17 ft bgs

Figure 84: MW-16A(R) end drilling, facing SW

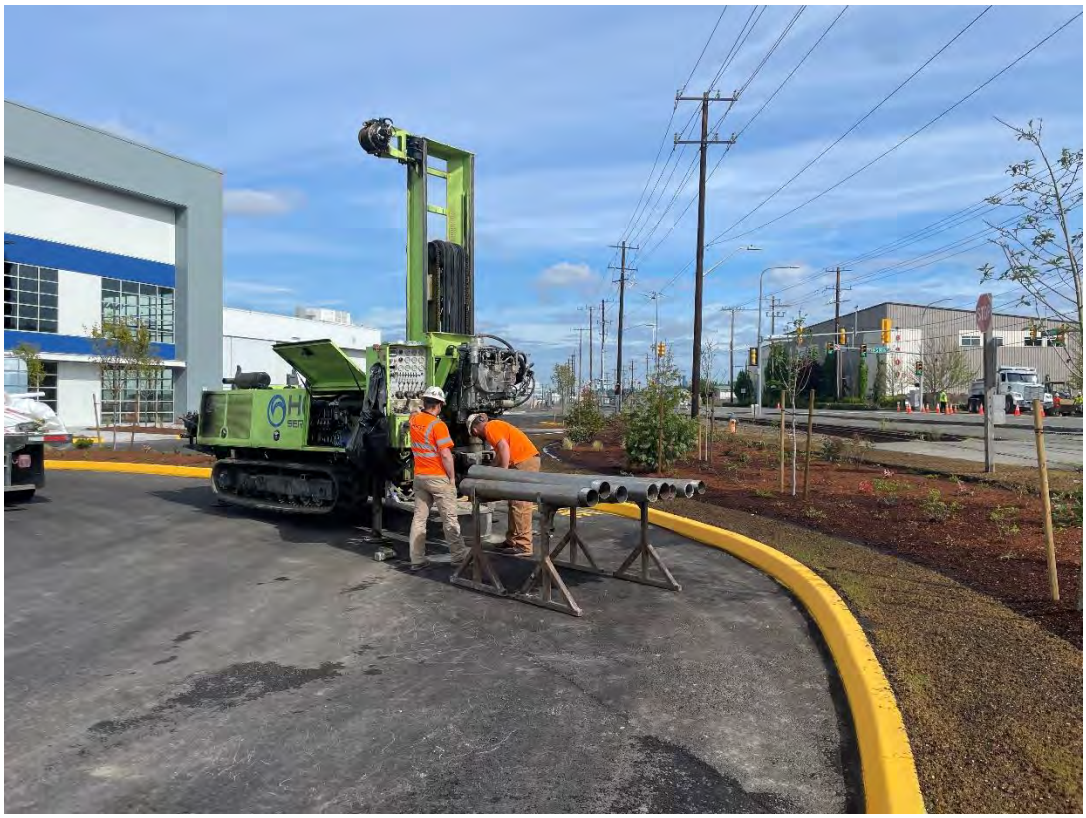

Figure 85: MW-1A(R) start drilling, facing N

Figure 86: MW-1A(R) 0-5 ft bgs

Figure 87: MW-1A(R) 5-10 ft bgs

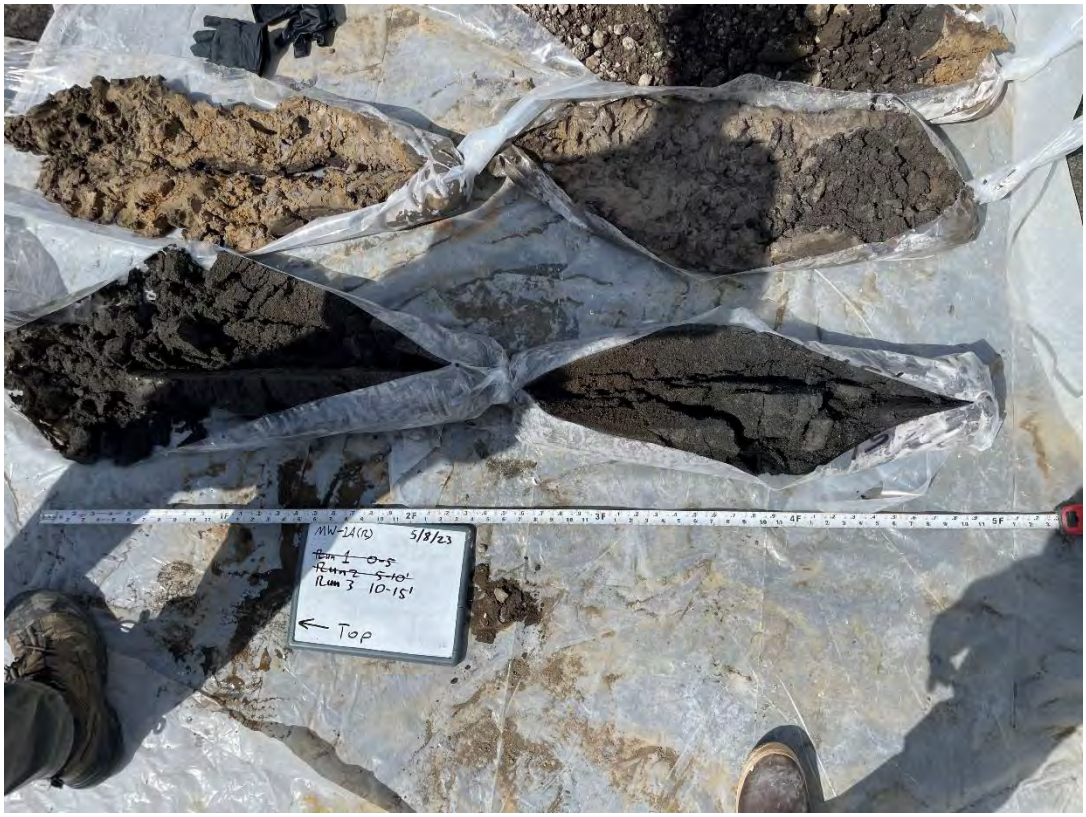

Figure 88: MW-1A(R) 10-15 ft bgs

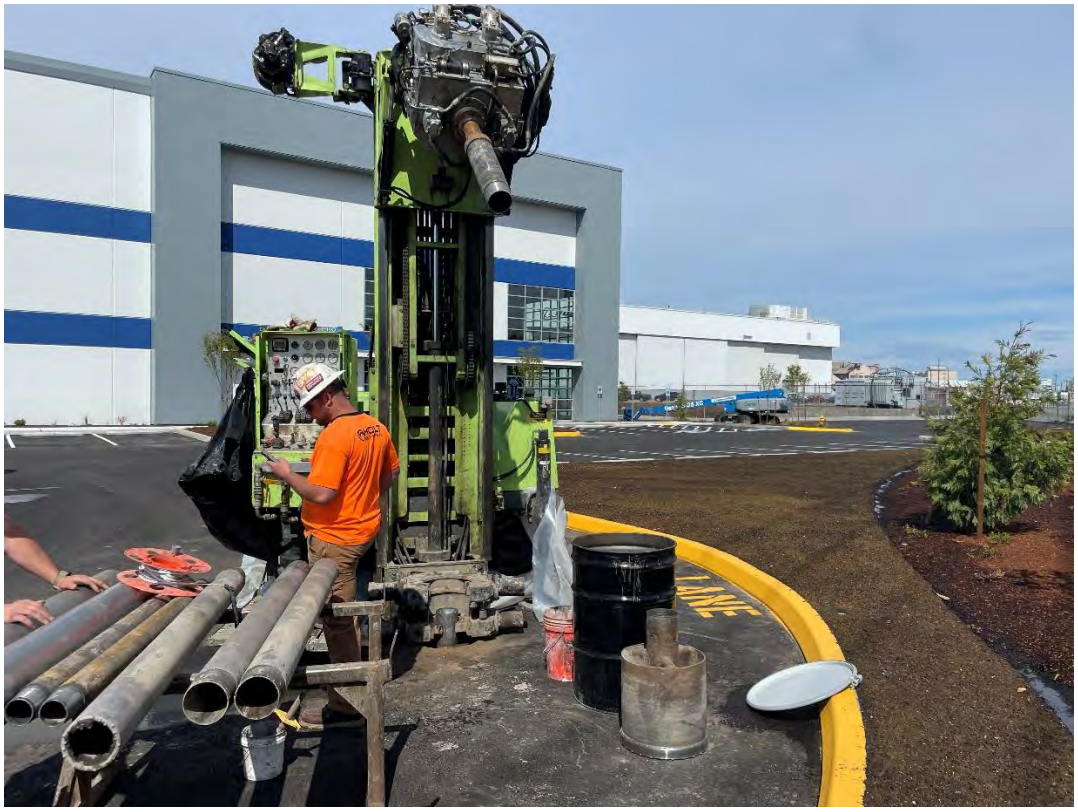

Figure 89: MW-1A(R) end drilling, facing NW

Figure 90: Completed Well Modification

Figure 91: MW-16A(R) pavement redrilling start, facing NW

Figure 92: MW-16A(R) Pavement redrilling end, facing W

Figure 93: MW-18A(R) Pavement redrilling start, facing S

Figure 94: MW-18A(R) Pavement redrilling end, facing S

Figure 95: Completed redrilled pavement for well modification