

POST FIELDWORK MEMORANDUM

To: Laird O'Rollins (DNRP/WLRD/RRS- Ecological Restoration and Engineering Services Unit); Beth Rood (HDR)

From: Charlie Hodges, M.S., F. Scott Pierson, B.A., and Amanda Taylor, Ph.D.

Date: March 1, 2019

Re: Chinook Wind Cultural Resources Sub-Surface Investigations, King County, Washington (King County Water and Land Resources Division Contract E00555E18-1, Work Order # 1126895/2.4.07/E00454-14)

Introduction

The King County Water and Land Resources Division (WLRD) proposes to create a wetland and fish habitat at a site on the north bank of the Duwamish River (River Mile 6.7) in Tukwila, Washington. The proposed project is located at 11244 and 11250 Tukwila International Boulevard within Section 19 of Township 21 North, Range 2 Willamette Meridian (Figure 1). The project area is 5.8 acres in size. The area is flat with a gentle slope to the southwest with no remnants of buildings on the property that were demolished and removed within the last three years.

The project area is located on land owned by King County (Parcels 0923049153 and 0923049292). The project is undergoing review by the USACE, making it subject to the provisions of Section 106 of the National Historic Preservation Act. WillametteCRA performed the investigation for this project to meet the standards set forth in the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation, as well as the Washington DAHP guidelines. King County regulations specifically stipulate the protection and preservation of King County landmarks, landmark sites and districts [KCC 20.62]. The Project may also be subject to King County's Executive Procedures for Cultural Resources (LUD 16-1 [AEP]), in which the King County Historic Preservation Program (KCHPP) reviews certain projects. The project may also be subject to other state historic preservation regulations including the Washington State Archaeological Sites and Resources Act (RCW 27.53).

Prior to fieldwork, WillametteCRA contacted cultural resource representatives of the Duwamish Tribe, Muckleshoot Indian Tribe, the Suquamish Tribe, Stillaguamish Tribe of Indians, and Tulalip Tribes with an informal (non-consultation) technical inquiry regarding concerns they

may have for cultural resources specific to this project location, notified them of the fieldwork schedule, and invited them to visit or participate in the fieldwork. Laura Murphy (Cultural Resources, Muckleshoot) visited the project on January 15, 2019.

The project would alter the current landscape of the north bank of the river at that location to create habitat for fish and increase productivity of the wetland. Ground disturbance will involve excavation of approximately 75,000 cubic yards of material to depths of up to 20 feet below present ground surface. In December of 2018, HDR Engineering, Inc. contracted with Willamette Cultural Resources Associates, Ltd. (WillametteCRA) to develop a plan for subsurface testing, execute that plan, develop a plan for project construction, excavation and monitoring that minimizes the chances of unanticipated discoveries of cultural resources, and develop an “Unanticipated Discovery Plan” for use in the event that cultural resources are discovered during project construction. This memo summarizes initial results of subsurface testing using backhoe trenching and screening.

Methods

Fieldwork was completed by geoarchaeologist Charlie Hodges (Pacific Geoarchaeological Services) and archaeologists Scott Pierson and Paris Franklin (WillametteCRA) on January 14-17, 2019. The backhoe operator was Mike Swope (Swope Excavation and Construction). Eleven backhoe trenches, designated CW-1 through CW-11, were excavated systematically across the project area to determine fill thickness, ground truth the results of previous investigations, and assess archaeological sensitivity across the landform (Figure 2). The archaeological exploratory trenches were excavated using a 21-inch-wide bucket equipped with a mud bar. Each trench was excavated in 1-foot-thick increments until the target depth of 11-12 feet below surface (fbs) was reached. For each 1-foot cut, 10 gallons of the spoils were removed from the backhoe bucket and screened through ¼-inch mesh. At 4 fbs, the trench was entered and both walls were cleaned to determine if archaeological materials or features were present. After the trench walls were cleaned a scaled sketch of one wall was drawn. After 4 fbs, each bucket load drawn up out of the trench was examined, the screening grab sample collected, and the load was slowly shaken out of the backhoe bucket. Depths for cuts below 4 fbs were controlled using an engineering tape marked in tenths of a foot. Upon completion, each trench was backfilled with the excavated spoils.

Results

A total of 11 trenches were started and 10 successfully completed to a target depth of between 11 and 12 fbs between Jan. 14 and Jan. 17, 2019 (Table 1, Figure 2). Trench CW-5 collapsed after reaching 8 fbs, but the walls remained stable long enough to clean out the heaved material and finish the trench to a total depth of 11.5 fbs. Trench CW-10 was abandoned at 6 fbs after the entire west wall of the trench collapsed and attempts at cleaning out the heaved material and continuing the excavation induced additional wall collapse (Figure 3).

Table 1. Summary properties of trenches.

Trench	Total Depth, feet (m)	Volume Screened (m ³)	Fill Thickness (feet)
CW-1	12.0 (3.66)	.44	1.0: engineered fill ^a
CW-2	11.6 (3.54)	.40	1.3: engineered fill ^a
CW-3	9.0 (2.74)	.36	0.5: engineered fill ^a
CW-4	11.0 (3.35)	.40	0.7: engineered fill ^a
CW-5	11.5 (3.50)	.44	0.7: engineered fill ^a
CW-6	12.0 (3.66)	.40	1.6: pushout from original construction grading
CW-7	12.0 (3.66)	.24	0.0-0.8: engineered fill ^a 0.8-5.8: demolition fill
CW-8	12.0 (3.66)	.32	4.0: demolition fill
CW-9	12.0 (3.66)	.32	4.2: demolition fill
CW-10	6.0 (heaved) (1.83)	.16	2.0: demolition fill
CW-11	12.0 (3.66)	.44	0.8: demolition and installation trench fill
Totals:	121.1 (36.92)	3.92	Range: 0.5 (min) - 5.8 (max) feet Mean thickness: 2.1 feet

^a *engineered fill*: placed under the current surface following demolition of structures.

Rinck and Shantry (2015) had identified a number of buried surfaces with potential to harbor archaeological materials within 5 feet of the surface in a number of shovel probes and geoprobes (Table 2). In addition to Rinck and Shantry's investigations, previous archaeological investigations upstream on the right bank of the river at the Duwamish River Bend Site (45-KI-703) (Blukis Onat and LeTourneau 2010; Lockwood et al. 2013) had either observed or recovered archaeological materials and features in well-stratified contexts, many within five feet of the surface. Given these previous investigations, this backhoe trenching program included extensive cleaning and visual examination of both trench walls for each trench when it reached a depth of 4 fbs (Table 3), which is the depth at which the trench can be entered without shoring. Three trenches (CW-7, -8, and -9) exposed fill sediments to depths of 4 fbs or greater. The fill was not archaeologically screened.

Table 2. Depths of possible archaeological materials and potential occupation surfaces identified by Rinck and Shantry (2015).

Unit	Depth cmbs (fbs)	Description	Comment
SP-2	98-135 (3.2-4.4)	Charcoal fragments	Source undetermined
SP-2	140-160 (4.6-5.2)	Charcoal fragments, plant fibers	Source undetermined
SP-8	185-190 (6.1-6.2)	2 FMR	Inferred by Rinck and Shantry to be result of natural burn
SP-13	57-70 (1.9-2.3)	Pedogenic features	Plant fibers, roots
SP-14	46 (1.5)	Charcoal lens	Source undetermined
P-3	12-79 (.4-2.6)	Charcoal fragments	Source undetermined

Table 3. Summary properties of trenches from surface to four feet below surface.

Trench	Trench Length, m (ft)	Cleaned, m (ft)	Screened Volume (m ³) ^a
CW-1	3.0 (9.8)	6.0 (20)	.02
CW-2	4.0 (13)	8.0 (26)	.02
CW-3	5.0 (16)	10.0 (33)	.03
CW-4	4.0 (13)	8.0 (26)	.02
CW-5	4.5 (15)	9.0 (30)	.02
CW-6	4.0 (13)	8.0 (26)	.02
CW-7	4.0 (13)	8.0 (26)	0.0
CW-8	4.0 (13)	8.0 (26)	0.0
CW-9	4.0 (13)	8.0 (26)	0.0
CW-10	4.0 (13)	8.0 (26)	.02
CW-11	4.0 (13)	8.0 (26)	.02
Totals:	44.5 linear meters (144.8 ft)	89 linear meters (291 ft)	0.17 m³

^a Volumes vary slightly due to rounding.

In general, all trenches exhibited a fining-upward trend in the dominant grain size of the sediment, with the basal portions of many trenches marked by a distinct, thick, dark gray laharic medium to coarse sand (Figure 4). The upper 4 to 6 feet of the trenches usually were dominated by poorly expressed thin stratified deposits consisting of flood couplets that had been overprinted by soil-forming processes between depositional events. These were typically characterized by a base of very fine to fine sand capped by drapes of silt mixtures incorporating varying amounts of very fine sand. With greater depth and as the sediments became increasingly coarse with depth, beds increased in thickness until at the greatest depths most sediments were dominated by massive dark gray laharic sand.

Preliminary Conclusions

No archaeological materials or features were noted during this sub-surface investigation within the Chinook Winds project area. Fill was present to a depth of 1-2 fbs in most trenches with the exception of three trenches (CW-7, -8, and -9) where it extended to 4-6 fbs. Because most of the project area is characterized by sets of sand-silt flood couplets extending to at least six fbs, there is still potential to encounter buried surfaces hosting archaeological materials during future ground disturbance. At this time, the medium to coarse sand deposits below the flood deposits are interpreted as channel bedload and so are considered not likely to be archaeologically sensitive. These preliminary interpretations will guide our monitoring plan recommendations.

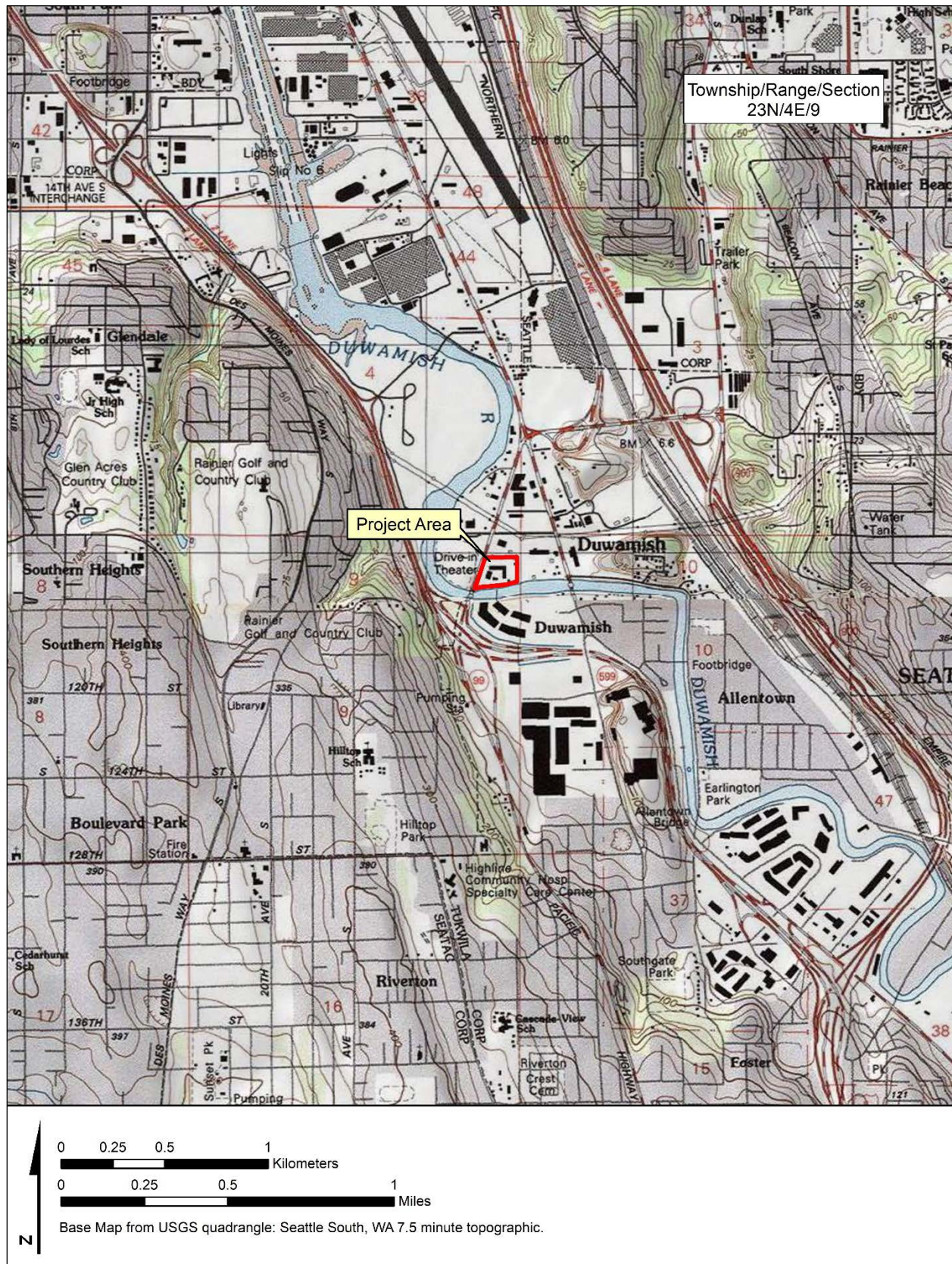


Figure 1. Project location.



Figure 2. Locations of trenches excavated for Chinook Wind Cultural Resources Sub-Surface investigations.



Figure 3. Photo of Trench CW-10 wall collapse (Photo by PGS).



Figure 4. Photo showing dark gray laharic coarse sand in the lower portion of Trench CW-5. (Photo by PGS).

References Cited

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