

# **Cultural Resource Consultants**

#### **TECHNICAL MEMO 22030-1**

DATE: June 24, 2022

TO: Ted Knapp

**CRG** 

FROM: Margaret Berger, Principal Investigator

RE: Cultural Resources Assessment for the Port of Chehalis Development Project,

Lewis County, Washington

The attached report contains our final assessment for the Port of Chehalis Development Project, Lewis County, Washington. During background research, two archaeological sites (45LE573 and 45LE614) were identified at the project location. Field investigation did not result in the identification of additional archaeological sites, historic built environment resources, or other cultural resources at the project location. CRC recommends project activities avoid the eastern half of 45LE573. If avoidance is not possible, CRC recommends archaeological testing be conducted to assess the distribution and nature of archaeological deposits and to evaluate the site's eligibility for listing on historic registers. No additional investigation is recommended for 45LE614. Beyond these sites, CRC recommends archaeological monitoring occur for ground disturbing activities extending more than 4.1 feet below the current ground surface. Please contact our office if you have any questions about our findings and/or recommendations.

# **CULTURAL RESOURCES REPORT COVER SHEET**

DAHP Project Num	ber: <u>2022-06-04227</u>		
Author:	lan Kretzler		
Title of Report:		Assessment for the Port of the Lewis County, Washington	
Date of Report:	June 24, 2022		
County:	<u>Lewis</u> Section	n: <u>11</u> Township: <u>13 N</u>	Range: <u>02 W</u>
JSGS Quads:	Centralia, WA and N	<u>apavine, WA</u>	Acres: <u>34.07</u>
PDF of report subm	nitted (REQUIRED)	☐ Yes	
Historic Property In	ventory Forms to be A	Approved Online? Yes	⊠ No
Archaeological Site	e(s)/Isolate(s) Found o	r Amended? 🗌 Yes 🖂 N	<u>lo</u>
TCP(s) found? \(\sime\)	Yes ⊠ No		
Replace a draft?	] Yes ⊠ No		
Satisfy a DAHP Ard	chaeological Excavatio	on Permit requirement?	Yes# No
Were Human Rema	ains Found?  Yes D	AHP Case #	<u>o</u>
DALID Araba aalaa:	aal Cita #.		
DAHP Archaeologi		Culturation of DDFs	io vo ovivo d
	•	Submission of PDFs	is required.
	•	Please be sure that a DAHP has its cover s	•
		graphics, appendices	s, attachments,
		correspondence, etc. single PDF file.	, compiled into one
	•	Please check that the correctly when opened	

# Cultural Resources Assessment for the Port of Chehalis Development Project, Lewis County, Washington

# **Table of Contents**

Mana	gement Summary	. 1
1.0	Administrative Data	. 2
1.1	Overview	. 2
1.2	Research Design	. 4
1.3	Project Description	. 5
2.0	Background Research	. 7
2.1	Overview	. 7
2.2	Environmental Context	. 7
2.3	Climate and Vegetation	10
2.4	Archaeological Context	12
2.5	Native Peoples	16
2.6	Recent History	17
2.7	Historical Records Search	19
2.8	Cultural Resources Review	27
3.0	DAHP Statewide Predictive Model	<b>56</b>
4.0	Archaeological Expectations	<b>56</b>
5.0	Field Investigation	<b>57</b>
5.1	Investigation Results	58
6.0	Results and Recommendations	66
6.1	Conclusions and Recommendations	56
7.0	Limitations of this Assessment	67
8.0	References	<b>68</b>
Appe	ndix A. Assessment Correspondence	34
Appe	ndix B. Results of Subsurface Survey	<b>39</b>
Appe	ndix C. Inadvertent Discovery Protocol1	12

## **Management Summary**

The attached report contains our final assessment for the Port of Chehalis Development Project, Lewis County, Washington. CRG requested that Cultural Resource Consultants, LLC (CRC) complete a cultural resources assessment prior to proposed industrial development. This assessment was developed to identify recorded and unrecorded archaeological sites, historic built environment resources, and other cultural resources and to evaluate the potential for project activities to affect cultural resources. During background research, two archaeological sites (45LE573 and 45LE614) were identified at the project location. Over 300 artifacts, primarily lithic debitage and a small number of lithic tools, were identified at 45LE573 (Baker, Sharma et al. 2006; Baker and Smits 2006). The site was determined not eligible for listing on the National Register of Historic Places (NRHP). However, subsequent investigation by Buchanan and Ozbun (2009) resulted in the identification of additional archaeological deposits east of the site's previously delineated boundaries. Buchanan and Ozbun (2009) recommended that archaeological testing be conducted to assess the eligibility of the eastern half of the site for listing on the NRHP. This portion of the site was excluded from recent field investigation conducted by CRC (Kretzler and Anderson 2021a) and was not investigated as part of this assessment.

Consistent with previous assessments completed at the project location (Buchanan and Ozbun 2009; Kretzler and Anderson 2021a), CRC recommends project activities avoid the eastern half of 45LE573. If avoidance is not possible, CRC recommends archaeological testing be conducted to assess the distribution and nature of archaeological deposits and to evaluate the site's eligibility for listing on the NRHP. Archaeological testing will require submitting either an archaeological site alteration permit application to the Washington State Department of Archaeology and Historic Preservation (DAHP) or a testing plan to the U.S. Army Corps of Engineers (USACE) if the project falls under their jurisdiction.

45LE614 consists of one lithic flake identified by Adams et al. (2008). Radial probes excavated around the find were negative for archaeological materials. The site has not received a formal determination of eligibility but was recommended not eligible for listing on the NRHP (Buchanan and Ozbun 2009). CRC concurs with this recommendation. No additional investigation is recommended at the site.

Field investigation conducted as part of this assessment did not result in the identification of unrecorded archaeological sites, historic built environment resources, or other cultural resources. Shovel test probes reached an average depth of 125 centimeters (cm) (4.1 feet) below surface. At nearby sites, most artifacts were identified within 50 cm (1.6 feet) of the surface. However, at 45LE690, located 630 feet northwest of the project, artifacts were identified up to 140 cm (4.6) below surface. Based on this finding, combined with the very high archaeological sensitivity of the Berwick Creek area, unrecorded archaeological sites may be situated below 125 cm (4.1 feet)

at the project location. CRC therefore recommends archaeological monitoring occur for ground disturbing activities extending more than 125 cm (4.1 feet) below the current ground surface.

If non-monitored project activities beyond the delineated boundaries of 45LE573 result in the discovery of archaeological materials or human skeletal remains, CRC recommends project staff follow the inadvertent discovery protocol outlined below (Appendix C).

### 1.0 Administrative Data

#### 1.1 Overview

Report Title: Cultural Resources Assessment for the Port of Chehalis Development Project, Lewis County, Washington.

Author: Ian Kretzler.

Report Date: June 24, 2022.

<u>Location:</u> The project is located at the SE corner of Rush Road and Jackson Highway. It is coterminous with Lewis County parcel number #017800014003.

<u>Legal Description</u>: The legal description for the project is the SW½ and NW½ of Section 11 in Township 13 North, Range 2 West, Willamette Meridian.

USGS 7.5' Topographic Maps: Centralia, WA, and Napavine, WA (Figure 1).

Total Area Involved: 34.07 acres.

Regulatory Nexus: RCW 27.53, 27.44, 68.60;

Washington State Environmental Policy Act (SEPA).

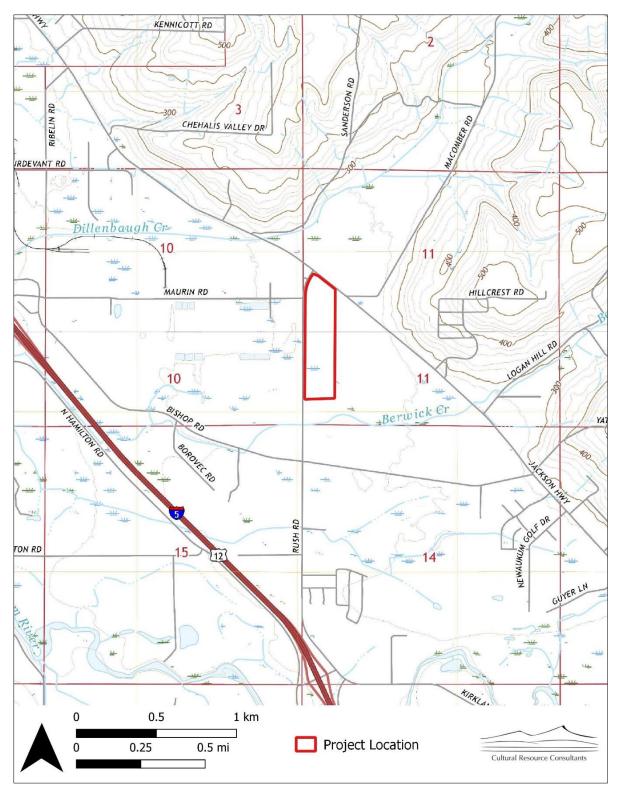


Figure 1. Project location on the Centralia, Washington, and Napavine, Washington, topographic quadrangles (USGS 2020a, 2020b).

### 1.2 Research Design

This cultural resources assessment was developed as a component of preconstruction environmental review for the Port of Chehalis Development Project. It sought to prevent adverse impacts to cultural resources during ground disturbing activities by evaluating whether archaeological sites, historic built environment resources (i.e., buildings or structures at least 45 years old), or other cultural resources exist within the boundaries of the project. CRC's work was intended, in part, to assist in addressing state regulations pertaining to the identification and protection of cultural resources. The Archaeological Sites and Resources Act (RCW 27.53) prohibits knowingly disturbing archaeological sites without a permit from the Washington State Department of Archaeology and Historic Preservation (DAHP); the Indian Graves and Records Act (RCW 27.44) prohibits knowingly disturbing Native American or historic graves; and the Abandoned and Historic Cemeteries and Historic Graves Act (RCW 68.60) calls for the protection and preservation of historic era cemeteries and graves.

This assessment was completed in compliance with SEPA, which outlines state guidelines for identifying and analyzing environmental impacts of government actions. These decisions may be related to private projects, constructing public facilities, or adopting regulations and policies. Information provided during SEPA reviews informs agency decision-makers, applicants, and the public about whether and to what extent a given project will affect the environment. This information may be used to alter project design to reduce identified impacts or terminate a project to avoid adverse impacts.

CRC's investigation consisted of (1) review of available project information and correspondence provided by the project proponent; (2) examination of local environmental, historical, and archaeological datasets; and (3) field investigation. On April 8, 2022, CRC contacted cultural resources personnel at the Chehalis Confederated Tribes, Cowlitz Indian Tribe, Nisqually Tribe, Quinault Indian Nation, and Squaxin Island Tribe on a technical staff to technical staff basis to inquire about project-related cultural information or concerns (Appendix A). This correspondence was not intended to be or replace formal government-to-government consultation. Staff from the Quinault Indian Nation provided historical information on Berwick Creek and the Chehalis River Basin during previous assessments completed by CRC in the project vicinity (James 2021). Additional information provided by Tribes' cultural resources personnel subsequent to the submission of this report will be included in a revised version. This assessment considered comments provided by Tribes, previous studies in the project vicinity, the magnitude and nature of the undertaking, the nature and extent of potential effects on historic properties, and the likely nature and location of historic properties at the project location, as well as other applicable laws, standards, and guidelines (per 36CFR800.4 (b)(1)) (DAHP 2022a).

## 1.3 Project Description

CRG proposes to construct an industrial park consisting of three warehouses on Lewis County parcel number #017800014003. Construction will entail clearing and grading, roadway improvements along Rush Road and Jackson Highway, and installation of stormwater facilities and water and sanitary sewer extensions. Wetlands located in the southwestern portion of the project will be impacted. Mitigation is proposed for wetlands that will be filled during the project. For the purposes of this assessment, the area of interest for cultural resources (hereafter, "the project" or "the project location") is understood to be the area depicted in Figures 1-2.



Figure 2. Satellite imagery of the project location.

## 2.0 Background Research

#### 2.1 Overview

Background research was conducted in May and June 2022.

#### Recorded Cultural Resources Present: Yes [x] No []

Two archaeological sites (45LE573 and 45LE614) are located within the boundaries of the project. No historic built environment resources, register-listed historic properties, or other cultural resources are located at the project (DAHP 2022b).

The following context overview summarizes environmental, historical, and archaeological information contained in local cultural resource reports; archaeological and historical data from DAHP and the Washington Information System for Architectural and Archaeological Records Data (WISAARD); ethnographic resources; geological and soils surveys; historical maps and documents from the Bureau of Land Management United States Surveyor General Land Status & Cadastral Survey Records database; HistoryLink; Historic Map Works; HistoricAerials; University of Washington's Digital Collection; Washington State University's Early Washington Maps Collection; and CRC's library. This report's discussion of geology, archaeology, and history at the project location incorporates context information from CRC's previous work along Berwick Creek (e.g., Kretzler and Anderson 2021a, 2021b).

In this and subsequent sections, all dates are presented in calendar years BP (before present). All dates based on radiocarbon data have been calibrated to yield a calendrical age.

#### 2.2 Environmental Context

The Port of Chehalis Development Project is located 1.2 miles southeast of City of Chehalis and 0.8 mile north of City of Napavine in central Lewis County. The project is situated in a rural, agricultural area between Berwick Creek and Dillenbaugh Creek. Berwick Creek flows southwest from Centralia Alpha Road 4.9 miles to the northeast, passes within 550 feet of the southern boundary of the project, and empties into Dillenbaugh Creek 1.6 miles to the northwest. Dillenbaugh Creek flows southwest from Logan Road 3.8 miles to the northeast, passes within 0.3 mile of the northwestern boundary of the project, and empties into the Chehalis River 4.3 miles to the northwest. The Newaukum River is located 1.4 miles southwest of the project. It empties into the Chehalis River 3.9 miles to the northwest. Interstate 5 is located 0.8 mile southwest of the project. The project location is mostly level, with a surface elevation of 246 feet above sea level.

The project is situated within the Cowlitz/Newaukum Prairie Floodplains ecoregion (Pater et al. 1998). This area is a transitional zone between the Puget Lowland ecoregion to the north and the Willamette Valley ecoregion to the south. Similar to the Southern Puget Prairies and Eastern

Puget Riverine Lowlands ecoregions to the north, the Cowlitz/Newaukum Prairie Floodplains consist of rolling glacial outwash plains and ground moraines and river floodplains and terraces with vegetation communities characterized by oak woodlands, prairies, Douglas fir (*Pseudotsuga menziesii*) and western hemlock (*Tsuga heterophylla*) forests, and agricultural land. Unlike these ecoregions, the Cowlitz/Newaukum Prairie Floodplains did not experience continental glaciation during the Pleistocene.

#### Geomorphology

The landscape of western Washington is a product of crustal deformation initiated by the Cascadia subduction zone; repeated glacial scouring and deposition, most recently during the Pleistocene; landslides, erosion, and deposition; and Holocene human activity. The project is situated within the Puget Trough physiographic province, which extends from the Canadian border to the Willamette Valley (Franklin and Dyrness 1988). During the late Pleistocene (110,000 to 12,000 years BP), northwestern and parts of southwestern Washington were scoured by repeated advances and retreats of the Cordilleran Ice Sheet (Kruckeberg 1991; Thorson 1980; Troost and Booth 2008). The northern half of the Puget Trough was formed by these glacial events, as moving ice up to thousands of feet thick sculpted a series of north-south trending troughs within a wide basin between the Coast and Cascade Ranges (Booth 1994; McKee 1972).

The ice sheet's Puget Lobe most recently advanced during the Vashon Stade of the Fraser glaciation. Glacial ice crossed the Canadian border approximately 18,700 years BP, reached Seattle 17,600 years BP, and achieved its maximum extent near Tenino 16,950 years BP. The onset of climatic warming caused the ice sheet to rapidly retreat, reaching Seattle by 16,500 years BP and northern Puget Sound 500 years later (Booth et al. 2004; Borden and Troost 2001; Porter and Swanson 1998). As the glacier receded, meltwater became impounded behind the ice, forming a series of south-draining meltwater channels that flowed across a broad outwash plain. A series of proglacial lakes developed south of the ice. These included Glacial Lake Puyallup in the upper Puyallup and Carbon River drainages, Glacial Lake Hood in southwestern Hood Canal, and early Glacial Lake Russell in southern Puget Sound. As ice retreat continued, Glacial Lake Puyallup and other lakes merged to form an expanded Glacial Lake Russell, which occupied much of the southern Puget Sound basin and drained into the Pacific Ocean via the Black Lake spillway and the Chehalis River. Additional lakes later merged with Glacial Lake Russel, forming Glacial Lake Bretz. At its maximum extent, the lake spanned most of central and southern Puget Sound from the southern margin of Whidbey Island to Olympia. The lake drained northward along the Leland Creek spillway, which carried meltwater into Discovery Bay. Once the Puget Lobe passed the Strait of Juan de Fuca 16,000 years BP, marine waters were reintroduced into what is now Puget Sound (Bretz 1913; Collins and Montgomery 2011; Thorson 1989; WA DNR 2022a; Waitt and Thorson 1983).

During this period, sea levels along the Washington coast were at least 300 feet lower compared to today. Lower sea levels increased the gradient of the Chehalis River, allowing it to transport large volumes of sediment downstream (Glancy 1971; Kopperl et al. 2011:5-6). Much of the glacial meltwater and outwash in the Puget Trough entered the Chehalis River via the Skookumchuck River. An alluvial fan developed at the confluence of the two rivers near present-day Centralia. As the fan expanded, it forced the Chehalis River channel to the west. During high water flows, the fan partially dammed the Chehalis, which raised and flattened the Chehalis River Valley (Bretz 1913; Kopperl et al. 2011:5-6)

In subsequent centuries, changes in global sea levels and climate altered the character and course of the Chehalis River. As sea levels rose, the gradient of the river decreased, leading to aggradation, or the deposition fine-grained sediments, in adjacent lowlands. Shifts toward warmer and wetter climate conditions further increased the volume of sediment introduced into the river. After sea levels stabilized, the river began to move laterally across the valley floor, creating point bars and eroding meander bends. Today, the relatively flat, slightly rolling surface of the Chehalis River floodplain consists of previous channel meanders, abandoned channels, oxbow lakes, point bars, and alluvial fans that developed over the course of the middle and late Holocene. Many of these landforms are currently covered by recent alluvium. Kopperl et al. (2011:6) identified three geomorphic surfaces in the Chehalis River floodplain. From oldest to youngest, the floodplain consists of (1) flat, open portions, (2) gently sloping surfaces, and (3) undulating surfaces along the current river channel.

Flooding has affected low-lying areas along the Chehalis River throughout the Holocene. Flood events eroded some surfaces and buried others, creating a mosaic of buried and truncated landforms in the Chehalis River Basin (Foutch et al. 2012:9). Soils developed on stable surfaces between flood events. Today, as during the terminal Pleistocene, sediments deposited at the mouth of the Skookumchuck River during high water flows can block the main channel of the Chehalis River, leading to increased water elevations upstream. Urban development and agricultural operations, which have removed surface vegetation and reduced riparian areas, have exacerbated the severity of recent flood events by increasing surface runoff (Kopperl et al. 2011:6).

#### Surface Geology

Three surface geologic units are mapped at the project location. Hayden Creek Drift is mapped across the entire project location (Schasse 1987). This geologic unit consists of pre-Fraser sandy and gravelly outwash deposited within the drainage of the Newaukum River. It dates to at least 38,000 years BP. Recently, the northern quarter of the project has been reclassified as younger and older Holocene alluvium (Sadowski et al. 2018). These geologic units consist of loose pebbles, cobbles, sand, silt, clay, peat, and boulders in varying proportions situated within depositional channels and floodplains. Younger alluvium is located within lowest lying, active

depositional areas. Older alluvium is located on relict terraces overlying the floodplain (WA DNR 2022). Younger and older Holocene alluvium likely overlie Hayden Creek Drift in the southern three quarters of the project.

Soils

Two soils unit are mapped at the project location (Evans and Fibich 1987; USDA NRCS 2022):

- Reed silty clay loam is present in the northern third of the project. This soil unit forms on floodplains and terraces. It is poorly drained with the water table present about 18 to 36 inches below surface. A typical profile consists of one A horizon of very dark grayish brown silty clay loam from 0 to 6 inches below surface; one A horizon of very dark grayish brown silty clay loam from 6 to 14 inches below surface; one B horizon of brown silty clay from 14 to 20 inches below surface; one B horizon of dark gray clay and dark grayish brown silty clay loam from 20 to 37 inches below surface; and one B horizon of black clay from 37 to 60 inches below surface.
- Lacamas silt loam, 0 to 3 percent slopes, is present in the southern two-thirds of the project. This soil unit forms on floodplains and terraces. It is very poorly drained with the water table present within 6 inches of the ground surface. A typical profile consists of one A horizon of very dark grayish brown silt loam from 0 to 7 inches below surface; one A horizon of dark grayish brown and grayish brown silt loam from 7 to 17 inches below surface; one B horizon of olive gray silty clay from 17 to 27 inches below surface; and one B horizon of olive gray clay from 27 to 60 inches below surface

## Geotechnical Investigation

Additional information about subsurface deposits at the project location is provided by recent geotechnical investigation. Terra Associates (2022) completed a geotechnical engineering study across multiple parcels, including the project location. In December 2021, 30 test pits were excavated to between 8 and 10 feet below surface. In March 2022, 15 additional test pits were excavated to similar depths. The March 2022 test pits are located within the boundaries of the project. They contained dark silt with some sand to about 1.5 feet below surface; gray clayey or sandy silt to about 4 feet below surface; and gray to red/orange sand to silty sand with gravels extending to the base of excavation. In two test pits, the base of excavation contained gray to red/orange sandy clay with silt and gravel. Terra Associates (2022) also included information on the distribution and results of previous geotechnical studies conducted at the project. No archaeological monitoring was conducted during recent geotechnical investigation.

### 2.3 Climate and Vegetation

The paleoclimate of the Pacific Northwest during the late Pleistocene and Holocene is defined by four periods, which exhibit general trends based on variations in temperature and moisture (Kopperl et al. 2016:37-38).

- o 17,000 to 13,000 years BP: the region was much cooler and drier compared to the present.
- o 13,000 to 7000 year BP: the retreat of glacial ice and increased solar radiation led to higher temperatures, less precipitation, colder winters, and more severe summer droughts compared to the present.
- o 7000 to 5000 years BP: cooler, moister conditions returned to the region, with temperature ranges similar to the present. The current maritime climate regime of the Puget Sound region was fully established by the end of this period.
- o 5000 years BP to present: climatic conditions have undergone short-term fluctuations such as the Little Ice Age (500 to 100 years BP) and the Medieval Climatic Anomaly (1100 to 700 years BP).

In southwestern Washington, changes in temperature and moisture have supported different plant communities through time (Herbel and Schalk 2002:2.6-2.8; Kopperl et al. 2016:37-38; Kopperl et al. 2014:9-12; Whitlock 1992). Following glacial recession and meltwater subsidence, landforms stabilized and vegetation began to return. Lodgepole pine (Pinus contorta) colonized newly exposed soils. These trees thrived in the gravelly, outwash soils south of Puget Sound and benefited from the lack of competition with other tree taxa. Around 12,000 years BP, Douglas fir and western Hemlock emerged as the dominant tree species of lowland forests. Prairies also developed during this period. They consisted of stands of grasses, hazel (Corylus cornuta), and scattered Oregon white oaks (Quercus garryana). The warmer, drier climate conditions of the early to middle Holocene prevented the further spread of Douglas fir and resulted in the expansion of prairies. As noted by Herbel and Schalk (2002:2.7), shifting climate conditions benefited oaks, which are tap-rooted species and are thus able to survive droughts better than Douglas fir. Present-day vegetation communities emerged after 6000 years BP. Western red cedar (Thuja plicata) joined western hemlock and Douglas fir as primary components of lowland forests, although the spread of these trees appears to have been more prominent around Puget Sound than in southwestern Washington. The persistence of prairie ecosystems in the Chehalis River Basin in recent millennia likely stems from the use of controlled burns by Native peoples (see below) (Herbel and Schalk 2002:2.9-2.11).

Today, the project location is situated within western Washington's western hemlock vegetation zone, which extends south from British Columbia through the Olympic Peninsula, Coast Ranges, Puget Trough, and Cascade physiographic provinces (Franklin and Dyrness 1988). The zone's wet, mild, maritime climate supports diverse plant taxa. In the Chehalis River Basin, vegetation communities commonly consist of western hemlock, Douglas fir, and western redcedar, red alder (*Alnus rubra*), bigleaf maple (*Acer macrophyllum*), Oregon White Oak, camas (*Camassia* sp.), bracken fern, and various species of berries (especially *Rubus* sp.), grasses, rushes (especially *Juncus* sp.), and sedges (especially *Carex* sp.) (Herbel and Schalk 2002:2.8).

Before the arrival of Euro-American settlers, prairies were an ecologically and culturally significant part of the landscape in southwestern Washington. Prairies were dominated by Idaho fescue (*Festuca idahoensis*) and a thick layer of moss (especially *Racomitrium canescens*), with smaller quantities of sedge (*Carex pensylvanica*), camas, saxifrage (*Micranthes integrifolia*), violets (*Viola* sp.), and other plants (Franklin and Dyrness 1988:89). Prairies supported dozens of food plants utilized by local Native groups (Storm and Shebitz 2006:262). These included wild celery (*Lomatium* sp.), camas, wild carrot (*Perideridia gairdneri*), wild onion (*Allium* sp.), bracken fern (*Pteridium aquilinum*), oak acorns, hazelnuts (*Corylus cornuta*), prairie huckleberry (*Vaccinium caespitosum*), several species of *Rubus*, and wild strawberry (*Fragaria virginiana*). Prairies' specific vegetation composition depended on drainage. Wet prairies in low-lying areas with seasonally high water tables offered more suitable habitat for some plants compared to dry prairies in well-drained, higher elevation areas (Kopperl et al. 2011:12; Norton et al. 1983:125-126). The historical prairies in the Chehalis vicinity (see below) were likely wet prairies given their elevation and the presence of poorly drained soils.

### 2.4 Archaeological Context

Thousands of years of human occupation in western Washington, the Chehalis area, and along Berwick Creek have been summarized in a number of archaeological, ethnographic, and historical investigations over the past several decades (e.g., Ames and Maschner 1999; Carlson 1990; Greengo 1983; Herbel and Schalk 2002; Kopperl et al. 2016; Kopperl et al. 2014; Larson and Lewarch 1995; Nelson 1990; Pettrigrew 1990; Welch 1983; Wessen 1990). These studies provide regional and local context for evaluating archaeological deposits at the project.

#### Regional Context

Human history in western Washington extends to at least 14,000 years BP, a period corresponding with the most recent retreat of glacial ice in the region. Over the next six millennia, Native peoples lived in small, mobile groups that moved seasonally between productive hunting, fishing, and gathering locations. Archaeological evidence dating to immediate postglacial periods is limited to isolated projectile points (Meltzer and Dunnell 1987). Sites dated to the early Holocene generally consist of small resource processing camps. Late Pleistocene and early Holocene sites have been identified on upland drift plains, landforms that have experienced little deposition in subsequent millennia. Habitation sites and other site types may have existed in lowland areas and along marine shorelines, but they have likely been destroyed by alluvial erosion and inundated by sea level rise, respectively (Kopperl et al. 2016:114-115). One exception is the Bear Creek Site (45Kl839) near Lake Sammamish, which contained concave-based and stemmed projectile points situated below peat deposits dated to approximately 11,000 years BP (Kopperl et al. 2015).

Middle and late Holocene sites are better represented in Washington's archaeological record due to the stabilization of sea levels and, in recent millennia, regional population increases. During the middle Holocene, roughly 8000 to 3000 years BP, Native peoples established a broader range of residential and resource procurement site types and sizes. Middle Holocene sites have been identified on upland glacial landforms, in lowland river valleys, and along marine shorelines. Lithic assemblages consisting of chipped flake tools and large, leaf-shaped and stemmed points fashioned from coarse-grained raw materials are present at sites predating approximately 5000 years BP. After this period, lithic assemblages exhibit greater variation in form and raw material. Harvest of and occupation near littoral resources—activities that often produced sizable shell middens—emerged approximately 4500 years BP. The expansion in site type and size during the middle Holocene coincided with decreased mobility as groups developed specialized adaptations to local environments. Middle Holocene archaeological deposits were identified at the West Point Site (45KI428/429) near Discovery Park in Seattle. The site contained large quantities of faunal remains, stone projectile points, and shell and stone beads. The presence of fish, shellfish, bird, and mammal remains pointed to year-round utilization as Native peoples took advantage of the site's sheltered bluff and abundant nearby resources (Larson and Lewarch 1995). Other notable middle Holocene sites include the Marymoor Site (45KI9) near the confluence of Bear Creek and the Sammamish River (Greengo and Houston 1970) and the DuPont Southwest Site (45PI72) along the Puget Sound shoreline in DuPont (Wessen 1989).

Middle Holocene patterns intensified during the late Holocene. After around 3000 years BP, the archaeological record is characterized by diverse site and artifact types located in a range of environments. Semi-permanent winter village sites appear for the first time. Villages consisted of large shed- or gable-roofed plank houses situated along marine shorelines and major waterways. During the non-winter months, Native peoples established single- and multiple-resource acquisition camps in lowland and upland areas. They harvested an array of plant and animal foods, and some sites, especially large coastal shell middens, exhibit evidence of intensive collection of resources such as salmon and shellfish. Lithic assemblages are characterized by local and imported raw material fashioned into chipped and ground tools, ground slate knives, and generally small, triangular projectile points. Organic materials such as basketry, wood and bone tools, and structural elements from this period are more likely to preserved, both in sealed storage pits and in submerged anaerobic sites. Notable late Holocene archaeological sites in western Washington include Ozette (45CA24) on the Olympic Peninsula (Samuels 1994), Cathlapotle (45CL1) along the Columbia River near Ridgefield (Ames et al. 1999), late components of the West Point Site (45KI428/429) (Larson and Lewarch 1995), and Old Man House (45KP2) near Suguamish (Schalk and Rhode 1985).

The arrival of Euro-Americans and other newcomers in the late eighteenth century marked the beginning of the colonial period. The establishment of the Pacific fur trade and later the transformation of Washington and Oregon into U.S. settler colonies upended regional

demography and ecology. Beginning around 1850, Native people and non-Native newcomers established new archaeological site types, including forts, logging camps, industrial areas, and urban centers. Materials and structures associated with these sites dominate the archaeological record of the late nineteenth and twentieth centuries. Notable sites dating to the colonial period include Fort Vancouver (45CL163) along the Columbia River (Wilson 2018) and the Dearborn South Tideland Site (45KI924) in downtown Seattle (Schneyder et al. 2011).

#### Local Context

Archaeological research in the Chehalis area provides information about the nature of archaeological materials that may be encountered during the implementation of this testing plan. Archaeological evidence dating to the late Pleistocene or early Holocene in the Chehalis area, like much of western Washington, is restricted to isolated projectile point finds. One example is a fluted point identified west of Olympia that likely dates to approximately 11,000 years BP (Meltzer and Dunnell 1987).

Archaeological evidence of middle and late Holocene occupation in the Chehalis area has been identified at the Mellen Site (45LE125) (Schalk et al. 2005). Stratified cultural deposits overlying a well-developed paleosol were observed at the northern extent of the site. Lithic artifacts and two features, one hearth and two small pits, were documented. Charcoal and wood fragments were collected from excavation units and features and submitted for radiometric dating. Six radiocarbon dates returned ages ranging from 1050 to 7190 years BP. Sediment samples were also collected for botanical analysis. The remains of several plant foods were identified, including hazelnut, camas, elderberry (*Sambucus* sp.), huckleberry, and *Rubus* berries. Camas remains exhibited evidence of processing and cooking.

Other portions of the Mellen Site have supported archaeological investigation (Kennedy 1978; Kopperl et al. 2014). Recent excavations in the central and southern portions of the site yielded a diverse lithic assemblage. Among the over 4,000 recovered lithic artifacts, archaeologists identified several flake and ground stone tool types and 10 raw material types, including obsidian originating in western and central Oregon. The abundance of projectile points, scrapers, and perforating tools indicates the site supported seasonal hunting and hide procurement. Residue analysis on two bifaces were positive for camas root, suggesting plant processing also occurred. Although this portion of the site yielded little datable material—one radiocarbon date returned an age of about 2600 years BP—projectile point styles suggest Native presence may extend into the middle Holocene (Kopperl et al. 2014).

Archaeological sites dated to the late Holocene are more common in the Chehalis area. One example is the Hamilton Site (45LE172) located along the Newaukum River (Jermann 1980). The site contained various lithic artifacts, including projectile points, bifaces, flaked cobbles, stone bowls, stone beads, adze blades, end-scrapers, and fire-modified rock (FMR). Radiocarbon

dates from three hearth and pit features returned ages ranging from 1300 to 2500 years BP, pointing to long-term use by Native peoples. Based on analysis of projectile point types, the site appears to have been occupied into the terminal Holocene and early colonial periods. Jermann (1980:181-182) interpreted the site as a late spring and summer base camp, from which extended families travelled to nearby places to harvest lithic, riverine, forest, and prairie resources.

Additional late Holocene plant processing features were identified at 45LE611. The site was uncovered and extensively damaged during private development along the Chehalis River west of Centralia. Subsequent archaeological investigation identified 4,785 pieces of FMR, 1,478 pieces of lithic debitage, and 115 lithic tools. Several features were present at the site, though only five retained integrity. These features consisted of (1) one small hearth or oven composed of FMR, burned earth and charcoal; (2) one basin-shaped hearth composed of organic-rich sediment, FMR, charcoal, and charred camas bulbs and other organic remains; (3) one large, dome-shaped earth oven; (4) one hearth composed of FMR and ash; and (5) one cemented organic-rich sediment layer with lithic artifacts, faunal remains, and botanical remains. These features were dated from 1800 to 2800 years BP. Approximately 2800 years BP, the site was incorporated into the seasonal round of local Native groups. It supported the gathering and processing of prairie and riverine resources, especially fish and camas. By about 1100 years ago, Native groups established a more permanent settlement, likely a winter village, at the site. This shift is evidenced by the presence of an intact house floor and faunal remains showing animals were brought to the site for secondary processing and consumption (Foutch et al. 2012; Punke et al. 2009).

Across all temporal periods, archaeological sites in the Chehalis area consist primarily of lithic scatters and open field camps situated on the floodplains of the Chehalis River and its tributaries (Herbel and Schalk 2002:Appendix C). Sites have been identified in two geomorphic settings. First, sites have been recorded on landforms elevated above the surrounding floodplain. For example, FMR and cryptocrystalline silicate (CCS) debitage and tools at 45LE511 between Centralia and Chehalis were situated on small linear knolls or ridges elevated above an oxbow lake and an abandoned channel of the Chehalis River. These landforms likely represent alluvial features created during the late Pleistocene or subsequent depositional episodes (Herbel and Schalk 2002:5.4, 6.10; Kopperl et al. 2011:9).

Second, sites have been recorded in the upper 20 to 40 cm (0.7 to 1.3 feet) of the plow zone (Baldwin et al. 2007:24; Herbel and Schalk 2002:4.7; Kopperl et al. 2014). Nineteenth and twentieth century activities have altered the original spatial associations at many sites, though the extent of disturbance likely varied. At 45LE573, a grove of oak trees appears to have protected archaeological deposits from plowing and other disturbances (see below) (Baker, Sharma et al. 2006). At the Rush Road Site (45LE521), most artifacts were identified in the plow zone, which prevented precise assessments about artifacts' spatial distribution. Even so, the presence of FMR

concentrations suggestive of camas roasting ovens revealed that plowing has not fully erased spatial associations within archaeological deposits.

## 2.5 Native Peoples

For millennia, the Chehalis River Basin, including the project location, has been a place of travel and exchange. The Cowlitz Trail extended north-south through the Cowlitz and Chehalis River Valleys, linking Puget Sound and the Columbia River. The Chehalis and Black Rivers enabled travel between Grays Harbor and southern Puget Sound. Willapa Bay was accessible via the upper Chehalis River and the Willapa Hills, and passes across the Cascade Range were present in the upper Newaukum River Valley. Native peoples journeyed through these corridors. They harvested resources from a range of environments and formalized social and economic relationships with neighboring groups. Relationships were established and strengthened via intermarriage, gifting, and trade, especially of localized resources such as shellfish from southern Puget Sound, sea mammal pelts from the coast, and (beginning in the eighteenth century) horses from the Columbia Plateau. The Chehalis River Basin was also an important highway connecting people with regional gathering, festivity, and trading centers such as Celilo Falls (Hajda 1990:508; James 2021; James and Chubby 2015:106; Miller 2011).

Among the diverse peoples that utilized the Chehalis River Basin were Upper Chehalis- and Cowlitz-speaking peoples, who lived within the drainages of the Upper Chehalis, Newaukum, Cowlitz, and Toutle Rivers. Lower Chehalis was spoken by those living to the northwest along the lower reach of the Chehalis River and around Grays Harbor. Chinookan and Kwalhioqua-Clatskanie speakers lived to the southwest along the lower Columbia and in the Willapa Hills (Confederated Tribes of the Chehalis Reservation 2020; Curtis 1913; Hajda 1990; Krauss 1990; Ruby et al. 2010; Silverstein 1990). During the nineteenth century, and for centuries prior, the lifeways of these groups and their neighbors featured seasonal movements to different settlements and resource gathering locations. During the spring and summer, families travelled across the landscape via canoe and, later, horseback between seasonal camps situated in a variety of environmental zones. From these camps, they built fish weirs to catch salmon, trout, and small fish; hunted birds and terrestrial mammals such as elk and deer; and collected berries, roots, and other plants (Hajda 1990:507). Many important plants and animals would been present along the Chehalis Rivers and its tributaries. Harvested resources were roasted, dried, and stored for consumption during the leaner winter months or processed for manufacture of clothing, medicines, baskets, and tools.

The inland prairies of the Chehalis River Basin were also important resource gathering and settlement locations. Prairies supported large quantities of camas, which was harvested for consumption and exchange. Native peoples used fire to manage prairie ecosystems. Controlled burns were usually set in the late summer and early autumn and enhanced the productivity of camas, acorns, and other dietary and medicinal plants; controlled pests; maintained travel

corridors; and provided forage for animals (Herbel and Schalk 2002:2.9-2.11; Leopold and Boyd 1999; Storm and Shebitz 2006). A prairie along the Newaukum River was known as náwaqwm, or "big prairie." Prairies known as suqweh and nsšə?úmš, or "weeping prairie," were located west and north of present-day Chehalis, respectively (Kinkade 1991).

As fall turned to winter, families relocated to winter villages situated along waterways. Villages usually contained two to four plank houses, each of which housed multiple families, and other structures. Plank houses measured up to several hundred feet in length and were fashioned from split cedar planks and carved house posts, with mats used for insulation. They contained multiple interior hearths, sleeping platforms, and extensive storage facilities. Winter was a time for ceremonial activities and strengthening relations within and between village communities. Through these relationships, Native people maintained diverse and often fluid group affiliations rooted in kinship, language, and social and economic ties.

Knowledge of these and other lifeways continues to be passed down among contemporary Native peoples. Today, descendants of the those that lived, utilized, and travelled through the Chehalis River Basin are members of the Confederated Tribes of the Chehalis Reservation, Cowlitz Indian Tribe, and other Tribes.

## 2.6 Recent History

During the early nineteenth century, southwestern Washington and northwestern Oregon emerged as an epicenter of British and U.S. imperial exploration, mapping, and trade. The establishment of Fort Astoria (later, Fort George) in 1811 and Fort Vancouver in 1825 signaled Euro-Americans' interest in the region as a source of economic opportunity and territorial expansion (Lang 2013; Whaley 2010). In 1833, the Hudson's Bay Company (HBC) established Puget Sound's first Euro-American trading post, Fort Nisqually, near Sequalitchew Creek in present-day DuPont. The fort was situated halfway between HBC's Fort Vancouver to the south and Fort Langley to the north, and the local prairie was seen as a promising fur-gathering and agricultural area (Bagley 1915; Carpenter 1986:24-25, 36). The fort became home to a diverse population of HBC employees who established trading relationships with local Native groups. As the number of fur-bearing animals dwindled, the fort's economic emphasis shifted more fully to agriculture and husbandry. The Puget Sound Agricultural Company (PSAC) was established in 1838 as an HBC subsidiary to oversee cattle ranching at the fort and raise wheat, barley, oat, potato, and pea crops at the 4,000-acre Cowlitz Farm near present-day Toledo (Morgan 2018:50-53; Wilma 2005). HBC personnel established the Cowlitz Road, which followed portions of the long-used Cowlitz Trail, to facilitate travel between Fort Nisqually and Fort Vancouver, and later Cowlitz Farm (Carpenter 1986).

The Oregon Treaty of 1846 resolved the United Kingdom and United States' competing imperial claims in the Pacific Northwest. The treaty ceded land south of the 49th parallel to the United

States. In 1850, the federal government passed the Oregon Donation Land Act, which attracted settlers to Oregon Territory (which encompassed the present-day states of Oregon and Washington) with the promise of free land. The act passed despite the fact that, in the absence of ratified treaties, the federal government did not hold title to the land it offered. The act transformed Washington and Oregon into settler colonies, forms of territorial control that rely on the appropriation of Native land and the removal of Native peoples (Veracini 2011). Indeed, as the local settler population increased, Native peoples came to be seen as antithetical to the region's development.

It was against this backdrop that, in the 1850s, Washington territorial governor and ex officio superintendent of Indian affairs Isaac Stevens negotiated treaties with Native groups. In February 1855, Stevens met with leaders representing Chinook, Chehalis, Cowlitz, Quinault and other groups on the Chehalis River near Grays Harbor. Native leaders resisted Stevens' push to consolidate all southwestern Washington Native groups onto a single reservation. Negotiations broke down, and Stevens left the treaty council. In July, leaders representing Quinault, Queets, Hoh, and Quileute groups signed the Quinault River Treaty (later known as the Treaty of Olympia), which established the Quinault Reservation in exchange for title to 1.2 million acres of the western Olympic Peninsula. In subsequent decades, many Native people in southwestern Washington were compelled to relocate to the Quinault Reservation, Chehalis Reservation, and Shoalwater Bay Reservation, the latter two of which were created via executive orders in 1864 and 1866. Others remained in their ancestral homelands, living and working in urban and rural settings (Fisher and Jetté 2013; Harmon 1998; Marino 1990; Ott 2008, 2010; Wilma 2006). The Cowlitz Indian Tribe secured federal recognition in 2000.

The federal government's appropriation of Native land paved the way for Euro-American settlement. The first settler in the Chehalis area was John Jackson, who settled at Jackson Prairie near present-day Mary's Corner in 1845. In 1850, Schuyler and Eliza Saunders established a farm on a Donation Land Claim at the confluence of the Chehalis and Newaukum Rivers. However, limited transportation routes stymied early development. People and goods could be shipped north up the Chehalis River, but transport to Olympia and Puget Sound required overland journeys on muddy trails. In 1873, the Northern Pacific Railroad began offering service from Kalama to Puget Sound via Chehalis. The rail connection created new opportunities for the town. Farmers from across nearby prairies came to Chehalis to outfit their operations and sell crops and animals. By the early twentieth century, lumber, dairying, and other farms dominated the local economy. During World War II, Boeing operated a manufacturing plant in Chehalis that focused on B-17 and B-29 bombers. Interstate 5 opened in 1955, further linking the town with Puget Sound and the Willamette Valley. In recent decades, a number of distribution facilities have been built in Chehalis and Centralia, taking advantage of the towns' position midway between the Seattle and Portland metropolitan areas. Today, approximately 7,000 people call Chehalis home (Crowell 2007; Ott 2008; Wilma 2005).

#### 2.7 Historical Records Search

Information about nineteenth and twentieth century land use and property ownership at the project location is preserved in historical county atlases, topographic maps, census records, and aerial imagery.

The General Land Office (GLO) conducted early cadastral surveys to define or reestablish the boundaries and subdivisions of federal lands so that land patents could be issued to individuals. A GLO survey of the project vicinity was completed in 1855 (Figure 3). GLO surveyors (Murphy et al. 1855:592) described the township as "well adapted to agricultural purposes," and the project vicinity as containing "a large quantity of low rich bottom land which is subject to overflow in the highest stages of water." The project location is situated in the W½ of the SW¼ and the SW1/4 of the NW1/4 in Section 11 of Township 13 North, Range 2 West, Willamette Meridian. By this point, a road had been established between Olympia and Cowlitz Landing, the northernmost point of river navigation for those travelling from Fort Vancouver. The road followed the approximate present-day course of Jackson Highway and passed through the northern edge of the project. No Native settlements or other cultural features are shown on the GLO survey, though it is possible they were not apparent to surveyors. Settler homesteads are visible, including a structure, likely a cabin, labelled "Dillenbach" east of the project. The cabin is situated within a sizable prairie that encompassed much of the western half of Section 11 and eastern half of Section 10. As noted by Herbel and Schalk (2002:2.9-2.11), early settlers in the Chehalis area were attracted to prairies for their agricultural potential, abundant game, and absence of large trees, which hindered the establishment of homesteads in other areas. At the same time, the growing settler population discouraged Native peoples' use of prescribed burning, which led to the encroachment of Douglas fir and the diminishment of prairie ecosystems.

Following the completion of this survey, the project location was included in a 320-acre land grant (WAOAA 091056) awarded to Alonzo B. Dillenbaugh under the Oregon Donation Land Act (BLM 2022). The 1860 Assessment and Statistical Roll of Lewis County lists Dillenbaugh's livestock (2 horses, 23 cattle, 33 sheep, 15 hogs), crops (1 acre of bluegrass, 50 acres of oats, 3 acres of peas, 2 acres of potatoes), and fruit trees (100 apple, 3 pear, 8 cherry, and 2 plum) (Ancestry 2006). The roll does not comment on whether livestock, crops, and orchards were located at the project location or other portions of Dillenbaugh's claim. According to an 1883 territorial census, Dillenbaugh was born in New York in 1829. He worked as a farmer and lived with his wife, H. Dillenbaugh, who was born in Oregon in 1848, and eight children ranging in age from 5 to 20 years old (Lewis County Territorial Auditor 1883). The family lived in a large Victorian-style home built near Dillenbaugh Creek and the Cowlitz Road. The structure was demolished in 1973. Alonzo was active in territorial and early state affairs. Around 1878, he donated part of his claim for a school along the Cowlitz Road. He participated in the Cowlitz Land Convention of 1851 and the Monticello Convention of 1852, which petitioned the federal government to create Columbia Territory (later, Washington State) separate from Oregon

Territory (Weber 2003). Alonzo held various roles in Lewis County government between the early 1850s and 1870s. The Dillenbaugh farm was purchased by Judge Rice in 1907. Rice named it the "Chateau Farm" and planned to retire there (Trautman and Flenniken 2015:4).

A 1916 topographic map shows no structures at the project location (Figure 4). Several structures are present along the northeastern side of the Pacific Highway (now, Jackson Highway), which follows the same path as the previous road to Cowlitz Landing. Structures are also present on both sides of Bishop Road to the south. Dillenbaugh Creek and Berwick Creek generally follow their present-day courses.

During the second half of the twentieth century, the project passed between multiple owners. In 1948, most of Dillenbaugh's claim, including the entire project location, was owned by J. Schmauder (Figure 5). A 1954 topographic map shows several structures along the northeastern side of Jackson Highway (Figure 6). Schmauder continued to own the project location in 1962 (Figure 7). By 1975, Schmauder's land had been subdivided (Figure 8). The northern two thirds of the project were sold to Alva C. Fairley; the southern third was sold to L. E. Dagly. The project is currently owned by the Port of Chehalis.

Review of aerial imagery indicates the project location was cleared of trees and used for crops or pasture during the second half of the twentieth century (Lewis County 2022; NETR 2022). In imagery from 1952, the project appears as an open field. Several informal trails or roads cut across the field. On imagery from 1981 and 1990, one or two structures are visible near an oak grove at the present-day intersection of Rush Road and Maurin Road. Both are likely farm related. Evidence of these structures has been documented archaeologically (see below). On imagery from 1996, these structures are no longer present. Maurin Road, a short section of Rush Road extending north to Jackson Highway, and the present-day Port of Chehalis building were built by this point. Three years later, Rush Road had been extended south to Bishop Road. Between 1960 and 2006, agricultural parcels west of the project were converted into a Fred Meyer Distribution Center and the natural gas Chehalis Power Plant. The project location has persisted as open, agricultural land.

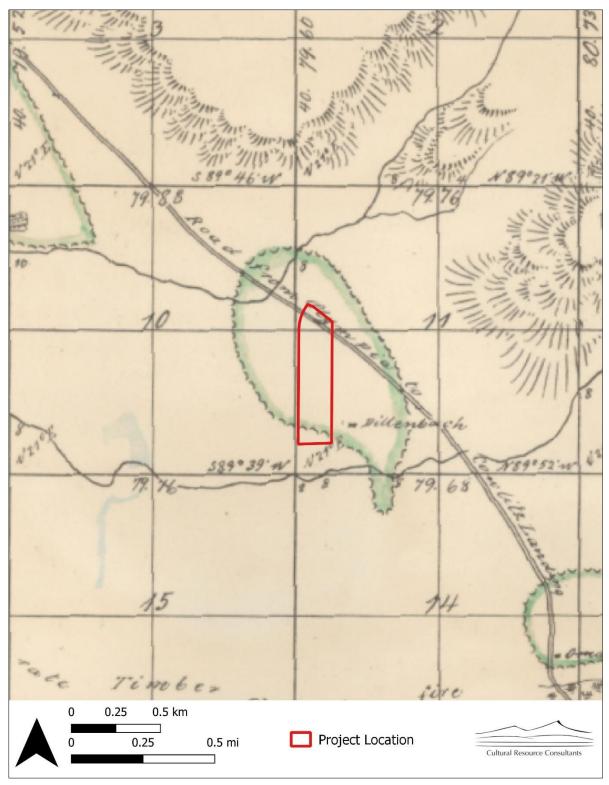


Figure 3. GLO survey of the project vicinity (USSG 1855).

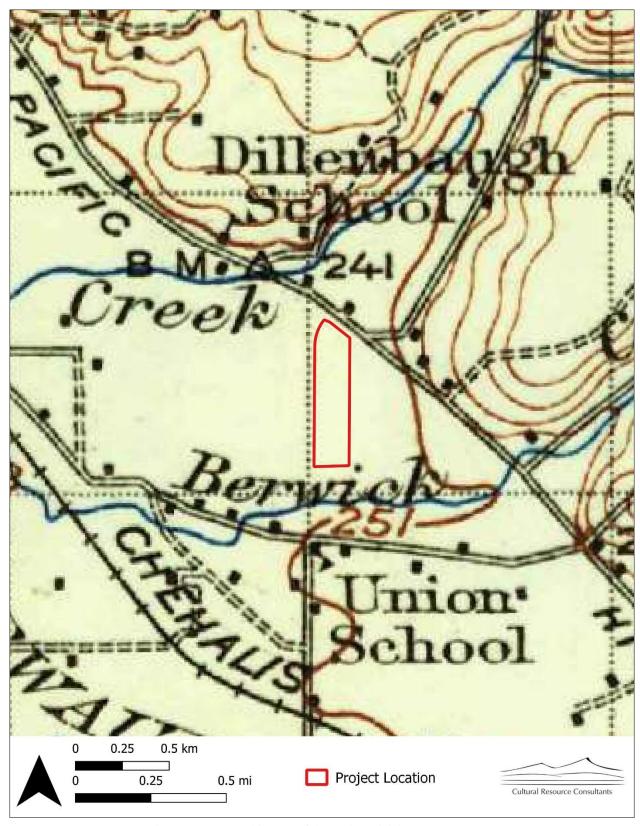


Figure 4. Topographic map of the project vicinity (USGS 1916).

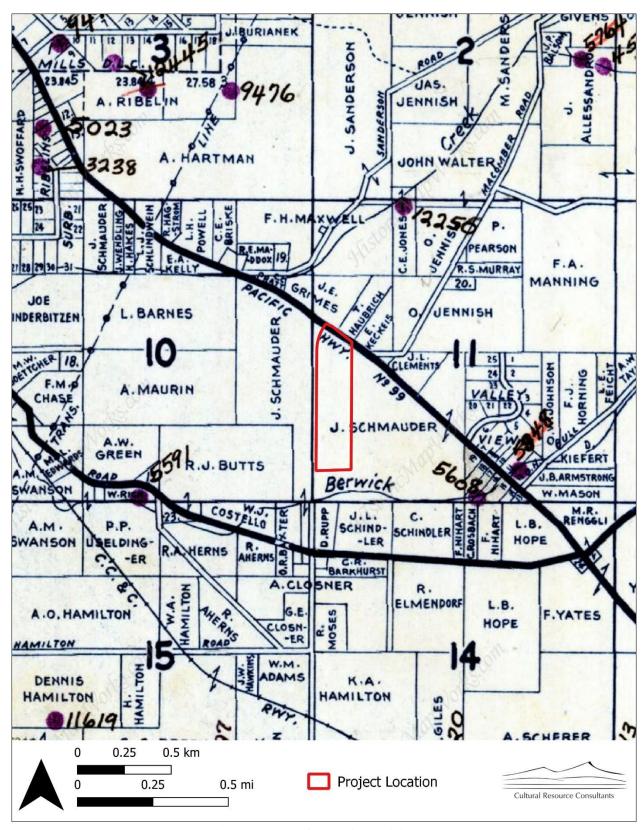


Figure 5. Lewis County atlas of the project vicinity (Metsker 1948).

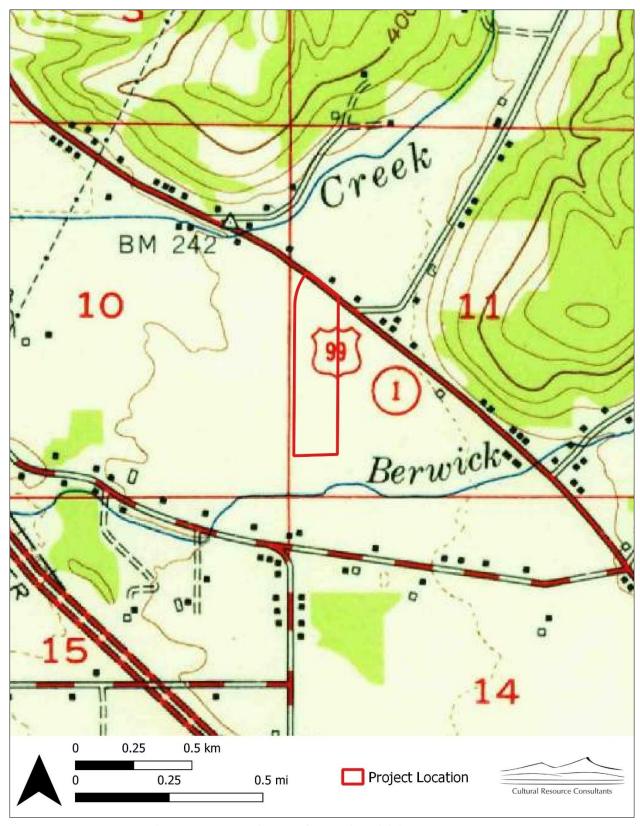


Figure 6. Topographic map of the project vicinity (USGS 1954).

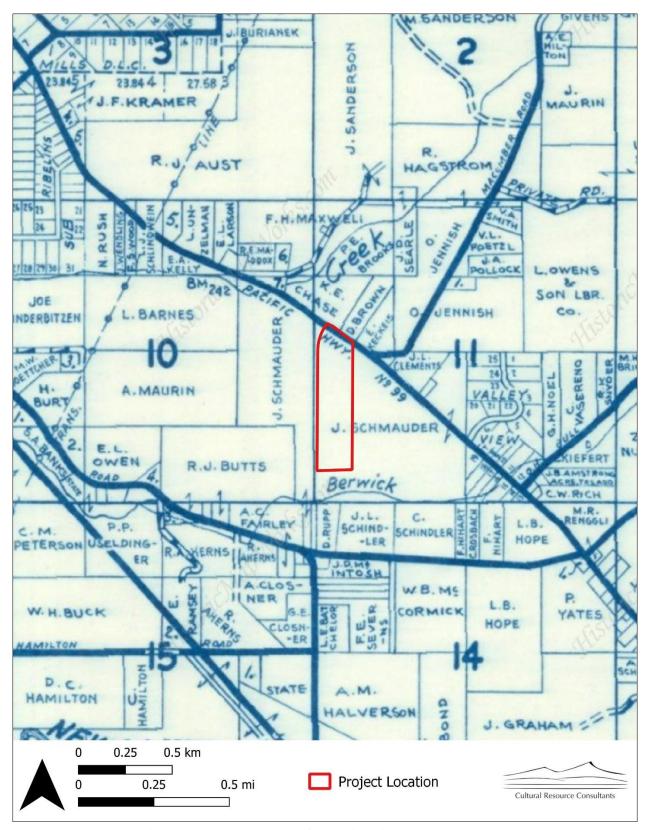


Figure 7. Lewis County atlas of the project vicinity (Metsker 1962).

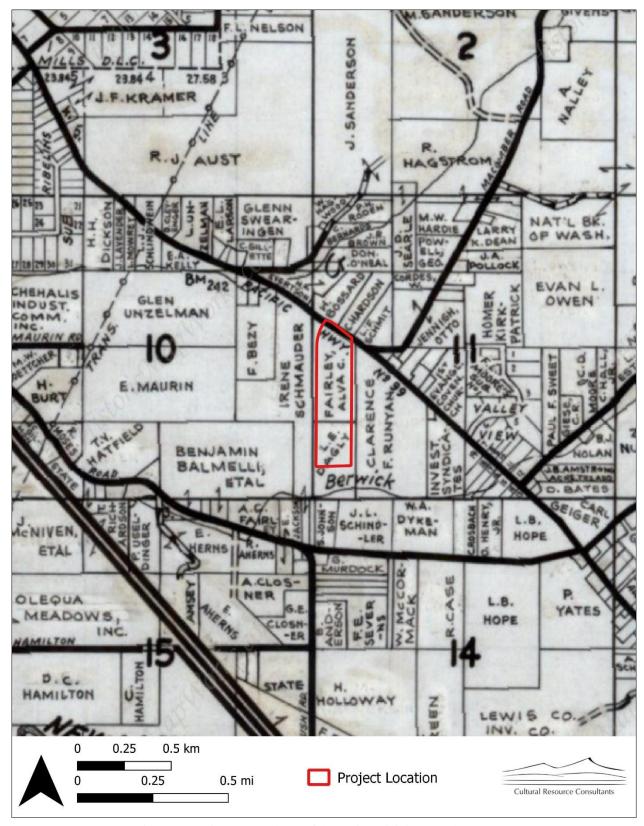


Figure 8. Lewis County atlases of the project vicinity (Metsker 1975).

#### 2.8 Cultural Resources Review

A review of the WISAARD database identified cultural resources investigations, archaeological sites, and register-listed historic properties in the vicinity of the project. This information provides details about the nature and likelihood of cultural resources at the project location (DAHP 2022b).

#### Cultural Resources Investigations

Since 1995, 40 cultural resources investigations have been conducted within one mile of the project location (Table 1). These studies were completed as part of energy infrastructure projects (Hannum and Wilson 2002), improvements to Interstate 5 and associated environmental mitigation along Berwick Creek (Kopperl and Heideman 2011), local road construction (Baker and Smits 2006), and industrial and commercial development (Darby 2006; Trautman and Flenniken 2015).

The boundaries of five cultural resources investigations overlap with the project location. Baker and Smits (2006) conducted background research and field investigation, inclusive of surface and subsurface survey, ahead of proposed extensions to Rush Road along the western boundary of the project. Shovel test probes measured 50 cm (1.6 feet) in diameter and were excavated to a target depth of 50 to 70 cm (1.6 and 2.3 feet) below surface. Four of the 12 excavated probes were positive for archaeological materials. One yielded one CCS flake that was designated part of the previously identified 45LE521 (see below). The other three probes were excavated in a relatively undisturbed grove of oak trees at the northern end of the road alignment. They yielded 42 CCS flakes and one FMR. Two additional CCS flakes and one FMR were identified at the surface near these probes. These artifacts were designated 45LE573. Baker and Smits (2006) recommended additional testing at the site to determine its extent and evaluate its eligibility for listing on the NRHP.

Baker, Sharma, et al. (2006) conducted supplemental field investigation within an expanded area along the Rush Road alignment and additional testing at 45LE573 (Figure 9). Surface survey proceeded along parallel transects spaced at most 5 meters (16 feet) apart. Subsurface survey consisted of excavation of 50-cm (1.6-foot) diameter shovel test probes to a depth of 50 cm (1.6 feet) below surface within the expanded survey area. No new archaeological sites were identified. Ten additional shovel test probes, also measuring 50 cm (1.6 feet) in diameter and excavated to a target depth of 50 to 70 cm (1.6 to 2.3 feet) below surface, were excavated around 45LE573. One 1-x-1-meter (3.3-x-3.3-foot) test unit and one 50-x-50-cm (1.6-x-1.6-foot) quarter test unit were also completed to document site stratigraphy. Excavated sediments were screened through 1/8- and 1/4-inch mesh. Test units were excavated in 10-cm (4-inch) levels.

Table 1. Cultural resources assessments completed within one mile of the project location.

Reference	NADB#	Report Title	Distance from Project	Results
King 1994	1341406	Letter to Katy Chaney Regarding Results of a Cultural Resources Inventory of the Proposed Chehalis Cogeneration Facility, Lewis County, Washington	0.3 mile W	Survey report for proposed energy facility. Background research, surface survey, and limited subsurface survey did not identify archaeological sites. No additional work recommended.
Goetz Stutzman 1994	1340809	Cultural Resources Assessment of the Northwest Pipeline Corporation Chehalis Pipeline Extension Project	450 feet S	Survey report for extension of pipeline, including along Berwick Creek. Background research and surface survey did not identify archaeological sites and no additional work recommended in proximity to the current project.
Enserch 1994	1340811	Historic Properties Survey of the Chehalis Generation Facility Pipeline Corridor, Lewis County, Washington	450 feet S	Survey report for proposed pipeline. Background research, surface survey, and subsurface survey identified two archaeological sites on terraces along the Newaukum River. Test excavations were recommended to evaluate sites' NRHP eligibility prior to pipeline development.
Wilson 2002a	1340909	Cultural Resource Assessment of the City of Chehalis Sewer and Water System Upgrade Project, Lewis County, Washington	750 feet SW	Survey report for proposed sewer and water pipeline. Background research did not identify previously recorded archaeological sites. Surface and subsurface survey identified one archaeological site (45LE523). Further testing recommended in event that project could not avoid the site.

Reference	NADB#	Report Title	Distance from Project	Results
Hannum and Wilson 2002	1340895	Cultural Resource Assessment of the Northwest Pipeline Company's Berwick Lateral Pipeline Project, Lewis County, Washington	400 feet S	Survey report for proposed pipeline Identified sites 45LE520 and 45LE521. Conducted shovel testing moving north from the initial finds to determine a pipeline route that would avoid the two archaeological sites. A pipeline route was delineated north of the established site boundaries in an area where all shovel test probes and surface survey transects were negative for archaeological materials. Recommended the sites eligible for listing on the NRHP.
Wilson 2002b	1341069	Addendum to the Report: Supplemental Cultural Resource Assessment of the Northwest Pipeline Company's Berwick Lateral Pipeline Project, Lewis County, Washington	750 feet SW	Report addendum. Completed additional surface and subsurface survey in pipeline access roads and work areas. No archaeological materials identified.
Bialas 2002	1341357	Archaeological Monitoring of Pipeline Trenching along Northwest Pipeline Company's Berwick Lateral Natural Gas Pipeline, Lewis County, Washington	400 feet S	Monitoring report for 3,000 feet of pipeline trench on Port of Chehalis and Clarence Runyon properties immediately north of sites 45LE520 and 45LE521. No archaeological materials found.
Durio and Bard 2005	1345824	I-5, Rush Road to 13 <sup>th</sup> Street Project Environmental Assessment: Historic, Cultural, and Archaeological Resources Discipline Report	0.68 mile SW	Survey report for proposed highway improvements. Background research identified several archaeological sites, including 45LE520, 45LE521, and 45LE523. No unrecorded sites were identified during surface survey or limited subsurface survey.

Reference	NADB#	Report Title	Distance from Project	Results
Baker, Punke, and Ozbun 2006	1347770	Cultural Resource Survey of Northwest Pipeline Corporation's Capacity Replacement Project, Western Washington, Addendum Eighteen: Berwick Wetland Mitigation Area	300 feet SE	Survey report for pipeline wetland mitigation area. Background research identified 45LE521 adjacent to the west. Surface and subsurface survey expanded the site's boundaries. Recommended that further testing be conducted to evaluate the site, or that the project be designed to avoid the site. A conservation easement was placed on the property to prevent impacts to the site.
Baker and Smits 2006	1354641	Cultural Resource Survey of the Proposed Rush Road Extension Project, Lewis County, Washington	Overlaps with project	Survey report for proposed road construction project. Survey and subsurface survey identified a historic barn and 45LE573 and expanded the boundaries of 45LE521. Damage from another project was also noted at 45LE521. Further testing was recommended at both archaeological sites. The barn was recommended not eligible for listing on the NRHP.
Baker, Sharma et al. 2006	1348201	Evaluation of Cultural Resources and Supplemental Surveys for the Proposed Rush Road Extension Project, Lewis County, Washington	Overlaps with project	Supplemental surveys and evaluation of 45LE521 and 45LE573 to reflect changes in proposed construction areas. Surface and subsurface survey identified additional archaeological materials. 45LE573 was disturbed and recommended not eligible for listing on the NRHP. 45LE521 was found to contain dense deposits and was recommended eligible for listing on the NRHP.
Darby 2006	1349754	Archaeological Resource Damage Assessment Report for a Portion of 45LE521, Lewis County	400 feet S	Damage assessment report describes adverse effects to 45LE521 as a result of wetland mitigation work. Includes discussion of commercial and archaeological value, and cost of repair. It was recommended that an MOA be drafted outlining ways to mitigate the adverse effects to the site.

Reference	NADB#	Report Title	Distance from Project	Results
Luttrell 2006	1349053	Cultural Resource Investigations for the Washington State Department of Transportation's I-5: Rush Road Interchange Project, Lewis County, Washington	1.00 mile S	Survey report for highway improvement project. One recorded archaeological site and four previously unrecorded archaeological sites identified more than one mile from the Port of Chehalis Development Project. Avoidance or evaluative testing recommended at two sites.
Ozbun 2006	1348228	Treatment Plan for Site 45LE521, Rush Road Extension Project, Lewis County, Washington	400 feet S	Plan outlining data recovery excavation as mitigation for adverse effects to 45LE521 due to proposed road construction. Included background information, research design, assessment of potential impacts, and specific methodology for archaeological data recovery.
Sharma and Ozbun 2006	1348405	Cultural Resource Survey for the Proposed Rush Road Extension Project Wetland Mitigation Area, Lewis County, Washington	550 feet S	Survey report for wetland mitigation area south of Berwick Creek. Identified additional deposits at 45LE521. Based upon low artifact density and diversity, this area was found not to contribute to the site's NRHP eligibility, and no additional work was recommended.
Daugherty et al. 2006	1688081	A Cultural Resource Survey of the Holloway Springs Project Area	0.65 mile S	Survey report for proposed residential development. Surface survey and monitoring of backhoe trenches conducted. No archaeological materials identified.
Mahelona 2007	1350940	I-5 Rush Road to 13th Street Monitoring: Investigations at Proposed Pond Locations 2, 4, and 5	0.74 mile SW	Survey report for three proposed wetland mitigation ponds. Excavation of backhoe trenches and shovel test probes did not reveal archaeological materials near the Port of Chehalis Development Project. One isolate found over one mile from the project; further testing recommended to determine if other archaeological material was present.

Reference	NADB#	Report Title	Distance from Project	Results
Adams et al. 2008	1352111	Cultural Resources Survey of Five Port of Chehalis Parcels	Overlaps with project	Survey report for proposed industrial development. Two historic buildings, one archaeological isolate (45LE614), and one archaeological site (45LE613) identified during surface and subsurface survey. Additional deposits at 45LE521 also found. Avoidance recommended at 45LE521, while further testing was recommended at 45LE613 and 45LE614, along the historic Dillenbaugh Creek alignment, and at 45LE573.
Ozbun et al. 2008	1352259	Archaeological Data Recovery at Site 45LE521 Rush Road Extension Project, Lewis County, Washington	400 feet S	Data recovery report, describing excavations at 45LE521 conducted as mitigation of road construction impacts. Two percent of the site was excavated and analyzed, providing seasonal, temporal, and functional information about the site.
Buchanan and Ozbun 2009	1684575	ADDENDUM: A Cultural Resources Survey of Five Port of Chehalis Parcels, Addendum: Supplemental Shovel Testing and Augering	Overlaps with project	Survey report describing results of additional shovel testing recommended by Adams et al. (2008). Subsurface survey identified one site (45LE690), identified additional deposits of two others (45LE573 and 45LE613), and found no additional material at isolate 45LE614. 45LE614 was recommended not eligible for listing on the NRHP. Further testing recommended at 45LE690, 45LE573, and 45LE613 in the event that the project could not be designed to avoid the sites.
Foutch and Fagan 2009	1352391	Archaeological Survey of the Chehalis Housing HUD Development Project in Lewis County, Washington	0.77 mile S	Survey report for proposed housing development. Surface and subsurface survey identified 45LE617. The site was recommended not eligible for listing on the NRHP. Monitoring or avoidance recommended in the event that the project included ground disturbance near the site location.

Reference	NADB#	Report Title	Distance from Project	Results
Foutch et al. 2009	1353391	Literature Review and Archaeological Resources Field Survey for the Chehalis to Centralia No. 1 69-Kv Transmission Line Rebuild Project in Lewis County, Washington	0.75 mile W	Survey report of proposed transmission line rebuild. Surface and subsurface survey identified four archaeological sites (45LE669, 45LE670, 45LE671, and 45LE672) within one mile of the Port of Chehalis Development Project. One site (45LE671) was recommended not eligible for listing on the NRHP. Further testing was recommended at 45LE669 and 45LE670 in the event that the project could not avoid them.
Schumacher 2009	1352862	Cultural Resources Survey for North Star Drive Stormwater Revisions, Chehalis	0.50 mile SW	Survey report for stormwater improvements. Background research, surface survey, and subsurface survey did not identify any archaeological sites. No additional work recommended.
Lehman and Roulette 2009	1353900	Results of Cultural Resources Monitoring of the BPA's Chehalis-Centralia Transmission Line No.1 69 kV Rebuild Project, Lewis County, Washington	0.75 mile W	Ground disturbing activities for access road realignment and power pole replacement were monitored by an archaeologist. No archaeological sites were found.
Kopperl and Heideman 2011	1680998	Cultural Resources Assessment of the Berwick Creek Mitigation Site for I-5 Mellen Street to Blakeslee Junction Project (MTB)	0.38 mile ESE	Survey report for proposed wetland mitigation area. Shovel test probes identified additional deposits at 45LE520. Further testing recommended south of Berwick Creek. No additional work recommended if the project could be designed to avoid 45LE520. Further testing of 45LE520 recommended if avoidance was not an option.
Freed 2012	1682610	Archaeological Investigation for the City of Napavine's Small Water Systems Consolidation Project in Lewis County, Washington	0.88 mile S	Survey report for proposed water system improvements. Background research, surface survey, and subsurface survey did not identify archaeological sites. No additional work recommended.

Reference	NADB#	Report Title	Distance from Project	Results
Williams et al. 2014	1686523	Cultural Resource Survey of Willamette Valley Company Industrial Development, Port of Chehalis, Lewis County, Washington	0.20 mile W	Survey report for proposed industrial development. Surface survey identified one historic site that was recommended not eligible for listing on the NRHP. Subsurface survey documented additional deposits at 45LE613 and 45LE670 and identified previously unrecorded archaeological sites 45LE893 and 45LE894. 45LE670 and 45LE893 were recommended not eligible for listing on the NRHP. Evaluative testing recommended at 45LE613 and 45LE894 if the project could not avoid them.
Trautman and Flenniken 2015	1686865	Historic Property Investigation of the Rush Road Industrial Development	150 feet W	Survey report for proposed industrial facility. Background research, surface survey, and subsurface survey did not identify any archaeological sites. No additional work recommended.
Berger 2015	Cultural Resources Survey, Puget Western, Inc. – Chehalis Industrial Project, Lewis County, WA		Adjacent to eastern boundary	Survey report for proposed industrial development. Background research, surface survey, and subsurface survey resulted in the identification of 45LE913, 45LE914, 45LE915, 45LE916, 45LE917, and 45LE918. Recommended avoidance or additional testing at 45LE913. Other sites recommended not eligible for listing on the NRHP.
Shaw and Gall 2015	1693569	Archaeological Monitoring Report for the City of Napavine Small Water System Improvements Project, Napavine, Washington	0.85 mile S	Monitoring report for water system installation across the Interstate 5 right-of-way. One archaeological isolate was identified. It was recommended not eligible for listing on the NRHP. No additional work recommended

Reference	NADB#	Report Title	Distance from Project	Results
Williams- Larson and Ozbun 2017	1689396	Cultural Resource Survey for the 2.5-Acre Maurin Road Property Project, Port of Chehalis, Lewis County, Washington	0.78 mile W	Survey report for proposed parcel development. Identified 45LE672. Surface and subsurface survey did not result in additional archaeological sites. No NRHP-eligibility recommendation provided for 45LE672. No additional work recommended.
Martinez and Ozbun 2019	N/A	Cultural Resource Survey for the Port of Chehalis Berwick Creek Restoration Project, Lewis County, Washington	0.21 mile SW	Survey report for proposed Berwick Creek restoration. Identified 45LE1004 and 45LE521 and isolate 45LE1001 during surface and subsurface survey. 45LE521 will be avoided during the project. Additional testing recommended at 45LE1004.
Baldwin et al. 2019	1693097	A Cultural Resources Assessment of the Hogue/Berwick Creek Fish Passage Improvement Project, Chehalis, Washington	1.00 mile E	Survey report for proposed stream passage restoration. No archaeological sites identified during background research or surface and subsurface survey. No additional work recommended.
AINW 2020	N/A	Archaeological Testing and Evaluation Plan for the Port of Chehalis: Berwick Creek Restoration Project, Lewis County, Washington	0.21 mile SW	Plan outlining archaeological testing and evaluation at 45LE1004 in advance of Berwick Creek restoration project. Included background information, evaluation criteria, and proposed field and laboratory methods.
Martinez et al. 2021	N/A	Archaeological Evaluation of Site 45LE1004 for the Berwick Creek Restoration Project.	0.21 mile SW	Archaeological testing report describing excavation at 45LE1004 conducted as part of evaluating testing. Archaeological deposits consisting of lithic tools, lithic debitage, and FMR were identified. Recommended site as potentially eligible for listing on the NRHP. Recommended no additional work for activities extending up to 50 cm below surface.

Reference	NADB#	Report Title	Distance from Project	Results
Kretzler and Anderson 2021a	N/A	Cultural Resources Assessment for the Maurin Road Extension Project, Chehalis, Lewis County	Overlaps with project	Survey report for proposed road extension. No archaeological sites identified during background research or surface and subsurface survey. Recommended that eastern portion of 45LE573 receive evaluating archaeological testing.
Kretzler and Anderson 2021b	N/A	Cultural Resources Assessment for the Jackson Highway Project, Chehalis, Lewis County, Washington	Adjacent to eastern boundary	Survey report for proposed industrial development. Identified 45LE1060, 45LE1061, and 45LE1062. Recommended 45LE1060 and 45LE1061 not eligible for listing on the NRHP. Recommended 45LE1062 and 45LE913 receive evaluative archaeological testing.
Berger 2021	N/A	Treatment Plan for Archaeological Sites 45LE913 and 45LE1062, Jackson Highway Project, Lewis County, Washington	0.26 mile E	Treatment plan outlining evaluative testing at 45LE913 and 45LE1062 in advance of industrial development. Included background information, evaluation criteria, and proposed field and laboratory methods.
Mathews 2021	1696147	Cultural Resource Assessment for the Cosser Tiny Homes Development, Chehalis, Lewis County, WA	0.68 mile ESE	Survey report for proposed residential development. Identified one edge-modified cobble during field investigation. Not recorded as an archaeological site. Recommended archaeological monitoring be conducted during ground disturbing activities.
Kretzler 2022	N/A	Archaeological Testing at Sites 45LE913 and 45LE1062, Jackson Highway Project (NWS-2015-259), Lewis County, Washington	0.26 mile E	Archaeological testing report describing excavations at 45LE913 and 45LE1062. Archaeological deposits consisting of lithic artifacts and FMR identified at each site. Recommended 45LE913 and 45LE1062 not eligible for listing on the NRHP. Recommended archaeological monitoring during ground disturbing activities at 45LE913.

Shovel test probes yielded 24 lithic artifacts, including 21 pieces of CCS debitage, one piece of basalt debitage, and two FMR. Six pieces of CCS debitage were identified in the quarter test unit. The test unit contained 303 artifacts, including 276 pieces of debitage, one CCS flake tool, one hammerstone, two CCS arrow point preforms, and 23 FMR. Some modern debris was present in a layer of crushed construction gravel extending to 15 cm (6 inches) below surface. These items were likely related to the agricultural structures visible in aerial imagery. Artifact density was highest immediately below the gravel and decreased with depth. The deepest excavation level, 60 to 70 cm (2 and 2.3 feet) below surface, was negative for archaeological materials. The artifact assemblage was indicative of late-stage arrow point production. The absence of cortex on all but eight flakes suggested early stage reduction occurred elsewhere. Many of the CCS flakes exhibited intentional heat treatment and thermal damage following production and use. Test unit stratigraphy consisted of a dark brown silt loam plow zone extending from the base of crushed gravels to approximately 40 cm (1.3 feet) below surface; dark yellowish brown silty clay loam to 50 cm (1.6 feet) below surface; and yellowish brown silt loam to 70 cm (2.3 feet) below surface. Baker, Sharma, et al. (2006) recommended the site not eligible for listing on the NRHP due to recent disturbance and lack of information potential.

Adams et al. (2008) completed a cultural resources assessment ahead of planned industrial development on five parcels. Parcels 5 overlaps with the project location (Figure 10). Field investigation conducted as part of the assessment consisted of surface survey and excavation of 39 shovel and auger test probes. Surface survey proceeded along transects spaced no more than 15 meters (50 feet) apart. Probes measured 50 cm (1.6 feet) in diameter and were excavated to a target depth of approximately 50 cm (1.6 feet) below surface. Twelve probes were extended to greater depths using a hand auger. Three probes (ST-22, ST-23, and ST-24) were excavated at the current project location (Figure 10). ST-22 and ST-23 contained light grayish brown to dark yellowish brown silty clay loam. A dark gray clay mixed with coarse sand was encountered in ST-23 between 87 and 150 cm (2.6 and 4.9 feet) below surface. ST-24 contained brown to dark grayish brown silt loam. No more than five percent gravels were identified in all three probes. No archaeological materials were identified, but Adams et al. (2008) recommended additional testing occur in the vicinity of 45LE573 to determine whether the site extended to the east.

During their investigation of Parcel 6, which overlaps with the southern third of the project location, Adams et al. (2008) identified one lithic isolate, designated 45LE614. The isolate consisted of one CCS flake identified 40 cm (1.3 feet) below surface. Shovel test probes later excavated around the isolate by Buchanan and Ozbun (2009) were negative for archaeological materials. Buchanan and Ozbun (2009) recommended the isolate not eligible for listing on the NRHP.

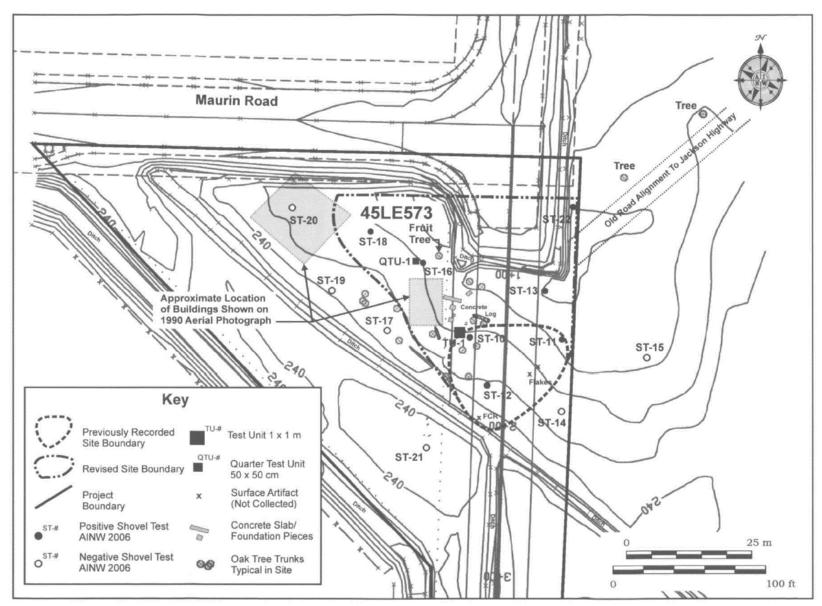


Figure 9. Test units and shovel test probes completed at 45LE573 by Baker, Sharma, et al. (2006:16).

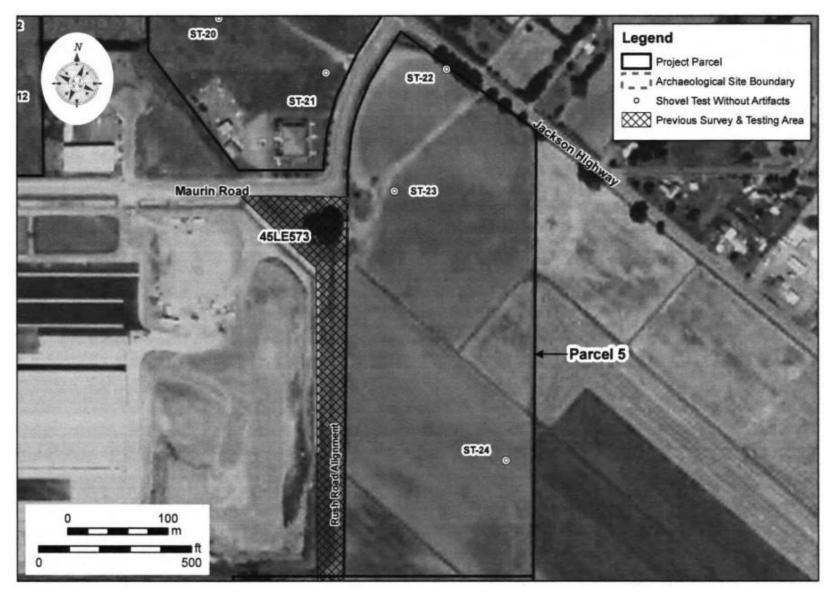


Figure 10. Shovel test probes completed at the project location by Adams et al. (2008:Figure 5).

Buchanan and Ozbun (2009) completed the recommended testing at 45LE573 (Figure 11). They excavated 13 shovel test probes east and north of the previously delineated site boundaries. Five probes were positive for archaeological materials. Ten CCS flakes and six basalt flakes were identified. Artifacts were found between 40 and 85 cm (1.3 and 2.8 feet) below surface in a brown silt loam matrix underlying recent gravel deposits. The boundaries of the site were expanded to reflect these new finds. Although Baker, Sharma, et al. (2006) previously recommended the site not eligible for listing on the NRHP, Buchanan and Ozbun (2009) noted that the significance of portions of the site east of Rush Road is unknown. They recommended this area be avoided during future development and, if avoidance is not possible, recommended testing excavations to reevaluate the site's eligibility for listing on the NRHP. No subsequent archaeological testing or development-related modification has occurred at the site.

Most recently, Kretzler and Anderson (2021a) conducted field investigation at a portion of the project as part of the Maurin Road Extension Project. Surface and subsurface survey was conducted within the proposed road alignment beyond the boundaries of 45LE573 established by Buchanan and Ozbun (2009). Surface survey was achieved via opportunistic transects in the vicinity of planned shovel test probes and along the northern boundary of 45LE573. Subsurface survey was achieved via excavation of 35 cylindrical shovel test probes measuring 40 cm (1.3 feet) in diameter (Figure 12). Probes were excavated at 20-meter (66-foot) intervals to a target depth of 100 cm (3.3 feet) below surface. Excavated sediments were screened through 1/4-inch mesh. Probes reached an average depth of 75 cm (2.5 feet) below surface, and all probes excavated immediately north and east of 45LE573 reached at least 80 cm (2.6 feet) below surface.

Subsurface deposits exhibited relatively little variation across the survey area. Probes contained a plow zone of dark brown silt loam, which extended to approximately 30 cm (1 foot) below surface. The plow zone was underlain by gray to grayish brown, firm, silty clay. In most shovel test probes, this stratum transitioned to gray, compact, clay about 75 cm (2.5 feet) below surface. These latter deposits were interpreted as B horizons of Reed silty clay loam. The water table was frequently encountered, most commonly at 70 cm (2.3 feet) below surface. Redoximorphic features were present in the silty clay and, to a lesser extent, the clay strata, indicating that survey area is at least seasonally inundated. No archaeological materials were identified (Kretzler and Anderson 2021a).

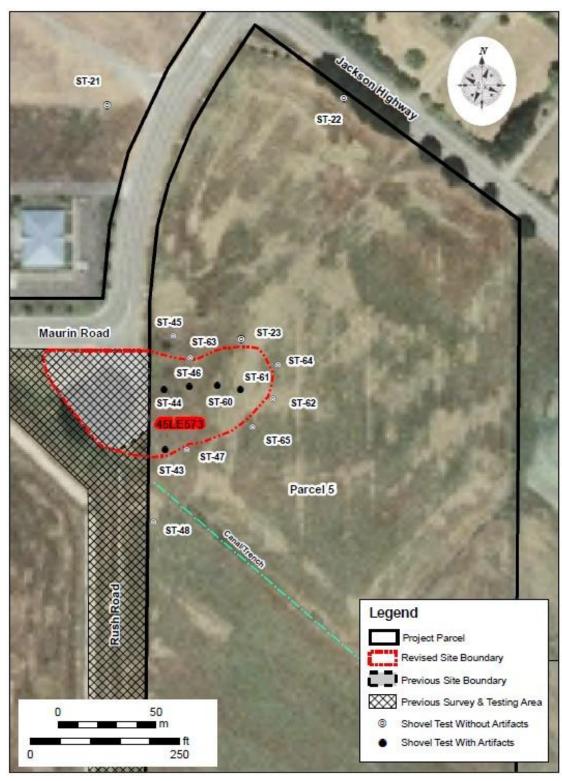


Figure 11. Shovel test probes excavated at 45LE573 by Buchanan and Ozbun (2009:Figure 4). The revised site boundaries remain unchanged.

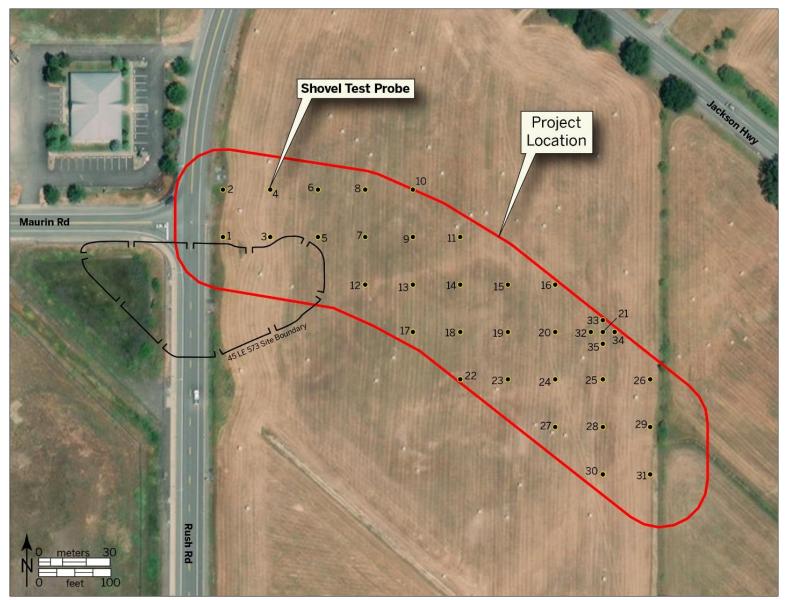


Figure 12. Shovel test probes excavated by Kretzler and Anderson (2021a:49).

# Archaeological Sites

As a result of previous cultural resources assessments, 35 archaeological sites have been identified within one mile of the project (Figure 13; Table 2). Two of these sites (45LE573 and 45LE614) overlap with project boundaries and are discussed above.

45LE690 is located 630 feet northwest of the project. It was identified by Buchanan and Ozbun (2009) during subsurface investigation of Parcel 4 along the historical course of Dillenbaugh Creek. Eight shovel test probes were positive for archaeological material. Thirty-eight flakes, 35 CCS and three basalt, and two FMR were recovered. Artifacts were identified up to 140 cm (4.6 feet) below surface, though most were present within 50 cm (1.6 feet) of the surface. Buchanan and Ozbun (2009) recommended the site be avoided or receive additional testing to fully evaluate its historical significance.

45LE520 and 45LE521 were identified by Hannum and Wilson (2002) on small terraces overlooking Berwick Creek immediately south of the project (see Figure 14). 45LE520 consists of a medium-density scatter of lithic material situated immediately north of the creek. Shovel test probes and one test excavation unit completed at the site yielded more than 500 pieces of CCS, basalt, and obsidian debitage, FMR, and six formed lithic tools, mostly within 30 cm (1 foot) of the surface but as deep as 60 cm (2 feet) below surface. The formal tools consist of three bifaces and three small, triangular arrow points. The points suggest the site was occupied during the late Holocene, roughly 1500 to 250 years BP (Ames and Maschner 1999:94-112; Nelson 1990:481-484). Test unit stratigraphy consisted of brown silt loam, likely a remnant plow zone, to about 30 cm (1 foot) below surface overlying light brown, oxidized, silt loam. Archaeological deposits exhibited evidence of recent disturbance resulting from fence construction and repeated dredging of Berwick Creek. Overall, however, archaeological deposits retained depositional integrity. The site was recommended eligible for listing on the NRHP under Criterion D (Hannum and Wilson 2002). Additional subsurface survey by Kopperl and Heideman (2011) immediately east of the original site boundaries identified two FMR and two lithic flakes across three shovel test probes. The boundaries of 45LE520 were expanded to encompass these finds.

45LE521 yielded a similar artifact assemblage. Shovel test probes excavated at the site yielded more than 40 pieces of debitage, one CCS projectile point fragment, one CCS biface fragment, and one unifacially retouched chert flake. The projectile point fragment is suggestive of late Holocene occupation. Most artifacts were identified within 30 cm (1 foot) of the surface. Subsurface deposits consisted of dark brown silt loam, which extended up to 30 cm (1 foot) below surface and was generally thicker and more clay-rich in areas disturbed by plowing. It was underlain by light brown silt loam with elevated quantities of clay. The site was recommended eligible for listing on the NRHP under Criterion D (Hannum and Wilson 2002).



Figure 13. Recorded archaeological sites in the immediate vicinity of the project location.

Table 2. Recorded archaeological sites located within one mile of the project.

Site Number	Archaeological Materials	Depth (cmbs)	Age	Distance from Project	Historic Register Status
45LE573	300+ pieces of debitage (mostly CCS with some basalt), 1 CCS flake tool, 1 CCS blank, 1 hammerstone, 2 CCS arrow-sized preforms, 25 FMR	0-85	Likely pre-1850	Overlaps with project	Western portion determined not eligible for listing on the NRHP; eligibility of the eastern portion of the site has not been determined
45LE614	1 CCS flake	30-40	Likely pre-1850	Overlaps with project	No eligibility determination; recommended not eligible for listing on the NRHP
45LE1060	1 CCS core	10-15	Likely pre-1850	390 feet E	No eligibility determination
45LE521	21,000+ pieces of debitage (mostly CCS with some rhyolite, obsidian, basalt, and petrified wood), 295 stone tools (cores, blanks, basal or corner notched arrow points, preforms, flake tools, scrapers, burins), 703 animal bones (mostly medium-sized mammals), charred hazelnut shells, 3,600+ FMR (including one possible roasting oven)	0-50	700-1000 years BP	400 feet S	Determined eligible for listing on the NRHP
45LE918	1 historic nail	10-20	1850-1950	540 feet E	No eligibility determination
45LE917	1 CCS flake	0-10	Likely pre-1850	600 feet E	No eligibility determination

Site Number	Archaeological Materials	Depth (cmbs)	Age	Distance from Project	Historic Register Status
45LE916	1 CCS flake	10-20	Likely pre-1850	650 feet E	No eligibility determination
45LE690	35 CCS flakes, 3 basalt flakes, 3 FMR	0-140	Likely pre-1850	630 feet NW	No eligibility determination
45LE1061	1 CCS arrow-sized preform	0-10	Likely pre-1850	670 feet SE	No eligibility determination
45LE1001	1 FMR	30-40	Likely pre-1850	890 feet SW	No eligibility determination
45LE1004	111 pieces of CCS debitage, 8 CCS tools (7 cores and 1 flake tool), 26 FMR	0-120	Likely pre-1850	0.20 mile SW	No eligibility determination
45LE520	500+ pieces of debitage (mostly CCS with some basalt and obsidian) FMR, 3 obsidian biface fragments, 3 small triangular arrow points (1 chalcedony, 1 felsic tuff, 1 basalt)	0-60	150-2000 years BP	0.24 mile SE	No eligibility determination
45LE613	23 CCS flakes, 1 basalt flake, and 1 obsidian flake	0-40	Likely pre-1850	0.25 mile NW	No eligibility determination
45LE894	1 CCS tool and 18 CCS flakes	0-50	Likely pre-1850	0.26 mile NW	No eligibility determination

Site Number	Archaeological Materials	Depth (cmbs)	Age	Distance from Project	Historic Register Status
45LE913	50 CCS flakes, 4 FGV flakes, 1 CCS flaked cobble, 1 CCS core, 13 CCS shatter, 40 FMR	0-50	Likely pre-1850	0.26 mile E	No eligibility determination
45LE1002	1 CCS flake	20-30	Likely pre-1850	0.28 mile SW	No eligibility determination
45LE893	2 CCS flakes	0-10	Likely pre-1850	0.29 mile WNW	No eligibility determination
45LE1005	14 CCS flakes, 5 FMR	5-130	Likely pre-1850	0.29 mile SW	No eligibility determination
45LE1062	1 CCS core, 1 FGV flake, 1 CCS shatter	0-50	Likely pre-1850	0.30 mile E	No eligibility determination
45LE523	20 pieces of CCS debitage, 1 CCS core, 2 FMR	0-30	Likely pre-1850	0.30 mile SW	No eligibility determination
45LE914	1 CCS flake	20-30	Likely pre-1850	0.34 mile E	No eligibility determination
45LE915	1 CCS flake	10-20	Likely pre-1850	0.36 mile E	No eligibility determination
45LE1003	3 CCS flakes, 1 tested agate, pebble, 1 FMR, 1 aqua glass fragment	0-25	Possibly multi- component, pre- 1850 & 1850-1880	0.40 mile SW	No eligibility determination

Site Number	Archaeological Materials	Depth (cmbs)	Age	Distance from Project	Historic Register Status
45LE670	40-50 CCS and quartzite flakes, 40-50 FMR, 4 tool fragments, 1 whiteware sherd, 1 drain tile sherd, 1 colorless glass fragment, 4 calcined mammal bone fragments	Surface	Likely pre-1850 and mid-twentieth century	0.62 mile WNW	No eligibility determination
45LE671	1 CCS flake	Surface	Likely pre-1850	0.63 mile WNW	No eligibility determination
45LE669	36 CCS flakes, 31 FMR, 1 amethyst bottle glass fragment	0-40	Likely pre-1850 and early twentieth century	0.63 mile WNW	No eligibility determination
45LE944	1 CCS core	Surface	Likely pre-1850	0.67 mile W	No eligibility determination
45LE1059	59 CCS flakes, 1 obsidian flake, 3 CCS cores, and 23 FMR	0-150	Likely pre-1850	0.67 mile E	No eligibility determination
45LE683	10 CCS flakes, 2 basalt flakes, 2 CCS cores, 3 FMR, 1 hammerstone	20-40	Likely pre-1850	0.67 mile NW	No eligibility determination
45LE684	8 CCS flakes and 1 FMR	0-50	Likely pre-1850	0.68 mile NW	No eligibility determination
45LE617	2 CCS flakes	20-40	Likely pre-1850	0.76 mile S	No eligibility determination

Site Number	Archaeological Materials	Depth (cmbs)	Age	Distance from Project	Historic Register Status
45LE672	4 CCS flakes, 9 basalt flakes, 4 burnt bone fragments, 40 colorless glass fragments, 1 amethyst glass fragment, 2 aqua glass fragments, 1 red and white glass fragment, 3 wire nails, 2 ceramic sherds	0-37	Likely pre-1850 & mid-twentieth century	0.79 mile W	No eligibility determination
45LE1006	4 CCS flakes, 4 FMR, 1 milk glass jar lid fragment, 1 colorless jar fragment, 1 whiteware sherd with scalloped rim, stoneware sherds, window glass fragments, and 1 embossed bottle base	0-30	Likely pre-1850 & 1930-1940	0.80 mile SE	No eligibility determination
45LE959	2 CCS flakes	0-30	Likely pre-1850	0.94 mile E	Determined not eligible for listing on the NRHP
45LE958	1 CCS flake	10-20	Likely pre-1850	0.99 mile E	Determined not eligible for listing on the NRHP

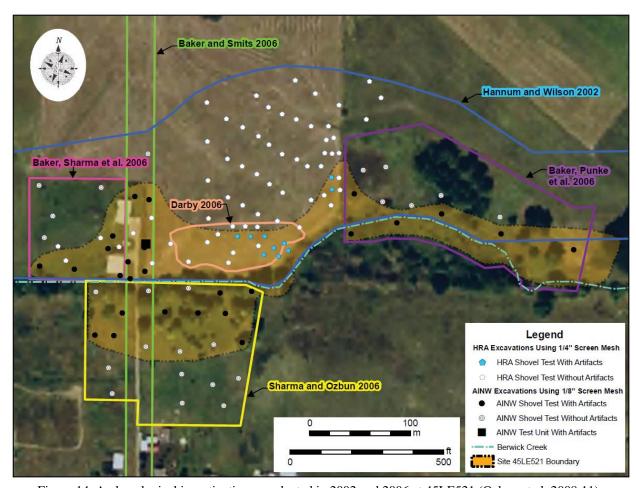


Figure 14. Archaeological investigations conducted in 2002 and 2006 at 45LE521 (Ozbun et al. 2008:11).

As part of a February 2006 survey for extensions to Rush Road, Baker and Smits (2006) completed additional surface and subsurface survey at 45LE521. They noted the site had been disturbed during wetland mitigation, specifically the excavation of a pond and planting of small trees. Two CCS bifaces, three FMR, and 17 CCS flakes were identified at the surface between a driveway and the wetland mitigation area. One shovel test probe excavated north of the site yielded one CCS flake. Site boundaries were expanded to include this find.

In April 2006, Baker, Sharma, et al. (2006) completed additional investigations at the site, in part to more fully evaluate the site's eligibility for listing on the NRHP. Eighteen shovel test probes were excavated at and immediately adjacent to the site. Probes measured 50 cm (1.6 feet) in diameter and were excavated to a depth of 50 cm (1.6 feet). One shovel test probe yielded 263 pieces of debitage, three stone tools, five pieces of bone, and 13 FMR. Fewer than 100 artifacts were identified in all other probes. One 1-x-1-meter (3.3-x-3.3-foot) test unit was excavated immediately northeast of the artifact-dense probe. The eastern half of the unit was excavated to 50 cm (1.6 feet) below surface, the western half to 60 cm (2 feet) below surface. The unit contained 17 stone tools, 1,366 pieces of debitage, 64 FMR, and 21 burned animal bones. More

than 60 percent of all finds were identified in the upper 20 cm (8 inches) of the unit. Identified stone tools consisted of CCS and petrified wood cores, blanks, arrow-sized preforms, and indeterminate preforms. Blood residue from a dove or pigeon was identified on one notched arrow point. Other faunal remains exhibited evidence of burning and possible marrow extraction. Similar to previous investigations, subsurface deposits consisted of dark grayish brown silt loam up to 35 cm (1.1 feet) below surface, which was underlain by light brown to gray silt loam extending to the base of excavation. Two bulk sediment samples collected from the test and screened through 1-millimeter mesh yielded additional artifacts, including 372 pieces of debitage, two FMR, and 19 animal bone fragments. The high density of small artifacts suggests the site featured lithic production and animal processing and was not simply a disposal area. Baker, Sharma, et al. (2006) expanded the boundaries of the site to the north and west to reflect testing results and recommended the site be considered eligible for listing on the NRHP.

Two months later, Baker, Punke et al. (2006) completed surface and subsurface survey immediately east of 45LE521 as part of wetland mitigation along Berwick Creek. Artifacts were identified during surface survey, indicating the site extended to the east. Twelve shovel test probes measuring 50 cm (1.6 feet) in diameter were excavated up to 70 cm (2.3 feet) below surface in the vicinity of surface finds. Six probes were positive for archaeological materials, including CCS flakes, FMR, and one projectile point. Baker, Punke et al. (2006) expanded site boundaries to encompass these finds.

Sharma and Ozbun (2006) returned to the site in September as part of additional wetland mitigation on the southern side of Berwick Creek. Six artifacts—four FMR and two pieces of debitage—were identified during surface survey. Subsurface survey consisted of excavation of 20 shovel test probes measuring 50 cm (1.6 feet) in diameter. Probes were excavated to at least 50 cm (1.6 feet) below surface. They contained organic debris to 10 cm (4 inches) below surface, medium brown silt loam between 10 and 45 cm (0.3 and 1.5 feet) below surface, and compact, grayish brown silt loam with redoximorphic features below 45 cm (1.5 feet). Nine probes were positive for archaeological materials. The assemblage consisted of 40 pieces of CCS debitage and 21 FMR. No tools or faunal materials were identified. These results demonstrated 45LE521 extends to the southern side of Berwick Creek. The site boundaries were updated.

The final 2006 visit to the site came in October. Darby (2006) completed an archaeological damage assessment to evaluate the impact of wetland mitigation observed by Baker and Smits (2006). Damage to 45LE521 occurred in October 2005 during operation of heavy machinery, surface grading, and excavation of the pond. During surface survey, Darby (2006) noted that the absence of lithic material suggests artifact-bearing soils were removed during pond excavation. The depth of disturbance ranged from 20 to 96 cm (0.7 and 3.1 feet) below surface. Based on the size of the pond and cost of data recovery excavations in five percent of this area, Darby (2006:18-19) estimated the total archaeological value of the disturbed portion of 45LE521 at

more than \$250,000. Darby (2006:21) recommended that no additional ground disturbance should occur in the wetland mitigation area, the USACE should work to minimize erosion in the site vicinity, and steps be taken to permanently protect the site.

Two years later, Ozbun et al. (2008) conducted data recovery excavations at 45LE521 to mitigate impacts caused by extensions to Rush Road (see also Ozbun 2006) (Figure 15). Nineteen 1-x-1-meter (3.3-x-3.3-foot) test units were excavated. Nine units (Block A) were placed near the test unit excavated by Baker, Sharma, et al. (2006). Seven units were added to Block A to explore a cluster of FMR. A backhoe was used to remove near-surface soil to the base of the plow zone, approximately 25 to 30 cm (0.8 and 1 foot) below surface. Backhoe scrapes were conducted in 10-cm (4-inch) increments. Two possible features were identified in backhoe scrapes. These were explored via one (Block B) and two (Block C) test units. Fourteen test units were excavated to 30 or 40 cm (1 to 1.3 feet) below surface; the remaining five units were excavated to between 55 and 70 cm (1.8 and 2.3 feet) below surface. Sediments were wet screened through nested 1/4-and 1/8-inch mesh. Similar to other investigations at the site, subsurface deposits consisted of silt loam plow zone underlain by silt loam and silty clay with redoximorphic features.

Data recovery excavation resulted in the identification of over 20,500 pieces of debitage, 295 stone tools, 703 pieces of animal bone, and 3,605 FMR. Nearly 700 additional artifacts, almost all debitage, were identified in bulk sediment samples. Artifacts were most dense between 10 and 20 cm (4 and 8 inches) below surface, and nearly all artifacts were recovered within 30 cm (1 foot) of the surface. The lithic assemblage was dominated by CCS, with smaller quantities of petrified wood, basalt, rhyolite, and obsidian. Recovered stone tools included cores, blanks, basal or corner notched arrow points, preforms, flake tools (i.e., flakes with use wear or retouch along at least one margin), scrapers, and burins. Pieces of obsidian debitage were subjected to geochemical sourcing, which revealed they originated in western and central Oregon. The CCS assemblage included artifacts at various reduction stages, including blanks, preforms, and finished tools. Recovered animal bones were heavily fragmented, which made taxonomic identification difficult. Medium-sized mammals were most common. Blood residue of grouse was present on two artifacts. In terms of botanical remains, charred hazelnut shells were recovered, and a large concentration of FMR in the southern portion of Block A was suggestive of an earth oven used for roasting camas. Ozbun et al. (2008) concluded that the site supported repeated occupations and likely served as a spring root-digging camp, perhaps for an extended family. Camas processing may have been the primary activity at the site, though fishing, hunting, and gathering of other plant foods likely occurred as well. Mat lodges likely existed at the site, though no evidence of these structures was identified. Use of the site appears to have ended prior to the arrival of Euro-American traders and settlers.

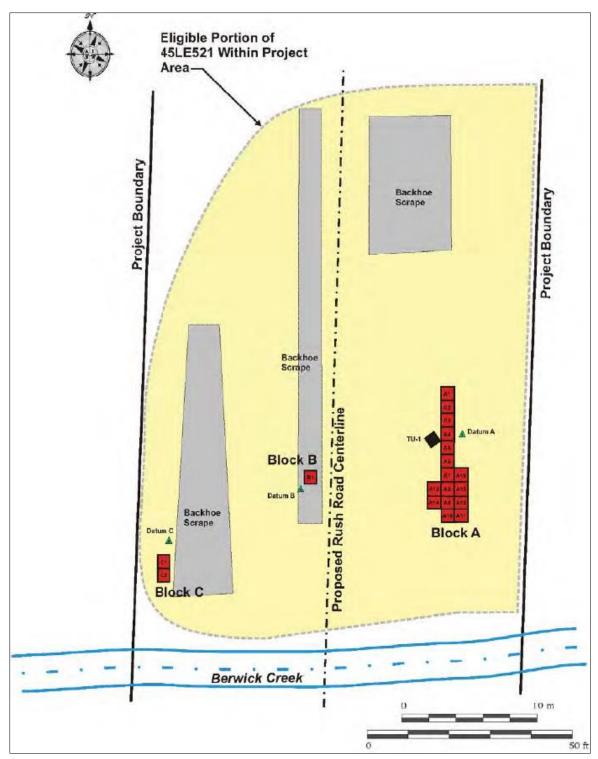


Figure 15. Test units excavated by Ozbun et al. (2008:17) at 45LE521.

## Historic Properties

No historic properties listed on the NRHP or Washington Heritage Register (WHR) are located at or within one mile of the project location. The register-listed historic property located nearest to the project is the Harry Gleason Farm 2 miles to the southwest. The dairy farm consists of two barns, a single-family residence, milk shed, machine shed, and loafing barn, most of which were built between 1909 and 1931. The primary barn was listed on the Washington State Heritage Barn Register in 2018 (DAHP 2018).

#### Historic Built Environment Resources

Eleven historic built environment resources are located within 0.25 mile of the project location (Table 3). None are located within the boundaries of the project. These resources are all single-family residences built between 1931 and 1950. Only one, Rockhaven at 110 Sanderson Road, has been formally surveyed. The structure was designed by Olivia Staeger and built by her husband Carl. It is fashioned of 12-inch-thick masonry walls composed of fieldstones imported from the Bunker Creek area west of Chehalis. The structure has not received an eligibility determination for listing on the NRHP (Paulsen 1979). It will not be adversely affected by proposed project activities.

Information about the remaining five structures was added to WISAARD as part of DAHP's 2011 Historic Property Inventory (HPI) Upload Project, which incorporated county assessors' building records into the database. The uploaded data were not field verified, nor were eligibility assessments conducted. To date, these structures have not received formal surveys or eligibility determinations. None will be adversely affected by proposed project activities.

#### **Cemeteries**

No recorded cemeteries are located within one mile of the project.

#### Traditional Cultural Properties

No traditional cultural properties (TCPs) listed on WISAARD are located within one mile of the project.

Table 3. Historic built environment resources located within 0.25 mile of the project.

Name, Address (DAHP Property ID)	Construction Date	Historical Use	NRHP Status
Rockhaven, 110 Sanderson Road (25981)	1931	Single-family residence	Surveyed; no eligibility determination
125 Sanderson Road (604636)	1965	Single-family residence	Not surveyed; no eligibility determination
144 Sanderson Road (604637)	1925	Single-family residence	Not surveyed; no eligibility determination
2710 Jackson Highway (612423)	1940	Single-family residence	Not surveyed; no eligibility determination
2821 Jackson Highway (612462)	1960	Single-family residence	Not surveyed; no eligibility determination
2821 Jackson Highway (612463)	1945	Single-family residence	Not surveyed; no eligibility determination
134 Macomber Road (608038)	1920	Single-family residence	Not surveyed; no eligibility determination
120 Macomber Road (607817)	1950	Single-family residence	Not surveyed; no eligibility determination
118 Macomber Road (607787)	1940	Single-family residence	Not surveyed; no eligibility determination
2805 Jackson Highway (612448)	1947	Single-family residence	Not surveyed; no eligibility determination
104 Macomber Road (607532)	1945	Single-family residence	Not surveyed; no eligibility determination

# 3.0 DAHP Statewide Predictive Model

The DAHP statewide predictive model uses environmental data associated with documented archaeological sites to identify areas at which unknown sites may be found (Kauhi and Markert 2009). Environmental categories included in the model are elevation, slope, aspect, distance to water, geology, soils, and landforms. The model contains five probability ranks: (1) very high risk, (2) high risk, (3) moderate risk (survey recommended), (4) moderate risk (survey contingent on project parameters) and (5) low risk. The model ranks the project as very high risk for archaeological sites.

# 4.0 Archaeological Expectations

This assessment combines the above historical context, cultural resources database review, and predictive modeling results to evaluate the possibility that archaeological deposits will be encountered at the project location. The Port of Chehalis Development Project encompasses 34 acres of agricultural land between Berwick Creek and Dillenbaugh Creek. The surrounding landscape has been shaped by natural processes for millennia. Over 38,000 years ago, Hayden Creek glacial outwash was deposited in the drainage of the Newaukum River. During the terminal Pleistocene and Holocene, glacial sediments were covered by alluvium deposited by Dillenbaugh Creek, Berwick Creek, and other waterways. Two floodplain soils, Reed silty clay loam and Lacamas silt loam, are currently present at the project.

The project location has also been shaped by human activity. For millennia, the Chehalis River Basin has supported travel, settlement, and resource management and gathering by Upper Chehalis- and Cowlitz-speaking peoples and their neighbors. These long-term connections are reflected in the presence of villages, gathering areas, place names, and archaeological sites recorded along Berwick Creek and in the Chehalis area. The project location is situated within a historical prairie that supported spring gathering, settlement, and lithic production during at least the late Holocene, as indicated by results of archaeological investigation at 45LE521 immediately south of the project location. Lithic artifacts at 45LE473 and 45LE416 indicate that similar activities took place within the boundaries of the project.

Additional evidence of Native lifeways may exist at the project location. Unrecorded archaeological sites, if present, are likely to be situated within or immediately below the historical plow zone, up to about 50 cm (1.6 feet) below surface. It is possible, however, that sites may extend to greater depths. Archaeological investigation at 45LE690 northwest of the project identified lithic artifacts up to 140 cm (4.6 feet) below surface. Archaeological sites associated with Native people's long-term history in the Chehalis area may include but are not limited to lithic artifacts, FMR, hearth or oven features, bone tools or implements, or processed faunal remains.

The arrival of Euro-American settlers in the middle decades of the nineteenth century led to major modifications to the surrounding landscape. Land clearing, agricultural activities, and, in recent decades, road construction and development may have disturbed or removed extant archaeological sites at the project. Indeed, archaeological deposits at 45LE573 were relatively shielded from disturbance because they were situated near an oak grove that was isolated from agricultural activities. Evidence of disturbance from plowing has been observed at nearby archaeological sites, including 45LE521. While these activities have likely compromised contextual relationships within extant archaeological sites, the absence of large-scale development at the project location raises the possibility that relatively intact archaeological sites may remain.

It is also possible that Native peoples and non-Native newcomers created new archaeological sites over the last 150 years. These more recent sites may include the items listed above as well as agricultural equipment, structural debris such as brick, concrete, and milled lumber, and household-related objects such as hand-made and mass-produced ceramic tableware, glass bottles, and metal implements. Isolated finds of definitive colonial period manufacture and concentrations of temporally non-diagnostic materials generally do not satisfy eligibility criteria for the NRHP. Exceptions may include intact floors or structural elements or objects associated with particular individuals or events. Colonial period archaeological sites, if present, will be encountered near the surface.

# 5.0 Field Investigation

Total Area Examined: The entire project location (34.07 acres).

Areas not Examined: None.

Dates of Survey: June 14 - 17, 2022.

<u>Weather and Surface Visibility:</u> Weather conditions ranged from partly sunny to overcast and raining, with temperatures between 55 and 64 degrees Fahrenheit. Surface visibility was less than five percent across most of the project location, 50 percent along the slopes of existing drainage ditches, and 20 percent along the less densely vegetated southern edge of the project.

<u>Fieldwork Conducted by</u>: Ian Kretzler, Christa Torres, Tony Torres, and Alexis Crow. Field notes are on file with CRC.

<u>Field methodology:</u> Fieldwork consisted of surface and subsurface survey. Surface survey was conducted along north-south aligned pedestrian transects spaced 20 meters (66 feet) apart. Subsurface survey was achieved via excavation of 81 cylindrical shovel test probes. Probes measured 40 cm (1.3 feet) in diameter and were excavated at 40-meter (131-foot) intervals. No

probes were excavated within the boundaries of 45LE573 or in the area investigated by Kretzler and Anderson (2021a). Probes were excavated with a shovel and 10-cm (4-inch) diameter bucket auger to a target depth of 150 cm (4.9 feet) below surface. Excavated sediments were screened through 1/4-inch mesh. Probe locations were recorded using a handheld GPS unit (WGS84 Zone 10 UTM coordinates, ±3 meters [9.8 feet]).

# 5.1 Investigation Results

Surface Survey

Surface survey was conducted to assess project conditions, document archaeological materials, and identify areas suitable for subsurface survey. The project location encompasses a large, open field (Figures 16-17). Vegetation was dominated by waist- to shoulder-height grasses and small forbs. Scattered deciduous trees and shrubs were present along Jackson Highway at the project's northern edge and along a wire fence that demarcates the project's eastern boundary. Several drainage ditches of varying widths and depths were observed (Figure 18). Ditches were generally aligned east to west, though some extended northwest to southeast across the project. Several ditches terminated at culverts situated under Rush Road (Figure 19). Drainage ditches contained standing water and were lined with common rush (*Juncus effusus*) and other wetland taxa. Backfill piles created during geotechnical investigation were encountered across the project (Figure 20).

The southern edge of the project was less densely vegetated and exhibited evidence of recent disturbance, including vehicle tracks, excavation of a drainage channel, push piles, and piles of pebbles and cobbles possibly removed from the field during agricultural activities (Figures 21 – 23). Several fragments of terracotta pipe, likely former drainage pipes, were identified in this area.

No archaeological sites were identified during surface survey.



Figure 16. Overview of the project location near probe #13. View to the south.



Figure 17. Overview of the project location near probe #9. View to the north.



Figure 18. East-west aligned drainage ditch near probe #16. View to the east-southeast.



Figure 19. Drainage ditch and culvert under Rush Road near probe #16. View to the west-southwest.



Figure 20. Overview of geotechnical backfill pile near probe #23.



Figure 21. Overview of the southern edge of the project near probe #26. View to the east.



Figure 22. Drainage channel and push pile near probe #55. View to the west.



Figure 23. Drainage channel near probe #55. View to the east.

# Subsurface Survey

Eighty-one shovel test probes were excavated at the project location (Figure 24, Appendix B). Probe #71 was situated in area containing compact fill, likely deposited to create an informal road. The probe was excavated to 20 cm (8 inches) below surface. Excluding this probe, probes were excavated to at least 80 cm (2.6 feet) below surface, reaching an average depth of 125 cm (4.1 feet) below surface. The most common reasons for probe termination above target depth were rock obstructions or dense sediments not amenable to manual excavation. Select probes were excavated below target depth to investigate possible alluvial sediments underlying intact soils. The water table was encountered in 66 probes, with water encountered at an average depth of 64 cm (2.1 feet) below surface.

Subsurface deposits were largely consistent across the project location (Figure 25). Probes contained one or two A horizons consisting of dark brown silt to clayey silt, which extended to about 40 cm (1.3 feet) below surface. These horizons have likely been impacted by plowing, ditch excavation and maintenance, or other agricultural activities. A horizons were underlain by one or more B horizons consisting of gray to dark grayish brown clayey silt to clay with upwards of 10 percent small pebbles. B horizons extended to various depths below surface, and several probes terminated above the lower limit of these strata. On average, B horizons extended to 100 cm (3.3 feet) below surface. They were underlain by a C horizon consisting of gray to yellowish brown sandy clay with upwards of 25 percent small to large pebbles. This gravelly deposit usually prevented further excavation. Redoximorphic features were present in B and C horizons, indicating that these strata are at least seasonally inundated. In 14 probes, most of which were located in the northern half of the project, the C horizon was mixed with alluvium consisting of pebbly sand to silty sand. Where present, alluvium appeared at an average depth of 102 cm (3.3 feet) below surface. Soils observed during subsurface survey were generally similar to descriptions of Reed silty clay loam and Lacamas silt loam, the soil units mapped at the project location. They were also consistent with the results of previous cultural resources assessments (Kretzler and Anderson 2021a) completed at the project. Probes #68 and #81 contained mixed soils likely created during landscape modification along the southern edge of the project.

No archaeological sites were identified during subsurface survey.

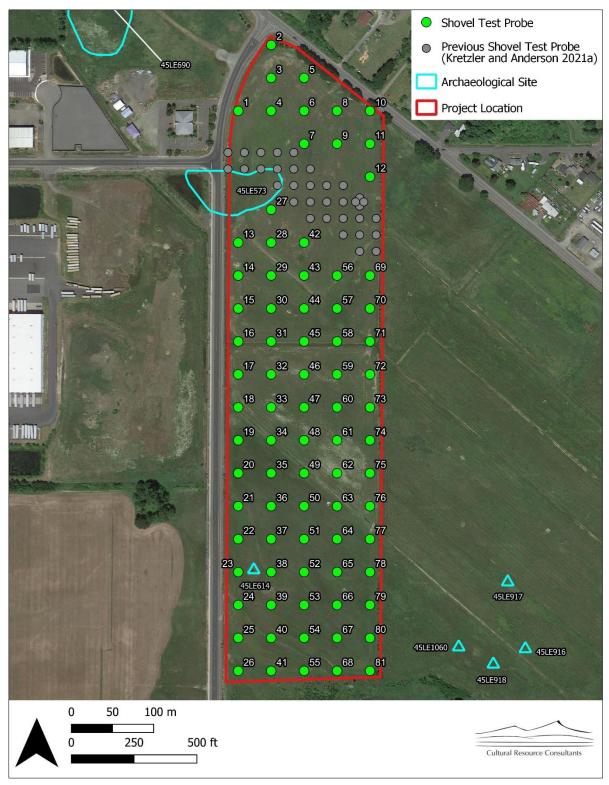


Figure 24. Shovel test probes excavated at the project location.



Figure 25. Representative images of subsurface deposits identified at the project location. Clockwise from upper left, images are of probes #14, #16, #50, and #21.

# **6.0** Results and Recommendations

During background research, two archaeological sites (45LE573 and 45LE614) were identified at the project location. No register-listed historic properties, historic built environment resources, or other cultural resources were identified. During field investigation, no unrecorded archaeological sites or other cultural resources were identified.

#### **6.1** Conclusions and Recommendations

Review of historical, archaeological, and environmental datasets and results of field investigation suggest proposed project activities are moderately likely to encounter archaeological materials beyond the delineated boundaries of 45LE573. The density of recorded archaeological sites along Berwick Creek and Dillenbaugh Creek attests to the long-term presence of Native peoples in the project vicinity, and the DAHP statewide predictive model classifies this area as very high risk for archaeological sites. No unrecorded archaeological sites were identified during surface or subsurface survey. Excluding shovel test probe #71, probes were excavated to an average depth of 125 cm (4.1 feet) below surface. Archaeological sites may be situated below this depth, particularly in intact B and C horizons or upper portions of underlying alluvium. Archaeological materials were identified up to 140 cm (4.6 feet) below surface at 45LE690 630 feet northwest of the project and up to 120 cm (3.9 feet) below surface at 45LE1004 0.20 mile southwest of the project. Based on this finding, combined with the very high archaeological sensitivity of the Berwick Creek area, CRC recommends that archaeological monitoring occur during ground disturbing activities that (1) are located outside the delineated boundaries of 45LE573 and (2) extend more than 125 cm (4.1 feet) below the current ground surface.

The project location overlaps with the eastern half of 45LE573. This portion of the site has not received evaluating archaeological testing. Ground disturbing activities within the delineated boundaries of the site are likely to adversely affect archaeological materials. Based on the results of previous investigations (Baker, Sharma et al. 2006; Buchanan and Ozbun 2009) deposits are likely situated within 30 cm (1 foot) of the surface and/or between 40 and 85 cm (1.3 and 2.8 feet) below surface. Following the recommendations forwarded by Buchanan and Ozbun (2009:4) and Kretzler and Anderson (2021a:51), CRC recommends project activities avoid the eastern half of 45LE573. If avoidance is not possible, CRC recommends archaeological testing be conducted to document the extent and nature of archaeological deposits and to evaluate the eligibility of the site for listing on the NRHP. Archaeological testing will require submitting either an archaeological site alteration permit application to DAHP or a testing plan to the USACE if the project falls under their jurisdiction.

CRC concurs with the recommendation forwarded by Buchanan and Ozbun (2009) that 45LE614 is not eligible for listing on the NRHP. No additional cultural resource investigation is recommended at the site.

If non-monitored project activities beyond the delineated boundaries of 45LE573 result in the discovery of archaeological materials at the project location, CRC recommends project staff follow the inadvertent discovery protocol described below (Appendix C). Upon discovery of archaeological materials, project staff should halt work in the immediate vicinity of the find and contact the technical staff at DAHP and representatives of identified area Tribes. Work should be stopped until further investigation and appropriate consultation have concluded. If human skeletal remains are inadvertently revealed, project staff should immediately stop work, cover, and secure the remains against further disturbance, and contact law enforcement personnel, consistent with the provisions set forth in RCW 27.44.055 and RCW 68.60.055.

#### 7.0 Limitations of this Assessment

No cultural resources study can assess with complete certainty whether archaeological sites, historic properties, or traditional cultural properties exist at a project location. The information presented in this report is based on professional opinions derived from CRC's analysis and interpretation of available documents, records, literature, and information identified in this report and on field investigation and observations. The conclusions and recommendations presented apply to current and reasonably foreseeable project conditions. The data, conclusions, and interpretations in this report should not be construed as a warranty of subsurface conditions. They do not apply to site changes of which CRC is not aware and has not had the opportunity to evaluate.

# 8.0 References

- Adams, R., E. J. O'Brien, and T. L. Ozbun
  - 2008 Cultural Resource Survey of Five Port of Chehalis Parcels, Lewis County, Washington. Archaeological Investigations Northwest, Inc. Report prepared for Port of Chehalis.

#### **AINW**

- 2020 Archaeological Monitoring Plan for the Port of Chehalis: Berwick Creek Restoration Project, Lewis County, Washington. Archaeological Investigations Northwest, Inc. Report prepared for Port of Chehalis.
- Ames, K. M., C. M. Smith, W. L. Cornett, E. A. Sobel, S. C. Hamilton, J. Wolf, and D. Raetz
   1999 Archaeological Investigations at 45CL1 Cathlapotle (1991-1996), Ridgefield National Wildlife Refuge, Clark County, Washington: A Preliminary Report. Cultural Resource Series Number 13, U.S. Department of the Interior, Fish and Wildlife Service, Region 1.
- Ames, K. M., and H. D. G. Maschner
  - 1999 *Peoples of the Northwest Coast.* Thames and Hudson, New York.

#### Ancestry

2006 Washington State and Territorial Censuses, 1857-1892. Electronic document, ancestry.com, accessed June 20, 2022.

#### Bagley, C. B.

Journal of Occurrences at Nisqually House, 1833. *The Washington Historical Quarterly* 6(3):179-197.

#### Baker, R. T., M. L. Punke, and T. L. Ozbun

- 2006 Cultural Resource Survey of Northwest Pipeline Corporation's Capacity Replacement Project, Western Washington Addendum Eighteen: Berwick Wetland Mitigation Area, Lewis County. Archaeological Investigations Northwest, Inc. Report prepared for Northwest Pipeline Corporation.
- Baker, R. T., M. Sharma, T. Ogle, T. Ozbun, J. A. Chapman, and E. J. O'Brien
   2006 Evaluation of Cultural Resources and Supplemental Surveys for the Proposed Rush Road Extension Project, Lewis County, Washington. Archaeological Investigations
   Northwest, Inc. Report prepared for Ecological Land Services and Lewis County Public Works Department.

#### Baker, R. T., and N. J. Smits

2006 Cultural Resource Survey for the Proposed Rush Road Extension Project, Lewis County, Washington. Archaeological Investigations Northwest, Inc. Report submitted to Lewis County Public Works Department.

## Baldwin, G. L., G. Brown, and P. Trautman

2007 Archaeological Investigation of the Centralia Church of the Nazarene Property, Centralia, Lewis County WA. Drayton Archaeology. Report prepared for Centralia Church of the Nazarene.

# Baldwin, G. L., J. J. Schumacher, and O. N. Patsch

2019 A Cultural Resources Assessment for the Hogue/Berwick Creek Fish Passage Improvement Project, Chehalis, Washington. Drayton Archaeology. Report prepared for Lewis Conservation District.

# Berger, M.

- 2015 Cultural Resources Survey, Puget Western, Inc. Chehalis Industrial Project, Lewis, County, WA. Cultural Resource Consultants, Inc. Report submitted to Puget Western, Inc.
- 2021 Testing Plan for Archaeological Sites 45LE913 and 45LE1062, Jackson Highway Project, Lewis County, Washington. Cultural Resource Consultants, LLC. Report submitted to Puget Western Inc.

# Bialas, C. M.

2002 Archaeological Monitoring of Pipeline Trenching along Northwest Pipeline Company's Berwick Lateral Natural Gas Pipeline, Lewis County, Washington. Historical Research Associates, Inc. Report submitted to Northwest Pipeline Corporation.

#### Booth, D. B., K. G. Troost, J. J. Clague, and R. B. Waitt

The Cordilleran Ice Sheet. In *The Quaternary Period in the United States*, edited by A. Gillespie, S. Porter, and B. Atwater, pp. 17-43. Elsevier, Amsterdam.

## Borden, R. K., and K. G. Troost

2001 Late Pleistocene Stratigraphy in the South-Central Puget Lowland, Pierce County, Washington. Washington Division of Geology and Earth Resources Report of Investigations 33. Washington State Department of Natural Resources, Olympia.

#### Bretz, J. H.

1913 Glaciation of the Puget Sound Region. *Washington Geological Survey* Bulletin No. 8, Olympia, Washington.

#### Buchanan, B. G., and T. L. Ozbun

2009 A Cultural Resources Survey of Five Port of Chehalis Parcels, Lewis County, Washington, Addendum: Supplemental Shovel Testing and Augering. Archaeological Investigations Northwest, Inc. Report prepared for Port of Chehalis.

#### Carlson, R. L.

1990 Cultural Antecedents. In *Handbook of North American Indians, Volume 7: Northwest Coast*, pp. 60-69, edited by W. Suttles. Smithsonian Institution Press, Washington, D.C.

#### Carpenter, C. S.

1986 Fort Nisqually: A Documented History of Indian and British Interaction. Tahoma Research Service, Tacoma.

#### Collins, B. D., and D. R. Montgomery

The Legacy of Pleistocene Glaciation and the Organization of Lowland Alluvial Process Domains in the Puget Sound Region. *Geomorphology* 126(1-2):174-185.

#### Confederated Tribes of the Chehalis Reservation

2020 Our Story: People of the Sands. Electronic document, https://www.chehalistribe.org/our-story/people-of-the-sands, accessed June 20, 2022.

#### Crowell, S. A.

2007 *The Land Called Lewis: A History of Lewis County, Washington.* Panesko Publishing, Chehalis, Washington.

#### Curtis, E. S.

1913 North American Indian: Being a Series of Volumes Picturing and Describing the Indians of the United States, the Dominion of Canada, and Alaska, Vol. IX: Salishan Tribes of the Coast. The Chimakum and The Quilliute. The Willapa. Plimpton Press, Norwood, MA.

#### Darby, M.

2006 Archaeological Resource Damage Assessment Report for a Portion of 45LE521, Lewis County. Lower Columbia Research & Archaeology. Report prepared for Logistics Services Engineering Department.

#### Daugherty, R. D., R. Kirk, and R. Miller

2006 A Cultural Resource Survey of the Holloway Springs Project Area. Report prepared for Home Street Development, LLC.

#### Durio, L. L., and J. C. Bard

2005 *I-5, Rush Road to 13<sup>th</sup> Street Project Environmental Assessment: Historic, Cultural, and Archaeological Resources Discipline Report.* CH2M Hill. Report prepared for Washington State Department of Transportation.

#### Enserch

1994 Historic Properties Survey of the Chehalis Generation Facility Pipeline Corridor, Lewis County, Washington. Enserch Environmental Corporation. Report prepared for Northwest Pipeline Corporation.

#### Evans, R. L., and W. R. Fibich

1987 Soil Survey of Lewis County Area, Washington. United States Department of Agriculture, Soil Conservation Service in cooperation with Washington State Department of Natural Resources and Washington State University Agriculture Research Center

#### Fisher, A., and M. M. Jetté

2013 "Now You See Them, Now You Don't": Chinook Tribal Affairs and the Struggle for Federal Recognition. In *Chinookan Peoples of the Lower Columbia*, edited by R. T. Boyd, K. M. Ames, and T. A. Johnson, pp. 288-306. University of Washington Press, Seattle.

#### Foutch, A. E., R. L. Adams, J. R. Held, and J. L. Fagan

2009 Literature Review and Archaeological Resources Field Survey for the Chehalis to Centralia No. 1 69-Kv Transmission Line Rebuild Project in Lewis County, Washington. Archaeological Investigations Northwest, Inc. Report prepared for Bonneville Power Administration.

#### Foutch, A. E., and J. L. Fagan

2009 Archaeological Survey of the Chehalis Housing HUD Development in Lewis County, Washington. Archaeological Investigations Northwest, Inc. Report prepared for Lower Columbia Community Action Program.

### Foutch, A. E., M. L. Punke, and J. L. Fagan

2012 Archaeological Synthesis Report for Site 45LE611, Centralia, Washington.
Archaeological Investigations Northwest, Inc. Report prepared for Opus Northwest, LLC.

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

1988 *Natural Vegetation of Oregon and Washington*. 2nd ed. Oregon State University Press, Corvallis.

#### Freed, R. A.

2012 Archaeological Investigation for the City of Napavine's Small Water Systems

Consolidation Project in Lewis County. Archaeological Consulting Services. Report
submitted to City of Napavine Community Development & Public Works.

#### Glancy, P. A.

1971 Sediment Transport by Streams in the Chehalis River Basin, Washington, October 1961 to September 1965: Sedimentation in Small Drainage Basins. Geological Survey Water-Supply Paper 1798 – H. Prepared in Cooperation with the Washington State Department of Water Resources. United States Government Printing Office, Washington, D.C.

#### Goetz Stutzman, L.

1994 Cultural Resources Assessment of the Northwest Pipeline Corporation Chehalis Pipeline Extension Project. Historical Research Associates, Inc. Report prepared for Enserch Environmental Corporation.

#### Greengo, R. E. (editor)

1983 *Prehistoric Places on the Southern Northwest Coast*. Thomas Burke Memorial Washington State Museum, University of Washington, Seattle.

# Greengo, R. E., and R. Houston

1970 Excavations at the Marymoor Site. Department of Anthropology, University of Washington, Seattle.

#### Hajda, Y.

1990 Southwestern Coast Salish. In *Handbook of North American Indians, Volume 7: Northwest Coast*, edited by W. Suttles, pp. 503-517. Smithsonian Institution Press, Washington, D.C.

#### Hannum, M. M., and M. A. Wilson

2002 Cultural Resource Assessment of the Northwest Pipeline Company's Berwick Lateral Pipeline Project, Lewis County, Washington. Historical Research Associates, Inc. Report prepared for Foster Wheeler Environmental Consultants.

#### Harmon, A.

1998 Indians in the Making: Ethnic Relations and Indian Identities around Puget Sound. University of California Press, Berkeley.

#### Herbel, B., and R. Schalk

2002 An Archaeological Reconnaissance of the Chehalis River Floodplain for the Centralia Flood Damage Reduction Project, Washington. Cascadia Archaeology. Report prepared for U.S. Army Corps of Engineers, Seattle District.

### James, Justine E., Jr.

The Berwick Area as a Crossroads. Review Testing Plan for Archaeological Sites 45LE913 and 45LE1062, Jackson Highway Project, Lewis County, Washington (9/17/2021) ARCHAEOLOGICAL TESTING PLAN 2102B-3. Comments on file with Cultural Resource Consultants, LLC.

### James, Justine E., Jr., and Leilani A. Chubby

Quinault. In *Native Peoples of the Olympia Peninsula: Who We Are*, 2nd ed., edited by J. Wray, pp. 105-126. University of Oklahoma Press, Norman.

#### Jermann, J. V.

1980 *The Hamilton Site (45-LE-172)*. Report submitted to Office of Public Archaeology, University of Washington.

#### Kauhi, T. C., and J. Markert

2009 *Washington Statewide Archaeology Predictive Model*. GeoEngineers. Report submitted to the Washington State Department of Archaeology & Historic Preservation.

#### Kennedy, H.

1978 Archaeological Testing at the Mellen Site, Area C (45LE125), Centralia, Washington. Report submitted to Office of Public Archaeology, University of Washington.

### King, J. S.

1994 Letter to Katy Chaney Regarding Results of a Cultural Resources Inventory of the Proposed Chehalis Cogeneration Facility, Lewis County, Washington. Historical Research Associates, Inc. Report submitted to Dames & Moore.

#### Kinkade, M. D.

1991 *Upper Chehalis Dictionary*. University of Montana Occasional Papers in Linguistics No. 7. University of Montana Press, Missoula.

#### Kopperl, R. E., and E. Heideman

2011 Cultural Resources Assessment of the Berwick Creek Mitigation Site for I-5 MTB Project. Northwest Archaeological Associates, Inc. Report submitted to David Evans and Associates, Inc.

#### Kopperl, R., B. Rinck, and M. Parvey

2011 Archaeological Testing of 45LE823 for the Louisiana Avenue to Airport Road Connection Project, Lewis County, Washington. Northwest Archaeological Associates / SWCA. Report prepared for Washington State Department of Transportation, Southwest Region.

# Kopperl, R., C. Hodges, C. Miss, J. Shea, and A. Spooner

2016 Archaeology of King County, Washington: A Context Statement for Native American Archaeological Resources. SWCA Environmental Consultants. Report submitted to the King County Historic Preservation Program.

#### Kopperl, R. E., M. Parvey, R. Smith, and B. Rinck

2014 Mellen Site (45LE125) Data Recovery, I-5 Right of Way: Report of Results for the I-5/Mellen Street to Blakeslee Junction – Add Lanes, Interchange Improvements Project, Lewis County, Washington. SWCA Environmental Consultants. Report prepared for David Evans and Associates, Inc. and Washington State Department of Transportation, Southwest Region.

#### Kopperl, R. E., A. K. Taylor, C. J. Miss, K. M. Ames, and C. M. Hodges

The Bear Creek Site (45KI839), a Late Pleistocene-Holocene Transition Occupation in the Puget Sound Lowland, King County, Washington. *PaleoAmerica* 1(1):116-120.

#### Krauss, M. E.

1990 Kwalhioqua and Clatskanie. In *Handbook of North American Indians, Volume 7: Northwest Coast*, edited by W. Suttles, pp. 530-532. Smithsonian Institution Press, Washington, D.C.

#### Kretzler, I.

2022 Archaeological Testing at Sites 45LE913 and 45LE1062, Jackson Highway Project (NWS-2015-259), Lewis County, Washington. Cultural Resource Consultants, LLC. Report submitted to Puget Western, Inc.

#### Kretzler, I., and E. Anderson

- 2021a Cultural Resources Assessment for the Maurin Road Extension Project, Chehalis, Lewis County, Washington. Cultural Resource Consultants, LLC. Report submitted to Puget Western Inc.
- 2021b Cultural Resources Assessment for the Jackson Highway Project, Chehalis, Lewis County, Washington. Cultural Resource Consultants, LLC. Report submitted to Puget Western Inc.

#### Kruckeberg, A. R.

1991 The Natural History of Puget Sound Country. University of Washington Press, Seattle.

#### Lang, W. L.

The Chinookan Encounter with Euro-Americans in the Lower Columbia River Valley. In *Chinookan Peoples of the Lower Columbia*, edited by R. T. Boyd, K. M. Ames, and T. A. Johnson, pp. 250-271. University of Washington Press, Seattle.

#### Larson, L. L., and D. E. Lewarch (editors)

1995 The Archaeology of West Point, Seattle, Washington: 4,000 Years of Hunter-Fisher-Gatherer Land Use in Southern Puget Sound. Larson Anthropological Archaeological Services, Gig Harbor, Washington.

#### Leopold, E. B., and R. Boyd

An Ecological History of Old Prairie Areas in Southwestern Washington. In *Indians, Fire, and the Land in the Pacific Northwest*, edited by Robert Boyd, pp. 139-163. Oregon State University Press, Corvallis.

#### Lehman, M., and B. R. Roulette

2009 Results of Cultural Resources Monitoring of the Bonneville Power Administration's Chehalis-Centralia Transmission Lien No. 1 69 kV Rebuild Project, Lewis County, Washington. Applied Archaeological Research, Inc. Report prepared for Bonneville Power Administration.

#### **Lewis County**

2022 Lewis County GIS Web Map. Electronic database, https://gis.lewiscountywa.gov/webmap, accessed June 20, 2022.

#### Lewis County Territorial Auditor

1883 *Lewis County Census*. Lewis County Territorial Auditor. Electronic document, https://www.digitalarchives.wa.gov, accessed June 20, 2022.

#### Luttrell, C. T.

Cultural Resources Investigation for the Washington State Department of
 Transportation's I-5: Rush Road Interchange Project, Lewis County, Washington.
 Archaeological and Historical Services, Eastern Washington University. Report submitted to Washington State Department of Transportation.

#### Mahelona, D.

2007 I-5 Rush Road to 13<sup>th</sup> Street Monitoring: Investigations at Proposed Pond Locations 2,
 4, and 5. Archaeological and Historical Services, Eastern Washington University.
 Report submitted to Washington State Department of Transportation.

#### Marino, C.

1990 History of Western Washington since 1846. In *Handbook of North American Indians*, *Volume 7: Northwest Coast*, edited by W. Suttles, pp. 169-179. Smithsonian Institution Press, Washington, D.C.

#### Martinez, K. P., T. L. Ozbun, and M. Johnson

2021 Archaeological Evaluation of Site 45LE1004 for the Berwick Creek Restoration Project. Archaeological Investigations Northwest, Inc. Report prepared for Port of Chehalis.

#### Martinez, K. P., A. Williams-Larson, and T. L. Ozbun

2019 Cultural Resource Survey for the Port of Chehalis Berwick Creek Restoration Project, Lewis County, Washington. Archaeological Investigations Northwest, Inc. Report prepared for Port of Chehalis.

#### Mathews, B. K.

2021 Cultural Resource Assessment for the Cosser Tiny Homes Development, Lewis County, WA. Antiquity Consulting, LLC. Report prepared for Fuller Designs.

#### McKee, B.

1972 Cascadia: The Geologic Evolution of the Pacific Northwest. McGraw Hill, New York.

#### Meltzer, D. J., and R. C. Dunnell

1987 Fluted Points from the Pacific Northwest. Current Research in the Pleistocene 4:64-67.

#### Metsker Maps (Metsker)

- 1948 Township 13 N., Range 2 W. W.M. In *Metsker's Atlas of Lewis County Washington*. Metsker Maps, Seattle.
- 1962 Township 13 N., Range 2 W. W.M. In *Metsker's Atlas of Lewis County Washington*. Metsker Maps, Seattle.
- 1975 Township 13 N., Range 2 W. W.M. In *Metsker's Atlas of Lewis County Washington*. Metsker Maps, Seattle.

#### Miller, J.

2011 Traditional Cultural Place (Property) and Ethnographic Study for Twin-Cities (Centralia-Chehalis) Flood Damage Reduction Project Study Area. Report prepared for the U.S. Army Corps of Engineers.

#### Morgan, M.

2018 *Puget's Sound: A Narrative of Early Tacoma and the Southern Sound.* 2nd ed. University of Washington Press, Seattle.

#### Murphy, A., W. R. Tilley, T. Cooper, J. T. Bush, T. Washburne, and T. Maunts

1855 Field Notes of the Survey of the Subdivisional Lines of Township 13 N Range 2 W of the Willamette Meridian in the Territory of Washington. Bureau of Land Management Field Note Record. Electronic document, https://www.blm.gov/or/landrecords/survey/ySrvy1.php, accessed June 20, 2022.

#### Nationwide Environmental Title Research, LLC (NETR)

Historic Aerials. Electronic document, http://www.historicaerials.com/?javascript, accessed June 20, 2022.

#### Nelson, C. M.

1990 Prehistory of the Puget Sound Region. In *Handbook of North American Indians*, *Volume 7: Northwest Coast*, edited by W. Suttles, pp. 481-484. Smithsonian Institution Press, Washington, D.C.

#### Norton, H. H., R. Boyd, and E. S. Hunn

The Klickitat Trail of South-Central Washington: A Reconstruction of Seasonally Used Resource Sites. In *Prehistoric Places on the Southern Northwest Coast*, edited by R. E. Greengo, pp. 121-152. Thomas Burke Memorial Museum Research Report 4, University of Washington, Seattle.

#### Ott, J.

- 2008 Chehalis Thumbnail History. Electronic document, https://www.historylink.org/File/8645, accessed June 20, 2022.
- 2010 Raymond Thumbnail History. Electronic document, https://www.historylink.org/File/9590, accessed June 20, 2022.

#### Ozbun, T.

2006 Treatment Plan for Site 45LE521 Rush Road Extension Project, Lewis County, Washington. Archaeological Investigations Northwest, Inc. Report submitted to Ecological Land Services, Inc., and Lewis County Department of Public Works.

#### Ozbun, T., A. Foutch, and M. Punke

- 2008 Archaeological Data Recovery at Site 45LE521 Rush Road Extension Project, Lewis County, Washington. Archaeological Investigations Northwest, Inc. Report submitted to Lewis County Department of Public Works.
- Pater, D.E., S.A. Bryce, T.D. Thorson, J. Kagan, C. Chappell, J.M. Omernik, S.H. Azevedo, and A. J. Woods
  - 1998 Ecoregions of Western Washington and Oregon. U.S. Geological Survey, Reston, VA.

#### Paulsen, S.

1979 Community Cultural Resource Survey. Survey-Inventory Form. Rockhaven. On file at the Washington State Department of Archaeology and Historic Preservation, Olympia.

#### Pettigrew, R. M.

1990 Southwestern Coast Salish. In *Handbook of North American Indians, Volume 7:*Northwest Coast, edited by W. Suttles, pp. 518-529. Smithsonian Institution Press, Washington, D.C.

- Porter, S. C., and T. W. Swanson
  - 1998 Radiocarbon Age Constraints on Rates of Advance and Retreat of the Puget Lobe of the Cordilleran Ice Sheet during the Last Glaciation. *Quaternary Research* 50(3):205-213.
- Punke, M. L., A. E. Foutch, A. K. Blaser, J. L. Fagan, and J. Reese
  - 2009 Archaeological Investigations and Damage Assessment at Site 45LE611, Centralia, Washington. Archaeological Investigations Northwest, Inc. Report prepared for Opus Northwest, LLC.
- Ruby, R. H., J. A. Brown, and C. C. Collins
  - 2010 A Guide to the Indian Tribes of the Pacific Northwest. 3rd ed. University of Oklahoma Press, Norman.
- Sadowski, A. J., W. E. Keller, M. Polenz, T. R. Lau, R. Cakir, E. Nesbitt, J. H. Tepper, S. A. DuFrane, and G. L. Paulin
  - 2018 Geologic Map of the Centralia 7.5-Minute Quadrangle, Lewis County, Washington. Map Series 2018-05. Washington Geological Survey, Olympia.
- Samuels, S. R. (editor)
  - 1994 Ozette Archaeological Project Research Reports, Volume II, Fauna. Reports of Investigations 66. Department of Anthropology, Washington State University, Pullman, and National Park Service, Pacific Northwest Regional Office, Seattle.
- Schalk, R., M. Breidenthal, N. Stenholm, and M. Wolverton
  - 2005 Centralia Wastewater System Improvements Project, Archaeological Monitoring and Evaluation. Cascadia Archaeology. Report prepared for CH2M Hill.
- Schalk, R., and D. Rhode
  - 1985 Archaeological Investigations on the Shoreline of Port Madison Indian Reservation, Kitsap County, Washington. Office of Public Archaeology, Institute of Environmental Studies, University of Washington, Seattle.
- Schasse, H. W.
  - 1987 Geologic Map of the Centralia Quadrangle, Washington. Open File Report 87-11. Washington Division of Geology and Earth Resources, Olympia.
- Schneyder, S., M. Cascella, and T. Elder
  - 2011 SR 99: Alaskan Way Viaduct Moving Forward Projects: Data Recovery Report for Site 45KI924, Seattle, Washington. ICF International. Report prepared for Washington State Department of Transportation.

#### Schumacher, J.

2009 Cultural Resources Survey for the North Star Drive Stormwater Revisions, Chehalis, Washington. Cultural Resource Consultants, Inc. Report submitted to JLT Holding LLC.

#### Sharma, M., and T. L. Ozbun

2006 Cultural Resource Survey for the Proposed Rush Road Extension Project Wetland Mitigation Area, Lewis County, Washington. Archaeological Investigations Northwest, Inc. Report submitted to Lewis County Public Works Department.

#### Shaw, B. L., and A. Gall

2015 Archaeological Monitoring Report for the City of Napavine Small Water System Improvements Project, Napavine, Washington. Archaeological Services LLC. Report prepared for City of Napavine Public Works.

#### Silverstein, M.

1990 Chinookans of the Lower Columbia. In *Handbook of North American Indians, Volume* 7: *Northwest Coast*, edited by W. Suttles, pp. 533-546. Smithsonian Institution Press, Washington, D.C.

#### Storm, L., and D. Shebitz

Evaluating the Purpose, Extent, and Ecological Restoration Applications of Indigenous Burning Practices in Southwestern Washington. *Ecological Restoration* 24(4):256-268.

#### Terra Associates

2022 Geotechnical Report: Chehalis Landing 2844 Jackson Highway, Lewis County, Washington. Terra Associates, Inc. Report prepared for CRG.

#### Thorson, R. M.

- 1980 Ice-Sheet Glaciation of the Puget lowland, Washington, during the Vashon Stade (late Pleistocene). *Quaternary Research* 13(3):303-321.
- 1981 Isostatic Effects of the Last Glaciation in the Puget Lowland, Washington. Open-File Report 81-370. U.S. Geological Survey, Washington, D.C.
- 1989 Glacio-Isostatic Response of the Puget Sound Area, Washington. *Geological Society of American Bulletin* 101(9):1163-1174.

#### Trautman, P., and J. J. Flenniken

2015 Historic Property Investigation of the Rush Road Industrial Development Project, Lewis County, Washington. Lithic Analysis. Report prepared for Port of Chehalis Industrial Development Commission.

#### Troost, K. G., and D. E. Booth

Geology of Seattle and the Seattle Area, Washington. In *Landslides and Engineering Geology of the Seattle, Washington, Area*, edited by R. L. Baum, J. W. Godt, and L. M. Highland, pp. 1-35. Geological Society of America, Boulder, CO.

# United States Department of Agriculture Natural Resources Conservation Service (USDA NRCS)

Web Soil Survey, Washington. Electronic document, https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx, accessed June 20, 2022.

# United States Department of the Interior Bureau of Land Management (BLM)

2022 General Land Office Records Search. Electronic document, http://www.glorecords.blm.gov/default.aspx, accessed June 20, 2022.

### United States Surveyor General (USSG)

1855 Township No 13 North Range No 2 West Willamette Meridian. General Land Office Survey Plat. Department of Interior General Land Office, Washington, D.C.

#### United States Geological Survey (USGS)

- 1916 Chehalis Quadrangle, Washington. 1:125,000. U.S. Geological Survey, Washington, D.C.
- 1954 Centralia Quadrangle, Washington—Lewis CO. 1:62,500. U.S. Geological Survey, Washington, D.C.
- 2020a *Centralia Quadrangle, Washington Lewis County.* 1:24,000. 7.5-Minute Series. U.S. Geological Survey, Washington, D.C.
- 2020b *Napavine Quadrangle, Washington Lewis County.* 1:24,000. 7.5-Minute Series. U.S. Geological Survey, Washington, D.C.

#### Veracini, L.

2011 Introducing Settler Colonial Studies. Settler Colonial Studies 1(1):1-12.

#### Waitt, R. B., and R. M. Thorson

1983 The Cordilleran Ice Sheet in Washington, Idaho, and Montana. In *Late Quaternary Environments of the United States*, edited by S. C. Porter, pp. 53-70. University of Minnesota Press, Minneapolis.

#### Washington State Department of Archaeology and Historic Preservation (DAHP)

- 2018 Washington State Heritage Barn Register. Harry Gleason's Farm. On file at the Washington State Department of Archaeology and Historic Preservation, Olympia.
- 2022a Washington State Standards for Cultural Resources Reporting. Electronic document, https://dahp.wa.gov/sites/default/files/CR%20Update%20March%202022.pdf, accessed June 20, 2022.
- 2022b Washington Information System for Architectural and Archaeological Records Data (WISAARD) database. Electronic document, https://secureaccess.wa.gov/dahp/wisaard/, accessed June 20, 2022.

# Washington State Department of Natural Resources (WA DNR)

- 2022a Washington's Glacial Geology. Electronic document, https://www.dnr.wa.gov/programs-and-services/geology/glaciers#.3, accessed June 20, 2022.
- 2022b Washington Interactive Geologic Map. Division of Geology and Earth Resources Washington's Geological Survey. Electronic document, https://geologyportal.dnr.wa.gov/, accessed June 20, 2022.

#### Weber, D. P.

2003 The Creation of Washington: Securing Democracy North of the Columbia. *Columbia: The Magazine of Northwest History* 17(3):23-34.

#### Welch, J. M.

1983 An Archaeological Survey of the Chehalis River Valley in Southwestern Washington.
On file at the Washington State Department of Archaeology and Historic Preservation,
Olympia.

#### Wessen, G.

- 1989 A Report of Archaeological Testing at the DuPont Southwest Site (45PI72), Pierce County, Washington. Western Heritage. Report submitted to Weyerhaeuser Real Estate Company Land Management Division.
- 1990 Prehistory of the Ocean Coast of Washington. In *Handbook of North American Indians, Volume 7: Northwest Coast*, edited by W. Suttles, pp. 412-421. Smithsonian Institution Press, Washington, D.C.

### Whaley, G. H.

2010 Oregon and the Collapse of Illahee: U.S. Empire and the Transformation of an Indigenous World, 1792-1859. University of North Carolina Press, Chapel Hill.

#### Williams, A. C., E. J. O'Brien, and T. L. Ozbun

2014 Cultural Resource Survey of Willamette Valley Company Industrial Development, Port of Chehalis, Lewis County, Washington. Archaeological Investigations Northwest, Inc. Report prepared for Port of Chehalis.

#### Williams-Larson, A., and T. L. Ozbun

2017 Cultural Resource Survey for the 2.5-Acre Maurin Road Property Project, Port of Chehalis, Lewis County, Washington. Archaeological Investigations Northwest, Inc. Report prepared for Port of Chehalis.

#### Wilma, D.

- 2005 Lewis County Thumbnail History. Electronic document, https://www.historylink.org/File/7449, accessed June 20, 2022.
- 2006 Grays Harbor County Thumbnail History. Electronic document, https://www.historylink.org/File/7766, accessed June 20, 2022.

#### Wilson, D.

The Fort and the Village: Landscape and Identity in the Colonial Period of Fort
 Vancouver. In *British Forts and Their Communities*, edited by C. R. DeCorse and Z. J.
 M. Beier, pp. 91-125. University Press of Florida, Gainesville.

#### Wilson, M. A.

- 2002a Cultural Resource Assessment of the City of Chehalis Sewer and Water System Upgrade Project, Lewis County, Washington. Historical Research Associates, Inc. Report prepared for Gibbs & Olson, Inc.
- 2002b Addendum to the Report: Supplemental Cultural Resource Assessment of the Northwest Pipeline Company's Berwick Lateral Pipeline Project, Lewis County, Washington.

  Historical Research Associates, Inc. Report submitted to Foster Wheeler Environmental Consultants.

# **Appendix A. Assessment Correspondence**



# Cultural Resource Consultants

Chehalis Confederated Tribes Dan Penn, Cultural Resources PO Box 536 Oakville, WA 98568

April 8, 2022

Re: Cultural Resources Assessment for the CRG Port of Chehalis Development Project, Chehalis, Lewis County, Washington

Dear Dan,

I am writing to inform you of a cultural resources assessment for the above referenced project and to seek additional information about the project area the Tribe may have that is not readily available through other written sources. This letter is on a technical staff-to-technical staff basis to inquire about project-related cultural information or concerns. It is not intended as formal government-to-government consultation to be initiated by the appropriate regulatory agency.

The project is located in Section 11, Township 13 North, Range 02 West in Chehalis, Lewis County, Washington. The project proposes to develop the property for industrial use.

We are in the process of reviewing available information. Background research will include a site files search at the Washington State Department of Archaeology and Historic Preservation, review of previously recorded cultural resource reports, and review of pertinent published literature and ethnographies. Results of our investigations will be presented in a technical memo.

We are aware that not all information is contained within published sources. Should the Tribe have additional information to support our assessment, we would very much like to include it in our study. Please contact me at sonja@crcwa.com or 360-395-8879 should you wish to provide any comments. I appreciate your assistance in this matter and look forward to hearing from you.

Sincerely,

Sonja Kleinschmidt, Projects Manager

CULTURAL RESOURCE CONSULTANTS, LLC. PO Box 4159, SEATTLE, WA 98194
PHONE 206.855.9020 - sonja@crcwa.com



Cowlitz Indian Tribe Rita Asgeirsson, Cultural Resources PO Box 2547 Longview, WA 98632

April 8, 2022

Re: Cultural Resources Assessment for the CRG Port of Chehalis Development Project, Chehalis, Lewis County, Washington

Dear Rita,

I am writing to inform you of a cultural resources assessment for the above referenced project and to seek additional information about the project area the Tribe may have that is not readily available through other written sources. This letter is on a technical staff-to-technical staff basis to inquire about project-related cultural information or concerns. It is not intended as formal government-to-government consultation to be initiated by the appropriate regulatory agency.

The project is located in Section 11, Township 13 North, Range 02 West in Chehalis, Lewis County, Washington. The project proposes to develop the property for industrial use.

We are in the process of reviewing available information. Background research will include a site files search at the Washington State Department of Archaeology and Historic Preservation, review of previously recorded cultural resource reports, and review of pertinent published literature and ethnographies. Results of our investigations will be presented in a technical memo.

We are aware that not all information is contained within published sources. Should the Tribe have additional information to support our assessment, we would very much like to include it in our study. Please contact me at sonja@crcwa.com or 360-395-8879 should you wish to provide any comments. I appreciate your assistance in this matter and look forward to hearing from you.

Sincerely,

Sonja Kleinschmidt, Projects Manager

Cultural Resource Consultants, LLC. PO Box 4159, Seattle, WA 98194
Phone 206.855.9020 - sonja@crcwa.com



Nisqually Tribe Brad Beach, THPO 4820 She-Nah-Num Dr SE Olympia, WA 98513

April 8, 2022

Re: Cultural Resources Assessment for the CRG Port of Chehalis Development Project, Chehalis, Lewis County, Washington

Dear Brad,

I am writing to inform you of a cultural resources assessment for the above referenced project and to seek additional information about the project area the Tribe may have that is not readily available through other written sources. This letter is on a technical staff-to-technical staff basis to inquire about project-related cultural information or concerns. It is not intended as formal government-to-government consultation to be initiated by the appropriate regulatory agency.

The project is located in Section 11, Township 13 North, Range 02 West in Chehalis, Lewis County, Washington. The project proposes to develop the property for industrial use.

We are in the process of reviewing available information. Background research will include a site files search at the Washington State Department of Archaeology and Historic Preservation, review of previously recorded cultural resource reports, and review of pertinent published literature and ethnographies. Results of our investigations will be presented in a technical memo.

We are aware that not all information is contained within published sources. Should the Tribe have additional information to support our assessment, we would very much like to include it in our study. Please contact me at sonja@crcwa.com or 360-395-8879 should you wish to provide any comments. I appreciate your assistance in this matter and look forward to hearing from you.

Sincerely,

Sonja Kleinschmidt, Projects Manager

CULTURAL RESOURCE CONSULTANTS, LLC. PO Box 4159, SEATTLE, WA 98194
PHONE 206.855.9020 - sonja@crcwa.com



Quinault Indian Nation Naomi Brandenfels, Cultural Resources PO Box 189 Taholah, WA 98587

April 8, 2022

Re: Cultural Resources Assessment for the CRG Port of Chehalis Development Project, Chehalis, Lewis County, Washington

Dear Naomi,

I am writing to inform you of a cultural resources assessment for the above referenced project and to seek additional information about the project area the Tribe may have that is not readily available through other written sources. This letter is on a technical staff-to-technical staff basis to inquire about project-related cultural information or concerns. It is not intended as formal government-to-government consultation to be initiated by the appropriate regulatory agency.

The project is located in Section 11, Township 13 North, Range 02 West in Chehalis, Lewis County, Washington. The project proposes to develop the property for industrial use.

We are in the process of reviewing available information. Background research will include a site files search at the Washington State Department of Archaeology and Historic Preservation, review of previously recorded cultural resource reports, and review of pertinent published literature and ethnographies. Results of our investigations will be presented in a technical memo.

We are aware that not all information is contained within published sources. Should the Tribe have additional information to support our assessment, we would very much like to include it in our study. Please contact me at sonja@crcwa.com or 360-395-8879 should you wish to provide any comments. I appreciate your assistance in this matter and look forward to hearing from you.

Sincerely,

Sonja Kleinschmidt, Projects Manager

Cultural Resource Consultants, LLC. PO Box 4159, Seattle, WA 98194
Phone 206.855.9020 - sonja@crcwa.com



Squaxin Island Tribe Shaun Dinubilo, Cultural Resources SE 10 Squaxin Lane Shelton, WA 98584

April 8, 2022

Re: Cultural Resources Assessment for the CRG Port of Chehalis Development Project, Chehalis, Lewis County, Washington

Dear Shaun,

I am writing to inform you of a cultural resources assessment for the above referenced project and to seek additional information about the project area the Tribe may have that is not readily available through other written sources. This letter is on a technical staff-to-technical staff basis to inquire about project-related cultural information or concerns. It is not intended as formal government-to-government consultation to be initiated by the appropriate regulatory agency.

The project is located in Section 11, Township 13 North, Range 02 West in Chehalis, Lewis County, Washington. The project proposes to develop the property for industrial use.

We are in the process of reviewing available information. Background research will include a site files search at the Washington State Department of Archaeology and Historic Preservation, review of previously recorded cultural resource reports, and review of pertinent published literature and ethnographies. Results of our investigations will be presented in a technical memo.

We are aware that not all information is contained within published sources. Should the Tribe have additional information to support our assessment, we would very much like to include it in our study. Please contact me at sonja@crcwa.com or 360-395-8879 should you wish to provide any comments. I appreciate your assistance in this matter and look forward to hearing from you.

Sincerely,

Sonja Kleinschmidt, Projects Manager

CULTURAL RESOURCE CONSULTANTS, LLC. PO Box 4159, SEATTLE, WA 98194 PHONE 206.855.9020 sonja@crcwa.com

# **Appendix B. Results of Subsurface Survey**

Probe #	Probe Location	Stratigraphic Description (centimeters below surface [cmbs])	Cultural Materials (cmbs)
1	507062 m E 5163771 m N 40 meters W of	0-40: brown, firm, brown, silt, 25% subround to subangular small pebbles to small cobbles (A horizon)	None
	#4, NW edge of project	40-110: grayish brown, moderately oxidized, compact, clayey silt, 5% subangular small pebbles (B horizon)	
		110-150: grayish brown, compact, medium to coarse sandy clay, no gravels (C horizon)	
		Auger used at 100; water table encountered at 145; probe terminated at auger reach	
2	507102 m E 5163851 m N ~89 meters NE of	0-18: brown, firm, silt, 15% subangular small pebbles, 2 large subangular cobbles (disturbed A horizon)	None
	#1, N edge of project	18-60: grayish brown, moderately oxidized, compact, clayey silt, 25% subround to subangular small pebbles to small cobbles (A horizon)	
		60-100: dark brown, firm, silt, 5% subround small pebbles (B horizon)	
		100-130: gray, moderately oxidized, compact, clayey silt, no gravels (B horizon)	
		Auger used at 100; water table encountered at 120; probe terminated due to lack of sediment cohesion	
3	507102 m E 5163811 m N	0-35: brown, firm, silt, 15% subangular small pebbles (A horizon)	None
	40 meters S of #2	35-100: gray, moderately oxidized, compact, clayey silt, 5% subround small pebbles (B horizon)	
		100-130: gray, compact, silty coarse sand, no gravels (C horizon / alluvium)	
		130-150: grayish brown, compact, medium to coarse sandy clay, no gravels (C horizon / alluvium)	
		Water table encountered at 65; auger used at 80; probe terminated at auger reach	

Probe #	Probe Location	Stratigraphic Description (centimeters below surface [cmbs])	Cultural Materials (cmbs)
4	507102 m E 5163771 m N	0-40: brown, firm, silt, 5% subround to subangular small pebbles (A horizon)	None
	40 meters S of #3	40-130: grayish brown moderately oxidized, compact, clayey silt, 5% subangular small pebbles (B horizon)	
		130-150: grayish brown, compact, medium to coarse sandy clay, no gravels (C horizon)	
		Water table encountered at 40; auger used at 80; probe terminated due to sediment density	
5	507142 m E 5163811 m N	0-35: brown, firm, silt, 15% subround to subangular small pebbles (A horizon)	None
	40 meters E of #5	35-60: gray, moderately oxidized, compact, clayey silt, 5% subround small pebbles (B horizon)	
		60-150: grayish brown, compact, medium to coarse sandy clay, no gravels (C horizon)	
		Water table encountered at 60; auger used at 80; probe terminated at auger reach	
6	507142 m E 5163771 m N	0-35: brown, firm, silt, 15% subround to subangular small to large pebbles (A horizon)	None
	40 meters S of #5	35-90: gray, moderately oxidized, compact, clayey silt, 5% subround small pebbles (B horizon)	
		90-100: grayish brown, compact, medium to coarse sandy clay, 5% subround small pebbles (C horizon)	
		Water table encountered at 40; auger used at 60; probe terminated due to sediment density	
7	507142 m E	0-35: brown, firm, silt, no gravels (A horizon)	None
	5163731 m N 40 meters S of #6	35-90: grayish brown, moderately oxidized, compact, clayey silt, 5% subangular small pebbles (B horizon)	
		90-140: grayish brown, compact, medium to coarse sandy clay, no gravels (C horizon)	
		Water table encountered at 35; auger used at 80; probe terminated due to sediment density	

Probe #	Probe Location	Stratigraphic Description (centimeters below surface [cmbs])	Cultural Materials (cmbs)
8	507182 m E 5163771 m N	0-40: brown, firm silt, 15% subangular small pebbles (A horizon)	None
	40 meters E of #6	40-80: gray, moderately oxidized, compact, clayey silt, 5 % subround small pebbles (B horizon)	
		80-140: grayish brown, compact, clayey coarse sand, 5% subangular small pebbles (C horizon / alluvium)	
		Water table encountered at 40; auger used at 80; probe terminated due to sediment density	
9	507182 m E	0-30: brown, firm, silt, no gravels (A horizon)	None
	5163731 m N 40 meters S of #8	30-90: grayish brown, moderately oxidized, compact, clayey silt, no gravels (B horizon)	
		90-110: grayish brown, compact, medium to coarse sandy clay, no gravels (C horizon)	
		Auger used at 80; probe terminated due to sediment density	
10	507222 m E 5163771 m N	0-22: brown, firm, silt, 15% subangular small pebbles (A horizon)	None
	40 meters E of #8, NE edge of	22-50: gray, moderately oxidized, compact, clayey silt, roots up to 2.5 cm thick, no gravels (B horizon)	
	project	50-130: grayish brown, compact, medium to coarse sandy clay, roots up to 2.5 cm thick, 5% subangular small pebbles (C horizon)	
		Auger used at 100; probe terminated due to sediment density	
11	507222 m E 5163731 m N	0-30: brown, firm, silt, 15% subangular small pebbles (A horizon)	None
	40 meters S of #10	30-105: brownish gray, moderately oxidized, compact, clayey silt, 5% subangular small pebbles (B horizon)	
		105-140: grayish brown, compact, clayey coarse sand, 5% subangular small pebbles (C horizon / alluvium)	
		Water table encountered at 30; auger used at 60; probe terminated due to sediment density	

Probe #	Probe Location	Stratigraphic Description (centimeters below surface [cmbs])	Cultural Materials (cmbs)
12	507222 m E 5163691 m N 40 meters S of #11	0-30: brown, firm, silt, no gravels (A horizon)	None
		30-65: brownish gray, moderately oxidized, compact, clayey silt, no gravels (B horizon)	
		65-120: grayish brown, compact, clayey coarse sand, no gravels (C horizon / alluvium)	
		Water table encountered at 35; auger used at 80; probe terminated due to sediment density	
13	507062 m E 5163611 m N	0-20: dark brown, friable, silt to clayey silt, no gravels (A horizon)	None
	Western edge of project, south of 45LE573	20-100: grayish brown, moderate oxidation, firm, silt to clayey silt, no gravels (B horizon)	
		100-150: gray, extensively oxidized, compact, medium sandy and silty clay, no gravels (C horizon)	
		Auger used at 100; water table encountered at 145; probe terminated due to rock obstruction	
14	507062 m E 5163571 m N	0-30: dark grayish brown, friable, silt to clayey silt, no gravels (A horizon)	None
	40 meters S of #13	30-90: gray, compact, clay to silty clay, no gravels (B horizon)	
		90-110: gray, compact, clay to medium sandy clay (B/C horizon)	
		110-130: reddish brown, extensively oxidized, firm, silty medium to coarse sand, 5% subround small to large pebbles (C horizon / alluvium)	
		Auger used at 70; water table encountered at 120; probe terminated due to rock obstruction	

Probe #	Probe Location	Stratigraphic Description (centimeters below surface [cmbs])	Cultural Materials (cmbs)
15	507062 m E 5163531 m N	0-20: gray, friable, silt, rootlets, no gravels (A horizon)	None
	40 meters S of #14	20-40: dark gray, moderately oxidized, firm, clayey silt, no gravels (A/B horizon)	
		40-90: gray to dark gray, moderately oxidized, compact, clay, no gravels (B horizon)	
		90-100: gray, moderately oxidized, firm, clayey medium to coarse sand, 5% subround small to medium pebbles (C horizon / alluvium)	
		Water table encountered at 40; auger used at 55; probe terminated due to rock obstruction	
16	507062 m E 5163491 m N	0-25: dark grayish brown, friable, clayey silt, 1% subround small to large pebbles (A horizon)	None
	40 meters S of #15	25-50: brown to dark grayish brown, moderately oxidized, firm, clayey silt, no gravels (A/B horizon)	
		50-80: gray, slightly oxidized, compact, silty clay, no gravels (B horizon)	
		80-112: gray, extensively oxidized, compact, clay to medium sandy clay, 1% subround small to medium pebbles (B/C horizon)	
		Water table encountered at 90; auger used at 80; probe terminated due to rock obstruction	
17	507062 m E 5163451 m N	0-40: dark grayish brown, friable, clayey silt, no gravels (A horizon)	None
	40 meters S of #16	40-70: dark grayish brown, moderately oxidized, firm, clayey silt to silt, no gravels (A/B horizon)	
		70-110: gray and yellowish brown, extensively oxidized, compact, clay, no gravels (B horizon)	
		110-120: gray and yellowish brown, extensively oxidized, compact, medium sandy clay, no gravels (C horizon)	
		Water table encountered at 65; auger used at 85; probe terminated due to rock obstruction	

Probe #	Probe Location	Stratigraphic Description (centimeters below surface [cmbs])	Cultural Materials (cmbs)
18	507062 m E 5163411 m N	0-60: dark grayish brown, friable, moderately oxidized, silt to clayey silt, no gravels (A horizon)	None
	40 meters S of #17	60-80: dark gray to darky grayish brown, compact, clayey silt to silty clay, 5% grading to 40% subround to subangular small to large pebbles (B horizon)	
		Water table encountered at 35; auger used at 60; probe terminated due to rock obstruction	
19	507062 m E 5163371 m N	0-30: dark grayish brown, friable, clayey silt, no gravels (A horizon)	None
	40 meters S of #18	30-65: dark grayish brown, moderately oxidized, firm, clayey silt to silty clay (B horizon)	
		65-100: dark grayish brown, compact, clay to silty clay, 0% grading to 20% subround small to large pebbles (B horizon)	
		Water table encountered at 60; auger used at 70; probe terminated due to rock obstruction	
20	507062 m E 5163331 m N	0-25: dark brown, friable, clayey silt, no gravels (A horizon)	None
	40 meters S of #19	25-50: gray, moderately oxidized, firm, clayey silt, no gravels (A/B horizon)	
		50-120: gray, extensively oxidized, compact, clay to medium sandy clay, no gravels (B/C horizon)	
		Auger used at 88; water table encountered at 95; probe terminated due to rock obstruction and sediment density	
21	507062 m E 5163291 m N	0-30: dark brown, firm, silty clay, no gravels (A horizon)	None
	40 meters S of #20	30-90: gray, extensively oxidized, clay, some medium sandy clay with subround pebbles at 90 (B grading to C horizon)	
		Auger used at 70; probe terminated due to rock obstruction	

Probe #	Probe Location	Stratigraphic Description (centimeters below surface [cmbs])	Cultural Materials (cmbs)
22	507062 m E 5163251 m N	0-25: very dark brown, friable, silt, no gravels (A horizon)	None
	40 meters S of #21	25-45: dark grayish brown, moderately oxidized, firm, clayey silt, no gravels (A/B horizon)	
		45-95: gray, extensively oxidized, compact, clay, no gravels (B horizon)	
		Auger used at 85; water table encountered at 90; probe terminated due to rock obstruction	
23	507062 m E 5163211 m N	0-35: dark brown, friable, silt to clayey silt, no gravels (A horizon)	None
	40 meters S of #22	35-100: gray, moderately oxidized, compact, clay, no gravels (B horizon)	
		100-110: gray, moderately oxidized, compact, silty clay, trace medium sand, 3% subround small to large pebbles (B horizon)	
		Auger used at 75; water table encountered at 110; probe terminated due to rock obstruction	
24	507062 m E 5163171 m N	0-25: dark brown, friable, silt to clayey silt, no gravels (A horizon)	None
	40 meters S of #23	<ul><li>25-100: gray, moderately oxidized, compact, clay,</li><li>3% subround small to large pebbles (B horizon)</li></ul>	
		Auger used at 80; probe terminated due to rock obstruction	
25	507062 m E 5163131 m N	0-25: dark brown, friable, clayey silt, no gravels (A horizon)	None
	40 meters S of #24	25-65: dark grayish brown, moderately oxidized, firm, clayey silt, no gravels (A/B horizon)	
		65-120: gray, extensively oxidized, compact, clay, no gravels (B horizon)	
		120-125: gray, extensively oxidized, compact, clay, 3% subround small to large pebbles (B horizon)	
		Auger used at 80; probe terminated due to rock obstruction	

Probe #	Probe Location	Stratigraphic Description (centimeters below surface [cmbs])	Cultural Materials (cmbs)
26	507062 m E 5163091 m N	0-20: dark brown, friable, clayey silt, no gravels (A horizon)	None
	40 meters S of #25, SW corner of project	20-75: dark grayish brown, moderately oxidized, firm, clayey silt to silty clay, no gravels (A/B horizon)	
		75-95: gray, moderately oxidized, compact, clay, no gravels (B horizon)	
		95-105: gray, moderately oxidized, compact, medium to coarse sandy clay, 5% subround small to large pebbles (C horizon)	
		Water table encountered at 65; auger used at 80; probe terminated due to rock obstruction	
27	507102 m E	0-30: brown, firm, silt, no gravels (A horizon)	None
	5163651 m N 120 meters S of #4	30-85: grayish brown, moderately oxidized, compact, clayey silt, 5% subround small pebbles (B horizon)	
		85-95: grayish brown, compact, medium to coarse sandy clay, 25% subangular small pebbles (C horizon)	
		Water table encountered at 45; auger used at 85; probe terminated due to sediment density	
28	507102 m E	0-40: brown, firm, silt, no gravels (A horizon)	None
	5163611 m N 40 meters S of #27	40-130: grayish brown, moderately oxidized, compact, clayey silt, no gravels (B horizon)	
		130-140: grayish brown, compact, medium to coarse sandy clay, 25% subround to subangular small to large pebbles (C horizon)	
		Auger used at 100; water table encountered at 120; probe terminated due to sediment density	
29	507102 m E	0-40: brown, firm, silt, no gravels (A horizon)	None
	5163571 m N 40 meters S of #28	40-130: grayish brown, moderately oxidized, compact, clayey silt, no gravels (B horizon)	
		Water table encountered at 50; auger used at 80; probe terminated due to sediment density	

Probe #	Probe Location	Stratigraphic Description (centimeters below surface [cmbs])	Cultural Materials (cmbs)
30	507102 m E	0-40: brown, firm, silt, no gravels (A horizon)	None
	5163531 m N 40 meters S of #29	40-90: grayish brown, moderately oxidized, compact, clayey silt, no gravels (B horizon)	
		90-110: grayish brown, compact, medium to coarse sandy clay, 25% subround to subangular small to large pebbles (C horizon)	
		Water table encountered at 50; auger used at 90; probe terminated due to sediment density	
31	507102 m E	0-30: brown, firm, silt, no gravels (A horizon)	None
	5163491 m N 40 meters S of #30	30-90: grayish brown, moderately oxidized, compact, clayey silt, no gravels (B horizon)	
		90-110: grayish brown, compact, medium to coarse sandy clay, 25% subangular small pebbles (C horizon)	
		Auger used at 90; probe terminated due to sediment density	
32	507102 m E 5163451 m N 40 meters S of #31	0-50: brown, firm, silt, no gravels (A horizon)	None
		50-65: grayish brown, moderately oxidized, compact, clayey silt, no gravels (B horizon)	
		65-120: gray, compact, clay, no gravels (B horizon)	
		120-135: grayish brown, compact, medium to coarse sandy clay, 25% subround to subangular small to large pebbles (C horizon)	
		Water table encountered at 40; auger used at 70; probe terminated due to sediment density	
33	507102 m E	0-25: dark brown, firm, silt, no gravels (A horizon)	None
	5163411 m N 40 meters S of #32	25-90: grayish brown, moderately oxidized, compact, clayey silt, no gravels (B horizon)	
		90-125: grayish brown, compact, medium to coarse sandy clay, 25% subangular small pebbles (C horizon)	
		Water table encountered at 70; auger used at 90; probe terminated due to sediment density	

Probe #	Probe Location	Stratigraphic Description (centimeters below surface [cmbs])	Cultural Materials (cmbs)
34	507102 m E	0-10: brown, firm, silt, no gravels (A horizon)	None
	5163371 m N 40 meters S of #33	10-80: grayish brown, moderately oxidized, compact, clayey silt, no gravels (A/B horizon)	
		80-110: grayish brown, compact, medium to coarse sandy clay, 25% subround to subangular small pebbles (C horizon)	
		Water table encountered at 60; auger used at 80; probe terminated due to sediment density	
35	507102 m E 5163331 m N	0-35: brown, firm, silt, 5% subround small pebbles (A horizon)	None
	40 meters S of #34	35-70: grayish brown, moderately oxidized, compact, clayey silt, no gravels (A/B horizon)	
		70-90: grayish brown, compact, medium to coarse sandy clay, 25% subround small to large pebbles (C horizon)	
		Water table encountered at 30; auger used at 70; probe terminated due to sediment density	
36	507102 m E	0-35: brown, firm, silt, no gravels (A horizon)	None
	5163291 m N 40 meters S of #35	35-60: grayish brown, moderately oxidized, compact, clayey silt, no gravels (A/B horizon)	
		60-120: gray, compact, clay, no gravels (B horizon)	
		120-130: grayish brown, compact, medium to coarse sandy clay, 25% subround to subangular small pebbles (C horizon)	
		Water table encountered at 25; auger used at 70; probe terminated due to sediment density	
37	507102 m E	0-25: dark brown, firm, silt, no gravels (A horizon)	None
	5163251 m N 40 meters S of #36	25-75: grayish brown, moderately oxidized, compact, clayey silt, no gravels (A/B horizon)	
		75-120: grayish brown, compact, medium to coarse sandy clay, 25% subround to subangular small pebbles (C horizon)	
		Water table encountered at 25; auger used at 75; probe terminated due to sediment density	

Probe #	Probe Location	Stratigraphic Description (centimeters below surface [cmbs])	Cultural Materials (cmbs)
38	507102 m E	0-20: brown, firm, silt, no gravels (A horizon)	None
	5163211 m N 40 meters S of #37	20-90: grayish brown, moderately oxidized, compact, clayey silt, no gravels (A/B horizon)	
		90-110: grayish brown, compact, medium to coarse sandy clay, 25% subround to subangular small pebbles (C horizon)	
		Water table encountered at 50; auger used at 90; probe terminated due to sediment density	
39	507102 m E 5163171 m N	0-30: brown, firm, silt, 5% subround small pebbles (A horizon)	None
	40 meters S of #38	30-80: grayish brown, moderately oxidized, compact, clayey silt, 5% subround small pebbles (A/B horizon)	
		80-130: brownish gray, compact, medium to coarse sandy clay, 15% subangular small pebbles to small cobbles (C horizon)	
		Auger used at 80; probe terminated due to rock obstruction	
40	507102 m E	0-25: brown, firm, silt, no gravels (A horizon)	None
	5163131 m N 40 meters S of #39	25-70: grayish brown, moderately oxidized, compact, clayey silt, no gravels (A/B horizon)	
		70-80: brownish gray, compact, clayey silt, 15% subangular small to large pebbles (B horizon)	
		Auger used at 70; probe terminated due to rock obstruction	
41	507102 m E 5163091 m N	0-30: brown, compact, silt, 5% subround small to large pebbles (A horizon)	None
	40 meters S of #40	30-70: grayish brown, moderately oxidized, compact, clayey silt, 5% subround small pebbles (A/B horizon)	
		70-140: grayish brown, compact, medium to coarse sandy clay, 15% subangular small pebbles to small cobbles (C horizon)	
		Water table encountered at 60; auger used at 70; probe terminated due to rock obstruction	

Probe #	Probe Location	Stratigraphic Description (centimeters below surface [cmbs])	Cultural Materials (cmbs)
42	507142 m E 5163611 m N 40 meters E of #28	0-80: brownish gray, moderately grading to extensively oxidized, firm, silty clay grading to clay, no gravels (A/B horizon)  Water table encountered at 20; auger used at 50; probe terminated due to saturation	None
43	507142 m E 5163571 m N 40 meters S of #42	0-30: dark brown, slightly oxidized, friable, clayey silt, no gravels, pocket of brown, loose, medium sand in SE wall (A horizon, possibly disturbed) 30-100: grayish brown, moderately oxidized,	None
		compact, silty clay, no gravels (B horizon)	
		100-140: reddish brown, loose, silty and clayey medium to coarse sand, some grayish brown silty clay, no gravels (C horizon / alluvium)	
		140-150: grayish brown and reddish brown, firm, silty and clayey fine to medium sand, 30% subround to subangular small pebbles (C horizon / alluvium)	
		Auger used at 68; water table encountered at 70; probe terminated due to rock obstruction	
44	507142 m E 5163531 m N	0-33: dark brown, slightly oxidized, friable, clayey silt, no gravels (A horizon)	None
	40 meters S of #43	33-120: grayish brown, moderately oxidized, compact, silty clay, no gravels (B horizon)	
		120-134: grayish brown and reddish brown, friable, silty and clayey fine to medium sand, 30% subround to subangular small pebbles (C horizon / alluvium)	
		Water table encountered at 40; auger used at 87; probe terminated due to rock obstruction	

Probe #	Probe Location	Stratigraphic Description (centimeters below surface [cmbs])	Cultural Materials (cmbs)
45	507142 m E 5163491 m N	0-36: dark brown, slightly oxidized, friable, clayey silt, no gravels (A horizon)	None
	40 meters S of #44	36-110: grayish brown, moderately oxidized, compact, silty clay, no gravels (B horizon)	
		110-150: reddish brown, friable, fine to medium sand, 20% subround small pebbles (C horizon / alluvium)	
		Auger used at 70; water table encountered at 120; probe terminated due to rock obstruction	
46	507142 m E 5163451 m N	0-20: dark brown, slightly oxidized, friable, clayey silt (A horizon)	None
	40 meters S of #45	20-90: grayish brown, moderately oxidized, compact, fine to medium sandy and silty clay, no gravels (B horizon)	
		90-110: reddish brown, friable, silty clay, 15% subround small pebbles (C horizon)	
		Water table encountered at 40; auger used at 60; probe terminated due to rock obstruction	
47	507142 m E 5163411 m N	0-20: dark grayish brown, friable, clayey silt, rootlets, no gravels (A horizon)	None
	40 meters S of #46	20-70: dark grayish brown, moderately oxidized, firm, clayey silt to silty clay, no gravels (A/B horizon)	
		70-100: gray, extensively oxidized, compact, clay to medium sandy clay, 20% subround to subangular small to large pebbles (B/C horizon)	
		Water table encountered at 55; auger used at 80; probe terminated due to rock obstruction	

Probe #	Probe Location	Stratigraphic Description (centimeters below surface [cmbs])	Cultural Materials (cmbs)
48	507142 m E 5163371 m N 40 meters S of #47	0-30: dark brown and yellowish brown, slightly oxidized, friable, clayey silt to silt, no gravels (A horizon)	None
		30-130: grayish brown, extensively oxidized, compact, fine sandy and silty clay, 0% grading to 15% at 90 subround small to medium pebbles (B horizon)	
		130-140: reddish brown and grayish brown, friable, fine sandy to silty clay, 20% subround small pebbles (B/C horizon)	
		Water table encountered at 45; auger used at 66; probe terminated due to rock obstruction	
49	507142 m E 5163331 m N	0-35: dark brown, friable, silt to clayey silt, rootlets, no gravels (A horizon)	None
	40 meters S of #48	35-70: dark grayish brown, moderately oxidized, firm, clayey silt, no gravels (A/B horizon)	
		70-105: gray, extensively oxidized, compact, medium to coarse sandy clay, 10% grading to 40% subround to subangular small to large pebbles (C horizon)	
		Water table encountered at 65; auger used at 75; probe terminated due to rock obstruction	
50	507142 m E 5163291 m N	0-25: grayish brown, friable, clayey silt, no gravels (A horizon)	None
	40 meters S of #50	25-60: grayish brown, moderately oxidized, firm, clayey silt, no gravels (A/B horizon)	
		60-130: gray, moderately oxidized, compact, clay, 1% subround small pebbles (B horizon)	
		130-140: gray, moderately oxidized, compact, medium sandy clay to clayey medium sand, 10% subround small to large pebbles (C horizon / alluvium)	
		Auger used at 90; water table encountered at 105; probe terminated due to rock obstruction	

Probe #	Probe Location	Stratigraphic Description (centimeters below surface [cmbs])	Cultural Materials (cmbs)
51	507142 m E 5163251 m N	0-30: grayish brown, friable, clayey silt, no gravels (A horizon)	None
	40 meters S of #50	30-80: grayish brown, moderately oxidized, firm, clayey silt, no gravels (A/B horizon)	
		80-115: grayish brown, moderately oxidized, compact, clay, no gravels (B horizon)	
		Water table encountered at 70; auger used at 93; probe terminated due to rock obstruction	
52	507142 m E 5163211 m N	0-25: grayish brown, slightly oxidized, friable, clayey silt, no gravels (A horizon)	None
	40 meters S of #51	25-75: grayish brown, moderately oxidized, firm, clayey silt, no gravels (A/B horizon)	
		75-130: grayish brown, moderately oxidized, firm, clay to medium sandy clay, 5% subround small to medium pebbles (B/C horizon)	
		Water table encountered at 80; auger used at 85; probe terminated due to rock obstruction and sediment density	
53	507142 m E	0-30: brown, firm, silt, no gravels (A horizon)	None
	5163171 m N 40 meters S of #52	30-70: grayish brown, moderately oxidized, compact, clayey silt, no gravels (B horizon)	
		70-140: grayish brown, compact, medium to coarse sandy clay, 15% subangular small pebbles to small cobbles (C horizon)	
		Water table encountered at 40; auger used at 70; probe terminated due to sediment density	
54	507142 m E	0-30: brown, firm, silt, no gravels (A horizon)	None
	5163131 m N 40 meters S of #53	30-70: grayish brown, moderately oxidized, compact, clayey silt, 5% subround small pebbles (A/B horizon)	
		70-140: grayish brown, compact, medium to coarse sandy clay, 15% subangular small pebbles to small cobbles (C horizon)	
		Water table encountered at 50; auger used at 70; probe terminated due to sediment density	

Probe #	Probe Location	Stratigraphic Description (centimeters below surface [cmbs])	Cultural Materials (cmbs)
55	507142 m E	0-30: dark brown, firm, silt, no gravels (A horizon)	None
	5163091 m N 40 meters S of #54	30-90: grayish brown, moderately oxidized, compact, clayey silt, 15% subangular small pebbles to small cobbles (B horizon)	
		90-110: grayish brown, compact, medium to coarse sandy clay, 15% subangular small pebbles to small cobbles (C horizon)	
		Auger used at 90; probe terminated due to rock obstruction	
56	507182 m E	0-25: brown, firm, silt, no gravels (A horizon)	None
	5163571 m N	25-90: grayish brown, moderately oxidized,	
	40 meters E of #43	compact, clayey silt, 5% subround small to large pebbles (A/B horizon)	
		90-105: grayish brown, compact, medium to coarse sandy clay, 25% subangular small pebbles (C horizon)	
		Auger used at 95; probe terminated due to sediment density	
57	507182 m E 5163531 m N	0-25: brown, firm, silt, 5% subround small pebbles (A horizon)	None
	40 meters S of #56	25-50: grayish brown, moderately oxidized, compact, clayey silt, 5% subround small pebbles (A/B horizon)	
		50-110: gray, compact, clay, no gravels (B horizon)	
		110-160: grayish brown, compact, medium to coarse sandy clay, 5% subangular small pebbles (C horizon)	
		Water table encountered at 40; auger used at 60; probe terminated due to sediment density	

Probe #	Probe Location	Stratigraphic Description (centimeters below surface [cmbs])	Cultural Materials (cmbs)
58	507182 m E 5163491 m N	0-25: brown, firm, silt, 5% subround small pebbles (A horizon)	None
	40 meters S of #57	25-100: grayish brown, moderately oxidized, compact, clayey silt, no gravels (A/B horizon)	
		100-160: grayish brown, compact, medium to coarse sandy clay, 5% subangular small pebbles (C horizon)	
		Water table encountered at 70; auger used at 80; probe terminated due to sediment density	
59	507182 m E 5163451 m N	0-30: brown, firm, silt, no gravels (A horizon)	None
	40 meters S of #58	30-60: grayish brown, moderately oxidized, compact, clayey silt, no gravels (A/B horizon)	
	40 meters 5 of #50	60-110: gray, compact, clay, no gravels (B horizon)	
		110-160: grayish brown, compact, medium to coarse sandy clay, 5% subangular small pebbles (C horizon)	
		Water table encountered at 60; auger used at 90; probe terminated due to sediment density	
60	507182 m E	0-25: brown firm, silt, no gravels (A horizon)	None
	5163411 m N 40 meters S of #59	25-60: grayish brown, moderately oxidized, compact, clayey silt, no gravels (A/B horizon)	
		60-110: gray, compact, clay, no gravels (B horizon)	
		110-135: grayish brown, compact, medium to coarse sandy clay, 15% subangular small pebbles (C horizon)	
		Water table encountered at 60; auger used at 80; probe terminated sediment density	

Probe #	Probe Location	Stratigraphic Description (centimeters below surface [cmbs])	Cultural Materials (cmbs)
61	507182 m E 5163371 m N	0-40: brown, firm, silt, no gravels (A horizon) 40-70: grayish brown, moderately oxidized,	None
	40 meters S of #60	compact, clayey silt, no gravels (A/B horizon)	
		70-100: gray, compact, clay, no gravels (B horizon)	
		100-125: grayish brown, compact, medium to coarse sandy clay, 15% subangular small pebbles (C horizon)	
		Water table encountered at 70; auger used at 80; probe terminated due to sediment density	
62	507182 m E	0-35: brown, firm, silt, no gravels (A horizon)	None
	5163331 m N	35-70: grayish brown, moderately oxidized,	
	40 meters S of #61	compact, clayey silt, 5% subround small pebbles (A/B horizon)	
		70-100: gray, compact, clay, no gravels (B horizon)	
		100-110: grayish brown, compact, medium to coarse sandy clay, 15% subangular small pebbles (C horizon)	
		Auger used at 80; probe terminated due to sediment density	
63	507182 m E	0-40: brown, firm, silt, no gravels (A horizon)	None
	5163291 m N	40-75: grayish brown, moderately oxidized,	
	40 meters S of #62	compact, clayey silt, 5% subround small pebbles (A/B horizon)	
		75-105: gray, compact, clay, no gravels (B horizon)	
		105-120: grayish brown, compact, medium to coarse sandy clay, 15% subangular small pebbles (C horizon)	
		Water table encountered at 50; auger used at 80; probe terminated due to sediment density	

Probe #	Probe Location	Stratigraphic Description (centimeters below surface [cmbs])	Cultural Materials (cmbs)
64	507182 m E 5163251 m N	0-35: brown, loose to firm, silt, no gravels (A horizon)	None
	40 meters S of #63	35-80: grayish brown, moderately oxidized, compact, clayey silt, no gravels (A/B horizon)	
		80-160: gray, compact, clay, 5% subround small pebbles (B horizon)	
		Water table encountered at 40; auger used at 80; probe terminated due to sediment density	
65	507182 m E 5163211 m N	0-30: brown, firm, silt, 5% subround small pebbles (A horizon)	None
	40 meters S of #64	30-80: grayish brown, moderately oxidized, compact, clayey silt, no gravels (A/B horizon)	
		80-160: gray, compact, clay, 5% subangular small pebbles (B horizon)	
		Water table encountered at 40; auger used at 80; probe terminated due to sediment density	
66	507182 m E 5163171 m N	0-30: brown, firm, silt, no gravels (A horizon)	None
	40 meters S of #65	30-80: grayish brown, moderately oxidized, compact, clayey silt, no gravels (A/B horizon)	
		80-160: gray, compact, clay, 5% subangular small pebbles (B horizon)	
		Water table encountered at 40; auger used at 80; probe terminated due to rock obstruction	
67	507182 m E 5163131 m N	0-30: brown, firm, silt, 5% subround small pebbles (A horizon)	None
	40 meters S of #66	30-50: grayish brown, moderately oxidized, compact, clayey silt, 5% subround small pebbles (A/B horizon)	
		50-130: gray, compact, clay, 5% subround small pebbles (B horizon)	
		Water table encountered at 40; auger used at 50; probe terminated due to rock obstruction	

Probe #	Probe Location	Stratigraphic Description (centimeters below surface [cmbs])	Cultural Materials (cmbs)
68	507182 m E 5163091 m N 40 meters S of #67	0-10: light brown, firm, medium to coarse sand, 50% subround small pebbles to small cobbles (disturbed A horizon)	Surface: 3 fragments of terracotta drainage
	40 meters 3 of #0/	10-60: gray, compact, clay, 40% subround small pebbles to small cobbles (disturbed A/B horizon)	pipe
		60-80: brown, compact, clay, 20% subround small pebbles to small cobbles (disturbed B horizon)	
		80-110: gray, compact, clay, 15% subround small pebbles to small cobbles (B horizon)	
		Water table encountered at 70; auger used at 75; probe terminated due to rock obstruction	
69	507222 m E 5163571 m N	0-30: dark brown, friable, clayey silt to silt, rootlets, no gravels (A horizon)	None
	40 meters S of #68	30-90: grayish brown, moderately oxidized, compact, fine sandy and silty clay, no gravels (B horizon)	
		90-100: grayish brown, firm, clayey and silty fine sand, 20% subround small pebbles (C horizon / alluvium)	
		Water table encountered at 51; auger used at 80; probe terminated due to rock obstruction	
70	507222 m E 5163531 m N	0-34: dark brown, slightly oxidized, friable, clayey silt, no gravels (A horizon)	None
	40 meters S of #69	34-120: grayish brown, moderately oxidized, compact, silty clay grading to fine sandy and silty clay at 90, 10% small subround pebbles (B/C horizon)	
		120-150: reddish brown, loose, fine sand, 5% subround small pebbles (C horizon / alluvium)	
		150-170: grayish brown, moderately oxidized, compact, fine sandy and silty clay, 5% subround small pebbles (C horizon / alluvium)	
		Water table encountered at 45; auger used at 50; probe terminated due to rock obstruction	

Probe #	Probe Location	Stratigraphic Description (centimeters below surface [cmbs])	Cultural Materials (cmbs)
71	507222 m E 5163491 m N	0-20: dark brown, friable, clayey silt, 70% angular medium to large pebbles (fill)	None
	40 meters S of #70	Probe terminated due to rock obstruction	
72	507222 m E 5163451 m N	0-30: dark brown, slightly oxidized, friable, clayey silt, no gravels (A horizon)	None
	40 meters S of #71	30-90: grayish brown, moderately oxidized, compact, silty clay, no gravels (B horizon)	
		90-98: grayish brown and reddish brown, loose, fine to medium sandy silt, 20% subround small pebbles (C horizon / alluvium)	
		Water table encountered at 70; auger used at 64; probe terminated due to rock obstruction	
73	507222 m E 5163411 m N	0-30: dark brown, slightly oxidized, friable, clayey silt, no gravels (A horizon)	None
	40 meters S of #72	30-75: grayish brown, moderately oxidized, compact, silty clay, no gravels (B horizon)	
		75-94: grayish brown, moderately oxidized, compact, fine to coarse sandy and silty clay, 30% subround to subangular small to medium pebbles (C horizon)	
		Auger used at 54; probe terminated due to rock obstruction	
74	507222 m E 5163371 m N	0-40: dark brown, slightly oxidized, friable, fine sandy silt, rootlets, no gravels (A horizon)	None
	40 meters S of #73	40-73: grayish brown, moderately oxidized, compact, silty clay, no gravels (B horizon)	
		73-97: grayish brown, loose, medium sandy and silty clay, 30% subround small pebbles (C horizon)	
		Water table encountered at 70; auger sed at 80; probe terminated due to rock obstruction	

Probe #	Probe Location	Stratigraphic Description (centimeters below surface [cmbs])	Cultural Materials (cmbs)
75	507222 m E 5163331 m N	0-30: dark brown, slightly oxidized, friable, silty clay, some roots and rootlets, no gravels (A horizon)	None
	40 meters S of #74	30-205: grayish brown, extensively oxidized, compact, fine sandy and silty clay, 5% subround small pebbles with most below 190 (B/C horizon)	
		Auger used at 80; water table encountered at 194; probe terminated at auger reach	
76	507222 m E 5163291 m N	0-40: dark brown, slightly oxidized, friable, silty clay, some roots and rootlets, no gravels (A horizon)	None
	40 meters S of #75	40-120: grayish brown, moderately oxidized, friable grading to compact, silty clay grading to clay, no gravels (B horizon)	
		120-160: grayish brown, moderately oxidized, compact, silty clay, some reddish brown, loose, medium sand, 5% subround to subangular small pebbles (C horizon / alluvium)	
		Water table encountered at 90; auger used at 100; probe terminated due to rock obstruction	
77	507222 m E 5163251 m N	0-54: dark brown, friable, silty clay, rootlets, no gravels (A horizon)	None
	40 meters S of #76	54-114: grayish brown, moderately oxidized, compact, silty clay, no gravels (B horizon)	
		114-134: grayish brown, weak, fine to medium sandy and silty clay, 20% subround small pebbles (C horizon)	
		Water table encountered at 70; auger used at 70; probe terminated due to rock obstruction	
78	507222 m E 5163211 m N	0-24: dark brown, slightly oxidized, friable, clayey silt, no gravels (A horizon)	None
	40 meters S of #77	24-130: grayish brown, moderately oxidized, compact, silty clay, no gravels (B horizon)	
		130-167: brown, firm, fine to medium sandy and silty clay, 5% subround small pebbles (C horizon)	
		Auger used at 55; water table encountered at 120; probe terminated due to rock obstruction	

Probe #	Probe Location	Stratigraphic Description (centimeters below surface [cmbs])	Cultural Materials (cmbs)
79	507222 m E 5163171 m N	0-30: dark brown, slightly oxidized, friable, clayey silt, no gravels (A horizon)	None
	40 meters S of #78	30-150: grayish brown, moderately oxidized, compact, silty clay, no gravels (B horizon)	
		150-163: grayish brown, compact, fine sandy and silty clay, 30% subround to subangular small pebbles (C horizon)	
		Auger used at 80; probe terminated due to rock obstruction	
80	507222 m E 5163131 m N	0-60: dark brown, slightly oxidized, weak, clayey silt, no gravels (A horizon)	None
	40 meters S of #79	60-120: grayish brown, moderately oxidized, compact, silty clay, no gravels (B horizon)	
		Water table encountered at surface; auger used at 50; probe terminated due to sediment density	
81	507222 m E 5163091 m N	0-23: yellowish brown, firm, clayey silt, 40% subround to subangular small to large pebbles, some	None
	40 meters S of	charcoal fragments (disturbed A horizon)	
	#80, SE corner of project	23-84: dark brown, friable, clayey silt, some blue gray silt, no gravels, grass in sidewall at 30 (disturbed B horizon)	
		84-110: grayish brown, moderately oxidized, compact, silty clay, 5% subround small pebbles (B horizon)	
		Auger used at 100; probe terminated due to rock obstruction	

# **Appendix C. Inadvertent Discovery Protocol**

In accordance with RCW 27.44 Indian Graves and Records Act, RCW 27.53 Archaeological Sites and Resources, RCW 68.50 Human Remains, and RCW 68.60, Abandoned and Historic Cemeteries and Historic Graves, the following steps will be taken in the event that archaeological materials and/or human remains are discovered:

#### **Procedures for Discovery of Potential or Actual Cultural Resources**

Upon discovery of a potential or actual archaeological site or cultural resources as defined by RCW 27.44 Indian Graves and Records Act and RCW 27.53 Archaeological Sites and Resources, project contractors and sub-contractors shall:

- (a) Immediately cease or halt ground disturbing, construction, or other activities around the area of the discovery and secure the area with a perimeter of not less than 30 feet until all procedures are completed and the parties agree that activities can resume. If such a perimeter would materially impact agency functions mandated by law, related to health, safety, or environmental concerns, then the secured area shall be of a size and extent practicable to provide maximum protection to the resource under the circumstances. Project activities that are not ground disturbing may continue outside the secured perimeter around the findings. No one shall excavate any findings and all findings will be left in place, undisturbed and without analysis, until consultation with DAHP and identified area Tribes regarding a final disposition of the findings has been completed. In accordance with RCW 27.53.060, no one shall knowingly remove or collect any archaeological objects without obtaining a permit.
- (b) Notify the State Archaeologist at DAHP and identified area Tribes of the discovery as soon as possible and no later than 24 hours of the discovery. If human remains are found, the project proponent shall follow notification procedures specified below.
- (c) Arrange for the parties to conduct a joint viewing of the discovery within 48 hours of the notification or at the earliest possible time thereafter. After the joint viewing, taking into account any recommendations made by the Tribes and DAHP, the parties shall discuss the potential significance, if any, of the discovery.
- (d) Consult with the identified area Tribes and DAHP on the transfer and final disposition of artifacts. Until the Tribe has a repository that meets the standards of curation established 36 CFR Part 79, artifacts shall be curated using an institution or organization that meets curation standards, selected through consultation with the Tribes.

#### **Procedures for Discovery of Human Skeletal Remains**

Upon discovery of human skeletal remains on non-federal and non-Tribal land and in accordance with RCWs 68.50.645, 27.44.055, and 68.60.055, project contractors and sub-contractors shall take the following steps:

- (a) If ground-disturbing activities encounter human skeletal remains during the course of construction, then all activity must cease that may cause further disturbance to those remains and the area of the find must be secured and protected from further disturbance. In addition, the finding of human skeletal remains must be reported to the Lewis County Coroner's Office and Lewis County Sheriff's Office in the most expeditious manner possible. The remains should not be touched, moved, or further disturbed.
- (b) The Lewis County Coroner's Office will assume jurisdiction over the human skeletal remains and make a determination as to whether the remains are forensic or non-forensic. If the county medical examiner determines the remains are non-forensic, they will report that finding to DAHP who will then take jurisdiction over the remains and report them to the appropriate cemeteries and Tribes. The State Physical Anthropologist will make a determination as to whether the remains are Indian or Non-Indian and report that finding to any appropriate cemeteries and Tribes.
- (c) DAHP will handle all consultation with the affected parties as to the future preservation, excavation, and disposition of the remains if no federal agency is involved.

#### **Confidentiality of Information**

The project proponent and their authorized representative recognizes that archaeological sites are sensitive cultural resources that can become targets of vandalism and illegal removal activities. The project proponent or their authorized representative shall keep and maintain as confidential all information regarding any discovered cultural resources, particularly the location of known or suspected archaeological property, and exempt all such information from public disclosure consistent with RCW 42.17.300.

#### **Contact Information**

The lead representatives and primary contacts of each party under this plan are as identified below. The parties may identify other individuals as primary contacts before the commencement of any particular project element.

#### **Chehalis Confederated Tribes**

P.O. Box 536, Howanut Road, Oakville, WA 98568

Primary contact: Dan Penn, Acting THPO, 360-709-1747, dpenn@chehalistribe.org

#### **Cowlitz Indian Tribe**

P.O. Box 2547, Longview, WA 98632

Primary contact: Seth Russell, THPO, 202-669-4936, srussell@cowlitz.org

# **Nisqually Tribe**

4820 She-Nah-Num Drive SE, Olympia, WA 98513

Primary contact: Brad Beach, Cultural Resources, 360-456-5221,

beach.brad@nisqually-nsn.gov

#### **Quinault Indian Nation**

124 Aalis Drive, Building C, P.O. Box 189, Taholah, WA 98587

Primary contact: Naomi Brandenfels, Archaeologist, 360-276-8211 x 7309,

naomi.brandenfels@quinault.org

### **Squaxin Island Tribe**

200 SE Billy Frank Jr. Way, Shelton, WA 98584

Primary contact: Rhonda Foster, THPO, 360-432-3850, rfoster@squaxin.us, and

Shaun Dinubilo, Archaeologist, 360-432-3998, sdinubilo@squaxin.us

# Washington Department of Archaeology and Historic Preservation (DAHP)

P.O. Box 48343, Olympia, WA 98504-8343

Primary contact: Stephanie Jolivette, Local Government Archaeologist, 360-628-2755,

Stephanie.Jolivette@dahp.wa.gov

Primary Contact for human skeletal remains: Guy Tasa, State Physical Anthropologist,

360-790-1633, Guy.Tasa@dahp.wa.gov

#### **Lewis County Sheriff's Office**

345 West Main Street, Chehalis, WA 98532

Primary contact: Robert R. Snaza, Sheriff, 360-748-9286

# **Lewis County Coroner's Office**

351 NW North Street, Chehalis, WA 98532

Primary contact: Warren McLeod, Coroner, 360-748-9121