ExxonMobil ADC Site – Port of Everett Property Interim Action Work Plan

ExxonMobil ADC
2717/2731 Federal Avenue
Everett, Washington

Cardno 03144702.R05

Prepared for
ExxonMobil Environmental and Property Solutions

June 14, 2022

Cardno now Stantec

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Acronyms and Abbreviations

1996 Order	Agreed Order DE 95TC-N402
1998 Order	Agreed Order DE 98TCP-N223
2010 Order	Agreed Order DE 6184
ADC	American Distributing Company
ARAR	Applicable, Relevant, and Appropriate Requirements
AST	Aboveground storage tank
ASTM	ASTM International
bgs	Below ground surface
BNSF	BNSF Railway Company
CAP	Cleanup Action Plan
COCs	Contaminants of concern
cPAH	Carcinogenic polycyclic aromatic hydrocarbon
CSO	Combined sewer overflow
Ecology	Washington State Department of Ecology
Ecology Site	ExxonMobil and ADC Property and the surrounding parcels where hydrocarbons have migrated
EDR	Engineering Design Report
ESR	Everett Ship Repair
ExxonMobil	ExxonMobil Oil Corporation
ExxonMobil ADC Property	ExxonMobil and ADC-owned parcels located at 2717 and 2731 Federal Avenue, in Everett, Washington
GPS	Global Positioning System
Kimberly-Clark	Kimberly-Clark Corporation
LNAPL	Non-aqueous phase liquid
mg/kg	Milligram per kilogram
MIDP	Monitoring and Inadvertent Discovery Plan
Miller	Mr. Aven P. Miller (former ADC property owner)
Mobil	Mobil Oil Corporation
MTCA	Model Toxics Control Act
PLP	Potentially liable person
Port	Port of Everett
Port Property	The Port of Everett-owed parcels located at 2730 Federal Avenue, in Everett, Washington
RZA	Rittenhouse-Zeman & Associates, Inc.
SC/FFS	Site characterization/focused feasibility study
SCOPI	Snohomish County Online Property Information
SEPA	Washington State Environmental Policy Act
TEE	Terrestrial Ecological Evaluation
TPH	Total petroleum hydrocarbons
TPHd	Total petroleum hydrocarbons as diesel
TPHg	Total petroleum hydrocarbons as gasoline
TPHmo	Total petroleum hydrocarbons as motor oil
µg/L	Microgram per liter
UST	Underground storage tank
WAC	Washington Administrative Code
WISAARD	Washington Department of Archaeology and Historic Preservation
Wood	Wood Environment & Infrastructure Solutions, Inc.

1 Introduction

At the request of ExxonMobil Environmental and Property Solutions, on behalf of ExxonMobil Oil Corporation (ExxonMobil) and American Distribution Company (ADC), Cardno has prepared this *Port of Everett Property Interim Action Work Plan* for the Washington State Department of Ecology (Ecology) recognized ExxonMobil ADC Site (Ecology Site) located in Everett, Snohomish County, Washington (Plate 1). The proposed remedial excavation outlined in this work plan will be conducted on the Port of Everett (Port Property) located at 2730 Federal Avenue, Everett, Washington (Plate 2).

The proposed scope of work includes:

- Pre-field activities.
- Fencing removal and temporary fencing installation.
- Utility services disconnection, rerouting, and protection.
- Sawcutting, breakout, and removal of asphalt cap.
- Sheet pile shoring and barrier wall installation.
- Pre-determined remedial excavation.
- Excavation backfill and compaction.
- Surface restoration.
- Site restoration.

Historical releases of hydrocarbons to soil and groundwater at the Ecology Site were related to the former operation of bulk storage, transfer, and distribution of petroleum and petroleum related products. Light non-aqueous phase liquid (LNAPL) has been observed in soil and groundwater beneath the Ecology Site (including on neighboring properties). The Ecology Site is defined as the ExxonMobil Oil Corporation (ExxonMobil) and American Distributing Company (ADC)-owned properties (ExxonMobil ADC Property), located at 2717 and 2731 Federal Avenue, Everett, Washington, and the surrounding right-of-ways and properties, including the Port Property, which were impacted by the migration of historical releases of hydrocarbons in soil and groundwater. This interim action is designed to address those impacts on the Port Property.

Agreed Order No. DE 6184 (2010 Order) was entered into between Ecology, ExxonMobil, and ADC in March 2010 (Ecology, 2010). Ecology has identified ExxonMobil and ADC as potentially liable persons (PLPs). The PLPs have completed investigation activities under two previous agreed orders – DE 95TC-N402 (1996 Order) and DE 98TCP-N223 (1998 Order).

1.1 Previous Studies

This section briefly discusses previous investigations at the Ecology Site. Since 1985, various consultants have conducted environmental investigations to characterize the nature and extent of contaminants of concerns in soil and groundwater at the Ecology Site. Previous investigations are summarized in Appendix A. Interim actions conducted to date are summarized in Appendix B. Boring logs from the Port excavation delineation investigation are included in Appendix C.

1.2 Regulatory Framework

This section summarizes the regulatory background of the Ecology Site, including the three Agreed Orders and definition of the MTCA Site.

The cleanup of the Ecology Site is regulated under Washington Administrative Code (WAC) Chapter 173-340 – MTCA Cleanup Regulations (WAC, 2007). Environmental site investigation and interim actions have been conducted at the Ecology Site beginning in 1985 (Wood, 2019). There have been three agreed orders issued under the MTCA to date that direct cleanup actions (Ecology, 2010).

In April 1996, Ecology entered in the 1996 Order (DE 95TC-N402) with Mobil Oil Corporation (Mobil), ADC, and Miller (Mr. Aven P. Miller – former ADC property owner) requiring cleanup, elimination, and/or containment of petroleum releases at and near the City of Everett's combined sewer overflow (CSO) discharge line into Port Gardner Bay. In accordance with the 1996 Order, the interim actions were completed, and Ecology agreed that the interim containment measures, CSO repair, and cleanup were satisfactorily completed and the exposure pathway to Port Gardner Bay had been removed.

Periodic groundwater monitoring and sampling began in 1988 at the Ecology Site. In October 1998, Ecology entered in the 1998 Order (DE 98TCP-N223), with Mobil, ADC, and Miller, requiring the preparation of a Remedial Investigation/Focused Feasibility Study Report (FFS), Interim Action Work Plan, and the subsequent completion of the work described in the Interim Action Work Plan. Per the developed FFS, an interceptor trench and cap were installed in 1999. Additionally, quarterly groundwater monitoring and monthly measurement and removal of LNAPL from affected wells began in 2002. In 2007, the groundwater monitoring frequency for the Ecology Site was reduced from quarterly to semiannually.

In March 2010, Ecology entered into the 2010 Order (DE 6184), with ExxonMobil and ADC requiring a FFS and development of a draft CAP to identify the nature and extent of hydrocarbons in soil and groundwater and select a preferred final interim action to remediate the Ecology Site in accordance with MTCA.

As noted in the 2010 Order, the MTCA Site (synonymous to Ecology Site in this report) is defined as a release of gasoline-, diesel-, and motor oil-range total petroleum hydrocarbons (TPHg, TPHd, TPHmo), benzene, total xylenes, carcinogenic polycyclic aromatic hydrocarbons (cPAHs), and lead in soil and groundwater (Ecology, 2010). Additionally, ethylbenzene has been detected exceeding the MTCA Method A Cleanup Level in soil (Ecology, 2010). The Ecology Site includes the ExxonMobil ADC Property and extends into former Everett Avenue, Federal Avenue, and the Port properties just west of Federal Avenue. It also includes portions of the City of Everett right-of-way east and south of the ExxonMobil ADC Property, the BNSF Railway Company (BNSF) parcel east of the ExxonMobil ADC Property, and the land underneath the Terminal Avenue Overpass to the east.

In accordance with WAC 173-340-430, an interim action, such as the one outlined in this report, is a remedial action that may be technically necessary in various circumstances, including to reduce the presence of a hazardous substance in the environment. The Port's property is impacted with hazardous substances above Ecology-approved residual soil saturation levels, the condition of which may become substantially more costly or complex to remedy if action is delayed. Based on these circumstances, an interim action is warranted under WAC 173-340-430.

Implementation of the interim action will also support the ongoing design of a final cleanup action for the Site to be included in the Draft Cleanup Action Plan (CAP) to be submitted at a later date. Long-term requirements for the entire Site, including monitoring and institutional controls, will be described in the Draft CAP.

2 Site Description

2.1 ExxonMobil ADC and Port of Everett Properties Current Land Use

The ExxonMobil ADC Property is currently an asphalt-paved parking lot with no structures present. The Port Property is currently asphalt-paved parking and laydown yards with various industrial structures and offices present. The Port currently leases the property for ship repair, storage, and a marine tug terminal. The Ecology Site is comprised of the ExxonMobil ADC Property, City of Everett right-of-ways (former Everett Avenue to the north, Federal Avenue to the west, and land underneath the Terminal Avenue Overpass), the

Port Property to the west (including the active port and the property leased and currently occupied by Everett Ship Repair [ESR]), the BNSF parcel, and the BNSF railway corridor easement to the east of the ExxonMobil ADC Property.

2.2 Site Property Use

The shoreline of Port Gardner Bay is approximately 300 feet northwest of the ExxonMobil ADC Property. The lateral extent of the Ecology Site extends to onto neighboring properties to the north, south, east, and west. The following sections summarize the properties that define the Ecology Site.

2.2.1 ExxonMobil ADC Property

Historical ExxonMobil and ADC operations were located at 2717/2731 Federal Avenue, Everett, Snohomish County, Washington, adjacent to Port Gardner Bay. The ExxonMobil ADC Property consists of three tax parcels: 00437161900101, 00437161900100, and 00437161901000. The northern parcels are owned by ADC, and the southern parcel is owned by ExxonMobil. The ExxonMobil ADC Property occupies 0.86 acre of land (SCOPI, 2021). The northern ADC parcels at 2717 Federal Avenue occupy approximately two-thirds of the ExxonMobil ADC Property (0.65 acre). The southern parcel at 2731 Federal Avenue occupies approximately one-third of the ExxonMobil ADC Property (0.21 acre).

To the west of the ExxonMobil ADC Property is Federal Avenue and Port Property beyond. To the east is the Terminal Avenue Overpass and the BSNF parcel. To the north is former Everett Avenue, which is currently owned by the Port. Kimberly-Clark Corporation (Kimberly-Clark) formerly operated to the north of the ExxonMobil ADC Property. The former Kimberly-Clark warehouse is located on the Port parcel to the north. The ExxonMobil ADC Property and surrounding parcels are shown on Plate 3.

The ExxonMobil ADC Property historically operated as a bulk petroleum storage, transfer, and distribution facility. Additional potential sources of contaminants of concern include releases from the former rail loading racks located east of the ExxonMobil ADC Property, underneath the current Terminal Avenue Overpass (Wood, 2019). In the early 1900s, the historical shoreline was approximately located along present day Federal Avenue. As development continued, the shoreline was extended westward until it reached its current extent in 1976 (Wood, 2019).

2.2.2 The Port of Everett

The properties beyond Federal Avenue to the west are owned by the Port and abut the Port Gardner Bay shoreline (SCOPI, 2021). Various portions of the Port properties are leased to other businesses, including Dunlap Towing and ESR (Wood, 2019).

2.2.3 BNSF Rail Line and Parcels

An active BNSF rail line and adjacent BNSF parcels are located on the eastern and southeastern section of the Ecology Site (Google, 2020; SCOPI, 2021). The BNSF railway corridor crosses underneath the Terminal Avenue Overpass. The adjacent BNSF parcels are paved with asphalt.

2.2.4 Federal Avenue

The City of Everett right-of-way Federal Avenue is located in the western section of the Ecology Site (Google, 2020). Federal Avenue is a north to south trending road that is currently paved with asphalt.

2.2.5 Terminal Avenue Overpass

The City of Everett right-of-way Terminal Avenue Overpass is located in the eastern and southern section of the Ecology Site (Google, 2020). Terminal Avenue is a northeast to southwest trending road that is currently paved with asphalt. The overpass crosses the BNSF railway corridor and then intersects at grade with Federal Avenue southwest of the Ecology Site. A portion of the right-of-way was previously part of the ExxonMobil parcel but was transferred to the City of Everett as part of the Terminal Avenue Overpass project (Wood, 2019).

2.3 Adjacent Property

The former Kimberly-Clark property is located at 2600 Federal Avenue, north of the ADC parcel, and includes a portion of former Everett Avenue (Ecology, 2021). The property was initially developed in the late 1800s to early 1900s and was used for pulp and paper manufacturing, bulk petroleum storage, and sawmilling. Manufacturing was discontinued in 2012, and the former buildings were demolished with the exception of the distribution warehouse building, located on the southern portion of the property. In 2019, Kimberly-Clark sold a majority of the property to the Port.

2.4 Site History

The following is a summary of historical Ecology Site development and use. Additional details regarding historical use and operations of the ExxonMobil ADC Property and the surrounding areas are available in Wood's SC/FFS (Wood, 2019).

Indigenous people historically inhabited the shoreline along Port Gardner Bay. Development of the original shoreline (near present day Federal Avenue) began in the late 1800s and continued until 1976, when the current shoreline was established. The ExxonMobil ADC Property and surrounding properties were used for storage and transfer of petroleum and petroleum products as early as 1920. From the 1920s until 1990, various portions of the ExxonMobil ADC Property were used for bulk storage, transfer, and distribution operations; marine offloading; truck loading; and rail loading and/or unloading of petroleum products that included fuel oils, stove oil, Bunker C fuel oil, diesel, and gasoline.

Peak operations at the ExxonMobil ADC Property occurred from the 1920s through early 1980s. Historical ExxonMobil ADC Property features included various configurations of aboveground storage tanks (ASTs), warehouse buildings, pump houses, diked fuel storage areas, a boiler room, loading racks, and overhang canopies.

In May 1985, Rittenhouse-Zeman & Associates, Inc. (RZA), conducted an environmental investigation that indicated a release of hydrocarbons to the surface and subsurface had occurred. ExxonMobil terminated bulk fuel operations on the ExxonMobil parcel in 1987 and demolished the ASTs and other structures. By 1993, the ExxonMobil parcel had been covered with asphalt with no above-grade structures present. The ADC operations terminated in 1990. In 1998, all structures on the ADC parcels were demolished. In 1999, the ExxonMobil ADC Property was capped with asphalt to meet the requirements of the 1998 Order. Since then, the Ecology Site has been used intermittently as a parking lot by neighboring businesses and has remained unimproved with no above-grade structures (Plate 2).

3 Contaminants of Concern

This section summarizes the contaminants of concern in soil. Soil data have been collected at the Ecology Site since 1988. Soil analytical data from the Port Property excavation delineation drilling activities are summarized on Table 1.

Soil data was first collected at the Ecology Site in 1988 during an environmental investigation conducted by RZA. Numerous investigations have been conducted at the Ecology Site and are summarized in Appendix A. Cardno conducted excavation delineation drilling on the Port Property to characterize current soil conditions and prepare for the proposed interim action (Cardno, 2021). Results of pre-excavation soil delineation activities at the Port Property are summarized on Table 1 and Plates 4 through 13. The excavation delineation drilling activities were conducted in accordance with Cardno's standard field protocol (Appendix D). Descriptions of the materials encountered and sampled intervals are provided in the boring logs (Appendix C).

COCs in soil are summarized in Figure 1.

Figure 1 Contaminants of Concern in Soil

Contaminants of Concern
TPHg
TPHd
TPHmo
Benzene
Ethylbenzene
Total Xylenes
Total cPAHs
1-Methylnaphthalene

4 Soil Residual Saturation Remediation Levels

In the draft August 2019 SC/FFS (Wood, 2019), Wood established residual saturation remediation levels using Ecology Site-specific data. Wood defined residual saturation as "fluid distributed within a porous medium and held in place by capillary action" and noted that LNAPL under these conditions is not connected between pores and does not flow. As discussed in the SC/FFS, "the distinction between residual LNAPL and potentially mobile LNAPL is based on research into how much LNAPL is expected to be retained by saturated soils of various textures for different LNAPL viscosities."

Historically, attempts at LNAPL collection via interceptor trenches, absorbent socks installed in groundwater wells, and other methods have failed to produce a significant reduction in LNAPL volume in the soil beneath the Ecology Site, as indicated by total petroleum hydrocarbons (TPH) concentrations in soil samples at magnitudes high enough to indicate the presence of LNAPL. These observations support Wood's assertion that the LNAPL present at the Ecology Site is not mobile. LNAPL has only been observed to be mobile during the artificially increased hydraulic gradients induced during dewatering in support of historical excavation activities (Wood, 2019).

Using Ecology Site-specific data, including soil types and viscosity of LNAPL observed at the Ecology Site, Wood used guidance from Brost and DeVaull's *Non-Aqueous Phase Liquid (NAPL) Mobility Limits in Soil* (Brost and DeVaull, 2000) to establish residual saturation remediation levels in ranges for TPHg, TPHd, and TPHmo:

- TPHg: 2,470 to 3,410 milligrams per kilogram (mg/kg)
- TPHd: 4,800 to 8,840 mg/kg
- TPHmo: 5,810 to 11,000 mg/kg

In Ecology's May 6, 2019, response to the draft 2019 SC/FFS, Ecology recommended the use of the more stringent limits of the proposed residual saturation remediation level ranges (Ecology, 2019), shown in Figure 2.

Figure 2 Remediation Levels for Soil

Contaminant of Concern	Ecology Site-Specific Residual Saturation Remediation Level in Soil (mg/kg)
TPHg	2,470
TPHd	4,800
TPHmo	5,810

The Ecology Site-specific residual saturation remediation levels will be used to ensure that excavation has been completed to the maximum extent practicable in accessible areas on the Port Property.

5 Applicable, Relevant, and Appropriate Requirements (ARARs)

Chapter 173-340-710 of the WAC states that cleanup actions must comply with various federal and state level regulatory requirements. Some requirements will be refined during the design process and will be summarized in the Engineering Design Report (EDR). The following regulatory requirements are applicable to this interim action:

- State Environmental Policy Act (Section 5.3).
- Public Works Permits (EDR).
- Washington State and Federal Worker Safety (EDR; health and safety plan).
- Monitoring Well Construction, Maintenance, and Decommissioning (EDR).
- Air Quality (EDR).
- National Recommended Water Quality Criteria (EDR).
- Native American Graves Protection and Repatriation Act (Sections 5.1 and 5.2).
- Archaeological Resources Protection Act (Sections 5.1 and 5.2).
- Washington Dangerous Waste Regulations (EDR).
- Washington Solid Waste Handling Standards (EDR).
- Federal Waste Transportation Standards (EDR).
- Stormwater Management Manual for Western Washington (Section 6.1.3)

5.1 Cultural Resource Background Review

A literature search of previously recorded cultural resources for the Ecology Site and surrounding area was conducted. The Cultural Resources Report includes a thorough review of existing cultural resource data (i.e., archaeological, ethnohistoric, and historic) and previously completed cultural resources surveys and is included as Appendix E. This review was conducted prior to the implementation of the proposed interim action. Information from the following sources was reviewed:

- Washington Department of Archaeology and Historic Preservation (WISAARD)
  - Washington Information System for Architectural and Archaeological Records Data
  - Previous regional cultural resource investigations
  - Previously recorded cultural resources
- Historic registers (National Register of Historic Places)
- Local libraries and historical societies (if accessible)
  - Secondary sources, newspapers, historic documents, maps, photographs, interviews
- Tax assessor data
- Ecology Site-specific data (including project plans provided by ExxonMobil)

The background data was compared to the proposed project plans to determine any potential disturbance to previously recorded archaeological resources, and to assess the archaeological significance of the project area. A project number within the WISAARD database will be initiated, as appropriate.

5.2 Monitoring and Inadvertent Discovery Plan

A Monitoring and Inadvertent Discovery Plan (MIDP) has been prepared for the Ecology Site. The MIDP (Appendix F) contains a project description, pertinent cultural resources laws and regulations, protocols for a preconstruction meeting and archaeological monitoring by a professional archaeologist, maps depicting the monitoring locations, email updates to the applicable agencies and tribes, and relevant contact information.

5.3 Washington State Environmental Policy Act (SEPA) Review

In accordance with Washington State Environmental Policy Act (SEPA), a SEPA checklist was prepared for the Port Property Remedial Excavation (Ecology, 2016). The SEPA checklist, included as Appendix G, identifies measures to avoid, counter, or minimize likely impacts to the environment. If Ecology determines that there is no significant environmental impact associated with the selected interim action, Ecology will issue a Determination of Non-Significance or a mitigated Determination of Non-Significance with conditions.

5.4 Terrestrial Ecological Evaluation

No wetlands, streams, shorelines, floodplains, or wildlife habitat are present on the Ecology Site (FWS, 2021; Wood, 2019). As summarized in the SC/FFS, soil concentrations are considered protective of terrestrial receptors via a simplified terrestrial ecological evaluation. The Ecology Site meets the requirements for an exclusion from performing a TEE (Appendix H) as outlined in WAC 173-340-7492 (WAC, 2007).

5.5 Performance Monitoring

Performance monitoring will be conducted to confirm that the selected action has attained the interim action objectives: removal of LNAPL in soil by excavation and removal of soil which exceeds the Ecology Site-specific residual saturation remediation levels.

To pre-determine the extents of the proposed remedial excavation, delineation drilling has been conducted at accessible areas within the Port Property.

Borings were completed in 2020 and 2021 on the Port Property. The purpose of the borings was to predefine the extents of the LNAPL excavation area such that performance monitoring in the form of soil sampling at the time of excavation is not necessary. Analytical results for soil samples collected on the Port Property during this investigation are summarized in Plates 4 through 11 and Table 1.

The excavation extents were established to remove accessible soils containing LNAPL and where analytical results exceeded the Ecology Site-specific residual saturation remediation levels. Performance monitoring will include confirmation of achieving vertical and lateral extent of the planned excavation limits. This confirmation will use a combination of surveying or global positioning system (GPS)-enabled excavation equipment. The specifications and criteria will be documented in the EDR.

6 The Port of Everett Property Remedial Excavation

The proposed remedial excavation will be performed in accordance with this *Interim Action Work Plan*, Cardno's standard field protocols (Appendix D), and under the supervision of a licensed geologist and engineer. Cardno will release an official Request for Proposal (RFP) for this work and contract a primary contractor (Contractor) to perform the work outlined in this work plan.

6.1 Site Access, Security, and Site Preparation

6.1.1 Permitting and Engineering Design Report

All required permits will be acquired from the applicable local and/or state regulatory agencies including, but not limited to building, grading, utility, shoring, and erosion control permits. Additionally, Cardno and its Contractor will develop an EDR, which will outline and finalize the process and designs of this work.

6.1.2 Site Mobilization

Cardno will oversee the Contractor's mobilization of personnel, equipment, tools, and materials to the project area. During mobilization, the Contractor will establish all office, buildings, and other facilities necessary for work in the project area.

6.1.3 Remainder of Site Preparation

During mobilization, dust, noise, sediment, erosion, stormwater, and other environmental or risk controls will be established, as required. During this phase, heavy equipment exclusion zones will be established in accordance with ExxonMobil's health and safety policies. Various other miscellaneous tasks will also be conducted to establish a safe, sanitary, and clean workplace.

6.1.4 Underground Utility Locating

Prior to excavation, the Contractor will notify Underground Service Alert at least 48 hours prior to the onset field activities requiring subsurface disturbance in the project area. In addition, Cardno will notify the property owner (Port) and the lessees (ESR and Dunlap Towing) at least 14 days prior to the on-set of field work. A private utility locating service will be contracted to locate underground utilities by geophysical methods including electro-magnetic, magnetic, ground penetrating radar, and any other technologies available for identifying underground utilities and structures. All confirmed utilities and identified anomalies shall be delineated to identify subsurface structures throughout the duration of the work.

6.1.5 Permanent Fencing Removal and Temporary Fencing Installation

To accommodate the excavation extents and create a safe work area, the Contractor will remove permanent fencing and automatic gates on the southern, eastern, and northern extents of the project area. The Contractor will erect a fence that meets the United States Coast Guard Maritime Security (MARSEC) requirements. Temporary MARSEC-rated fencing will separate the work area and ESR operations from the MARSEC Level 1 rated Port. The project area will be designated as non-MARSEC and will be appropriately fenced and gated in accordance with ESR, Dunlap, and the Port's requirements.

6.2 Utility Services Disconnection, Re-Routing, and Protection

Various utilities run underground throughout the excavation extents as well as overhead above the excavation area. To safely conduct the remedial excavation and maintain service to the neighboring businesses (ESR and Dunlap Towing), Cardno will oversee the Contractor disconnect, reroute, and protect the utilities, as needed.

One water line and one sanitary sewer line run through the northern portion of the remedial excavation. These lines service the ESR portable office building, warehouse, and associated outbuildings. In coordination with ESR, the water and sewer lines will be disconnected, rerouted, and protected during the remedial excavation.

A 15-inch storm line runs diagonally (southeast to northwest) through the excavation extents, meeting up with a 30-inch combined sewer overflow (CSO) line underneath the current location of the ESR portable office building. Cardno and its Contractor will coordinate with the City of Everett to disconnect and potentially reroute portions of the 15-inch storm system. Additionally, Cardno is aware of the City of Everett's plans to install a modular wetland within the neighboring storm lines and will attempt to coordinate work to minimize overlap.

Three aboveground power poles will require relocation or disconnection during remedial excavation activities. Based on information provided by the Port, one of the power poles belongs to the City of Everett while the remaining two belong to Snohomish Public Utility District (PUD). Relocation and restoration of service will be coordinated with the Port, Snohomish PUD, ESR, and Dunlap Towing to minimize impacts to businesses.

A single pole with security cameras is located at the southeastern corner of the excavation. In addition, the pole's underground electric and data lines runs along the eastern excavation boundary. The Contractor will remove and temporarily store the security infrastructure during the remedial excavation. To maintain the existing level of security provided by the security pole and associated infrastructure, a night security guard will be employed to restrict access to the ESR and Dunlap Towing properties.

Upon completion of the remedial excavation, all utilities will be reconnected and returned to their pre-excavation state.

6.3 Sawcutting, Breakout, and Removal of Asphalt Cap

Upon successful rerouting of utilities within the excavation boundaries, Cardno will observe the Contractor cut and remove all asphalt necessary to complete the excavation. No asphalt will be cut within two feet of a marked utility unless the utility has been protected or exposed, as outlined in Section 6.2. All asphalt debris will be transported and disposed of at a recycling facility approved by Cardno.

6.4 Sheet Pile Shoring Installation

To reach required excavation depths a sheet pile shoring wall will be required. Shoring will be installed in accordance with the design created by a licensed subcontractor engineer. A Cardno subcontracted engineer will review all engineering designs and approve them prior to installation. The final design of the sheet pile shoring wall will be included in the EDR.

6.5 Permanent Barrier Wall Installation

At the request of the Port, a permanent barrier wall along Federal Avenue will be installed on the eastern excavation extent to limit future hydrocarbon migration onto the Port Property. At minimum, the permanent barrier wall will be at least the depth of excavation directly west of the barrier wall (Plate 12). The final design of the barrier wall will be included in the EDR.

6.6 Recontamination of Port of Everett Property Mitigation

Hydrocarbons in soil and groundwater exceeding the Ecology Site-specific residual saturation remediation levels will remain beneath Federal Avenue and beneath the ExxonMobil and ADC-owned parcels to the east. A remedial excavation of the ExxonMobil and ADC Property is scheduled for the summer 2023. The barrier wall described in Section 6.5 will be designed to prevent recontamination of the Port Property from residual hydrocarbons located beneath Federal Avenue. Additionally, the barrier wall will prevent recontamination from the upgradient ExxonMobil and ADC Property prior to the upgradient excavation. Excavation for the Port Property will occur prior to the ExxonMobil and ADC Property excavations to ensure Port development and infrastructure projects can commence in fall 2022. The proposed schedule to complete the future Site Cleanup Action Plan and ExxonMobil ADC Property excavations is described in Section 8.

In addition to the barrier wall, a review of historical soil and groundwater data indicates that the hydrocarbon plume is stable. Downgradient groundwater monitoring wells MW-A3, MW-A4, MW-A5, MW-A6, and MW-A8 located on Port Property have contained hydrocarbons concentrations less than the MTCA Method A Cleanup Levels for the past four semiannual groundwater sampling events. (Table 2).

6.7 Remedial Excavation

The remedial excavation will be conducted to predetermined depths. Results from delineation drilling activities on the Port Property were first presented in Cardno's *Port of Everett – Excavation Delineation*

Report, dated April 21, 2021 (Cardno, 2021). Proposed excavation depths for the Port Property excavation are defined in Plates 12 and 13 of this work plan. Excavation to these pre-determined depths will remove all soil determined to be above the Ecology Site-specific residual saturation remediation levels (Figure 2). Due to the shallow water table encountered during drilling activities (between 3 and 5 feet bgs), dewatering during excavation is impracticable. Instead, the Contractor will utilize a combination of dredging and traditional mechanical excavation through any water that accumulates in the excavation.

Due to moisture level requirements at soil disposal facilities, the moisture level of excavated soil will be reduced either through gravity drainage or amendment. A water treatment and storage system will be designed to adequately remove all contaminants of concern to concentrations less than the City of Everett requirements. Representative samples of the treated wastewater will be collected prior to discharge. Upon successful treatment and authorization from the City of Everett, wastewater will be pumped into the City of Everett's sanitary sewer system for treatment at a City of Everett treatment facility.

Upon completion of adequate moisture level reduction, excavated soil will be loaded into trucks and transported to the designated waste facility.

6.7.1 Remedial Excavation in Vicinity of 30-inch Combined Sewer Overflow

Following the delineation drilling work documented in Cardno's *Port of Everett – Excavation Delineation Report,* dated April 21, 2021 (Cardno, 2021) a City of Everett 30-inch combined sewer overflow line was discovered at 20 feet bgs beneath the ESR office building. This area was not historically documented in Wood's draft August 2019 SC/FFS and thus never contemplated as an "inaccessible area" as defined in the draft SC/FFS. Excavation in the vicinity of the 30-inch sewer line is not practical or justified for the following reasons:

- The draft SC/FFS did not show the location of the CSO and was not included as an "inaccessible area" as documented and occupied by other utility corridors in the area.
- Per the City of Everett, excavation of historically impacted material would have occurred at the time the CSO was installed in 1996; thus, additional excavation would not accomplish further remediation of the Port of Everett property. Excavation around the 30-inch CSO line would remove imported fill placed at the time of the installation when the 30-inch CSO line was installed.
- Per the City of Everett, cutting/capping/rerouting the line would be difficult and would also pose a danger to construction workers.
- The northern shoring wall will be setback approximately 15 feet south of the CSO. This setback distance will be further refined based on collaboration with Cardno's subcontracted excavation contractor and the City of Everett. A final setback distance will be presented in the EDR and associated designs.

To ensure that soil in the vicinity of the 30-inch CSO line is protective of human health and the environment, soil samples will be collected prior to or at the time of the installation of the northern shoring wall. If soil concentrations are greater than the MTCA Method A Cleanup Levels, an Environmental Covenant will be placed on the affected parcels. Placement of environmental covenants will be described in the future Site Cleanup Action Plan. Additional details pertaining to backfill material compositions, and lift thickness requirements will be provided in the EDR.

6.8 Excavation Restoration

6.8.1 Geotechnical Filter Fabric Installation

Upon completion of excavation activities, and prior to the placement of backfill, a geotechnical filter fabric will be installed. The geotechnical filter fabric will consist of a woven material composed of a strong, rot-proof polymeric yarn or fiber oriented into a network that retains its structure during handling, placement, and long-term service. Geotechnical filter fabric will be used to ensure that backfill material does not migrate and cause future geotechnical instability. The fabric material shall have complete resistance to deterioration from

ambient temperatures, acid, and alkaline conditions, and shall be indestructible to microorganisms and insects.

The geotechnical filter fabric will be placed along the sidewalls and floor of the excavation, as well as between layers of different backfill materials (see Section 6.8.2). The geotechnical filter fabric seams shall be joined by either overlapping or sewing using a double seam-sewn joint. If overlapped, the fabric will overlap by at least 2 feet.

6.8.2 Backfill and Compaction

Once the geotechnical filter fabric has been installed along the sidewalls and floor, the excavation will be backfilled. Per specifications outlined by the Port engineer, backfill material installed below the water table will be an open-grade, self-compacting aggregate blend. Backfill installed above the groundwater table will be compacted to a 92% of maximum dry density until approximately 24 inches bgs. Compacted backfill material will be installed to within approximately 6 inches bgs. Additional details pertaining to backfill material compositions, and lift thickness requirements will be provided in the EDR.

6.9 Surface Restoration

Surface restoration will be accomplished by installing clean crushed rock, pre-approved by the Cardno engineer and placed in approximately 3-inch loose lifts, from approximately 24 to 6-inches bgs. Each lift will be compacted using various compaction tools such as jumping-jacks, plate compactors, and excavator compaction plates to a maximum dry density of 95%. To maximize adherence to the existing asphalt, the asphalt will be re-cut around the perimeter of the excavation.

Upon completion of the crushed rock base installation, asphalt paving activities will begin. A 6-inch surface coverage of hot asphalt paving mix will be placed over the crushed rock base and compacted. Asphalt mix will be placed in lifts between 2 and 4 inches thick (compacted thickness), except leveling course, which may be thinner. To ensure adequate compaction, each lift of asphalt mix will be tested for density for a minimum average of 92 percent of the theoretical maximum density.

6.10 Site Restoration

Following asphalt surface restoration, fencing at the Ecology Site will be restored to pre-excavation status. A permanent MARSEC-rated fence will be installed along the southern, eastern, and northern sections of the Port Property, conforming to Section 2.3.8 of the United States Department of Transportation and United States Coast Guard's *Recommended Security Guidelines for Facilities,* dated January 13, 2003 (USCG, 2003). Additionally, the automatic gates servicing ESR will be reinstated to pre-excavation status.

7 Overview of Remedial Design and Reporting

After the Interim Action Work Plan has been finalized, the PLP's will proceed with the remedial design for the Port Property remedial excavation. This section summarizes the steps included in the remedial design and implementation of the activities outlined in Section 6 of this report.

The PLPs will prepare an EDR for Ecology's review and approval. The EDR will be prepared in collaboration with the Contractor awarded the work. The EDR will include final shoring design plans, water management specifications, excavation methodologies, and method statements on the means and measures to execute technical components of the work. Roles and responsibilities for the subcontractors of the excavation work will be defined in the EDR. Additional means and methods for utility disconnection and restoration, haul routes, waste disposal facilities, Ecology Site-specific best management practices, site layout plans, detailed construction schedules, means to meet permit requirements, proposed impermeable barrier wall specifications, backfill specifications/method statement, and site restoration plan and method statement will

also be included in the EDR. Mobilization and demobilization plans for the Contractor, as well as a Ecology Site-specific HASP, with be included in the EDR.

Project permits will be obtained as necessary. Substantive requirements of laws for which the MTCA creates a permit exemption will also be determined.

Upon completion of the interim action, a report summarizing field activities (including shoring, excavation, backfill, and restoration) and waste documentation will be submitted to ExxonMobil, ADC, Ecology, and property owners affected by the interim action. The report will be signed by a State of Washington licensed geologist or engineer.

8 Schedule for Implementation

The interim action will be initiated after the *Interim Action Work Plan* has been finalized. A tentative implementation schedule with more detail, including an estimated completion time, will be included in the EDR. The projected timeframe for the proposed interim action is May through August 2022 for optimal coordination between this interim action and the Port's 3rd Interim Action at the Kimberly-Clark site, and so it occurs during drier months. The timeframes for planned activities are estimated and could be subject to change. A projected schedule is summarized in Figure 3.

Figure 3 Interim Action Implementation Schedule

Date	Planned Activities
February 2022 – May 2022	Subcontractor bid solicitation, permitting, remedial excavation planning, and EDR production.
July – September 2022	Relocate ESR office to the ExxonMobil-owned parcel and mobilize a temporary office to the west of the planned Port excavation for ESR use during field work.
June 2022	Excavation contractor mobilization to the Port Property and initiate remedial excavation.
June – September 2022	Perform Port Property remedial excavation.
September 30, 2022	Port Property restoration complete, relocate ESR structure back to its original location, and demobilize from the Port Property.

The work described in this *Port of Everett Property Interim Action Work Plan* will be performed in summer 2022 to ensure Port redevelopment and infrastructure projects can commence in fall 2022. The schedule to complete the Ecology Site FFS, Ecology Site Cleanup Action Plan, and perform the ExxonMobil and ADC parcel remedial excavation is summarized in Figure 4.

Figure 4 Site Cleanup Projected Implementation Schedule

Date	Planned Activities
May – July 2022	Prepare Revised Draft Focused Feasibility Study
July – December 2022	Prepare Revised Draft Cleanup Action Plan
January – March 2023	Public Comment Period for Draft Final Focused Feasibility Study and Draft Final Cleanup Action Plan
May – October 2023	Perform ExxonMobil and ADC Property remedial excavation
October – December 2023	Prepare environmental covenants and remedial action closeout reporting

9 Contact Information

> The responsible party contact is Mr. Ken Drake, ExxonMobil Environmental and Property Solutions Company, 22777 Springwoods Village Parkway, W3.2A.581, Spring, Texas 77389.

> The consultant contact is Mr. Bobby Thompson, Cardno, 309 South Cloverdale Street, Unit A13, Seattle, Washington 98108.

> The agency contact is Mr. Jason Cook, Washington State Department of Ecology, Toxic Cleanup Program, P.O. Box 47600, Olympia, Washington 98504-7600.

10 Limitations

For documents cited that were not generated by Cardno, the data taken from those documents is used "as is" and is assumed to be accurate. Cardno does not guarantee the accuracy of this data and makes no warranties for the referenced work performed nor the inferences or conclusions stated in these documents.

This report and the work performed have been undertaken in good faith, with due diligence and with the expertise, experience, capability, and specialized knowledge necessary to perform the work in a good and workmanlike manner and within all accepted standards pertaining to providers of environmental services in Washington at the time of investigation. No soil engineering or geotechnical references are implied or should be inferred. The evaluation of the geologic conditions at the Ecology Site for this investigation is made from a limited number of data points. Subsurface conditions may vary away from these data points.

11 References

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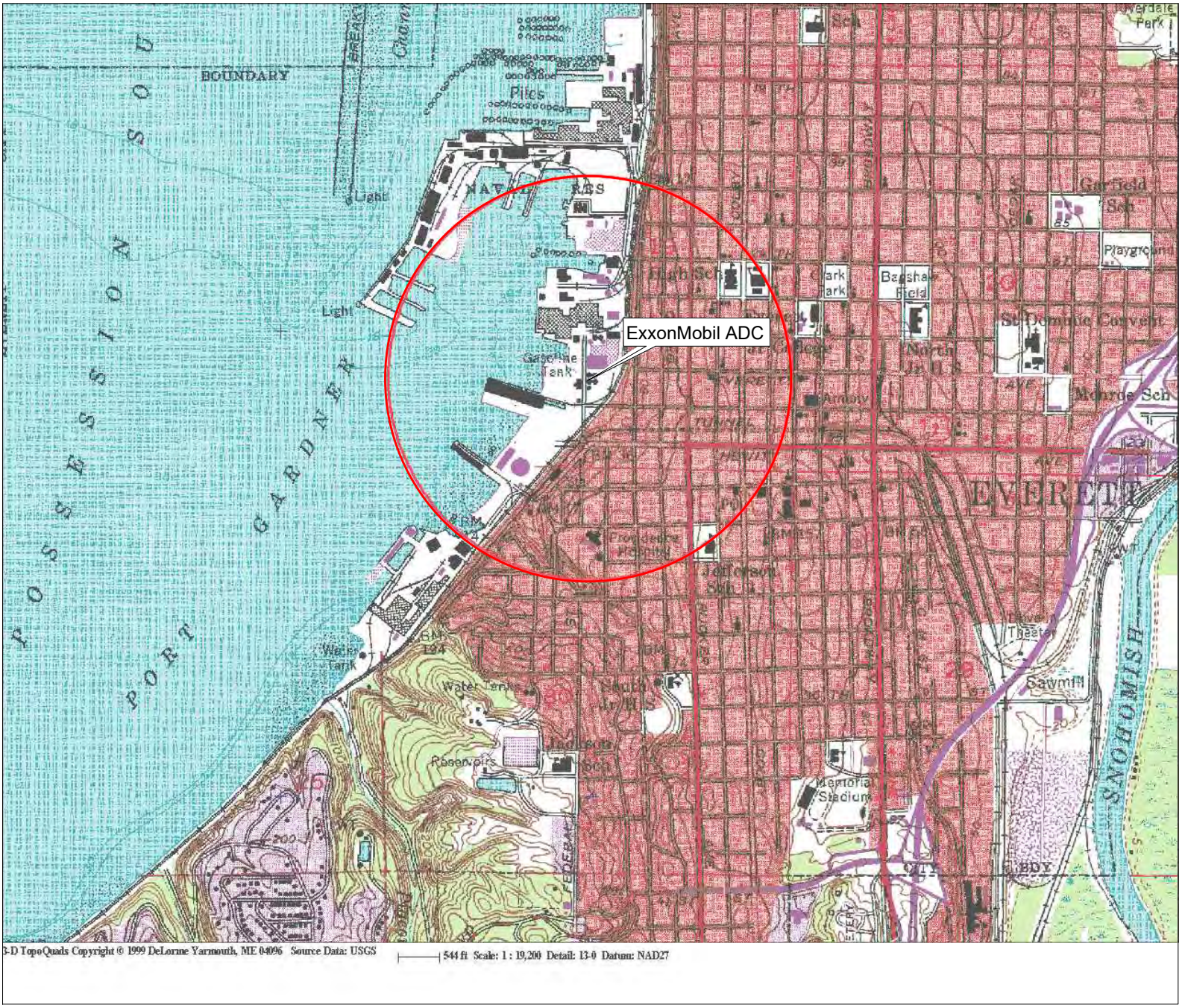


FN 0314470001

EXPLANATION

1/2-mile radius circle

N

APPROXIMATE SCALE

0 0.5 1 mile

SITE LOCATION MAP

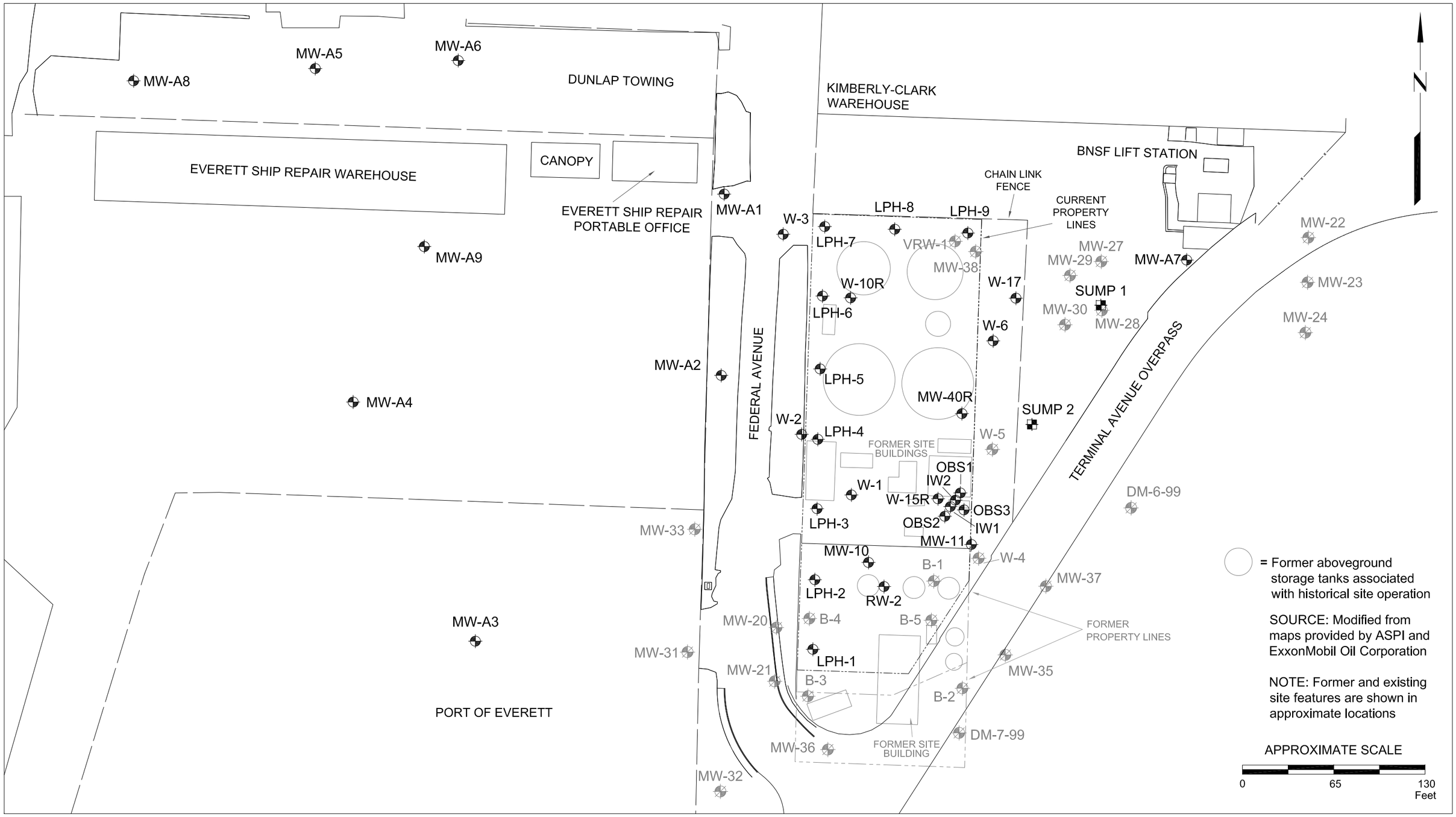
EXXONMOBIL ADC
2717/2731 Federal Avenue
Everett, Washington

Cardno

PROJECT NO. 031447

PLATE 1

LEC: 12/16/21



FN 0314470002

Cardno®

GENERALIZED SITE PLAN

EXXOMOBIL ADC
2717/2731 Federal Avenue
Everett, Washington

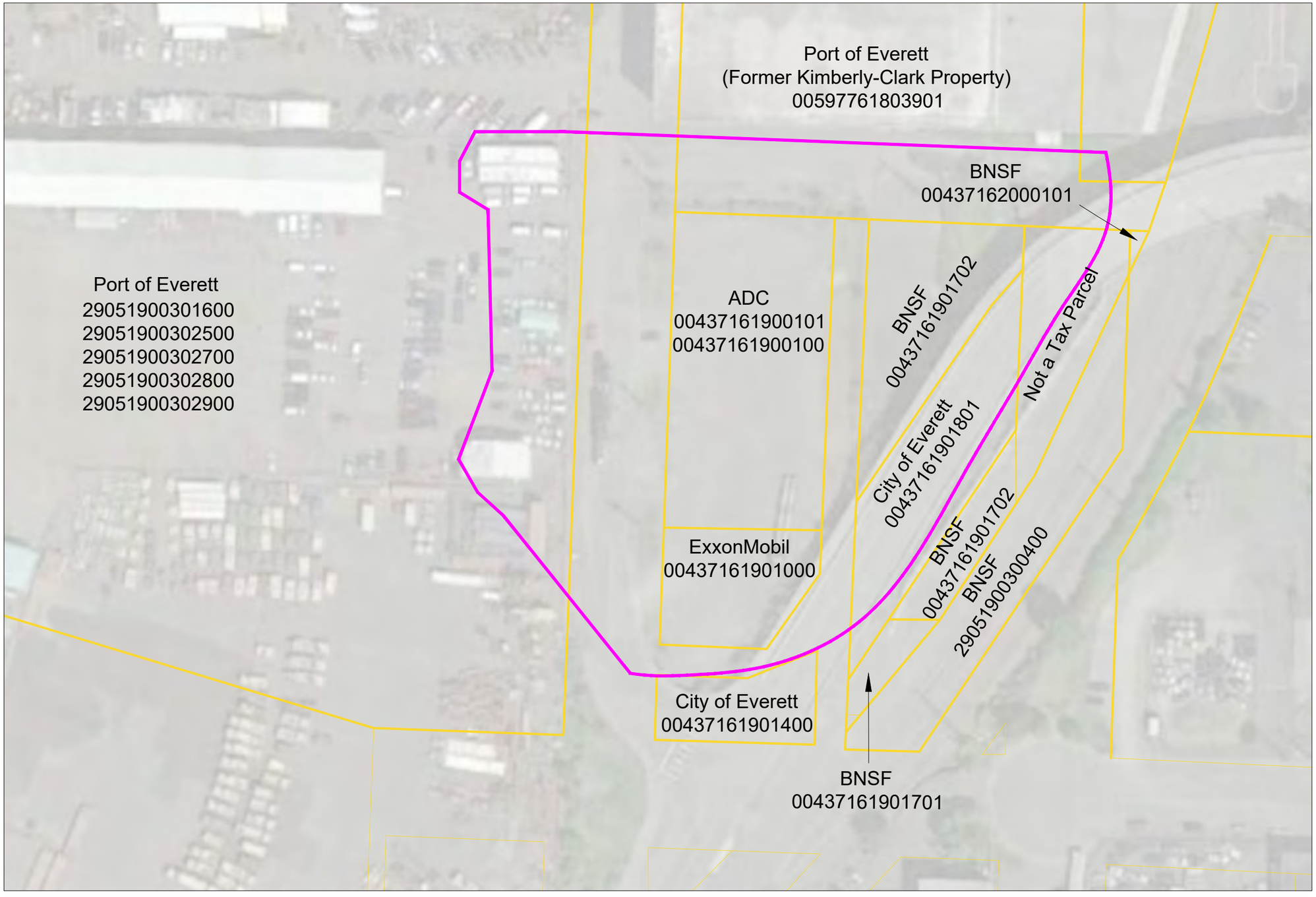
EXPLANATION

- MW-A9 — Groundwater Monitoring Well
- OBS1 — Observation Well
- SUMP 2 — Groundwater Sump
- MW-38 — Destroyed Groundwater Monitoring Well

PROJECT NO. 031447

PLATE 2

LEC: 12/16/21



N

EXPLANATION

MTCA Site Boundary

Tax Parcel Boundary

SOURCE: Modified from maps provided by the Snohomish County Assessor

FN 0314470002

APPROXIMATE SCALE

0 75 150 Feet

Cardno®

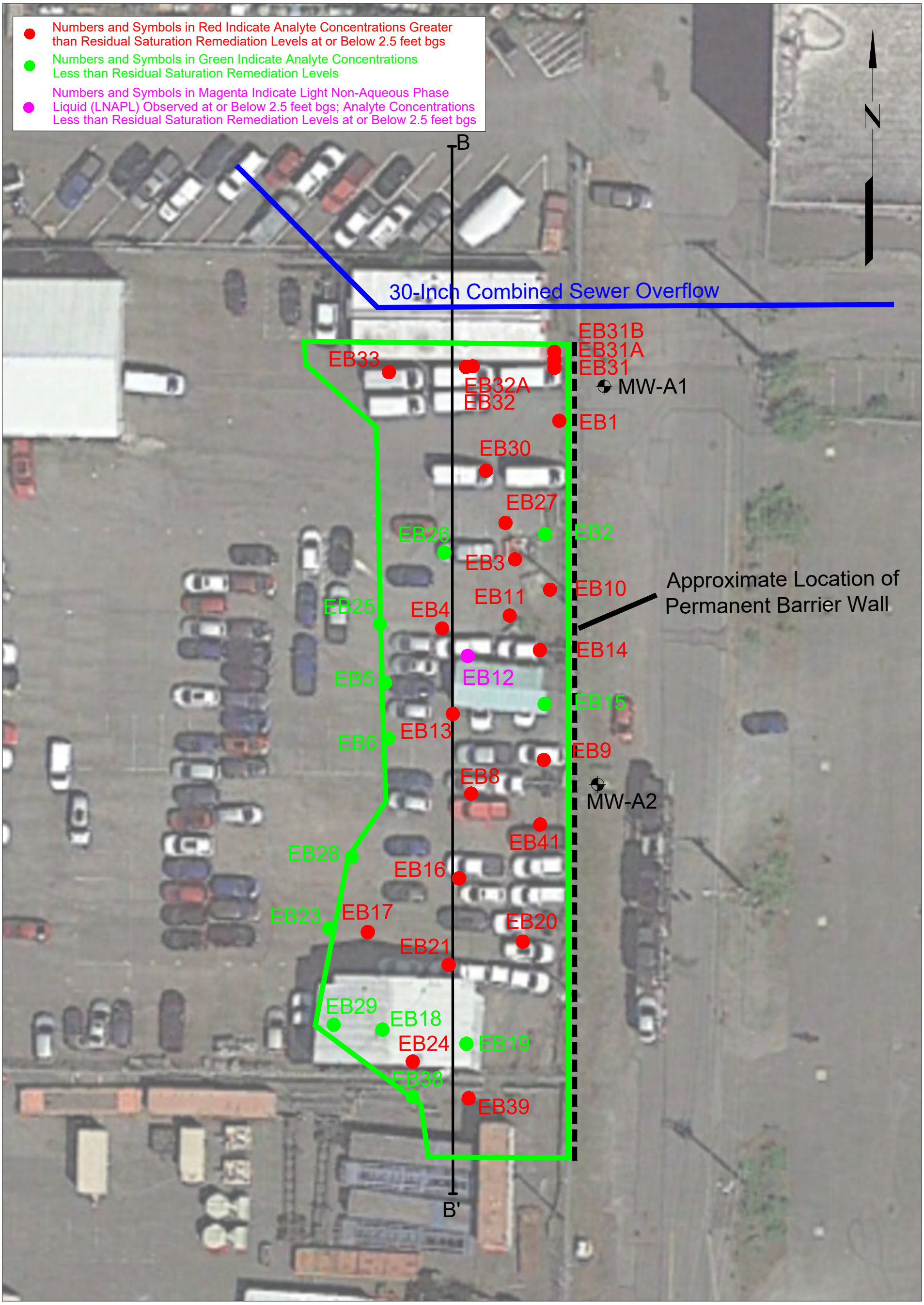
SITE BOUNDARY MAP

EXXONMOBIL ADC
2717/2731 Federal Avenue
Everett, Washington

PROJECT NO.
031447

PLATE
3

LEC: 12/16/21



FN 0314470002

SOURCE: Modified from images provided by Google Earth

EXPLANATION

MW-A2
Groundwater Monitoring Well

EB41
Excavation Delineation Boring

B B' Cross Section Traverse

BGS Below Ground Surface

Defined Excavation Extents

APPROXIMATE SCALE

0 30 60 Feet

Cardno

PORT OF EVERETT EXCAVATION DELINEATION MAP- 2.5 FEET BGS EXCAVATION FLOOR SAMPLES

EXXONMOBIL ADC
2717/2731 Federal Avenue
Everett, Washington

PROJECT NO.
031447

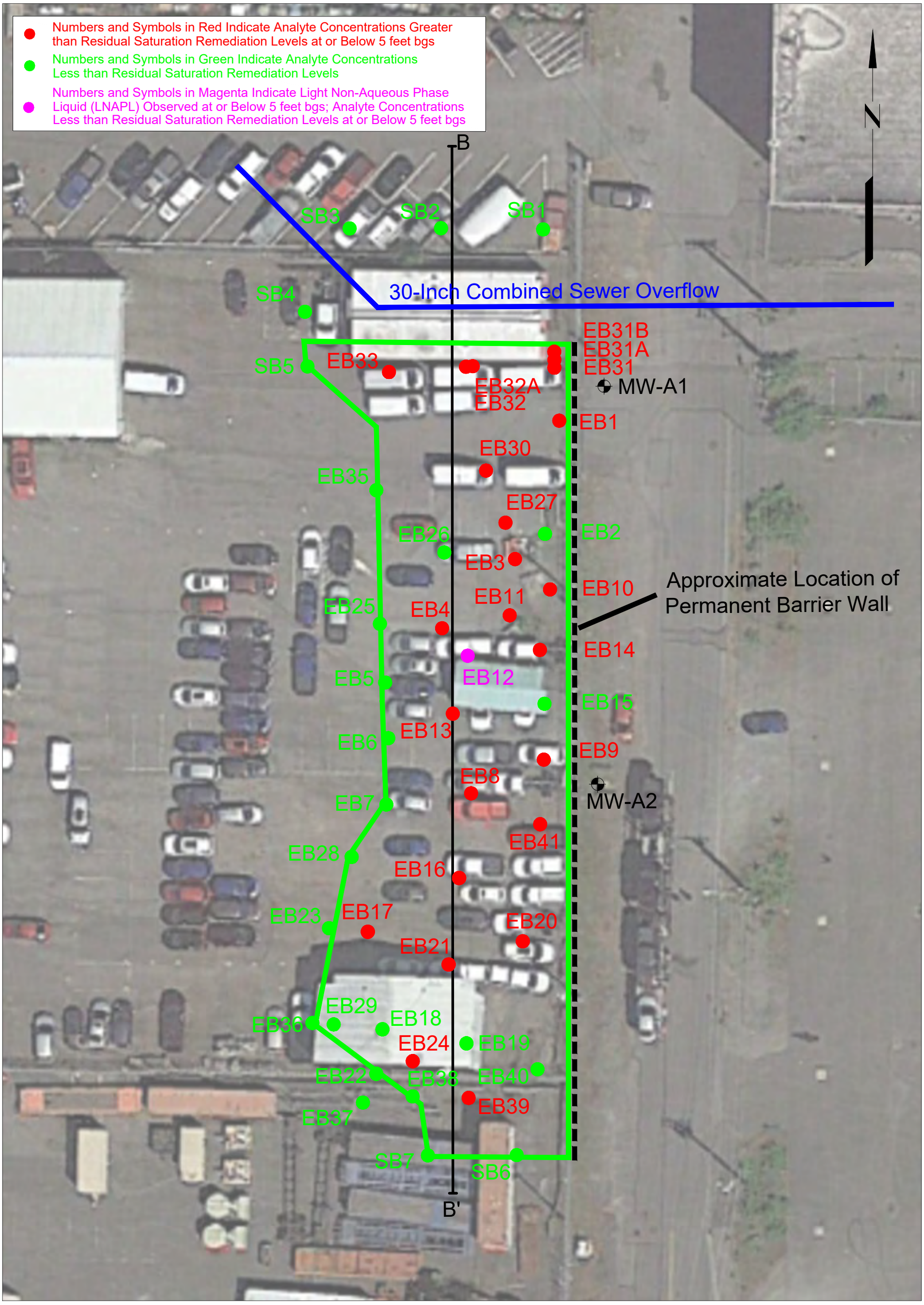
PLATE
4

CPA: 03/28/22

Numbers and Symbols in Red Indicate Analyte Concentrations Greater than Residual Saturation Remediation Levels at or Below 5 feet bgs

Numbers and Symbols in Green Indicate Analyte Concentrations Less than Residual Saturation Remediation Levels

Numbers and Symbols in Magenta Indicate Light Non-Aqueous Phase Liquid (LNAPL) Observed at or Below 5 feet bgs; Analyte Concentrations Less than Residual Saturation Remediation Levels at or Below 5 feet bgs



FN 0314470002

SOURCE: Modified from images provided by Google Earth

EXPLANATION

MW-A2 — Groundwater Monitoring Well

EB41 — Excavation Delineation Boring

B B' — Cross Section Traverse

BGS — Below Ground Surface

Defined Excavation Extents

APPROXIMATE SCALE

0 30 60 Feet

Cardno

PORT OF EVERETT EXCAVATION DELINEATION MAP- 5 FEET BGS EXCAVATION FLOOR SAMPLES

EXXONMOBIL ADC
2717/2731 Federal Avenue
Everett, Washington

PROJECT NO. 031447

PLATE 5

CPA: 03/28/22

Numbers and Symbols in Red Indicate Analyte Concentrations Greater than Residual Saturation Remediation Levels at or Below 7.5 feet bgs

Numbers and Symbols in Green Indicate Analyte Concentrations Less than Residual Saturation Remediation Levels

Numbers and Symbols in Magenta Indicate Light Non-Aqueous Phase Liquid (LNAPL) Observed at or Below 7.5 feet bgs; Analyte Concentrations Less than Residual Saturation Remediation Levels at or Below 7.5 feet bgs

B

B'

N

SB3
SB2
SB1
SB4
SB5
SB7
SB6

30-Inch Combined Sewer Overflow

EB31B
EB31A
EB31
EB33
EB32A
EB32
EB1
EB34
EB30
EB35
EB27
EB3
EB10
EB11
EB25
EB4
EB14
EB12
EB5
EB13
EB15
EB6
EB8
EB9
EB7
EB41
EB28
EB16
EB23
EB17
EB20
EB21
EB36
EB19
EB24
EB40
EB37
EB39
EB38

MW-A1
MW-A2

Approximate Location of Permanent Barrier Wall

FN 0314470002

SOURCE: Modified from images provided by Google Earth

EXPLANATION

MW-A2
Groundwater Monitoring Well

EB41
Excavation Delineation Boring

B B' Cross Section Traverse

BGS Below Ground Surface

Defined Excavation Extents

APPROXIMATE SCALE

0 30 60 Feet

Cardno

PORT OF EVERETT EXCAVATION DELINEATION MAP- 7.5 FEET BGS EXCAVATION FLOOR SAMPLES

EXXONMOBIL ADC
2717/2731 Federal Avenue
Everett, Washington

PROJECT NO.
031447

PLATE
6

CPA: 03/28/22

Numbers and Symbols in Red Indicate Analyte Concentrations Greater than Residual Saturation Remediation Levels at or Below 10 feet bgs

Numbers and Symbols in Green Indicate Analyte Concentrations Less than Residual Saturation Remediation Levels

Numbers and Symbols in Magenta Indicate Light Non-Aqueous Phase Liquid (LNAPL) Observed at or Below 10 feet bgs; Analyte Concentrations Less than Residual Saturation Remediation Levels at or Below 10 feet bgs

B

B'

N

SB1 SB2 SB3 SB4 SB5 SB6 SB7

30-Inch Combined Sewer Overflow

EB1 EB2 EB3 EB4 EB5 EB6 EB7 EB8 EB9 EB10 EB11 EB12 EB13 EB14 EB15 EB16 EB17 EB19 EB20 EB21 EB23 EB24 EB25 EB26 EB27 EB28 EB30 EB31 EB31A EB31B EB32 EB32A EB33 EB34 EB35 EB36 EB37 EB38 EB39 EB40 EB41

MW-A1

MW-A2

Approximate Location of Permanent Barrier Wall

FN 0314470002

SOURCE: Modified from images provided by Google Earth

EXPLANATION

MW-A2 — Groundwater Monitoring Well

EB41 — Excavation Delineation Boring

B B' — Cross Section Traverse

BGS — Below Ground Surface

Defined Excavation Extents

APPROXIMATE SCALE

0 30 60 Feet

Cardno

PORT OF EVERETT EXCAVATION DELINEATION MAP- 10 FEET BGS EXCAVATION FLOOR SAMPLES

EXXONMOBIL ADC
2717/2731 Federal Avenue
Everett, Washington

PROJECT NO. 031447

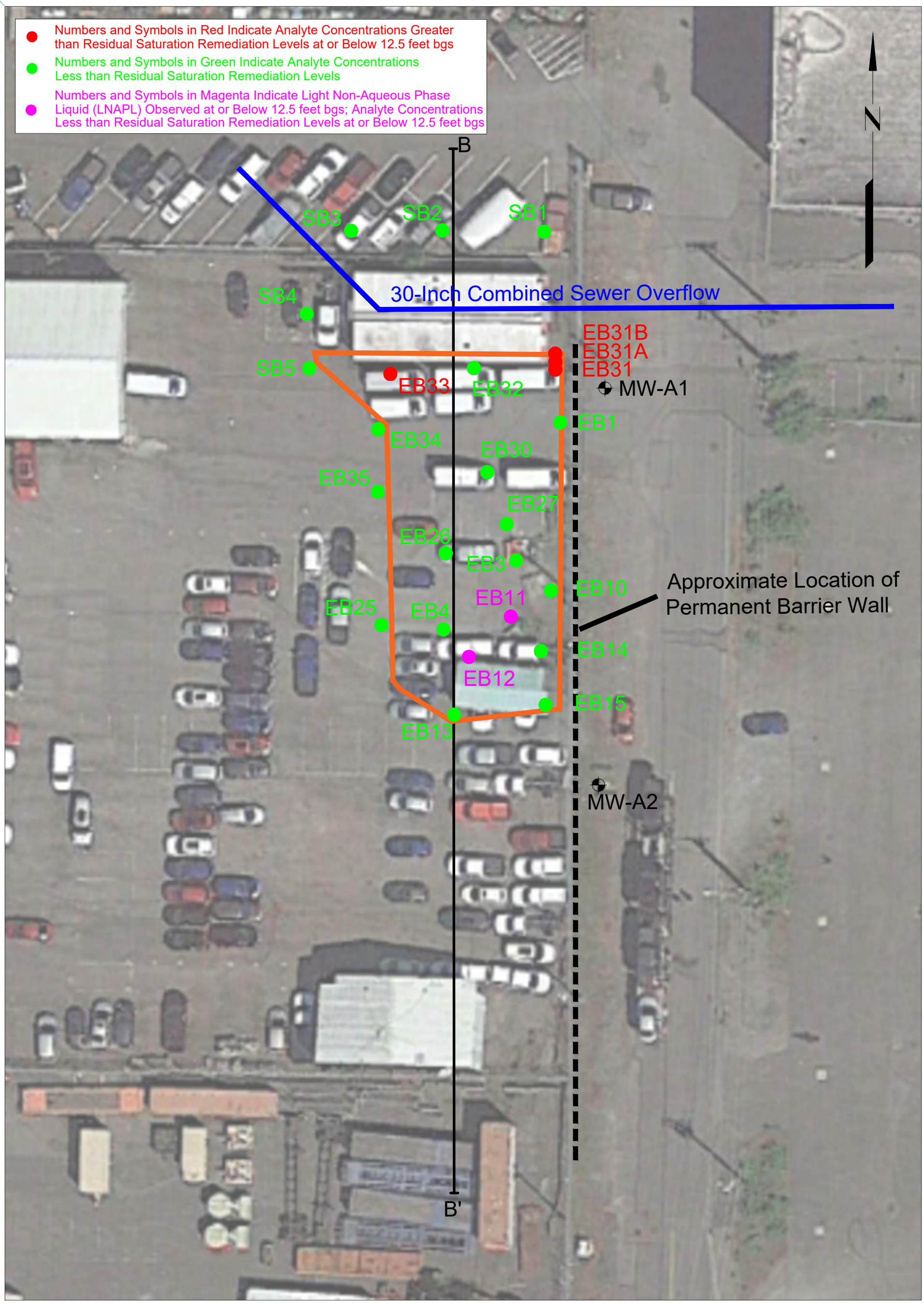
PLATE 7

CPA: 03/28/22

Numbers and Symbols in Red Indicate Analyte Concentrations Greater than Residual Saturation Remediation Levels at or Below 12.5 feet bgs

Numbers and Symbols in Green Indicate Analyte Concentrations Less than Residual Saturation Remediation Levels

Numbers and Symbols in Magenta Indicate Light Non-Aqueous Phase Liquid (LNAPL) Observed at or Below 12.5 feet bgs; Analyte Concentrations Less than Residual Saturation Remediation Levels at or Below 12.5 feet bgs



FN 0314470002

SOURCE: Modified from images provided by Google Earth

EXPLANATION

MW-A2 — Groundwater Monitoring Well

EB41 — Excavation Delineation Boring

B B' — Cross Section Traverse

BGS — Below Ground Surface

Defined Excavation Extents

APPROXIMATE SCALE

0 30 60 Feet

Cardno

PORT OF EVERETT EXCAVATION DELINEATION MAP- 12.5 FEET BGS EXCAVATION FLOOR SAMPLES

EXXONMOBIL ADC
2717/2731 Federal Avenue
Everett, Washington

PROJECT NO. 031447

PLATE 8

CPA: 03/28/22

Numbers and Symbols in Red Indicate Analyte Concentrations Greater than Residual Saturation Remediation Levels at or Below 15' bgs

Numbers and Symbols in Green Indicate Analyte Concentrations Less than Residual Saturation Remediation Levels

Numbers and Symbols in Magenta Indicate Light Non-Aqueous Phase Liquid (LNAPL) Observed at or Below 15 feet bgs; Analyte Concentrations Less than Residual Saturation Remediation Levels at or Below 15 feet bgs

B

SB3 SB2 SB1

SB4

30-Inch Combined Sewer Overflow

EB31B
EB31A
EB31

SB5

EB33 EB32A

MW-A1

EB1

EB34

EB3

EB10

Approximate Location of Permanent Barrier Wall

EB11

EB4

EB12

EB13

MW-A2

B'

N

FN 0314470002

SOURCE: Modified from images provided by Google Earth

EXPLANATION

MW-A2
Groundwater Monitoring Well

EB41
Excavation Delineation Boring

B B' Cross Section Traverse

BGS Below Ground Surface

Defined Excavation Extents

APPROXIMATE SCALE

0 30 60
Feet

Cardno

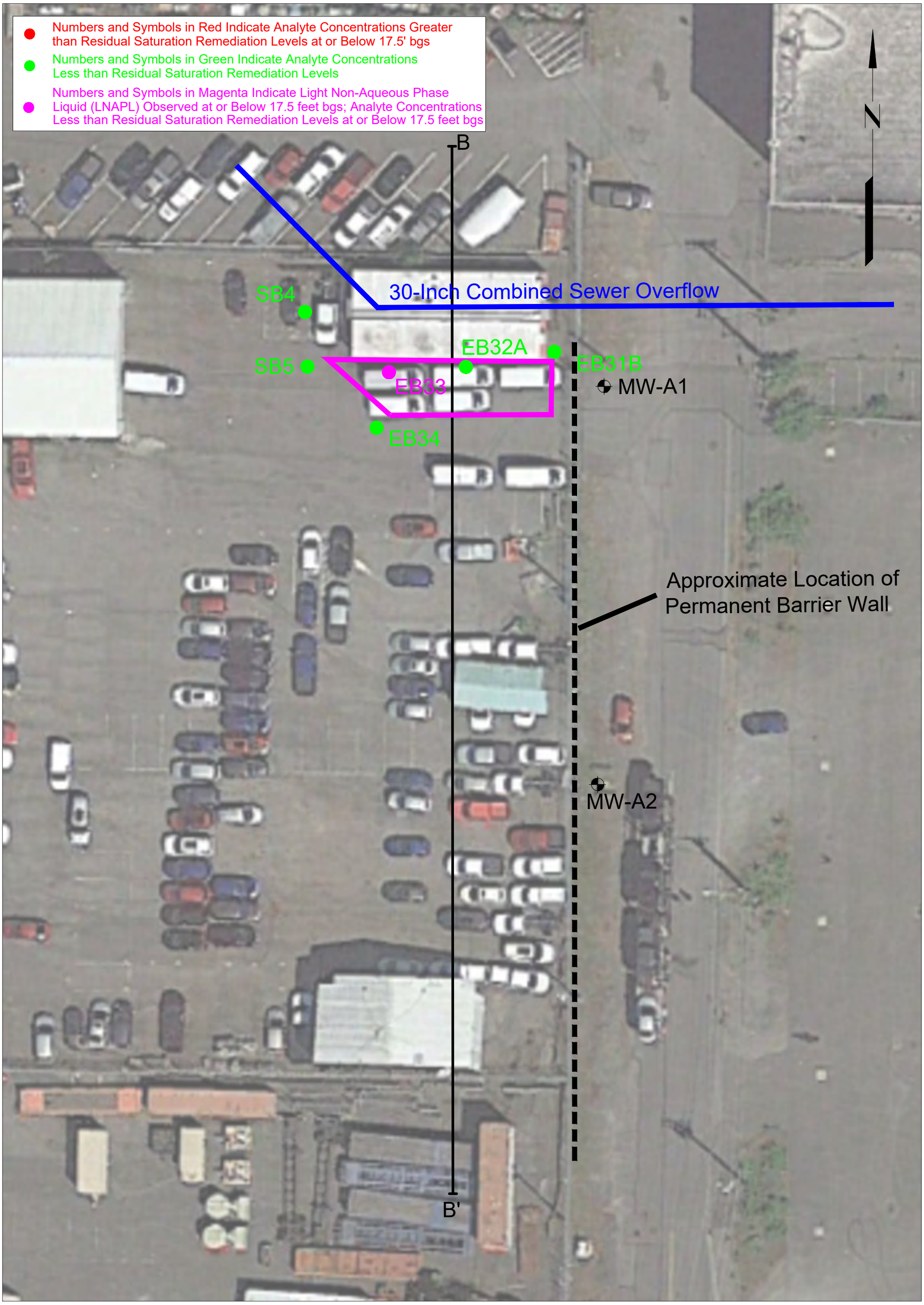
PORT OF EVERETT EXCAVATION DELINEATION MAP- 15 FEET BGS EXCAVATION FLOOR SAMPLES

EXXONMOBIL ADC
2717/2731 Federal Avenue
Everett, Washington

PROJECT NO.
031447

PLATE
9

CPA: 03/28/22



FN 0314470002

SOURCE: Modified from images provided by Google Earth

EXPLANATION

MW-A2 — Groundwater Monitoring Well

EB41 — Excavation Delineation Boring

B B' — Cross Section Traverse

BGS — Below Ground Surface

Defined Excavation Extents

APPROXIMATE SCALE

0 30 60 Feet

Cardno

PORT OF EVERETT EXCAVATION DELINEATION MAP- 17.5 FEET BGS EXCAVATION FLOOR SAMPLES

EXXONMOBIL ADC
2717/2731 Federal Avenue
Everett, Washington

PROJECT NO. 031447

PLATE 10

CPA: 03/28/22

FN 0314470002

SOURCE: Modified from images provided by Google Earth

EXPLANATION

MW-A2
Groundwater Monitoring Well

EB41
Excavation Delineation Boring

B B' Cross Section Traverse

BGS Below Ground Surface

Defined Excavation Extents

APPROXIMATE SCALE

0 30 60 Feet

Cardno

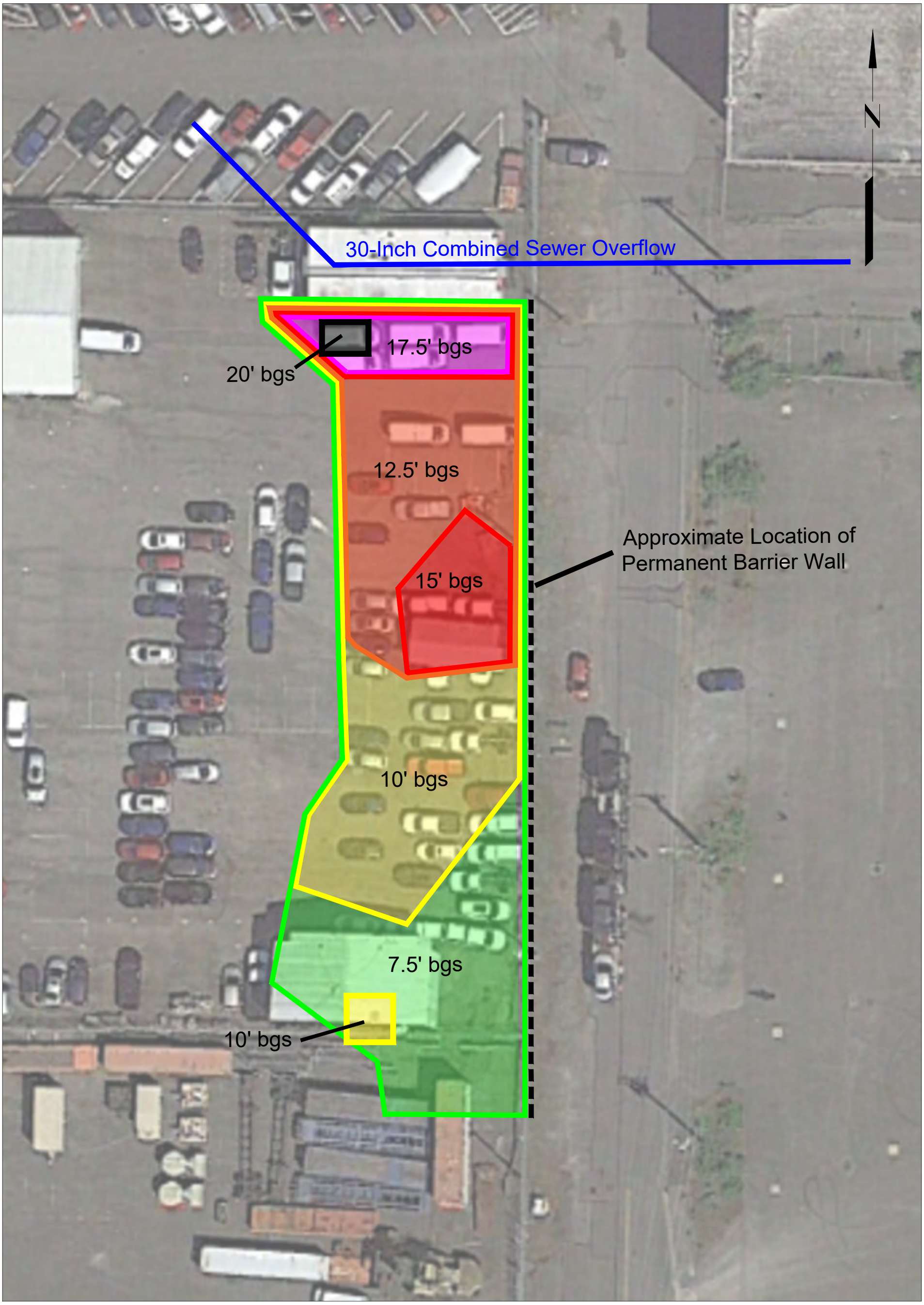
PORT OF EVERETT EXCAVATION DELINEATION MAP- 20 FEET BGS EXCAVATION FLOOR SAMPLES

EXXONMOBIL ADC
2717/2731 Federal Avenue
Everett, Washington

PROJECT NO. 031447

PLATE 11

CPA: 03/28/22



FN 0314470002

7.5' bgs Defined Excavation Extents
10' bgs Defined Excavation Extents
12.5' bgs Defined Excavation Extents
15' bgs Defined Excavation Extents
17.5' bgs Defined Excavation Extents
20' bgs Defined Excavation Extents

APPROXIMATE SCALE

0 20 40 Feet

BGS Below Ground Surface

Cardno

PORT OF EVERETT EXCAVATION DELINEATION MAP - ALL DEPTHS

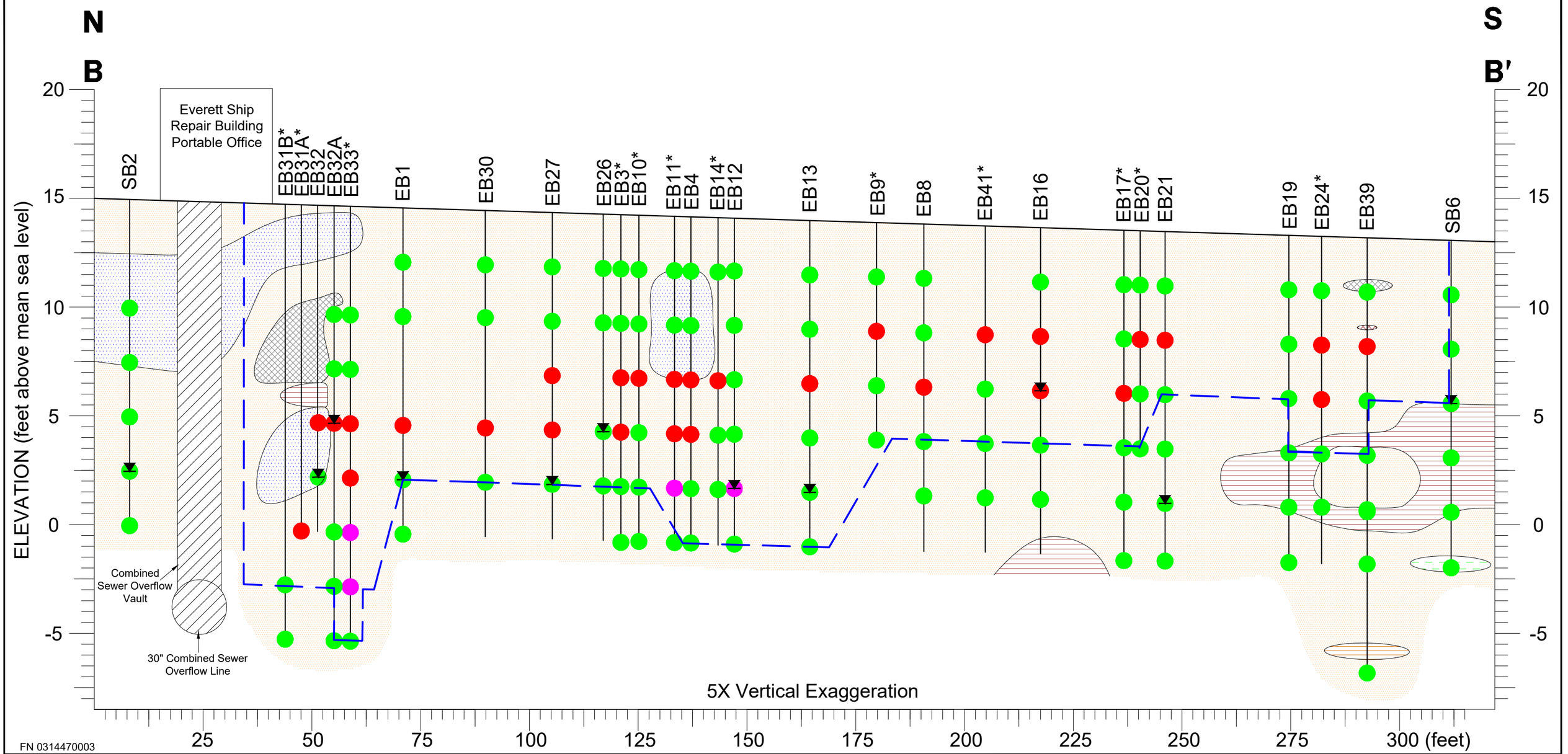
EXXONMOBIL ADC
2717/2731 Federal Avenue
Everett, Washington

PROJECT NO.
031447

PLATE
12

CPA: 03/28/22

* = Borings EB1, EB3, EB9, EB10, EB11, EB14, EB17, EB20, EB24, EB31A, EB31B, EB33, and EB41 are projected onto the cross section for hydrocarbon concentration distribution purposes; projected borings were not used to construct lithology illustration



FN 0314470003

Cardno®

PORT OF EVERETT CROSS SECTION N-S

EXXONMOBIL ADC
2717/2731 Federal Avenue
Everett, Washington

EXPLANATION

- Water Level Encountered During Drilling
- Hydrocarbon Concentrations In Soil Less Than Site-Specific Residual Saturation Remediation Levels
- Hydrocarbon Concentrations In Soil Greater Than Site-Specific Residual Saturation Remediation Levels
- LNAPL Observed During Drilling
- Proposed Excavation Extents
- Coarse-grained Gravelly Sediments (GW, GC)
- Coarse-grained Sandy Sediments (SW, SP, SM, SC)
- Fine-grained Sediments (CL, CH, ML)
- Organic Sediments (OH, PT, Wood Debris)
- Concrete Debris

PROJECT
031447

PLATE
13
CPA: 03/28/22

TABLE 1
EXCAVATION DELINEATION SOIL ANALYTICAL RESULTS — PORT OF EVERETT
ExxonMobil ADC
2717/2731 Federal Avenue
Everett, Washington

Sample Name	Well ID / Location	Date	Sample Depth (feet bgs)	LNAPL Observed	TPHg (mg/kg)	TPHd (mg/kg)	TPHmo (mg/kg)
Cardno - Port of Everett - Excavation Delineation Report - April 21, 2021:							
S-2.5-EB1	EB1	10/13/20	2.5	--	<10	<50	<250
S-5-EB1	EB1	10/13/20	5	--	<10	<50	<250
S-10-EB1	EB1	10/13/20	10	--	<100	**16,000E**	<250
S-12.5-EB1	EB1	10/13/20	12.5	--	<50	3,500	<250
S-15-EB1	EB1	10/13/20	15	--	<10	<50	<250
S-2.5-EB2	EB2	10/13/20	2.5	--	<10	<50	<250
S-5-EB2	EB2	10/13/20	5	--	<10	<50	<250
S-10-EB2	EB2	10/13/20	10	--	<10	<50	<250
S-2.5-EB3	EB3	10/12/20	2.5	--	<10	<50	<250
S-5-EB3	EB3	10/12/20	5	--	<10	<50	<250
S-7.5-EB3	EB3	10/12/20	7.5	--	<100	**43,000**	<250
S-10-EB3	EB3	10/12/20	10	--	<50	**15,000**	<250
S-12.5-EB3	EB3	10/12/20	12.5	--	<50	188	<250
S-15-EB3	EB3	10/12/20	15	--	<10	<50	<250
S-2.5-EB4	EB4	10/12/20	2.5	--	<10	<50	<250
S-5-EB4	EB4	10/12/20	5	--	18	4,700	<250
S-7.5-EB4	EB4	10/12/20	7.5	--	<100	**36,000**	<250
S-10-EB4	EB4	10/12/20	10	--	<100	**5,500E**	<250
S-12.5-EB4	EB4	10/12/20	12.5	--	<50	4,400	<250
S-15-EB4	EB4	10/12/20	15	--	<10	<50	<250
S-2.5-EB5	EB5	10/12/20	2.5	--	<10	<50	<250
S-5-EB5	EB5	10/12/20	5	--	<10	<50	<250
S-7.5-EB5	EB5	10/12/20	7.5	--	<10	<50	<250
S-10-EB5	EB5	10/12/20	10	--	<10	51	<250
S-2.5-EB6	EB6	10/12/20	2.5	--	<10	<50	<250
S-5-EB6	EB6	10/12/20	5	--	<10	<50	<250
S-7.5-EB6	EB6	10/12/20	7.5	--	<10	<50	<250
S-10-EB6	EB6	10/12/20	10	--	<10	<50	<250
S-5-EB7	EB7	10/12/20	5	--	<10	<50	<250
S-7.5-EB7	EB7	10/12/20	7.5	--	<10	74	<250
S-10-EB7	EB7	10/12/20	10	--	<10	<50	<250
S-2.5-EB8	EB8	10/14/20	2.5	--	<10	<50	<250
S-5-EB8	EB8	10/14/20	5	--	<10	2,600	4,300
S-7.5-EB8	EB8	10/14/20	7.5	--	<10	**7,400**	**13,000**
S-10-EB8	EB8	10/14/20	10	--	<20	1,800	1,300
S-12.5-EB8	EB8	10/14/20	12.5	--	<10	<50	<250
S-2.5-EB9	EB9	10/14/20	2.5	--	<10	<50	<250
S-5-EB9	EB9	10/14/20	5	--	<50	2,700	**11,000E**
S-7.5-EB9	EB9	10/14/20	7.5	--	<10	<50	<250
S-10-EB9	EB9	10/14/20	10	--	<10	<50	<250
S-2.5-EB10	EB10	10/14/20	2.5	--	<10	<50	<250
S-5-EB10	EB10	10/14/20	5	--	<10	<50	<250
Site-Specific Residual Saturation Remediation Levels					2,470	4,800	5,810

TABLE 1
EXCAVATION DELINEATION SOIL ANALYTICAL RESULTS — PORT OF EVERETT
ExxonMobil ADC
2717/2731 Federal Avenue
Everett, Washington

Sample Name	Well ID / Location	Date	Sample Depth (feet bgs)	LNAPL Observed	TPHg (mg/kg)	TPHd (mg/kg)	TPHmo (mg/kg)
Cardno - Port of Everett - Excavation Delineation Report - April 21, 2021 (continued):							
S-7.5-EB10	EB10	10/14/20	7.5	--	<10	**12,000**	<250
S-10-EB10	EB10	10/14/20	10	--	<10	4,300	<250
S-12.5-EB10	EB10	10/14/20	12.5	--	<10	<50	<250
S-15-EB10	EB10	10/14/20	15	--	<10	<50	<250
S-2.5-EB11	EB11	10/12/20	2.5	--	<10	<50	550
S-5-EB11	EB11	10/12/20	5	--	<100	2,400	<250
S-7.5-EB11	EB11	10/12/20	7.5	**Yes**	<100	**44,000**	2,700
S-10-EB11	EB11	10/12/20	10	**Yes**	<100	**11,000**	1,300
S-12.5-EB11	EB11	10/12/20	12.5	**Yes**	<10	370	<250
S-15-EB11	EB11	10/12/20	15	--	<10	<50	<250
S-2.5-EB12	EB12	10/12/20	2.5	--	<10	<50	<250
S-5-EB12	EB12	10/12/20	5	--	<10	160	<250
S-7.5-EB12	EB12	10/12/20	7.5	--	<10	3,600	<250
S-10-EB12	EB12	10/12/20	10	--	<100	3,000	<250
S-12.5-EB12	EB12	10/12/20	12.5	**Yes**	<100	2,000	<250
S-15-EB12	EB12	10/12/20	15	--	<10	460	<250
S-2.5-EB13	EB13	10/14/20	2.5	--	<10	<50	<250
S-5-EB13	EB13	10/14/20	5	--	<50	1,400	1,800
S-7.5-EB13	EB13	10/14/20	7.5	--	190	**11,000**	1,800
S-10-EB13	EB13	10/14/20	10	--	<10	320	<250
S-12.5-EB13	EB13	10/14/20	12.5	--	<10	<50	<250
S-15-EB13	EB13	10/14/20	15	--	<10	<50	<250
S-2.5-EB14	EB14	10/14/20	2.5	--	<10	<50	<250
S-7.5-EB14	EB14	10/14/20	7.5	--	<10	**5,000**	**6,900**
S-10-EB14	EB14	10/14/20	10	--	<10	4,100	1,500
S-12.5-EB14	EB14	10/14/20	12.5	--	<10	<50	<250
S-2.5-EB15	EB15	10/14/20	2.5	--	<10	<50	<250
S-5-EB15	EB15	10/14/20	5	--	<10	1,100	2,000
S-7.5-EB15	EB15	10/14/20	7.5	--	19	2,200	260
S-10-EB15	EB15	10/14/20	10	--	<10	<50	<250
S-12.5-EB15	EB15	10/14/20	12.5	--	<10	<50	<250
S-2.5-EB16	EB16	10/13/20	2.5	--	<10	<50	<250
S-5-EB16	EB16	10/13/20	5	--	<100	**4,800**	1,100
S-7.5-EB16	EB16	10/13/20	7.5	--	<100	**9,700**	3,900
S-10-EB16	EB16	10/13/20	10	--	<10	170	<250
S-12.5-EB16	EB16	10/13/20	12.5	--	<10	<50	<250
S-2.5-EB17	EB17	10/13/20	2.5	--	<10	<50	<250
S-5-EB17	EB17	10/13/20	5	--	<10	<50	<250
S-7.5-EB17	EB17	10/13/20	7.5	--	11	**33,000**	<250
S-10-EB17	EB17	10/13/20	10	--	<50	2,600	<250
S-12.5-EB17	EB17	10/13/20	12.5	--	<10	<50	<250
S-15-EB17	EB17	10/13/20	15	--	<10	<50	<250
Site-Specific Residual Saturation Remediation Levels					2,470	4,800	5,810

TABLE 1
EXCAVATION DELINEATION SOIL ANALYTICAL RESULTS — PORT OF EVERETT
ExxonMobil ADC
2717/2731 Federal Avenue
Everett, Washington

Sample Name	Well ID / Location	Date	Sample Depth (feet bgs)	LNAPL Observed	TPHg (mg/kg)	TPHd (mg/kg)	TPHmo (mg/kg)
Cardno - Port of Everett - Excavation Delineation Report - April 21, 2021 (continued):							
S-5-EB18	EB18	10/13/20	5	--	<10	450	210J
S-2.5-EB19	EB19	10/13/20	2.5	--	<10	<50	<250
S-5-EB19	EB19	10/13/20	5	--	<50	1,900	360
S-7.5-EB19	EB19	10/13/20	7.5	--	<50	4,500	760
S-10-EB19	EB19	10/13/20	10	--	<10	<50	<250
S-12.5-EB19	EB19	10/13/20	12.5	--	<10	<50	<250
S-15-EB19	EB19	10/13/20	15	--	<10	<50	<250
S-2.5-EB20	EB20	10/13/20	2.5	--	<10	170	<250
S-5-EB20	EB20	10/13/20	5	--	<10	**8,400**	2,200
S-7.5-EB20	EB20	10/13/20	7.5	--	<10	180	<250
S-10-EB20	EB20	10/13/20	10	--	<10	<50	<250
S-2.5-EB21	EB21	10/13/20	2.5	--	<10	<50	<250
S-5-EB21	EB21	10/13/20	5	--	<10	**8,100**	**12,000**
S-7.5-EB21	EB21	10/13/20	7.5	--	<50	3,700	640
S-10-EB21	EB21	10/13/20	10	--	<10	<50	<250
S-12.5-EB21	EB21	10/13/20	12.5	--	<10	<50	<250
S-15-EB21	EB21	10/13/20	15	--	<10	<50	<250
S-5-EB22	EB22	10/13/20	5	--	<10	<50	<250
S-2.5-EB23	EB23	10/13/20	2.5	--	<10	<50	<250
S-5-EB23	EB23	10/13/20	5	--	<10	<50	<250
S-7.5-EB23	EB23	10/13/20	7.5	--	<10	<50	<250
S-10-EB23	EB23	10/13/20	10	--	<10	4,100	<250
S-12.5-EB23	EB23	10/13/20	12.5	--	<10	62	<250
S-2.5-EB24	EB24	10/13/20	2.5	--	<10	<50	<250
S-5-EB24	EB24	10/13/20	5	--	<50	<50	**6,300**
S-7.5-EB24	EB24	10/13/20	7.5	--	<10	**8,100**	1,200
S-10-EB24	EB24	10/13/20	10	--	<10	2,300	<250
S-12.5-EB24	EB24	10/13/20	12.5	--	<10	<50	<250
S-2.5-EB25	EB25	10/13/20	2.5	--	<10	<50	<250
S-5-EB25	EB25	10/13/20	5	--	<10	<50	<250
S-7.5-EB25	EB25	10/13/20	7.5	--	<10	<50	<250
S-10-EB25	EB25	10/13/20	10	--	<10	2,400	860
S-12.5-EB25	EB25	10/13/20	12.5	--	<10	<50	<250
S-15-EB25	EB25	10/13/20	15	--	--	<50	<250
S-2.5-EB26	EB26	10/14/20	2.5	--	<10	<50	<250
S-5-EB26	EB26	10/14/20	5	--	<10	76	<250
S-10-EB26	EB26	10/14/20	10	--	<20	1,600	<250
S-12.5-EB26	EB26	10/14/20	12.5	--	<10	<50	<250
S-2.5-EB27	EB27	10/14/20	2.5	--	<10	<50	<250
S-5-EB27	EB27	10/14/20	5	--	<10	<50	<250
S-7.5-EB27	EB27	10/14/20	7.5	--	<100	**10,000**	**11,000**
S-10-EB27	EB27	10/14/20	10	--	<100	**9,100E**	<250
Site-Specific Residual Saturation Remediation Levels					2,470	4,800	5,810

TABLE 1
EXCAVATION DELINEATION SOIL ANALYTICAL RESULTS — PORT OF EVERETT
ExxonMobil ADC
2717/2731 Federal Avenue
Everett, Washington

Sample Name	Well ID / Location	Date	Sample Depth (feet bgs)	LNAPL Observed	TPHg (mg/kg)	TPHd (mg/kg)	TPHmo (mg/kg)
Cardno - Port of Everett - Excavation Delineation Report - April 21, 2021 (continued):							
S-12.5-EB27	EB27	10/14/20	12.5	--	<10	<50	<250
S-2.5-EB28	EB28	10/14/20	2.5	--	<10	<50	<250
S-5-EB28	EB28	10/14/20	5	--	<10	<50	<250
S-7.5-EB28	EB28	10/14/20	7.5	--	<10	<50	<250
S-10-EB28	EB28	10/14/20	10	--	<50	<50	<250
S-2.5-EB29	EB29	10/14/20	2.5	--	<10	<50	<250
S-5-EB29	EB29	10/14/20	5	--	<10	<50	<250
S-2.5-EB30	EB30	10/14/20	2.5	--	<10	<50	<250
S-5-EB30	EB30	10/14/20	5	--	<10	<50	560
S-10-EB30	EB30	10/14/20	10	--	<100	**39,000**	<250
S-12.5-EB30	EB30	10/14/20	12.5	--	<10	<50	<250
S-5-EB31	EB31	01/25/21	5	--	<10	<50	<250
S-7.5-EB31	EB31	01/25/21	7.5	--	<10	<50	<250
S-9.5-EB31	EB31	01/25/21	9.5	--	<100	3,400	<250
S-15-EB31A	EB31A	01/27/21	15	--	<100	**7,000E**	<250
S-17.5-EB31B	EB31B	01/27/21	17.5	--	<10	<50	<250
S-20-EB31B	EB31B	01/27/21	20	--	<10	<50	<250
S-10-EB32	EB32	01/25/21	10	--	<10	**6,200**	<250
S-10-EB32[b]	EB32	01/25/21	10	--	--	**4,700**	<250
S-12.5-EB32	EB32	01/25/21	12.5	--	<10	410	<250
S-12.5-EB32[b]	EB32	01/25/21	12.5	--	--	340	<250
S-5-EB32A	EB32A	01/27/21	5	--	<10	56	<250
S-7.5-EB32A	EB32A	01/27/21	7.5	--	<25	2,040	290
S-10-EB32A	EB32A	01/27/21	10	--	<10	**6,100**	<250
S-15-EB32A	EB32A	01/27/21	15	--	<10	<50	<250
S-17.5-EB32A	EB32A	01/27/21	17.5	--	<10	<50	<250
S-20-EB32A	EB32A	01/27/21	20	--	<10	<50	<250
S-5-EB33	EB33	01/25/21	5	--	<10	<50	<250
S-7.5-EB33	EB33	01/25/21	7.5	--	<10	<50	<250
S-10-EB33	EB33	01/25/21	10	**Yes**	<40	**28,000**	1,580
S-12.5-EB33	EB33	01/25/21	12.5	**Yes**	<10	**21,000E**	<250
S-15-EB33	EB33	01/25/21	15	**Yes**	<1,000	150	<250
S-17.5-EB33	EB33	01/25/21	17.5	**Yes**	<10	63	<250
S-20-EB33	EB33	01/25/21	20	--	<10	<50	310
S-7.5-EB34	EB34	01/25/21	7.5	--	<10	<50	<250
S-10-EB34	EB34	01/25/21	10	--	<10	2,100	<250
S-12.5-EB34	EB34	01/25/21	12.5	--	<50	1,600	760
S-15-EB34	EB34	01/25/21	15	--	<10	<50	<250
S-17.5-EB34	EB34	01/25/21	17.5	--	<10	<50	<250
S-20-EB34	EB34	01/25/21	20	--	<10	<50	<250
S-5-EB35	EB35	01/25/21	5	--	<10	<50	<250
S-7.5-EB35	EB35	01/25/21	7.5	--	<10	<50	<250
Site-Specific Residual Saturation Remediation Levels					2,470	4,800	5,810

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EXCAVATION DELINEATION SOIL ANALYTICAL RESULTS — PORT OF EVERETT
ExxonMobil ADC
2717/2731 Federal Avenue
Everett, Washington

Sample Name	Well ID / Location	Date	Sample Depth (feet bgs)	LNAPL Observed	TPHg (mg/kg)	TPHd (mg/kg)	TPHmo (mg/kg)
Cardno - Port of Everett - Excavation Delineation Report - April 21, 2021 (continued):							
S-10-EB35	EB35	01/25/21	10	--	<10	<50	<250
S-12.5-EB35	EB35	01/25/21	12.5	--	<15	520	430
S-15-EB35	EB35	01/25/21	15	--	<10	<50	<250
S-5-EB36	EB36	01/26/21	5	--	<10	<50	<250
S-7.5-EB36	EB36	01/26/21	7.5	--	<10	<50	<250
S-10-EB36	EB36	01/26/21	10	--	<10	<50	<250
S-12.5-EB36	EB36	01/26/21	12.5	--	<10	<50	<250
S-5-EB37	EB37	01/27/21	5	--	<10	<50	<250
S-7.5-EB37	EB37	01/27/21	7.5	--	<10	<50	<250
S-10-EB37	EB37	01/27/21	10	--	<10	<50	<250
S-12.5-EB37	EB37	01/27/21	12.5	--	<10	<50	<250
S-2.5-EB38	EB38	01/27/21	2.5	--	<10	<50	490
S-5-EB38	EB38	01/27/21	5	--	<10	<50	<250
S-7.5-EB38	EB38	01/27/21	7.5	--	<10	<50	<250
S-10-EB38	EB38	01/27/21	10	--	<10	<50	<250
S-15-EB38	EB38	01/27/21	15	--	<10	<50	<250
S-2.5-EB39	EB39	01/27/21	2.5	--	<10	2,200	<250
S-12.5-EB38	EB38	01/27/21	12.5	--	<10	<50	<250
S-2.5-EB39[b]	EB39	01/27/21	2.5	--	<10	--	--
S-5-EB39	EB39	01/27/21	5	--	<10	**5,600**	<250
S-5-EB39[b]	EB39	01/27/21	5	--	--	4,500	<250
S-7.5-EB39	EB39	01/27/21	7.5	--	<50	2,200	<250
S-10-EB39	EB39	01/27/21	10	--	<10	<50	<250
S-12.5-EB39	EB39	01/27/21	12.5	--	<10	<50	<250
S-15-EB39	EB39	01/27/21	15	--	<10	<50	<250
S-20-EB39	EB39	01/27/21	20	--	<10	<50	<250
S-5-EB40	EB40	01/26/21	5	--	<10	490a	<250
S-7.5-EB40	EB40	01/26/21	7.5	--	<10	<50	<250
S-10-EB40	EB40	01/26/21	10	--	<10	<50	<250
S-12.5-EB40	EB40	01/26/21	12.5	--	<10	<50	<250
S-5-EB41	EB41	01/27/21	5	--	<15	**9,300**	**6,700**
S-7.5-EB41	EB41	01/27/21	7.5	--	<10	630	310
S-10-EB41	EB41	01/27/21	10	--	<10	<50	<250
S-12.5-EB41	EB41	01/27/21	12.5	--	<10	<50	<250
S-5-SB1	SB1	01/26/21	5	--	<10	<50	<250
S-7.5-SB1	SB1	01/26/21	7.5	--	<10	110	660
S-10-SB1	SB1	01/26/21	10	--	<10	<50	<250
S-12.5-SB1	SB1	01/26/21	12.5	--	<10	<50	<250
S-15-SB1	SB1	01/26/21	15	--	<10	<50	<250
S-5-SB2	SB2	01/26/21	5	--	<10	<50	790
S-7.5-SB2	SB2	01/26/21	7.5	--	<10	<50	<250
S-10-SB2	SB2	01/26/21	10	--	<10	<50	<250
Site-Specific Residual Saturation Remediation Levels					2,470	4,800	5,810

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ExxonMobil ADC
2717/2731 Federal Avenue
Everett, Washington

Sample Name	Well ID / Location	Date	Sample Depth (feet bgs)	LNAPL Observed	TPHg (mg/kg)	TPHd (mg/kg)	TPHmo (mg/kg)
Cardno - Port of Everett - Excavation Delineation Report - April 21, 2021 (continued):							
S-12.5-SB2	SB2	01/26/21	12.5	--	<10	<50	<250
S-15-SB2	SB2	01/26/21	15	--	<10	<50	<250
S-5-SB3	SB3	01/26/21	5	--	<10	440	2,200
S-7.5-SB3	SB3	01/26/21	7.5	--	<10	<50	<250
S-10-SB3	SB3	01/26/21	10	--	<10	130	680
S-12.5-SB3	SB3	01/26/21	12.5	--	<10	<50	<250
S-15-SB3	SB3	01/26/21	15	--	<10	<50	<250
S-20-SB3	SB3	01/26/21	20	--	<10	<50	<250
S-5-SB4	SB4	01/25/21	5	--	<10	<50	<250
S-7.5-SB4	SB4	01/25/21	7.5	--	<10	<50	<250
S-10-SB4	SB4	01/25/21	10	--	<10	3,900	<250
S-12.5-SB4	SB4	01/25/21	12.5	--	<50	1,700	<250
S-15-SB4	SB4	01/25/21	15	--	<10	56	<250
S-17.5-SB4	SB4	01/25/21	17.5	--	<10	<50	<250
S-20-SB4	SB4	01/25/21	20	--	<20	610	<250
S-5-SB5	SB5	01/26/21	5	--	<10	<50	1,630
S-7.5-SB5	SB5	01/26/21	7.5	--	<10	<50	<250
S-10-SB5	SB5	01/26/21	10	--	<10	<50	760
S-12.5-SB5	SB5	01/26/21	12.5	--	<10	<50	<250
S-15-SB5	SB5	01/26/21	15	--	<10	82	580
S-17.5-SB5	SB5	01/26/21	17.5	--	<10	<50	<250
S-20-SB5	SB5	01/26/21	20	--	<10	<50	<250
S-2.5-SB6	SB6	02/05/21	2.5	--	<10	2,800	<250
S-5-SB6	SB6	02/05/21	5	--	<10	57	<250
S-20-SB5	SB5	01/26/21	20	--	<10	<50	<250
S-2.5-SB6	SB6	02/05/21	2.5	--	<10	2,800	<250
S-5-SB6	SB6	02/05/21	5	--	<10	57	<250
S-7.5-SB6	SB6	02/05/21	7.5	--	<10	<50	<250
S-10-SB6	SB6	02/05/21	10	--	<10	<50	<250
S-12.5-SB6	SB6	02/05/21	12.5	--	<10	<50	<250
S-15-SB6	SB6	02/05/21	15	--	<10	<50	<250
S-5-SB7	SB7	02/05/21	5	--	<10	<50	<250
S-7.5-SB7	SB7	02/05/21	7.5	--	<10	<50	<250
S-10-SB7	SB7	02/05/21	10	--	<10	<50	<250
S-12.5-SB7	SB7	02/05/21	12.5	--	<10	<50	<250
S-15-SB7	SB7	02/05/21	15	--	<10	<50	<250
Site-Specific Residual Saturation Remediation Levels					2,470	4,800	5,810

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ExxonMobil ADC
2717/2731 Federal Avenue
Everett, Washington

Sample Name	Well ID / Location	Date	Sample Depth (feet bgs)	LNAPL Observed	TPHg (mg/kg)	TPHd (mg/kg)	TPHmo (mg/kg)

EXPLANATION:
feet bgs = Feet below ground surface
mg/kg = Milligrams per kilogram
LNAPL = Light Non-aqueous Phase Liquid
TPHg = Total Petroleum Hydrocarbons as Gasoline in accordance with Ecology Method NWTPH-Gx
TPHd, TPHmo = Total Petroleum Hydrocarbons as Diesel and as Oil, respectively, in accordance with Ecology Method NWTPH-Dx
All TPHd and TPHmo samples analyzed with silica gel cleanup
N/A = Not applicable
< = Less than the stated laboratory reporting limit
-- = Not Observed; Not Analyzed
Shaded values equal or exceed Site-Specific Residual Saturation Remediation Level
a = Indicates light diesel range
b = Sample reanalyzed by laboratory
E = Reported result exceeds the calibration range and is an estimate
J = Indicates analyte was positively identified. Reported result is an estimate.

TABLE 2
SEMIANNUAL GROUNDWATER ANALYTICAL RESULTS - 2019 THROUGH SECOND HALF 2021
ExxonMobil ADC
2717/2731 Federal Avenue
Everett, Washington

Well ID	Sampling Date	Wellhead Elev (feet)	DTW (ft bgs)	LNAPL (feet)	GW Elev (feet)	TPHg (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)
MW-A1	02/27/19	14.07	5.42	0.00	8.65	260J	**1,300J**	<94	<1.0	<1.0	<1.0	<1.0	<1.0
MW-A1	08/15/19	14.07	6.39	0.00	7.68	<100	380	<91	<1.0	<1.0	<1.0	<3.0	<1.0
MW-A1	02/27/20	14.07	5.68	0.00	8.39	240	**1,400J**	<94	<1.0	<1.0	<1.0	<3.0	<1.0
MW-A1	08/27/20	14.07	6.46	0.00	7.61	200J	**1,600J**	240J	<0.50	<1.0	<1.0	<3.0	<1.0
MW-A1	02/12/21	14.07	5.44	0.00	8.63	110	**2,600**	140	<0.50	<1.0	<1.0	<2.0	<1.0
MW-A1	02/12/21[b]	14.07	5.54	0.00	8.53	130	**1,900**	120	<0.50	<1.0	<1.0	<2.0	<1.0
MW-A1	08/25/21	14.07	6.14	0.00	7.93	120	**1,600**	350	<0.50	<1.0	<1.0	<2.0	<1.0
MW-A2	02/27/19	12.56	4.59	0.00	7.97	190J	250J	<91	<1.0	<1.0	<1.0	<1.0	<1.0
MW-A2	02/27/19[b]	12.56	4.59	0.00	7.97	190J	250J	<100	<1.0	<1.0	<1.0	<1.0	<1.0
MW-A2	08/15/19	12.56	5.61	0.00	6.95	110J	130	<94	<2.0	<2.0	<2.0	<6.0	<2.0
MW-A2	08/15/19[b]	12.56	5.61	0.00	6.95	<100	160	<94	<2.0	<2.0	<2.0	<6.0	<2.0
MW-A2	02/27/20	12.56	4.83	0.00	7.73	<100	<100	<100	<1.0	<1.0	<1.0	<3.0	<1.0
MW-A2	02/27/20[b]	12.56	4.83	0.00	7.73	<100	<100	<100	<1.0	<1.0	<1.0	<3.0	<1.0
MW-A2	08/26/20	12.56	5.42	0.00	7.14	<100	200J	<98	<0.50	<1.0	<1.0	<3.0	<1.0
MW-A2	02/11/21	12.56	4.59	0.00	7.97	<100	<98	<98	<0.50	<1.0	<1.0	<2.0	<1.0
MW-A2	08/24/21	12.56	5.14	0.00	7.42	<100	<91	<91	<0.50	<1.0	<1.0	<2.0	<1.0
MW-A3	02/27/19	13.79	6.82	0.00	6.97	<100	<94	<94	<1.0	<1.0	<1.0	<1.0	<1.0
MW-A3	08/15/19	13.79	8.30	0.00	5.49	<100	<100	<100	<2.0	<2.0	<2.0	<6.0	<2.0
MW-A3	02/26/20	13.79	7.16	0.00	6.63	<100	<100	<100	<1.0	<1.0	<1.0	<3.0	<1.0
MW-A3	08/26/20	13.79	7.83	0.00	5.96	<100	<97	<97	<1.0	<2.0	<2.0	<6.0	<2.0
MW-A3	02/10/21	13.79	6.70	0.00	7.09	<100	<61	<61	<2.0	<4.0	<4.0	<8.0	<4.0
MW-A3	08/23/21	13.79	7.51	0.00	6.28	<100UJ	<93	<93	<0.50	<1.0	<1.0	<2.0	<1.0
MW-A4	02/27/19	16.33	10.20	0.00	6.13	<100	<94	<94	<1.0	<1.0	<1.0	<1.0	<1.0
MW-A4	08/15/19	16.33	10.56	0.00	5.77	<100	<98	<98	<4.0	<4.0	<4.0	<12	<4.0
MW-A4	02/26/20	16.33	10.70	0.00	5.63	<100	<98	<98	<4.0	<4.0	<4.0	<12	<4.0
MW-A4	08/25/20	16.33	10.53	0.00	5.80	<100	<94UJ	<94UJ	<1.0	<2.0	<2.0	<6.0	<2.0
MW-A4	02/10/21	16.33	10.16	0.00	6.17	<100	<92	<92	<0.50	<1.0	<1.0	<2.0	<1.0
MW-A4	08/23/21	16.33	10.45	0.00	5.88	<100	<96	<96	<2.0	<4.0	<4.0	<8.0	<4.0
MTCA Method A Cleanup Levels						800/1,000[a]	500	500	5	1,000	700	1,000	20

Continued on page 2

TABLE 2
SEMIANNUAL GROUNDWATER ANALYTICAL RESULTS - 2019 THROUGH SECOND HALF 2021
ExxonMobil ADC
2717/2731 Federal Avenue
Everett, Washington

Well ID	Sampling Date	Wellhead Elev (feet)	DTW (ft bgs)	LNAPL (feet)	GW Elev (feet)	TPHg (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)
MW-A5	02/27/19	17.74	11.55	0.00	6.19	<100	370J	<91	<1.0	<1.0	<1.0	<1.0	<1.0
MW-A5	08/15/19	17.74	12.03	0.00	5.71	<100	190	<100	<4.0	<4.0	<4.0	<12	<4.0
MW-A5	02/26/20	17.74	12.00	0.00	5.74	<100	98J	<98	<1.0	<1.0	<1.0	<3.0	<1.0
MW-A5	08/25/20	17.74	11.94	0.00	5.80	<100	190J	<100UJ	<1.0	<2.0	<2.0	<6.0	<2.0
MW-A5	02/11/21	17.74	11.38	0.00	6.36	<100	160	<98	<0.50	<1.0	<1.0	<2.0	<1.0
MW-A5	08/24/21	17.74	11.55	0.00	6.19	<100	320	<92	<0.50	<1.0	<1.0	<2.0	<1.0
MW-A6	02/27/19	16.94	10.43	0.00	6.51	<100	150J	<94	<1.0	<1.0	<1.0	<1.0	<1.0
MW-A6	08/15/19	16.94	10.82	0.00	6.12	<100	<93	<93	<4.0	<4.0	<4.0	<12	<4.0
MW-A6	02/26/20	16.94	10.80	0.00	6.14	<100	<91	<91	<1.0	<1.0	<1.0	<3.0	<1.0
MW-A6	08/26/20	16.94	10.86	0.00	6.08	<100	100J	<94	<0.50	<1.0	<1.0	<3.0	<1.0
MW-A6	02/11/21	16.94	10.35	0.00	6.59	<100	<99	<99	<0.50	<1.0	<1.0	<2.0	<1.0
MW-A6	08/24/21	16.94	10.61	0.00	6.33	<100	130	<93	<0.50	<1.0	<1.0	<2.0	<1.0
MW-A7	02/27/19	14.20	0.00	0.00	14.20	<100	<100	<100	<1.0	<1.0	<1.0	<1.0	<1.0
MW-A7	08/15/19	14.20	0.00	0.00	14.20	<100	<93	<93	<1.0	<1.0	<1.0	<3.0	<1.0
MW-A7	02/27/20	14.20	0.00	0.00	14.20	<100	<93	<93	<1.0	<1.0	<1.0	<3.0	<1.0
MW-A7	08/26/20	14.20	0.00	0.00	14.20	<100	<96	<96	<0.50	<1.0	<1.0	<3.0	<1.0
MW-A7	08/26/20[b]	14.20	0.00	0.00	14.20	<100	<97	<97	<0.50	<1.0	<1.0	<3.0	<1.0
MW-A7	02/11/21	14.20	0.00	0.00	14.20	<100	<100	<100	<0.50	<1.0	<1.0	<2.0	<1.0
MW-A7	08/24/21	14.20	0.00	0.00	14.20	<100	<94	150	<0.50	<1.0	<1.0	<2.0	<1.0
MW-A8	02/27/19	16.81	10.82	0.00	5.99	<100	<91	<91	<1.0	<1.0	<1.0	<1.0	<1.0
MW-A8	08/15/19	16.81	11.08	0.00	5.73	<100	<91	<91	<1.0	<1.0	<1.0	<3.0	<1.0
MW-A8	02/26/20	16.81	11.95	0.00	4.86	<100	<93	<93	<1.0	<1.0	<1.0	<3.0	<1.0
MW-A8	08/25/20	16.81	11.91	0.00	4.90	<100	<99UJ	<99UJ	<0.50	<1.0	<1.0	<3.0	<1.0
MW-A8	02/11/21	16.81	11.09	0.00	5.72	<100	<100	<100	<0.50	<1.0	<1.0	<2.0	<1.0
MW-A8	08/24/21	16.81	10.93	0.00	5.88	<100	<92	<92	<0.50	<1.0	<1.0	<2.0	<1.0
MW-11	02/27/19	16.50	NM	--	--	<100	<91	<91	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	08/15/19	16.50	NM	--	--	<100	<100	<100	<1.0	<1.0	<1.0	<3.0	<1.0
MTCA Method A Cleanup Levels						800/1,000[a]	500	500	5	1,000	700	1,000	20

Continued on page 3

TABLE 2
SEMIANNUAL GROUNDWATER ANALYTICAL RESULTS - 2019 THROUGH SECOND HALF 2021
ExxonMobil ADC
2717/2731 Federal Avenue
Everett, Washington

Well ID	Sampling Date	Wellhead Elev (feet)	DTW (ft bgs)	LNAPL (feet)	GW Elev (feet)	TPHg (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)
MW-11	02/27/20	16.50	1.42	0.00	15.08	<100	<100	<100	<1.0	<1.0	<1.0	<3.0	<1.0
MW-11	08/26/20	16.50	1.93	0.00	14.57	<100	<99	<99	<0.50	<1.0	<1.0	<3.0	<1.0
MW-11	02/10/21	16.50	1.39	0.00	15.11	<100	<100	<100	<0.50	<1.0	<1.0	<2.0	<1.0
MW-11	08/23/21	16.50	1.88	0.00	14.62	<100	<92	<92	<0.50	<1.0	<1.0	<2.0	<1.0
MW-19	02/27/19	12.75	NM	--	--	390J	140J	<91	<1.0	<1.0	<1.0	<1.0	<1.0
MW-19	08/17/19	12.75	NM	--	--	110J	150	<94	<2.0	<2.0	<2.0	<6.0	<2.0
MW-19	02/27/20	12.75	3.20	0.00	9.55	230	160J	<100	<1.0	<1.0	<1.0	<3.0	<1.0
MW-19	08/26/20	12.75	2.98	0.00	9.77	130J	140J	<98	<0.50	<1.0	<1.0	<3.0	<1.0
MW-19	02/11/21	12.75	2.75	0.00	10.00	220	220	<91	<0.50	<1.0	<1.0	<2.0	<1.0
MW-19	08/24/21	12.75	2.98	0.00	9.77	<100	<96	<96	<0.50	<1.0	<1.0	<2.0	<1.0
MW-40R	02/27/19	15.53	3.14	0.00	12.39	570J	**520J**	<91	<1.0	<1.0	<1.0	<1.0	<1.0
MW-40R	08/15/19	15.53	4.71	0.00	10.82	510J	270	<96	<8.0	<8.0	<8.0	<24	<8.0
MW-40R	02/27/20	15.53	3.30	0.00	12.23	420	250J	<100	1.3	<1.0	<1.0	<3.0	<1.0
MW-40R	08/27/20	15.53	4.37	0.00	11.16	230J	<100UJ	<100UJ	2.6	<4.0	<4.0	<12.0	<4.0
MW-40R	02/12/21	15.53	3.22	0.00	12.31	330	400	<100	0.99	<1.0	<1.0	<2.0	<1.0
MW-40R	08/25/21	15.53	4.38	0.00	11.15	200J	480	99	<10	<20	<20	<40	<20
MW-40R	08/25/21[b]	15.53	4.38	0.00	11.15	350J	480	<93	<10	<20	<20	<40	<20
MTCA Method A Cleanup Levels						800/1,000[a]	500	500	5	1,000	700	1,000	20

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EXPLANATION:

µg/L = Micrograms per Liter
ft bgs = Feet below ground surface
DTW = Depth to water in feet below top of casing
LNAPL = Light Non-aqueous Phase Liquid thickness in feet
GW Elev = Groundwater elevation relative to top of casing elevation
NM = Not Measured; NE = Not Established; N/A = Not Applicable; -- = Not analyzed or Sampled
Data collected prior to 02/26/20 was taken from prior consultants' reports
TPHg = Total Petroleum Hydrocarbons as Gasoline in accordance with Ecology Method NWTPH-Gx
TPHd and TPHmo = Total Petroleum Hydrocarbons as Diesel and Motor Oil, respectively, analyzed in accordance with Ecology Method NWTPH-Dx
B = Benzene; T = Toluene; E = Ethylbenzene; X = Total Xylenes
BTEX = Aromatic compounds analyzed in accordance with EPA Method 8260B
MTBE = Methyl tert-butyl ether analyzed in accordance with EPA Method 8260B
< = Less than stated laboratory reporting limit
Shaded values equal or exceed Model Toxics Control Act (MTCA) Method A Cleanup Levels

FOOTNOTES:

a = TPHg cleanup level for groundwater is 800 µg/L if benzene is present, or 1,000 µg/L if benzene is not present
b = Duplicate field sample collected and submitted blindly to the laboratory
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of analyte in the sample.
UJ = The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

ExxonMobil ADC
Cardno 03144702.R05

APPENDIX A
WOOD'S CHRONOLOGY OF HISTORICAL ON-SITE ENVIRONMENTAL INVESTIGATIONS (WOOD, 2019)

TABLE 3-1: CHRONOLOGY OF HISTORICAL ON-SITE ENVIRONMENTAL INVESTIGATIONS

ExxonMobil/ADC Property, Ecology Site ID 2728, Everett, Washington

Date	Consultant	Location	Reference	Activities	Tasks Performed	Notes
May-85	RZA	ExxonMobil Parcel	RZA 1985	Borings, monitoring well installation	2-inch-diameter monitoring wells B-1 through B-5 (MW-1 through MW-5 in several reports) installed.	B-1, B-2, B-4, and B-5: Petroleum odor noticed in borings; evidence found of contamination below groundwater table.
Mar-88	RZA	ExxonMobil Parcel	AMEC E&E 2010a	Borings, monitoring well installation	2-inch-diameter monitoring wells MW-6 through MW-18 installed.	Soil and groundwater samples collected. LPH (1.29 feet) measured in MW-14.
Jan-90	ESE	ADC Parcel	AMEC E&E 2010a	Borings	Hand augers AD-01 through AD-19 to depths ranging from 1 to 4.5 feet.	Soil samples collected.
Feb-90	ESE	ADC Parcel	AMEC E&E 2010a	Borings, monitoring well installation	HSA borings W-1 through W-7. 2-inch-diameter monitoring wells W-1 through W-6 installed.	W-7 was backfilled.
Jun-90	ESE	ADC Parcel	AMEC E&E 2010a	Hand-auger borings	Hand-auger borings W-8 through W-17 to depths of 6–10 feet.	No soil data found for W-8 through W-17. Gauging data indicate that free product was observed in 10 of the 17 monitoring wells located at and around the ADC Parcel.
Oct-90	RZA	ExxonMobil Parcel	AMEC E&E 2010a	Shallow grid soil sampling, bio-feasibility study	Hand augers B-1 through B-25. Two soil samples were studied to conduct a slurry flask bio-feasibility study.	0-3 feet bgs. Rapid biodegradation of TPH-G fraction was observed. Biodegradation of TPH (undifferentiated) was not achieved.
Nov-90	Unknown	ExxonMobil Parcel	AMEC E&E 2010a	Monitoring well decommissioning	B-3 (MW-3), B-4 (MW-4), and MW-7 destroyed.	No documentation of well decommissioning.
March–June 1991	RZA	Parcels surrounding ExxonMobil Parcel	AMEC E&E 2010a	Borings, monitoring well installation	Six percussion soil borings to depths ranging from 5 to 5.5 feet bgs, 2-inch diameter monitoring wells MW-19 through MW-24, and 4-inch diameter monitoring wells MW-27 through MW-30 installed. Soil boring B-21-91 advanced to depth of 29 feet bgs.	MW-25 and MW-26 were inaccessible or dry and later renamed as B-25 and B-26. No well decommissioning records were found.
Jun-91	RZA and ESE	The Property	AGRA 1996g	Quarterly groundwater monitoring	Groundwater monitoring event. New 2-inch diameter monitoring wells MW-25 and MW-26 installed. Gauged wells: RW-1, B-1, B-2, B-5, MW-6, MW-8 through MW-13, MW-15 through MW-18, AD-19, W-1 through W-6, and W-8 through W-15.	B-1, MW-8, AD-19, W-1, W-6, W-9, W-11, W-12, W-13, and W-15 contained LPH and were not sampled.
Nov-91	RZA AGRA	ExxonMobil Parcel	AMEC E&E 2010a	Borings, recovery well	8-inch diameter recovery well RW-2 installed. Deep soil borings B-1A, B-8A, and B-15A advanced.	Soil borings advanced in vicinity of existing wells B-1, B-8, and B-15. No analytical data found for this event.

TABLE 3-1: CHRONOLOGY OF HISTORICAL ON-SITE ENVIRONMENTAL INVESTIGATIONS

ExxonMobil/ADC Property, Ecology Site ID 2728, Everett, Washington

Date	Consultant	Location	Reference	Activities	Tasks Performed	Notes
Dec-91	RZA AGRA	ExxonMobil Parcel	AGRA 1996g	Quarterly groundwater monitoring, aquifer and tidal study	Quarterly groundwater monitoring. Gauged wells: RW-1, B-1, B-2, B-5, MW-6, MW-8 through MW-13, MW-15 through MW-30, and AD-19. Aquifer study involved 24-hour pumping from MW-10 at a rate of 1 to 2 gpm and measuring response in MW-18, RW-1, and RW-2 for 48 hours.	B-1, MW-8, MW-11, MW-26, MW-27, MW-29, and AD-19 contained LPH and were not sampled. Hydraulic conductivity at the Site was estimated as 4 to 9.5 feet/day. Minimum tidal influence was observed.
1992	RZA AGRA	NA	NA	Discussions with Ecology	Ecology discussed enforcement with Mobil and RZA AGRA. Ecology decided to allow Site to go independent.	
Dec-93	RZA AGRA	West of ExxonMobil Parcel	AMEC E&E 2010a	Off-Property borings, monitoring well installation, GPR survey	2-inch diameter monitoring wells MW-31 through MW-33 and MW-35 through MW-37 were installed; B-34 advanced and backfilled. GPR survey was conducted to assess whether underground product lines had been removed.	Survey did not identify any subsurface linear features.
Dec-93	RZA AGRA	ExxonMobil Parcel and off-Property to the west	AGRA 1996g	Quarterly groundwater monitoring	Groundwater monitoring event. Gauged wells B-1, B-2, MW-6, MW-8 through MW-13, MW-15 through MW-18, MW-27 through MW-33, MW-35 through MW-37.	B-1, MW-27, and MW-29 contained LPH and were not sampled.
Dec-93	RZA AGRA	West of ExxonMobil Parcel	AMEC E&E 2010a	Test pits, recovery trench	Excavated five test pits, TP-1 through TP-5, to depths ranging from 3 to 3.5 feet bgs. Recovery trench installed along the western border of ExxonMobil Parcel.	Monitoring well MW-21 was reportedly decommissioned during the recovery trench installation activities. However, a 2002 decommissioning record was found that stated that MW-21 was decommissioned in 2002.
1995			NA	Agreed Order DE-95TC-N402		Required evaluation of LPH.
Jul-95	RZA AGRA	ADC Parcel	AGRA 1996g	Quarterly groundwater monitoring	Groundwater monitoring event. Gauged wells: W-3, W-5, W-9, W-10, W-12 through W-15.	W-9, W-12, and W-13 contained LPH and were not sampled.
Oct-95	U.S. Coast Guard Puget Sound Marine Safety Office & City of Everett	North of the Property	AMEC E&E 2010a	Investigation of petroleum product discharge into Everett Harbor	Camera surveys of the sewer lines made.	Outfall located approximately 175 yards northwest of the ADC Parcel; LPH seepage observed in section of CSO line.
Nov-95	RZA AGRA	Site	AGRA 1996g	Groundwater monitoring	Groundwater monitoring event. Gauged wells: RW-1, RW-2, B-1, B-2, MW-6, MW-8 to MW-13, MW-15 to MW-18, MW-27 to MW-37, and NRW-1.	B-1, MW-18, MW-29, and MW-30 contained LPH and were not sampled.

TABLE 3-1: CHRONOLOGY OF HISTORICAL ON-SITE ENVIRONMENTAL INVESTIGATIONS

ExxonMobil/ADC Property, Ecology Site ID 2728, Everett, Washington

Date	Consultant	Location	Reference	Activities	Tasks Performed	Notes
Dec-95	RZA AGRA	Site	AGRA 1996g	Groundwater monitoring	Groundwater monitoring event. Gauged wells: RW-2, B-2, MW-8, MW-9, MW-18, MW-15 through MW-18, MW-27, and MW-28.	RW-2, MW-9, MW-18, and MW-28 contained LPH and were not sampled.
Mar-96	AGRA	North of the Property	AMEC E&E 2010a	Borings	Direct-push soil borings GP-1 through GP-13. Borings associated with the CSO line repair.	The collected soil sample results indicated that soil surrounding the damaged portion of the CSO had petroleum hydrocarbon impacts. LPH accumulation was noticed in temporary screens installed in soil borings. No groundwater samples were collected from temporary screens.
Apr-96	City of Everett		AMEC E&E 2010a	Meeting	Meeting held to discuss options for repairing the section of CSO line.	Decisions made regarding replacement of the settled portion of the line and slip lining of the remaining portion of the line.
May-96	AGRA	ADC Parcel	AGRA 1996d	Borings	Bobcat borings BB-1 through BB-14.	Soil samples collected.
Jun-96	AGRA	ADC Parcel	AGRA 1996d	Borings, monitoring wells, and test pits	4-inch diameter recovery well VRW-1 and 2-inch diameter monitoring well MW-38 installed. Seven test pits TP-1-96 through TP-7-96 excavated.	Wells were installed on the northeast corner of the property. Test pits were located throughout the ADC Parcel.
Aug-96	AGRA	Site	AMEC E&E 2010a	Monitoring wells	Gauged wells at the property.	LPH found in B-1, VRW-1, MW-27, MW-29, MW-30, MW-38, W-1, W-9, W-15.
Feb-97	PTI	Site	PTI 1997	LPH recovery technical memorandum	Technical memorandum to summarize environmental investigations, LPH recovery activities, and geology.	PTI concluded that long-term, passive (LPH only) recovery may be the most effective method of LPH recovery. PTI also concluded that active LPH and groundwater recovery that had been performed up to that time had been effective for short durations, but recovery structures did not continue to recover LPH for extended periods of time when active recovery was employed.

TABLE 3-1: CHRONOLOGY OF HISTORICAL ON-SITE ENVIRONMENTAL INVESTIGATIONS

ExxonMobil/ADC Property, Ecology Site ID 2728, Everett, Washington

Date	Consultant	Location	Reference	Activities	Tasks Performed	Notes
November 1997 through January 1998	Pacific Environmental Group, Inc.	Kimberly-Clark property	Pacific Environmental Group, Inc. 1998	Borings, monitoring wells	Direct-push borings Probe-1 through Probe-15 were advanced, and 2-inch diameter HSA monitoring wells KC-1 and KC-2 were installed inside the KC warehouse.	Groundwater samples were collected from temporary screens installed in each boring. LPH not identified in soil borings or monitoring wells. TPH-D and TPH-O were detected above MTCA Method A cleanup levels in borings advanced in the vicinity of repaired CSO line. Samples not collected in vicinity of former ASTs.
1998			NA	Agreed Order DE98TC-P-N223		Required remedial investigation/focused feasibility study.
Jul-98	Exponent	Site	Exponent 1998a	Remedial Investigation and Focused Feasibility Study	Exponent summarized the history of the Property and evaluated feasible remedial options for the Site.	Exponent recommended the installation of LPH recovery trenches and installation of a low-permeability cap over the property.
Jul-98	Exponent	Site	Exponent 1998b	Final Interim Action Work Plan and Engineering Design Report	Exponent presented design for interim measures at the Property.	Exponent provided specifications for demolition of existing Site structures and installation of LPH recovery trenches, water treatment system, and low-permeability cap over the Property.
Oct-99	Kleinfelder	The Property	Exponent 2000	Monitoring wells installation	Monitoring wells W-10R, W-15R, and MW-40R.	Wells installed to replace wells W-10, W-15, and MW-40.
Dec-99	Dames and Moore/URS	South and southeast of the Property	URS 2000a	Geotechnical drilling and piezometer installation	DM-6, DM-7, and DM-8 were sampled for environmental samples.	Work associated with CSTO Project.
Sep-00	URS	South, east, and southeast of the Property	URS 2000b	Borings	Phase II investigation for the CSTO Project. Push-probe borings UG-1 through UG-12.	Groundwater samples collected from temporary screens installed in UG-2 and UG-8. Estimated 7,600 cubic yards of petroleum-contaminated soil present along the overcrossing alignment.
Jul-01	URS	Johnston Petroleum parcel	URS 2001a and b	Borings	Phase II investigation for Johnson Petroleum parcel. Push-probe borings JP-1 through JP-7.	Soil samples collected. Groundwater samples collected from JP-1, JP-4, and JP-7. No significant contamination found.

TABLE 3-1: CHRONOLOGY OF HISTORICAL ON-SITE ENVIRONMENTAL INVESTIGATIONS

ExxonMobil/ADC Property, Ecology Site ID 2728, Everett, Washington

Date	Consultant	Location	Reference	Activities	Tasks Performed	Notes
Feb-02	ERI	Site and vicinity	ERI 2002a	Monitoring well decommissioning and re-installment	Abandonment of monitoring wells (MW-22, MW-23, MW-24, MW-35, and MW-37) and piezometer DM-6 due to proximity to the CSTO Project. Re-installed well W-2 screened from 3 to 23 feet bgs.	No soil samples taken during W-2 installation. The reported abandonment of MW-21 in 2002 contradicts the reported decommissioning of MW-21 due to installation of the recovery trench to the west of the Property in December 1995.
2002	Reid Middleton	CSTO	Reid Middleton 2002	Memorandum to Ecology	Southeast corner of the asphalt cap over the ExxonMobil Parcel removed. Steel piles for concrete foundation were installed.	No information regarding contaminant soil excavation and removal was found.
2002-2007	Kleinfelder, ERI, AMEC	Site	Various	Groundwater monitoring	Monthly LPH gauging and quarterly groundwater monitoring.	LPH greater than 0.02 foot thick is bailed manually and oleophilic socks are replaced.
Jul-02	ERI	West of the ExxonMobil Parcel	ERI 2002b	Well decommissioning	Monitoring wells MW-20, MW-21, and one unidentified well were decommissioned.	The record contradicts the records that indicate that MW-21 was decommissioned during the December 1993 recovery trench installation.
Feb-07	AMEC/Bravo Environmental	Site	AMEC E&E 2007	Video survey of storm drain system	AMEC contracted Bravo to conduct a video survey of the storm drain system installed as part of 1999 interim measure to verify that groundwater from the Property is not infiltrating into the stormwater system through possible cracks and fissures in the piping and catch basins.	No significant cracks or fissures within the stormwater system were observed.
2007–present	AMEC	Site	AMEC E&E 2010a	Groundwater monitoring	AMEC requested to change to semiannual groundwater monitoring in 2007.	Request was accepted by Ecology.
2008	AMEC	West of the Property	AMEC E&E 2008b	Monitoring wells	Off-property monitoring wells MW-A1 and MW-A2 installed on the west side of Federal Avenue.	Monitoring wells MW-A1 and MW-A2 are incorporated into existing groundwater monitoring network.
Feb-08	AMEC	Site	AMEC E&E, 2008a	Tidal study	Measured tidal response in W-3, W-6, MW-11, MW-28, & MW-40R.	Minimal response in each well, except MW-11.
Jun-08	AMEC	Site	2010 updated survey included as Appendix C	Well head elevations survey	True North Land Surveying of Seattle, Washington, surveyed recovery and monitoring wells located on-Site.	Recovery wells LPH-1 to LPH-9 and monitoring wells W-1, W-2, W-3, W-6, W-10R, MW-10, MW-11, W-15R, W-17, RW-2, MW-19, MW-27, MW-28, MW-29, MW-30, MW-40R, MW-A1, and MW-A2.

TABLE 3-1: CHRONOLOGY OF HISTORICAL ON-SITE ENVIRONMENTAL INVESTIGATIONS

ExxonMobil/ADC Property, Ecology Site ID 2728, Everett, Washington

Date	Consultant	Location	Reference	Activities	Tasks Performed	Notes
2010	AMEC	Site	AMEC E&E 2010a	Focused Feasibility Study Work Plan	Summarized Site history, previous environmental investigations and interim remedial activities, known environmental conditions, preliminary conceptual site model, and remaining data gaps.	FFS Work Plan included a sampling and analysis plan to guide data gaps investigation and identified applicable remedial technologies to be evaluated n the FFS.
2010	AMEC	Site	AMEC E&E 2010a	Agreed Order DE 6184		Required FFS and Draft CAP.
2010	AMEC	Site	AMEC E&E 2011f	Sampling for City of Everett Force Main	Borings CE-1 to CE-8 advanced on Federal Avenue, former Everett Avenue, and the BNSF property to characterize soils in the alignment of City's planned force main.	Analytical results were provided to City of Everett and used to characterize soil excavated for the force main project for disposal purposes.
2011	AMEC	Site	AMEC E&E 2011b	Data gaps investigation	Seven deep borings (AB-1 to AB-5, AP-6, MW-7ab), six shallow borings (AP-1 through AP-5, AP-7), five new off-Property monitoring wells (MW-A3 through MW-A7), aquifer testing, and tidal influence study.	A plume of groundwater with petroleum hydrocarbon impacts was identified west & northwest of the Property. Groundwater downgradient and upgradient from the Property was not affected by COCs. Geochemical parameters were consistent with an anaerobic environment in which active petroleum biodegradation appears to be occurring. No continuous silt layer was identified beneath the Property. Monitoring wells MW-A3 through MW-A7 incorporated into existing groundwater monitoring network.
2011	AMEC	Site	AMEC E&E 2011a	Tidal influence investigation	A stilling well with transducer was installed on the Everett Pier to automatically record tidal elevations. Pressure transducer/ data loggers were installed in monitoring wells W-3, W-6, MW-11, MW-19, MW-28, MW-40R, and MW-A1 through MW-A7 to record groundwater levels every 6 minutes for 6 days.	Monitoring wells W-3, MW-11, MW-A1, MW-A2, MW-A3, MW-A5, and MW-A6 are tidally influenced, with tidal fluctuations ranging from 0.1 foot to 1.1 feet. MW-19, MW-28, MW-40R, MW-A4, and W-6 exhibited minimal tidal influence, and MW-A7 was unaffected by tidal elevation. A potentiometric surface map showed groundwater flow toward the west.
2011	AMEC	Former Everett Avenue	AMEC E&E 2011g and h	Observations of seeps along former Everett Avenue	AMEC recorded photographs in the field to document observations of petroleum product seeps through the pavement on former Everett Avenue.	

TABLE 3-1: CHRONOLOGY OF HISTORICAL ON-SITE ENVIRONMENTAL INVESTIGATIONS

ExxonMobil/ADC Property, Ecology Site ID 2728, Everett, Washington

Date	Consultant	Location	Reference	Activities	Tasks Performed	Notes
2012	AMEC	Federal Avenue and former Everett Avenue	AMEC 2012b	Observations during City of Everett force main replacement	AMEC observed excavation and drilling activities during installation of the City's force main and recorded notable subsurface features when relevant, including the presence of LPH if encountered.	AMEC documented the presence of LPH in borings and/or trenches along much of the alignment on former Everett Avenue, and at selected locations along Federal Avenue.
2013–2014	AMEC	Site	AMEC 2014a	Data gaps investigation	A total of 33 soil borings were drilled on the Property and nearby properties, and soil samples were analyzed to delineate areas of affected soil at the Site. One of the borings was completed as a new monitoring well (MW-A8).	Higher COC concentrations were found primarily on the Property and in the western portion of the former ADC garage. Contamination from the Site extends to the former ADC garage and former Everett Avenue. Contamination on KC property north of former Everett Avenue likely originates from sources on the KC property. Monitoring well MW-A8 incorporated into groundwater monitoring network.

Abbreviations

ADC = American Distributing Company
AMEC = AMEC Environment & Infrastructure, Inc.
AMEC E&E = AMEC Earth & Environmental, Inc.
AST = aboveground storage tank
bgs = below ground surface
CAP = Cleanup Action Plan
COC = constituent of concern
CSO = combined sewer outflow
CSTO = California Street Overcrossing
Ecology = Washington State Department of Ecology
ERI = Environmental Resolutions, Inc.
ESE = Environmental Science and Engineering, Inc.
FFS = Focused Feasibility Study
gpm = gallons per minute
GPR = ground penetrating radar
HSA = hollow-stem auger
KC = Kimberly-Clark
Kleinfelder = Kleinfelder, Inc.
LPH = liquid petroleum hydrocarbons
MTCA = Model Toxics Control Act
PTI = PTI Environmental Services
RZA = Rittenhouse-Zeman & Associates, Inc.
RZA AGRA = RZA AGRA Earth & Environmental, Inc.
TPH = total petroleum hydrocarbons
TPH-D = total petroleum hydrocarbons-diesel range organics
TPH-G = total petroleum hydrocarbons-gasoline range organics
TPH-O = total petroleum hydrocarbons-residual range organics

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APPENDIX B

WOOD'S CHRONOLOGY OF HISTORICAL INTERIM REMEDIAL MEASURES (WOOD, 2019)

TABLE 4-1: CHRONOLOGY OF HISTORICAL INTERIM REMEDIAL MEASURES

ExxonMobil/ADC Property, Ecology Site ID 2728, Everett, Washington

Date	Consultant	Location	Reference	Activities	Tasks Performed	Notes
April–May 1988	RZA	ExxonMobil Parcel	PTI 1997	Recovery trench installation, SVE and groundwater treatment system test (oil-water separator and air stripper), infiltration gallery, pumping subsurface fluids	Installation of recovery trench near MW-14, SVE system and groundwater treatment system to evaluate feasibility of extracting LPH. Infiltration gallery installed in the vicinity of MW-14. Subsurface fluids were pumped with a vacuum truck from the sumps.	Decommissioned in 1998 during construction of low-permeability cap at the Property. The gallery was T-shaped and 45 feet long with two 55-gallon drums installed at both ends as sumps. 1,400 gallons of liquid removed, 50 gallons was LPH. As a result, LPH thickness in MW-14 decreased to 0.40 foot by August 1988.
Mar-89	RZA	ExxonMobil Parcel	RZA 1989	Automated groundwater extraction and treatment system	An automated groundwater extraction and treatment system was installed in the location of the infiltration gallery. The system included fluid extraction sump stationed in RW-1 (formerly MW-14), oil-water separator, air stripper, and re-infiltration gallery.	The groundwater extraction and treatment system was shut down in March 1990 due to flooding of the re-infiltration gallery, and has not been restarted.
Nov-91	RZA AGRA	ExxonMobil Parcel	PTI 1997	Borings, recovery well	8-inch diameter recovery well RW-2 installed.	No analytical data found for this event.
Dec-93	RZA AGRA	West of ExxonMobil Parcel	AGRA 1993	Test pits, recovery trench	Recovery trench installation along the western border of ExxonMobil Parcel.	
Jun-96	AGRA	North of the Property	AGRA 1996b and c	CSO line repairs	Excavation of settled portion of pipe replaced. Slip-lining of remaining CSO line. CSO line excavation dewatering.	1,450,800 gallons of groundwater and 23,050 gallons of LPH were removed during CSO line excavation and dewatering.
Jun-96	AGRA	LPH Vacuum Recovery Pilot Test	AGRA 1996a, d,e, and f	LPH vacuum recovery pilot test	14-day test included SVE and groundwater/LPH pumping system.	125 gal of LPH and 28,228 gallons of groundwater removed from VRW-1 during test.
Nov-98	Kleinfelder	ADC Parcel	Exponent 2000	Survey, geotechnical evaluation	Initial survey. Asbestos survey prior to demolition.	Demolition activities included four buildings on the ADC parcel. Asbestos abatement activities were conducted in November 1998, and demolition was completed in January 1999.
Dec-98	Kleinfelder	Water management and treatment system	Exponent 2000	Installation of treatment system	A water management and treatment system consisting of an oil–water separator, a settling tank, and a carbon polishing unit was constructed at the Property.	System treated approximately 2.5 million gallons of water between December 1998 and September 1999. Approximately 19,900 gallons of oily water and 450 gallons of sludge were collected between December 1998 and September 1999.
Dec-98	Kleinfelder	The Property	Exponent 2000	Interim remedial action	Removed TPH-impacted soil, graded the property, removed purge water.	162 tons of contaminated shallow soil and vegetation removed from within the ADC firewall area during demolition and transported to TPS Technologies facility for disposal. 3.5 tons of class 3 PCS taken to CRS Associated. Marine Services, Inc. removed 110 gallons of purge water.
1999	Kleinfelder	The Property	Exponent 2000	Interim remedial action	Monitoring well abandonment. Interceptor trench construction along the western and northern property boundaries. Low-permeability cap construction over the property. Recovery wells LPH-1 through LPH-9 installed in interceptor trench. Stormwater collection system that connects to the City of Everett sewer system was installed.	Monitoring wells MW-6, MW-8, MW-9, MW-12, MW-13, MW-15, MW-16, MW-17, MW-38, WP-1, B-1, B-2, W-4, W-8, W-11, W-12, W-14, AD-11, AD-12, AD-13, AD-15, AD-19, W-10, W-15, and MW-40 abandoned. Completed Site grading, installation of two layers of geotextile fabric, asphalt-treated base material, and paving fabric and asphalt cap.
2002–present	Kleinfelder, ERI, AMEC E&E	Site	Various	Petroleum recovery	Monthly removal of LPH.	LPH greater than 0.02 foot thick is bailed manually, and oleophilic socks are replaced.
Jul-08	Floyd|Snider	North-northeast of the Property	AMEC E&E 2010a	Excavation and disposal of PCS and dewatering the excavation	Soil associated with Puget Sound Outfall 5 Overflow Structure project was excavated and disposed of. In addition, dewatering occurred during excavation.	Soil was field screened. Soil exhibiting obvious signs of contamination was disposed of as Class II soil without sampling. Soil that appeared to be "clean" was sampled and then disposed as Class II soil. Water from the excavation was sampled for the City sewer discharge requirements.
2010	AMEC E&E	Federal Avenue and Port of Everett property	AMEC E&E 2011e	Removal of abandoned pipes and affected soil	AMEC decommissioned pipelines west of the Property to prepare for upgrades to the storm sewer line planned by the City of Everett.	A total of 76.55 tons of construction debris, 243 tons of soil, 487 linear feet of piping, 65,669 gallons of non-regulated liquid, four 55-gallon product/ water drums, and four 55-gallon solid waste drums were removed and disposed of off Site. Samples from base of excavation showed contaminated soil left in place.
2011–2012	AMEC	BNSF and KC properties	AMEC 2012a	Interim removal action	Excavation and off-Site disposal of surface asphalt, affected soil, and recovered LPH and treatment of the recovered groundwater from the secondary source areas on the BNSF and KC properties. Monitoring wells MW-27 through MW-30 abandoned.	Approximately 3,785 tons of material was excavated and disposed of at a permitted landfill, approximately 2,530 gallons of LPH was removed, and 1,489,246 gallons of petroleum-affected groundwater was removed and treated. Affected material was evident and left in place at all side wall areas of the completed excavation on the BNSF property and on the north and east sidewalls on the KC property.

Abbreviations

ADC = American Distributing Company
AMEC = AMEC Environment & Infrastructure, Inc.
AMEC E&E = AMEC Earth & Environmental, Inc.
BNSF = BNSF Railway Company
CSO = combined sewer outflow
ERI = Environmental Resolutions, Inc.
KC = Kimberly-Clark
Kleinfelder = Kleinfelder, Inc.
LPH = liquid petroleum hydrocarbons
PCS = petroleum-contaminated soil
PTI = PTI Environmental Services
RZA = Rittenhouse-Zeman & Associates, Inc.
RZA AGRA = RZA AGRA Earth & Environmental, Inc.
SVE = soil vapor extraction
TPH = total petroleum hydrocarbons

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APPENDIX C
FIELD PROTOCOL

Soil Boring and Well Installation Field Protocol

Preliminary Activities

Prior to the onset of field activities at the site, Cardno obtains the appropriate permit(s) from the governing agency(s). Advance notification is made as required by the agency(s) prior to the start of work. Cardno marks the borehole locations and contacts the local one call utility locating service at least 48 hours prior to the start of work to mark buried utilities. Borehole locations may also be checked for buried utilities by a private geophysical surveyor. Prior to drilling, the borehole location is cleared in accordance with the client's procedures. Fieldwork is conducted under the advisement of a registered professional geologist and in accordance with an updated site-specific safety plan prepared for the project, which is available at the job site during field activities.

Drilling and Soil Sampling Procedures

Cardno contracts a licensed driller to advance the boring and collect soil samples. The specific drilling method (e.g., hollow-stem auger, direct push method, or sonic drilling), sampling method [e.g., core barrel or California-modified split spoon sampler (CMSSS)] and sampling depths are documented on the boring log and may be specified in a work plan. Soil samples are typically collected at the capillary fringe and at 5-foot intervals to the total depth of the boring. To determine the depth of the capillary fringe prior to drilling, the static groundwater level is measured with a water level indicator in the closest monitoring well to the boring location, if available.

The borehole is advanced to just above the desired sampling depth. For CMSSSs, the sampler is placed inside the auger and driven to a depth of 18 inches past the bit of the auger. The sampler is driven into the soil with a standard 140 pound hammer repeatedly dropped from a height of 30 inches onto the sampler. The number of blows required to drive the sampler each 6-inch increment is recorded on the boring log. For core samplers (e.g., direct push), the core is driven 18 inches using the rig apparatus.

Soil samples are preserved in the metal or plastic sleeve used with the CMSSS or core sampler, in glass jars or other manner required by the local regulatory agency (e.g., Environmental Protection Agency Method 5035). Sleeves are removed from the sample barrel, and the lowermost sample sleeve is immediately sealed with Teflon™ tape, capped and labeled. Samples are placed in a cooler chilled to 4º Celsius and transported to a state-certified laboratory. The samples are transferred under chain-of-custody (COC) protocol.

Field Screening Procedures

Cardno places the soil from the middle of the sampling interval into a plastic re-sealable bag. The bag is placed away from direct sunlight for approximately 20 minutes, after which the tip of a photo-ionization detector (PID) or similar device is inserted through the plastic bag to measure organic vapor concentrations in the headspace. The PID measurement is recorded on the boring log. At a minimum, the PID or other device is calibrated on a daily basis in accordance with manufacturer's specifications using a hexane or isobutylene standard. The calibration gas and concentration are recorded on a calibration log. Instruments such as the PID are useful for evaluating relative concentrations of volatilized hydrocarbons, but they do not measure the concentration of petroleum hydrocarbons in the soil matrix with the same precision as laboratory analysis. Cardno trained personnel describe the soil in the bag according to the Unified Soil Classification System and record the description on the boring log, which is included in the final report.

Air Monitoring Procedures

Cardno performs a field evaluation for volatile hydrocarbon concentrations in the breathing zone using a calibrated photo-ionization detector or lower explosive level meter.

Groundwater Sampling

A groundwater sample, if desired, is collected from the boring by using Hydropunch™ sampling technology or installing a well in the borehole. In the case of using Hydropunch™ technology, after collecting the capillary fringe soil sample, the boring is advanced to the top of the soil/groundwater interface and a sampling probe is pushed to approximately 2 feet below the top of the static water level. The probe is opened by partially withdrawing it and thereby exposing the screen. A new or decontaminated bailer is used to collect a water sample from the probe. The water sample is then emptied into laboratory-supplied containers constructed of the correct material and with the correct volume and preservative to comply with the proposed laboratory test. The container is slowly filled with the retrieved water sample until no headspace remains and then promptly sealed with a Teflon-lined cap, checked for the presence of bubbles, labeled, entered onto a COC record and placed in chilled storage at 4° Celsius. Laboratory-supplied trip blanks accompany the water samples as a quality assurance/quality control procedure. Equipment blanks may be collected as required. The samples are kept in chilled storage and transported under COC protocol to a client-approved, state-certified laboratory for analysis.

Backfilling of Soil Boring

If a well is not installed, the boring is backfilled from total depth to approximately 5 feet below ground surface (bgs) with either neat cement or bentonite grout using a tremie pipe and either the boring is backfilled from 5 feet bgs to approximately 1 foot bgs with hydrated bentonite chips or backfill is continued to just below grade with neat cement grout. The borehole is completed to surface grade with material that best matches existing surface conditions and meets local agency requirements. Site-specific backfilling details are shown on the respective boring log.

Well Construction

A well (if constructed) is completed using materials documented on the boring log or specified in a work plan. The well is constructed with slotted casing across the desired groundwater sampling depth(s) and completed with blank casing to within 6 inches of surface grade. No further construction is conducted on temporary wells. For permanent wells, the annular space of the well is backfilled with Monterey sand from the total depth to approximately 2 feet above the top of the screened casing. A hydrated granular bentonite seal is placed on top of the sand filter pack. Grout may be placed on top of the bentonite seal to the desired depth using a tremie pipe. The well may be completed to surface grade with a 1-foot thick concrete pad. A traffic-rated well vault and locking cap for the well casing may be installed to protect against surface-water infiltration and unauthorized entry. Site-specific well construction details including type of well, well depth, casing diameter, slot size, length of screen interval and sand size are documented on the boring log or specified in the work plan.

Well Development and Sampling

If a permanent groundwater monitoring well is installed, the grout is allowed to cure a minimum of 48 hours before development. Cardno personnel or a contracted driller use a submersible pump or surge block to develop the newly installed well. Prior to development, the pump is decontaminated by allowing it to run and re-circulate while immersed in a non-phosphate solution followed by successive immersions in potable water and de-ionized water baths. The well is developed until sufficient well casing volumes are removed so that turbidity is within allowable limits and pH, conductivity and temperature levels stabilize in the purge water. The volume of groundwater extracted is recorded on a log.

Following development, groundwater within the well is allowed to recharge until at least 80% of the drawdown is recovered. A new or decontaminated bailer is slowly lowered past the air/water interface in the well, and a water sample is collected and checked for the presence of non-aqueous phase liquid, sheen, or emulsions. The water sample is then emptied into laboratory-supplied containers as discussed above.

Surveying

If required, wells are surveyed by a licensed land surveyor relative to an established benchmark of known elevation above mean sea level to an accuracy of +/- 0.01 foot. The casing is notched or marked on one side to identify a consistent surveying and measuring point.

Decontamination Procedures

Cardno or the contracted driller decontaminates soil and water sampling equipment between each sampling event with a non-phosphate solution, followed by a minimum of two tap water rinses. De-ionized water may be used for the final rinse. Downhole drilling equipment is steam-cleaned prior to drilling the borehole and at completion of the borehole.

Waste Treatment and Soil Disposal

Soil cuttings generated from the drilling or sampling are stored on site in labeled, Department of Transportation-approved, 55-gallon drums or other appropriate storage container. The soil is removed from the site and transported under manifest to a client- and regulatory-approved facility for recycling or disposal. Decontamination fluids and purge water from well development and sampling activities, if conducted, are stored on site in labeled, regulatory-approved storage containers. Fluids are subsequently transported under manifest to a client- and regulatory-approved facility for disposal or treated with a permitted mobile or fixed-base carbon treatment system.

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APPENDIX D
USCS & EXCAVATION DELINEATION BORING LOGS

UNIFIED SOIL CLASSIFICATION SYSTEM KEY

MAJOR DIVISIONS		LTR	DESCRIPTION
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	GW	Well-graded gravels or gravel sand mixtures, little or no fines
		GP	Poorly-graded gravels or gravel sand mixture, little or no fines
		GM	Silty gravels, gravel-sand-clay mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
	SAND AND SANDY SOILS	SW	Well-graded sands or gravelly sands, little or no fines
		SP	Poorly-graded sands or gravelly sands, little or no fines
		SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures

MAJOR DIVISIONS		LTR	DESCRIPTION
FINE GRAINED SOILS	SILTS AND CLAYS LL<50	ML	Inorganic silts and very fine-grained sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		OL	Organic silts and organic silt-clays of low plasticity
	SILTS AND CLAYS LL>50	MH	Inorganic silts, micaceous or diatomaceous fine-grained sandy or silty soils, elastic silts
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic clays of medium to high plasticity
HIGHLY ORGANIC SOILS		Pt	Peat and other highly organic soils

BLOW COUNTS REPRESENT THE NUMBER OF BLOWS OF A 140- OR 300-POUND HAMMER FALLING 30 INCHES TO DRIVE THE SAMPLER THROUGH EACH 6 INCHES OF PENETRATION.

FN:QuiklogUSCS.dwg

DASHED LINES SEPARATING UNITS ON THE LOG REPRESENT APPROXIMATE BOUNDARIES ONLY. ACTUAL BOUNDARIES MAY BE GRADUAL. LOGS REPRESENT SUBSURFACE CONDITIONS AT THE BORING LOCATION AT THE TIME OF DRILLING ONLY.

Cardno®

UNIFIED SOIL CLASSIFICATION SYSTEM AND LOG OF BORINGS SYMBOL KEY

BORING LOG EB1

(Page 1 of 1)

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Brett McLees
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

Date Drilled:	: 10/13/20
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 15' bgs
First GW Depth:	: 13' bgs

Sample Condition
- No Recovery
- Sampled Interval
- Described Sample
- Preserved Sample

Water Levels
- After Completion
- During Drilling

Boring: EB1

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt
						Borehole was not logged from 3 inches bgs to 2.5 feet bgs.
		0.0				SAND: fine- to medium-grained, light brown, dry, rounded, poorly graded, thin lamina; trace fine gravel; 100% recovery (0/0/95/5)
5		0.7				100% recovery (0/0/100/0)
						no recovery
					SP	
10		9.0				100% recovery (0/0/95/5)
		18.6				gray, wet; 100% recovery
						100% recovery
15		0.0				
20						

Asphalt

Bentonite

Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG EB2

(Page 1 of 1)

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Brett McLees
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

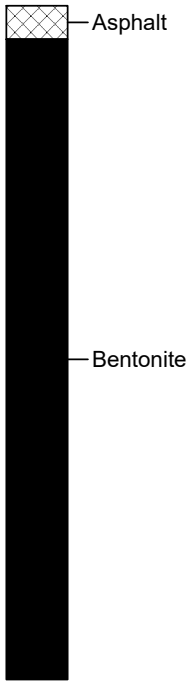
Date Drilled:	: 10/13/20
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 10' bgs
First GW Depth:	: N/A

Sample Condition
- No Recovery
- Sampled Interval
- Described Sample
- Preserved Sample

Water Levels
- After Completion
- During Drilling

Boring: EB2

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt
						Borehole was not logged from 3 inches bgs to 2.5 feet bgs.
		0.0				SAND: fine- to medium-grained, gray, dry, rounded, poorly graded, thin lamina; trace fine gravel; 100% recovery (0/0/95/5)
5		0.2			SP	100% recovery
						no recovery
10		9.0				brown, damp; 100% recovery (0/0/95/5)
15						
20						



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG EB3

(Page 1 of 1)

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Paul Prevou
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

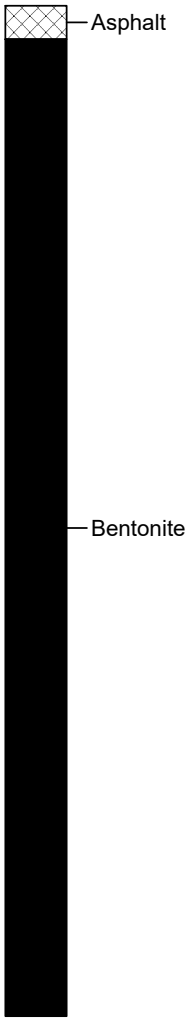
Date Drilled:	: 10/12/20
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 15' bgs
First GW Depth:	: N/A

Sample Condition
- No Recovery
- Sampled Interval
- Described Sample
- Preserved Sample

Water Levels
- After Completion
- During Drilling

Boring: EB3

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt Borehole was not logged from 3 inches bgs to 2.5 feet bgs.
					SP	SAND: fine- to medium-grained, gray brown, dry; fine to coarse gravel, subangular; 40% recovery (0/10/50/40)
5					ML	SILT: dark brown to olive gray, damp, fine gravel, subangular; 50% recovery (0/90/0/10)
					SW	SAND: fine- to coarse-grained, dark brown, moist; trace silt; 60% recovery (0/5/95/0) 100% recovery 100% recovery 100% recovery (0/5/90/5)
10						
15						
20						



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

Note: PID unavailable for use during fieldwork on 10/12/20.

BORING LOG EB4

Project No.:	031447
Site:	ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	Paul Prevou
Reviewed By:	Keri Chappell, L.G. 2719
Signature:	KeriChappell

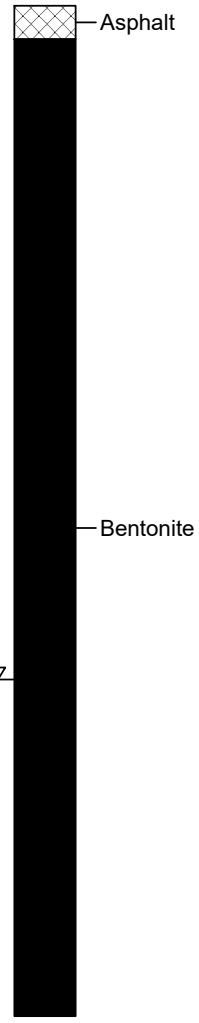
Date Drilled:	10/12/20
Drilling Co.:	Holocene Drilling, Inc.
Drilling Method:	Push Probe
Sampling Method:	Dual Tube
Borehole Diameter:	3"
Casing Diameter:	N/A
Latitude	N/A
Longitude	N/A
Total Depth:	15' bgs
First GW Depth:	10' bgs

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: After Completion; During Drilling

Boring: EB4

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt Borehole was not logged from 3 inches bgs to 2.5 feet bgs.
					GP	GRAVEL with Sand: fine to coarse gravel, subrounded; medium- to coarse-grained sand, brown, damp; trace silt; 75% recovery (0/5/45/50)
5						
					SP	SAND with Gravel: medium- to coarse-grained, dark brown, damp, poorly graded; fine to coarse gravel, subrounded, poorly graded; trace silt and silty clasts; 50% recovery (0/5/75/20)
10						black to dark gray, wet; gravel subangular; no silty clasts; 50% recovery (0/5/85/10) 100% recovery
15						100% recovery
20						



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

Note: PID unavailable for use during fieldwork on 10/12/20.

BORING LOG EB5

(Page 1 of 1)

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Paul Prevou
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

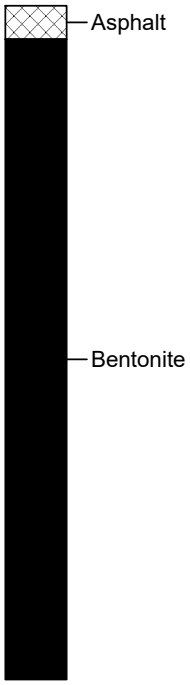
Date Drilled:	: 10/12/20
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 10' bgs
First GW Depth:	: N/A

Sample Condition
- No Recovery
- Sampled Interval
- Described Sample
- Preserved Sample

Water Levels
- After Completion
- During Drilling

Boring: EB5

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt
						Borehole was not logged from 3 inches bgs to 2.5 feet bgs.
						GRAVEL with Sand: fine to coarse gravel, subrounded to subangular; fine- to coarse-grained sand, light gray, dry, well graded; trace silt; 80% recovery (0/5/40/55)
5					GP	well graded sand, occasional silty clasts; 80% recovery (0/5/30/65)
					SP	SAND with Gravel: medium- to coarse-grained, gray, dry, poorly graded; fine to coarse gravel, subangular to subrounded, well graded; trace silt; 80% recovery (0/5/70/25)
10						100% recovery
15						
20						



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

Note: PID unavailable for use during fieldwork on 10/12/20.

BORING LOG EB6

(Page 1 of 1)

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Paul Prevou
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

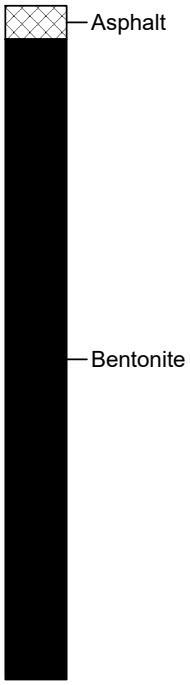
Date Drilled:	: 10/12/20
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 10' bgs
First GW Depth:	: N/A

Sample Condition
- No Recovery
- Sampled Interval
- Described Sample
- Preserved Sample

Water Levels
- After Completion
- During Drilling

Boring: EB6

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt
						Borehole was not logged from 3 inches bgs to 2.5 feet bgs.
						GRAVEL with Sand: fine to coarse gravel, subangular to subrounded; fine- to coarse-grained sand, light gray, dry, well graded; trace silt; 60% recovery (0/5/40/55)
5					GW	gray, well graded sand; trace silty clasts; 80% recovery (0/5/30/65)
					SP	SAND with Gravel: medium- to coarse-grained, gray, damp, poorly graded; fine to coarse gravel, subangular to subrounded; trace silt; 80% recovery (0/5/75/20)
10						100% recovery (0/5/75/20)
15						
20						



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

Note: PID unavailable for use during fieldwork on 10/12/20.

BORING LOG EB7

(Page 1 of 1)

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Paul Prevou
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

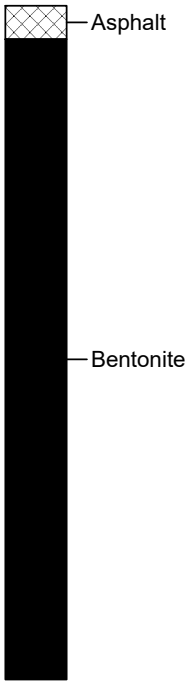
Date Drilled:	: 10/12/20
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 10' bgs
First GW Depth:	: N/A

Sample Condition
- No Recovery
- Sampled Interval
- Described Sample
- Preserved Sample

Water Levels
- After Completion
- During Drilling

Boring: EB7

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt
						Boring was not logged from 3 inches bgs to 5 feet bgs.
						No recovery
5					GW	GRAVEL with Sand: fine to coarse gravel, subrounded to subangular, well graded; fine- to coarse-grained sand, light brown, dry, well graded; trace silty clasts; 30% recovery (0/5/30/65)
					ML	SILT: olive brown, damp, well consolidated; 30% recovery (0/100/0/0)
10					SP	SAND: medium- to coarse-grained, damp, poorly graded, non-plastic; trace fine gravel, subangular; 80% recovery (0/5/90/5)
15						
20						



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

Note: PID unavailable for use during field work on 10/12/20.

BORING LOG EB8

(Page 1 of 1)

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Brett McLees
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

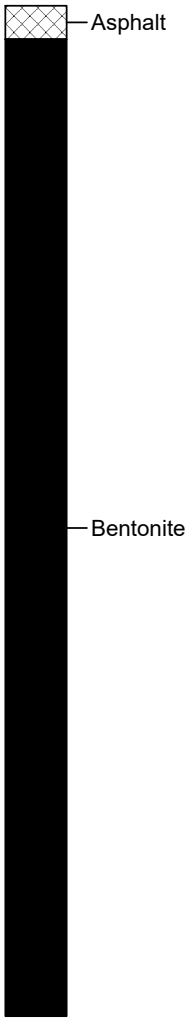
Date Drilled:	: 10/14/20
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 15' bgs
First GW Depth:	: N/A

Sample Condition
- No Recovery
- Sampled Interval
- Described Sample
- Preserved Sample

Water Levels
- After Completion
- During Drilling

Boring: EB8

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt
						Borehole was not logged from 3 inches bgs to 2.5 feet bgs.
		0.1				SAND: coarse-grained, light gray, dry, poorly graded, medium bed; trace fine gravel; 100% recovery (0/0/95/5)
5		12.9				100% recovery
		10.4			SP	light brown, no gravel; 100% recovery (0/0/100/0)
10		13.7				moist; 100% recovery
		0.1				100% recovery (0/0/100/0)
15		6.5				100% recovery
20						



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG EB9

(Page 1 of 1)

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Brett McLees
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

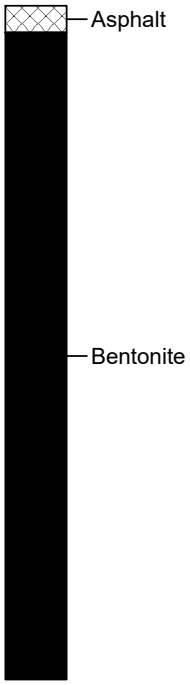
Date Drilled:	: 10/14/20
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 10' bgs
First GW Depth:	: N/A

Sample Condition
- No Recovery
- Sampled Interval
- Described Sample
- Preserved Sample

Water Levels
- After Completion
- During Drilling

Boring: EB9

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt
						Borehole was not logged from 3 inches bgs to 2.5 feet bgs.
		0.0				SAND: coarse-grained, gray, dry, rounded, poorly graded, thin bed; trace fine gravel; 100% recovery (0/0/95/5)
5		44.0			SP	100% recovery
		2.0				no gravel; 100% recovery (0/0/100/0)
10		0.3			CH	CLAY: wood debris; 100% recovery (100/0/0/0)



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

15

20

BORING LOG EB10

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Brett McLees
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

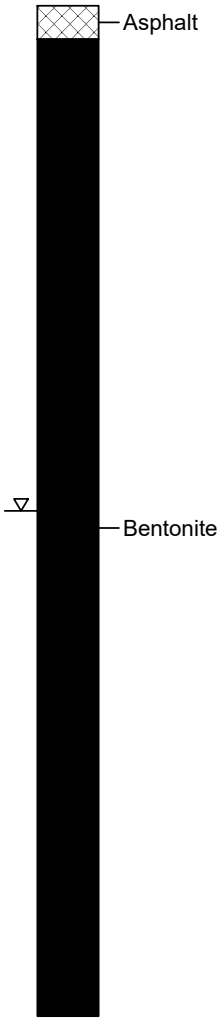
Date Drilled:	: 10/14/20
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 15' bgs
First GW Depth:	: 7.5' bgs

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: After Completion; During Drilling

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt
						Borehole was not logged from 3 inches bgs to 2.5 feet bgs.
		0.0				SAND: coarse-grained, brown, dry, rounded, poorly graded, thin bed; fine gravel; 100% recovery (0/0/90/10)
5		2.2				100% recovery
		100.5			SP	dark brown, wet; 100% recovery
10		73.5				100% recovery
		2.1				100% recovery
15		2.6				100% recovery
20						

Boring: EB10



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG EB11

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Paul Prevou
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

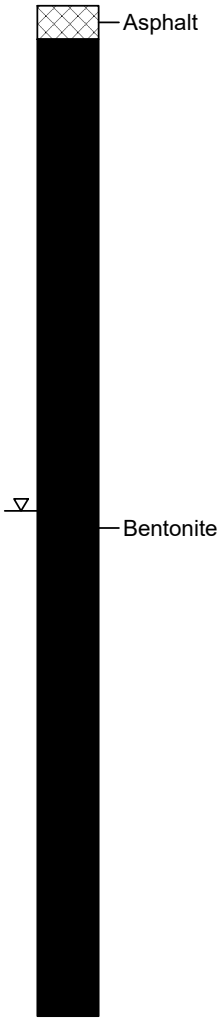
Date Drilled:	: 10/12/20
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 15' bgs
First GW Depth:	: 7.5' bgs

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: After Completion; During Drilling

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt
						Borehole was not logged from 3 inches bgs to 2.5 feet bgs.
					SW	SAND with Gravel: fine- to coarse-grained, dark brown, damp, well graded; fine to coarse gravel, subangular to angular, well graded; 60% recovery (0/10/50/40)
					ML	SILT: moist, reduced organic material; 100% recovery (0/100/0/0)
5						SAND: medium- to coarse-grained, light brown, damp, poorly graded; trace silt; 60% recovery (0/5/95/0)
						gray, wet, NAPL observed; 100% recovery
10					SP	NAPL observed; 100% recovery
						NAPL observed; 100% recovery
15						no NAPL; 100% recovery
20						

Boring: EB11



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

Note: PID unavailable for use during fieldwork on 10/12/20.

BORING LOG EB12

Project No.:	031447
Site:	ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	Paul Prevou
Reviewed By:	Keri Chappell, L.G. 2719
Signature:	Keri Chappell

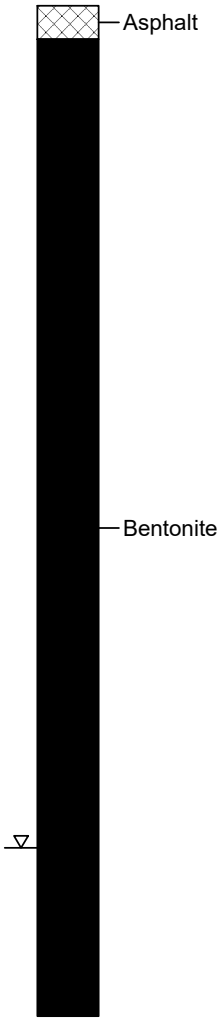
Date Drilled:	10/12/20
Drilling Co.:	Holocene Drilling, Inc.
Drilling Method:	Push Probe
Sampling Method:	Dual Tube
Borehole Diameter:	3"
Casing Diameter:	N/A
Latitude	N/A
Longitude	N/A
Total Depth:	15' bgs
First GW Depth:	12.5' bgs

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: After Completion; During Drilling

Boring: EB12

Depth (ft)	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0		3" Asphalt
		Borehole was not logged from 3 inches bgs to 2.5 feet bgs.
	SW	SAND with Gravel: fine- to coarse-grained, gray brown, damp, well graded; fine to coarse gravel, subangular to subrounded, well graded; 60% recovery (0/5/55/40)
5		SAND: fine- to coarse-grained, mostly medium- to coarse-grained, brown, damp, poorly graded; trace silt; 60% recovery (0/5/95/0)
	SP	fine- to medium-grained, dark brown; trace silt; 100% recovery (0/5/95/0)
10		coarse-grained, gray, moist, poorly graded; 100% recovery
		NAPL observed, wet; 100% recovery
15		fine gravel, subrounded; 100% recovery (0/5/85/10)
20		



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

Note: PID unavailable for use during fieldwork on 10/12/20.

BORING LOG EB13

(Page 1 of 1)

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Brett McLees
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

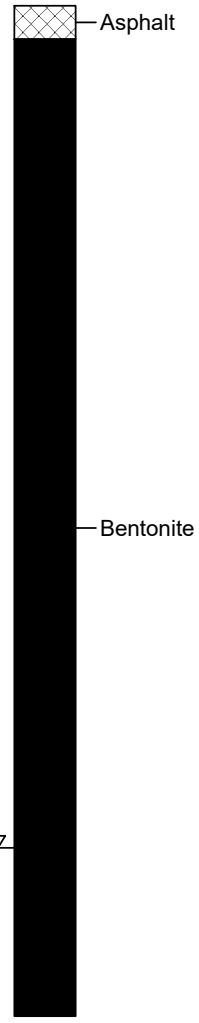
Date Drilled:	: 10/14/20
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 15' bgs
First GW Depth:	: 12.5' bgs

Sample Condition
- No Recovery
- Sampled Interval
- Described Sample
- Preserved Sample

Water Levels
- After Completion
- During Drilling

Boring: EB13

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt
						Borehole was not logged from 3 inches bgs to 2.5 feet bgs.
		0.6				SAND: coarse-grained, gray brown, dry, rounded, poorly graded; fine gravel; thin bed; 100% recovery (0/0/90/10)
5		17.8				100% recovery
		212.5			SP	damp; 100% recovery
10		112.3				100% recovery
		8.4				wet, 100% recovery
15		0.7				100% recovery
20						



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG EB14

(Page 1 of 1)

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Brett McLees
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

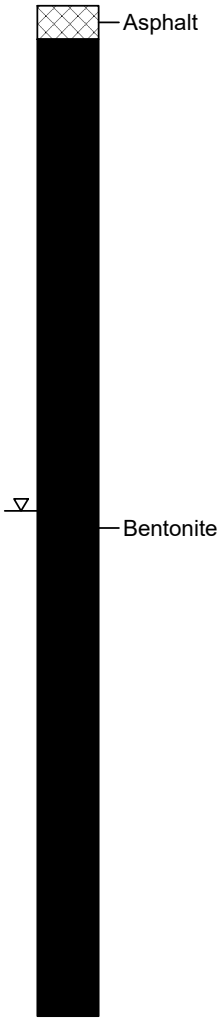
Date Drilled:	: 10/14/20
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 15' bgs
First GW Depth:	: N/A

Sample Condition
- No Recovery
- Sampled Interval
- Described Sample
- Preserved Sample

Water Levels
- After Completion
- During Drilling

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt
						Borehole was not logged from 3 inches bgs to 2.5 feet bgs.
						SAND: coarse-grained, gray, dry, rounded, poorly graded, thin bed; trace fine gravel; 100% recovery (0/0/95/5)
		0.0				
5						No recovery
		98.3			SP	brown, wet; 100% recovery
10		160.3				100% recovery
		4.5				100% recovery
15		0.5				100% recovery
20						

Boring: EB14



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG EB15

(Page 1 of 1)

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Brett McLees
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

Date Drilled:	: 10/14/20
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 15' bgs
First GW Depth:	: 12.5' bgs

Sample Condition
- No Recovery
- Sampled Interval
- Described Sample
- Preserved Sample

Water Levels
- After Completion
- During Drilling

Boring: EB15

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt
						Borehole was not logged from 3 inches bgs to 2.5 feet bgs.
		0.1				SAND with Gravel: coarse-grained, dark gray, dry, rounded, poorly graded, thin bed; fine gravel; 100% recovery (0/0/80/20)
5		22.0			SP	100% recovery
		174.0				SAND: coarse-grained, dark gray, damp, rounded, poorly graded, thin bed; 100% recovery (0/0/100/0)
10		6.0			SP	100% recovery
		3.4				wet, 100% recovery
15		0.9				100% recovery
20						

Asphalt

Bentonite

Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG EB16

(Page 1 of 1)

Project No.:	: 031447
Site:	: ExxonMobil/ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Brett McLees
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

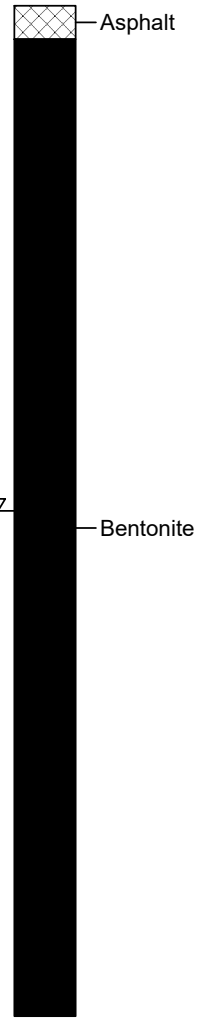
Date Drilled:	: 10/13/20
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 15' bgs
First GW Depth:	: 7.5' bgs

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: After Completion; During Drilling

Boring: EB16

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt Borehole was not logged from 3 inches bgs to 2.5 feet bgs.
		0.3			SP	SAND: coarse-grained, gray, damp, rounded, poorly graded, thin bed; trace fine gravel; 100% recovery (0/0/95/5)
5		18.3			SC	Clayey SAND: coarse-grained, gray, damp, poorly graded, low plasticity; thin bed; wood debris; 100% recovery (25/0/75/0)
		72.9			SP	SAND: coarse-grained, gray, wet, rounded, poorly graded, thin bed; 100% recovery (0/0/100/0)
10		15.1				100% recovery
		0.0				100% recovery
		1.3			OH	CLAY: 100% recovery (100/0/0/0)
15						
20						



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG EB17

(Page 1 of 1)

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Brett McLees
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: Keri Chappell

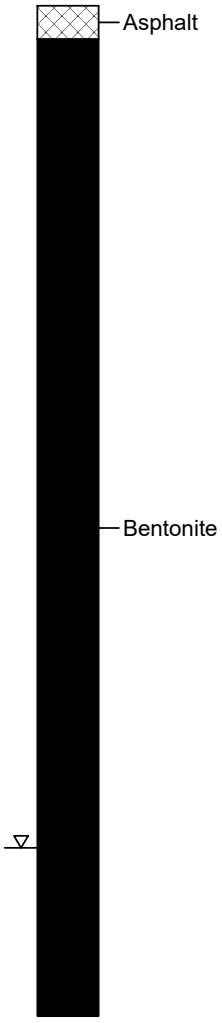
Date Drilled:	: 10/13/2020
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 15' bgs
First GW Depth:	: 12.5' bgs

Sample Condition
- No Recovery
- Sampled Interval
- Described Sample
- Preserved Sample

Water Levels
- After Completion
- During Drilling

Boring: EB17

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt
						Borehole was not logged from 3 inches bgs to 2.5 feet bgs.
		0.1				SAND with Gravel: medium- to coarse-grained, gray, dry, rounded, poorly graded, thin lamina; trace fine gravel; 100% recovery (0/0/95/5)
5		0.4				100% recovery
		35.6			SP	moist, medium bed; 100% recovery
10		11.6				100% recovery
		0.2				wet; 100% recovery
15		0.5				100% recovery
20						



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG EB18

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Brett McLees
Reviewed By:	: Keri Chappell, L.G 2719
Signature:	: KeriChappell

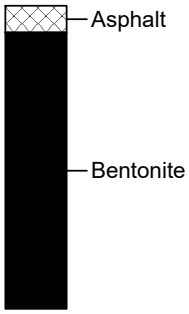
Date Drilled:	: 10/13/20
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 4.5' bgs
First GW Depth:	: N/A

Sample Condition
- No Recovery
- Sampled Interval
- Described Sample
- Preserved Sample

Water Levels
- After Completion
- During Drilling

Boring: EB18

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt
						Borehole was not logged from 3 inches bgs to 2.5 feet bgs.
		0.0			SW	SAND: coarse-grained, medium brown, dry, moderately graded, thin lamina; fine gravel; 100% recovery (0/0/85/15)
		2.2				dark brown; refusal at 4.5' bgs; 100% recovery
5						
10						
15						
20						



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG EB19

(Page 1 of 1)

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Brett McLees
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

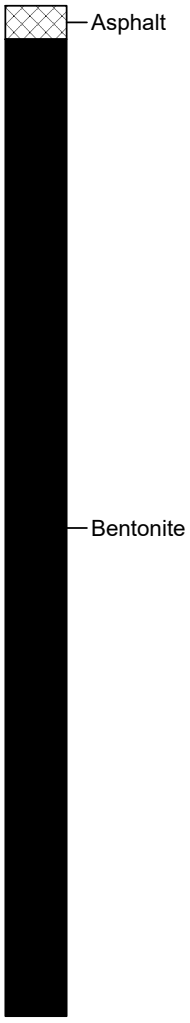
Date Drilled:	: 10/13/20
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 15' bgs
First GW Depth:	: N/A

Sample Condition
- No Recovery
- Sampled Interval
- Described Sample
- Preserved Sample

Water Levels
- After Completion
- During Drilling

Boring: EB19

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt Borehole was not logged from 3 inches bgs to 2.5 feet bgs.
		7.0				SAND: coarse-grained, gray, damp, rounded, poorly graded, thin bed; 100% recovery (0/0/100/0)
5		95.7			SP	100% recovery
		77.2				100% recovery
10		0.6			PT	PEAT: reduced organics
		0.4			SP	SAND: coarse-grained, gray, damp, poorly graded; thin bed, trace wood debris; 100% recovery (0/0/100/0)
15		52.3				100% recovery
20						



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG EB20

(Page 1 of 1)

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Brett McLees
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

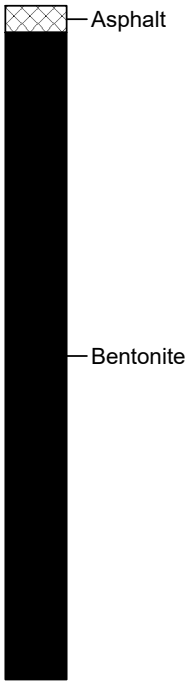
Date Drilled:	: 10/13/20
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 10' bgs
First GW Depth:	: N/A

Sample Condition
- No Recovery
- Sampled Interval
- Described Sample
- Preserved Sample

Water Levels
- After Completion
- During Drilling

Boring: EB20

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt Borehole was not logged from 3 inches bgs to 2.5 feet bgs.
		2.7				SAND: coarse-grained, gray, damp, rounded, poorly graded, thin bed; trace gravel; 100% recovery (0/0/95/5)
5		53.4			SP	brown; 100% recovery
		3.7				100% recovery
10		0.0			OH	CLAY: organic; wood debris; 100% recovery (100/0/0/0)



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

15

20

BORING LOG EB21

(Page 1 of 1)

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Brett McLees
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

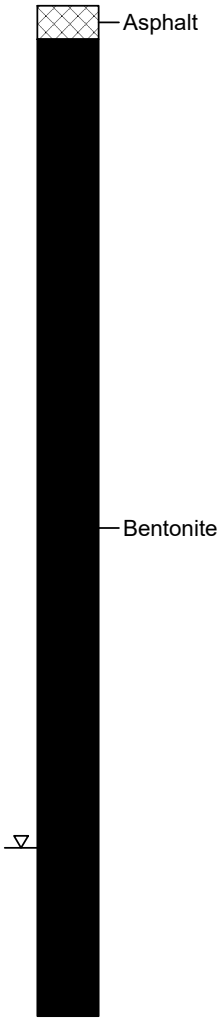
Date Drilled:	: 10/13/20
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 15' bgs
First GW Depth:	: 12.5' bgs

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: After Completion; During Drilling

Boring: EB21

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt
						Borehole was not logged from 3 inches bgs to 2.5 feet bgs.
		0.3				SAND: coarse-grained, gray, dry, rounded, moderately graded, thin bed; fine gravel; 100% recovery (0/0/95/5)
5		54.5				light brown; no gravel; trace wood debris; 100% recovery
		46.5			SP	damp; 100% recovery
10		0.9				100% recovery
		0.1				wet; 100% recovery
15		0.0				100% recovery
20						



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG EB22

Project No.:	031447
Site:	ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	Brett McLees
Reviewed By:	Keri Chappell, L.G. 2719
Signature:	KeriChappell

Date Drilled:	10/13/20
Drilling Co.:	Holocene Drilling, Inc.
Drilling Method:	Push Probe
Sampling Method:	Dual Tube
Borehole Diameter:	3"
Casing Diameter:	N/A
Latitude	N/A
Longitude	N/A
Total Depth:	5' bgs
First GW Depth:	N/A

Sample Condition
- No Recovery
- Sampled Interval
- Described Sample
- Preserved Sample

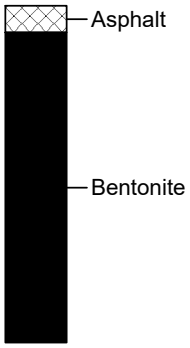
Water Levels
- After Completion
- During Drilling

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt Borehole was not logged from 3 inches bgs to 2.5 feet bgs.
		0.0			SP	SAND: coarse-grained, brown, damp, rounded, poorly graded, lamina; 100% recovery (0/0/100/0)
5		1.0				Refusal at 5' bgs; 100% recovery
10						
15						
20						

Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

Boring: EB22



BORING LOG EB23

(Page 1 of 1)

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Brett McLees
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

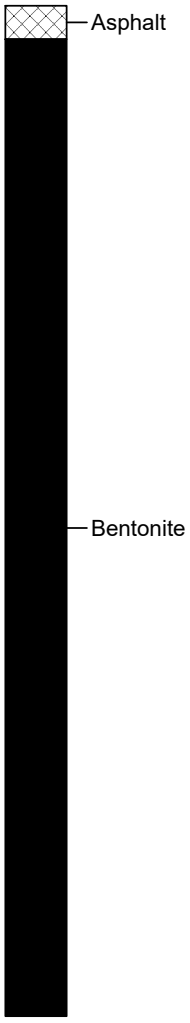
Date Drilled:	: 10/14/20
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 15' bgs
First GW Depth:	: N/A

Sample Condition
- No Recovery
- Sampled Interval
- Described Sample
- Preserved Sample

Water Levels
- After Completion
- During Drilling

Boring: EB23

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt
						Borehole was not logged from 3 inches bgs to 2.5 feet bgs.
		0.0				SAND: coarse-grained, light gray, dry, rounded, poorly graded, medium bed; trace gravel; 100% recovery (0/0/95/5)
5		0.0				100% recovery
		0.4			SP	100% recovery
10		27.0				100% recovery
		0.6				100% recovery
15		0.0				100% recovery
20						



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG EB24

(Page 1 of 1)

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Brett McLees
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

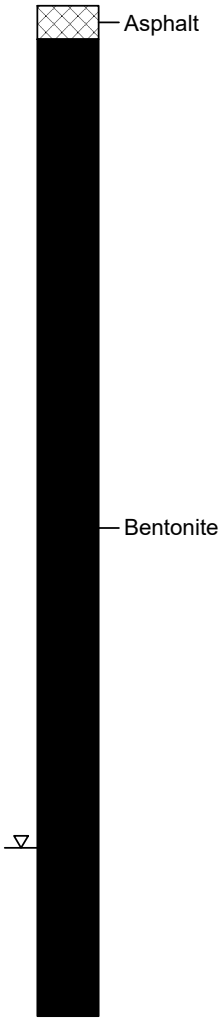
Date Drilled:	: 10/13/20
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 15' bgs
First GW Depth:	: 12.5' bgs

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: After Completion; During Drilling

Boring: EB24

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt
						Borehole was not logged from 3 inches bgs to 2.5 feet bgs.
		0.0				SAND: coarse-grained, gray, damp, rounded, poorly graded, thin bed; 100% recovery (0/0/100/0)
5		2.7				brown; 100% recovery
		46.0			SP	100% recovery
10		33.4				100% recovery
		0.2				wet; 100% recovery
15		0.0				100% recovery
20						



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG EB25

(Page 1 of 1)

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Brett McLees
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

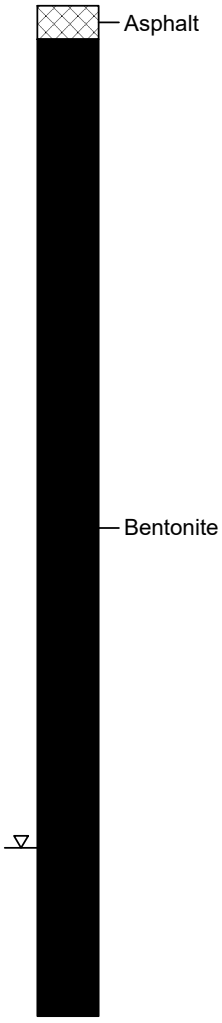
Date Drilled:	: 10/14/20
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 15' bgs
First GW Depth:	: 12.5' bgs

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: After Completion; During Drilling

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt
						Borehole was not logged from 3 inches bgs to 2.5 feet bgs.
		0.0				SAND: coarse-grained, gray, dry, poorly graded, medium bed; trace fine gravel; 100% recovery (0/0/90/10)
5		0.2				100% recovery
		0.5			SP	no gravel; 100% recovery (0/0/100/0)
10		50.4				gray brown; 100% recovery
		0.3				wet; 100% recovery
15		0.2				100% recovery
20						

Boring: EB25



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG EB26

(Page 1 of 1)

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Brett McLees
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

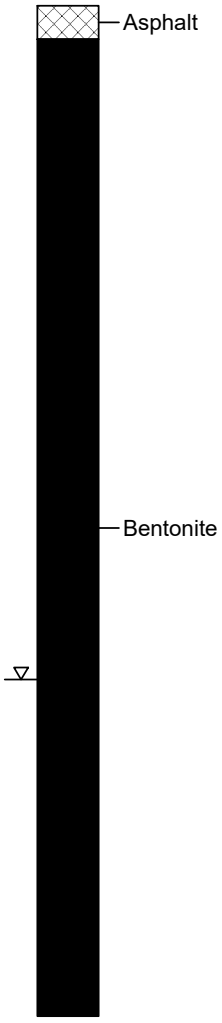
Date Drilled:	: 10/14/20
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 15' bgs
First GW Depth:	: 10' bgs

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: After Completion; During Drilling

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						5" Asphalt
						Borehole was not logged from 5 inches bgs to 2.5 feet bgs.
		0.0				SAND: coarse-grained, gray, dry, rounded, poorly graded, thin bed; trace fine gravel; 100% recovery (0/0/95/5)
5		6.6				100% recovery
						No recovery
					SP	
10		85.7				wet; 100% recovery (0/0/95/5)
		0.8				no gravel; 100% recovery (0/0/100/0)
15						100% recovery
20						

Boring: EB26



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG EB27

(Page 1 of 1)

Project No.:	031447
Site:	ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	Brett McLees
Reviewed By:	Keri Chappell, L.G. 2719
Signature:	KeriChappell

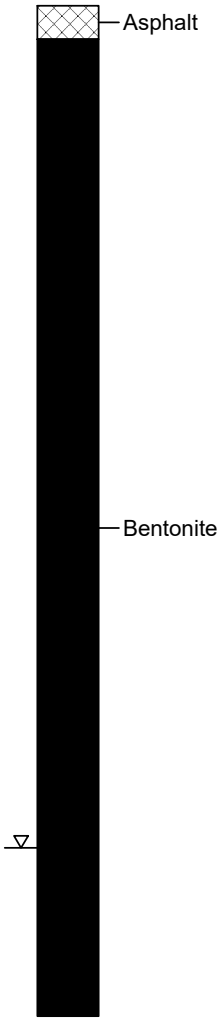
Date Drilled:	10/14/20
Drilling Co.:	Holocene Drilling, Inc.
Drilling Method:	Push Probe
Sampling Method:	Dual Tube
Borehole Diameter:	3"
Casing Diameter:	N/A
Latitude	N/A
Longitude	N/A
Total Depth:	15' bgs
First GW Depth:	12.5' bgs

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: After Completion; During Drilling

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt
						Borehole was not logged from 3 inches bgs to 2.5 feet bgs.
		0.1				SAND: coarse-grained, dark brown, dry, rounded, poorly graded, thin bed; fine gravel; 100% recovery (0/0/85/15)
5		0.7				100% recovery
		52.3			SP	damp; 100% recovery
10		58.8				100% recovery
		1.6				wet; 100% recovery
15		0.2				100% recovery
20						

Boring: EB27



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG EB28

(Page 1 of 1)

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Brett McLees
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

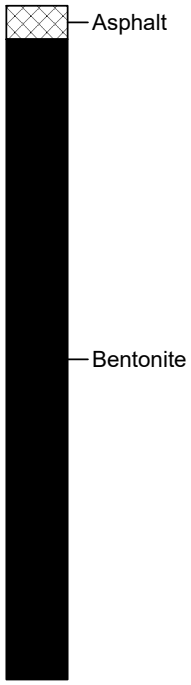
Date Drilled:	: 10/14/20
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 15' bgs
First GW Depth:	: N/A

Sample Condition
- No Recovery
- Sampled Interval
- Described Sample
- Preserved Sample

Water Levels
- After Completion
- During Drilling

Boring: EB28

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt
						Borehole was not logged from 3 inches bgs to 2.5 feet bgs.
		0.3				SAND: coarse-grained, gray, dry, rounded, very poorly graded, thin bed; trace fine gravel; 100% recovery (0/0/95/5)
5		0.6			SP	100% recovery
		0.2				damp; 100% recovery
10		0.6				100% recovery
15						
20						



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG EB29

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Brett McLees
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

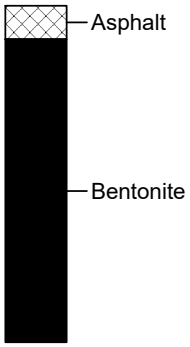
Date Drilled:	: 10/14/20
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 5' bgs
First GW Depth:	: N/A

Sample Condition
- No Recovery
- Sampled Interval
- Described Sample
- Preserved Sample

Water Levels
- After Completion
- During Drilling

Boring: EB29

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt
						Borehole was not logged from 3 inches bgs to 2.5 feet bgs.
		0.1			SP	SAND: coarse-grained, brown, dry, poorly graded, thin bed; fine gravel; 100% recovery (0/0/90/10)
5		0.3				refusal at 5' bgs; 100% recovery



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

10

15

20

BORING LOG EB30

Project No.:	031447
Site:	ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	Brett McLees
Reviewed By:	Keri Chappell, L.G. 2719
Signature:	KeriChappell

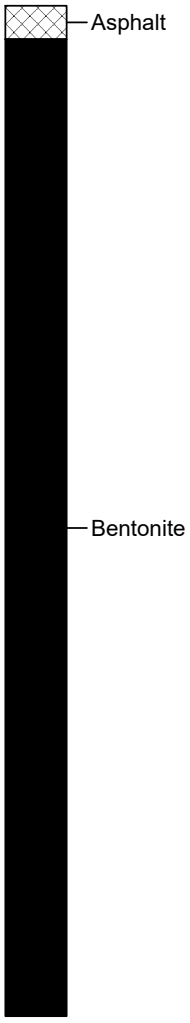
Date Drilled:	10/14/20
Drilling Co.:	Holocene Drilling, Inc.
Drilling Method:	Push Probe
Sampling Method:	Dual Tube
Borehole Diameter:	3"
Casing Diameter:	N/A
Latitude	N/A
Longitude	N/A
Total Depth:	15' bgs
First GW Depth:	N/A

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: After Completion; During Drilling

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt
						Borehole was not logged from 3 inches bgs to 2.5 feet bgs.
		0.2				SAND: coarse-grained, brown, dry, rounded, poorly graded, thin bed; fine gravel; (0/0/90/10)
5		0.6				100% recovery
					SP	no recovery
10		50.3				damp; 100% recovery
		0.6				no gravel; 100% recovery
15		0.3				100% recovery
20						

Boring: EB30



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG EB31

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Paul Prevou
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

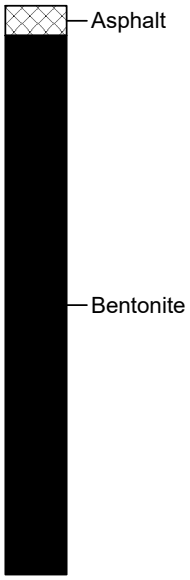
Date Drilled:	: 01/25/21
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 9.5' bgs
First GW Depth:	: N/A

Sample Condition
- No Recovery
- Sampled Interval
- Described Sample
- Preserved Sample

Water Levels
- After Completion
- During Drilling

Boring: EB31

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						6" Asphalt
						Debris backfill
		0.0			SW	SAND with Gravel: fine- to coarse-grained, gray brown, moist, well graded; fine to coarse gravel, angular to subangular; 50% recovery (0/5/55/40)
5		0.1				50% recovery
						Wood debris; 100% recovery
		0.0			SP	SAND with Gravel: medium- to coarse-grained, brown, moist, poorly graded; fine to coarse gravel, subrounded; 75% recovery (0/10/70/20)
		18.1			SP	SAND: coarse-grained, gray, damp, poorly graded; 100% recovery (0/5/95/0)
10						refusal at 9.5' bgs; 60% recovery
15						
20						



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG EB31A

(Page 1 of 1)

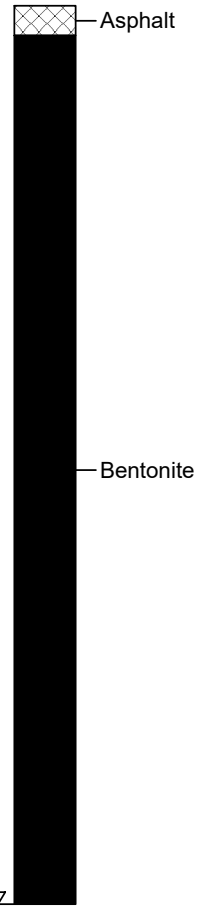
Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Paul Prevou
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

Date Drilled:	: 01/27/21
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 15' bgs
First GW Depth:	: 15' bgs

Sample Condition
- No Recovery
- Sampled Interval
- Described Sample
- Preserved Sample

Water Levels
- After Completion
- During Drilling

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						6" Asphalt
						Borehole was not logged from 6 inches bgs to 10 feet bgs.
5						
10						
					SP	SAND: medium- to coarse-grained, gray, wet, poorly to moderately graded; fine gravel, angular to subangular; 40% recovery (0/5/90/5)
15		13.1				
20						



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG EB31B

Project No.:	031447
Site:	ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	Paul Prevou
Reviewed By:	Keri Chappell, L.G. 2719
Signature:	KeriChappell

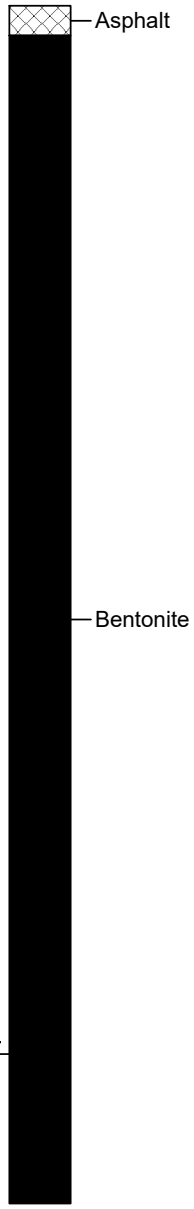
Date Drilled:	01/27/21
Drilling Co.:	Holocene Drilling, Inc.
Drilling Method:	Push Probe
Sampling Method:	Dual Tube
Borehole Diameter:	3"
Casing Diameter:	N/A
Latitude	N/A
Longitude	N/A
Total Depth:	20' bgs
First GW Depth:	17.5' bgs

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: After Completion; During Drilling

Boring: EB31B

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						6" Asphalt
						Borehole was not logged from 6 inches bgs to 17.5 feet bgs.
5						
10						
15						
		0.4			SP	SAND: medium- to coarse-grained, gray to dark gray, wet, poorly graded; fine gravel, subangular; 100% recovery (0/5/90/5)
20		0.6			CL	CLAY: gray brown, moist, high plasticity; trace fine sand; 100% recovery (95/0/5/0)



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG EB32

Project No.:	031447
Site:	ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	Paul Prevou
Reviewed By:	Keri Chappell, L.G. 2719
Signature:	KeriChappell

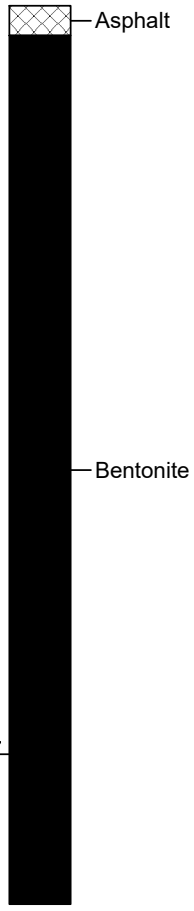
Date Drilled:	01/25/21
Drilling Co.:	Holocene Drilling, Inc.
Drilling Method:	Push Probe
Sampling Method:	Dual Tube
Borehole Diameter:	3"
Casing Diameter:	N/A
Latitude	N/A
Longitude	N/A
Total Depth:	15' bgs
First GW Depth:	12.5' bgs

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: After Completion; During Drilling

Boring: EB32

Depth (ft)	Blow Count	OVM/PID (ppmv)	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0				6" Asphalt
				Borehole was not logged from 6 inches bgs to 2.5 feet bgs.
		0.0	GW	GRAVEL: fine to coarse, brown, dry, angular, well graded; fine- to medium-grained sand, moderately graded; trace silt; 100% recovery (0/5/10/85)
			SP	SAND with Gravel: fine- to medium-grained, gray, dry, moderately graded; fine to coarse gravel, angular; 100% recovery (0/0/75/25)
5		0.0		Concrete debris
		0.0		100% recovery
		0.0		Wood debris
		99.8	GW	GRAVEL with Sand: fine to coarse gravel, moist, dark brown, subrounded, well graded; fine- to coarse-grained sand, well graded; 25% recovery (0/15/30/55)
10				@10' bgs: black; 25% recovery
		7.7	SW	SAND: medium- to coarse-grained, dark brown to gray, wet, angular; trace fine gravel; 100% recovery (0/10/85/5)
				100% recovery
15		0.7		
20				



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG EB32A

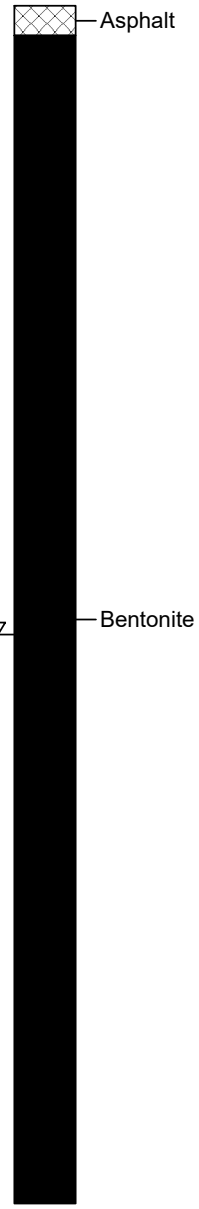
Project No.:	031447
Site:	ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	Paul Prevou
Reviewed By:	Keri Chappell, L.G. 2719
Signature:	Keri Chappell

Date Drilled:	01/27/21
Drilling Co.:	Holocene Drilling, Inc.
Drilling Method:	Push Probe
Sampling Method:	Dual Tube
Borehole Diameter:	3"
Casing Diameter:	N/A
Latitude	N/A
Longitude	N/A
Total Depth:	20' bgs
First GW Depth:	10.5' bgs

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: After Completion; During Drilling

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						6" Asphalt
					GW	GRAVEL: fine to coarse, brown, dry, well graded, angular; fine- to medium-grained sand, moderately graded; trace silt; 100% recovery (0/5/10/85)
					SP	SAND: fine- to medium-grained, gray, dry, moderately graded; fine to coarse gravel, angular; 100% recovery
						Concrete debris
5		0.3			SM	Silty SAND: fine- to medium-grained, brown, moist, moderately graded; trace fine gravel, angular, poorly graded; concrete debris present; 80% recovery (0/30/65/5)
		0.6			SW	SAND with Gravel: fine- to coarse-grained, brown, damp, well graded; fine to coarse gravel, angular, well graded; 40% recovery (0/5/65/30)
10		52.2				dark brown; 80% recovery (0/15/55/30)
					SP	SAND: medium- to coarse-grained, gray, wet, poorly graded; trace fine gravel; 100% recovery (0/5/90/5)
					SM	Silty SAND: medium- to coarse-grained, dark brown to olive brown, wet; trace fine gravel; 100% recovery (0/15/80/5)
						@13.5' bgs: gray
15		1.7			SP	SAND: medium- to coarse-grained, gray, wet; trace fine gravel; 100% recovery (0/5/90/5)
		0.7				100% recovery
20						100% recovery



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG EB33

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Paul Prevou
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

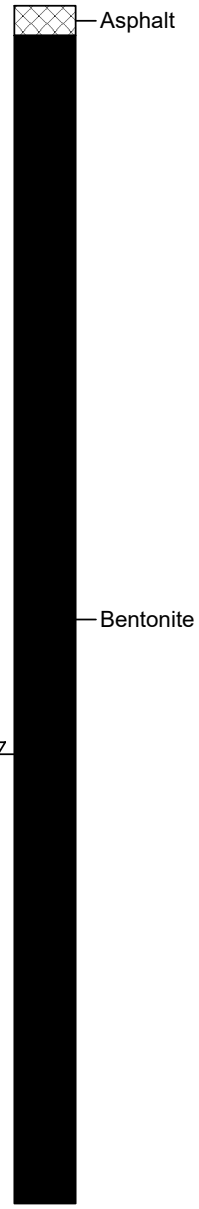
Date Drilled:	: 01/25/21
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 20' bgs
First GW Depth:	: 12.5' bgs

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: After Completion; During Drilling

Depth (ft)	Blow Count	OVM/PID (ppmv)	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0				6" Asphalt
				Debris backfill
		0.3	SW	SAND: medium- to coarse-grained, brown, dry, well graded; fine to coarse gravel, subangular to subrounded; 100% recovery (0/0/90/10)
5		7.2	SP	SAND with Gravel: medium- to coarse-grained, gray, moist; fine to coarse gravel, angular, poorly graded; trace silt; 100% recovery (0/5/60/35)
		5.5	SM	Silty SAND: fine-grained, moist, poorly graded; fine to coarse gravel, subangular, well graded; 100% recovery (0/20/70/10)
10		66.9		NAPL observed; 100% recovery
		37.4	SP	SAND: medium- to coarse-grained, dark brown, wet, poorly graded; trace fine gravel, angular; NAPL observed; 100% recovery (0/10/85/5)
15		1.7	SW	SAND with Gravel: fine- to coarse-grained, black, wet, well graded; fine to coarse gravel, angular to subangular, well graded; NAPL observed; 100% recovery (0/10/55/35)
		9.5		NAPL observed; 100% recovery
20		1.7	SM	Silty SAND with Gravel: fine- to coarse-grained, black, wet, well graded; fine to coarse gravel, poorly graded; 100% recovery (0/20/50/30)

Boring: EB33



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG EB34

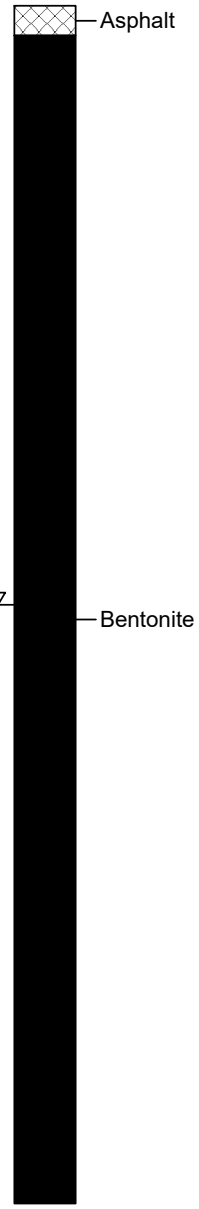
Project No.:	031447
Site:	ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	Paul Prevou
Reviewed By:	Keri Chappell, L.G. 2719
Signature:	Keri Chappell

Date Drilled:	01/25/21
Drilling Co.:	Holocene Drilling, Inc.
Drilling Method:	Push Probe
Sampling Method:	Dual Tube
Borehole Diameter:	3"
Casing Diameter:	N/A
Latitude	N/A
Longitude	N/A
Total Depth:	20' bgs
First GW Depth:	10' bgs

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: After Completion; During Drilling

Depth (ft)	Blow Count	OVM/PID (ppmv)	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0				6" Asphalt
				Debris backfill
		0.5	SW	SAND with Gravel: fine- to coarse-grained, light brown, dry, well graded; fine to coarse gravel, subangular to angular, poorly graded; 100% recovery (0/5/65/30)
				Concrete debris; 100% recovery
5		1.0	SW	SAND with Gravel: fine- to coarse-grained, light brown, dry, well graded; fine to coarse gravel, subangular to angular, poorly graded; 100% recovery (0/5/65/30)
		4.3	SM	Silty SAND: fine- to medium-grained, black, moist, moderately graded; trace fine gravel, poorly graded; 100% recovery (0/15/80/5)
10		28.6	SP	SAND with Gravel: fine- to medium-grained, black, wet, moderately graded; fine to coarse gravel, subrounded, moderately graded; 100% recovery (0/15/70/15)
		14.1		dark brown; 100% recovery
15		0.7		100% recovery
		7.2	SP	SAND: medium- to coarse-grained, dark brown, wet, poorly to moderately graded; trace silt; 100% recovery (0/5/90/5)
20		0.9		gray brown; 100% recovery



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG EB35

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Paul Prevou
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

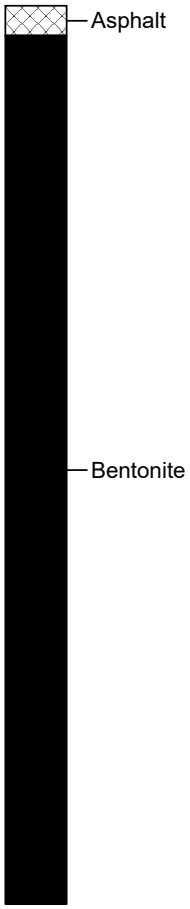
Date Drilled:	: 01/25/21
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 15' bgs
First GW Depth:	: N/A

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: After Completion; During Drilling

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						6" Asphalt
						Debris backfill
		0.0				SAND with Gravel: fine- to coarse grained, light brown, dry, well graded; fine to coarse gravel, subrounded, moderately graded; 100% recovery (0/5/60/35)
5		0.0			SW	100% recovery
		0.0				Silty SAND: fine- to medium-grained, black, moist, moderately graded; fine to coarse gravel, subrounded; 100% recovery (0/20/70/10)
10		0.3			SM	100% recovery
		1.5				fine-grained, dark brown, poorly graded; wood debris; 100% recovery (0/20/80/0)
15		0.9			SP	SAND: medium- to coarse-grained, gray, damp, poorly to moderately graded; trace fine gravel; 100% recovery (0/5/90/5)
20						

Boring: EB35



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG EB36

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Paul Prevou
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

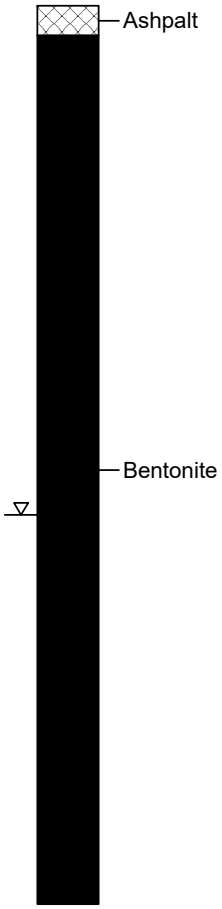
Date Drilled:	: 01/26/21
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 15' bgs
First GW Depth:	: 8.5' bgs

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: After Completion; During Drilling

Boring: EB36

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						6" Asphalt
					SP	SAND: fine- to medium-grained, gray, dry, poorly graded; (0/5/95/0)
		0.0				100% recovery
5		0.4				100% recovery
		0.3				100% recvoery
						Wood debris, wet
					SW	Silty SAND: fine- to coarse-grained, gray to dark gray, wet, well graded; trace fine gravel, subrounded; 100% recovery (0/15/80/5)
10		1.0				
		0.3			SP	SAND: medium- to coarse-grained, gray, wet, poorly graded; trace fine gravel, angular; 100% recovery (0/5/90/5)
						Wood debris, 3" layer
					SP	SAND: medium- to coarse-grained, gray, wet, poorly graded; trace fine gravel, angular; 100% recovery (0/5/90/5)
15						
20						



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG EB37

(Page 1 of 1)

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Paul Prevou
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

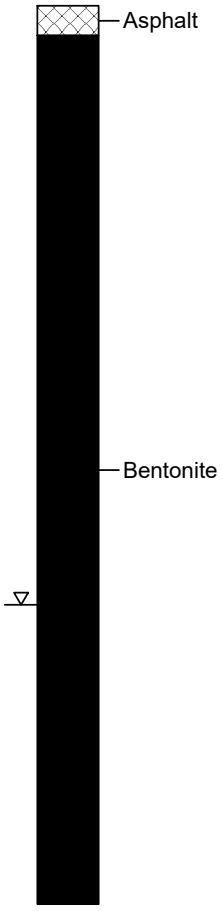
Date Drilled:	: 01/27/21
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 15' bgs
First GW Depth:	: 10' bgs

Sample Condition
- No Recovery
- Sampled Interval
- Described Sample
- Preserved Sample

Water Levels
- After Completion
- During Drilling

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						6" Asphalt
						Borehole was not logged from 6 inches bgs to 2.5 feet bgs.
		0.0				SAND: medium- to coarse-grained, gray, moist to dry, poorly graded; 100% recovery (0/5/95/0)
5		0.5			SP	dark brown; 100% recovery (0/15/85/0)
						Wood debris
		0.2				SAND: fine- to coarse-grained, gray, damp, well graded; 100% recovery (0/5/95/0)
10		0.2			SW	wet; 100% recovery
		0.3				100% recovery
15		0.2				100% recovery
20						

Boring: EB37



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG EB38

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Paul Prevou
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

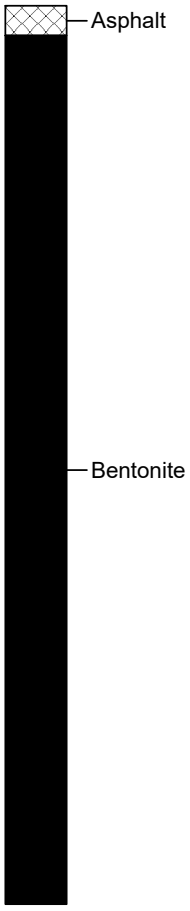
Date Drilled:	: 01/27/21
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 15' bgs
First GW Depth:	: N/A

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: After Completion; During Drilling

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						6" Asphalt
						Borehole was not logged from 6 inches bgs to 2.5 feet bgs.
		2.7				SAND: medium- to coarse-grained, gray, dry to damp, poorly graded; 100% recovery (0/5/95/0)
5		1.0				100% recovery
		0.5			SP	dark gray; 100% recovery
10		0.3				black and dark gray; organics and plant material present; 100% recovery (0/10/90/0)
		0.2				gray to dark gray; no organics and plant material; 100% recovery
						Wood debris, 2" layer
					SP	SAND: medium- to coarse-grained, gray to dark gray, dry to damp, poorly graded; 100% recovery (0/10/90/0)
15		6.9				
20						

Boring: EB38



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG EB39

Project No.:	031447
Site:	ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	Paul Prevou
Reviewed By:	Keri Chappell, L.G. 2719
Signature:	Keri Chappell

Date Drilled:	01/27/21
Drilling Co.:	Holocene Drilling, Inc.
Drilling Method:	Push Probe
Sampling Method:	Dual Tube
Borehole Diameter:	3"
Casing Diameter:	N/A
Latitude	N/A
Longitude	N/A
Total Depth:	20' bgs
First GW Depth:	N/A

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

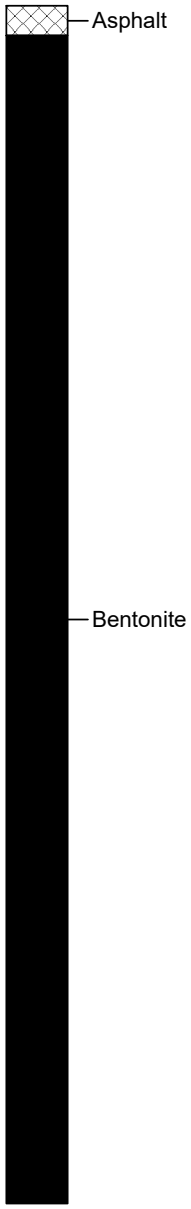
Water Levels: After Completion; During Drilling

Boring: EB39

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						6" Asphalt
						Borehole was not logged from 6 inches bgs to 2.5 feet bgs.
		4.2				Concrete debris
					SP	SAND: medium- to coarse-grained, brown, dry to damp, poorly graded; 100% recovery (0/5/95/0)
						Wood debris, 2" layer
5		12.7			SP	SAND: medium- to coarse-grained, gray, dry to damp, poorly graded; 100% recovery (0/10/90/0)
		8.4				dark gray, organic material present; 100% recovery
						Wood debris with brown clay, medium plasticity; 100% recovery
10		3.7			SP	SAND: medium- to coarse-grained, dark gray, dry to damp, poorly graded; 100% recovery (0/10/90/0)
		4.2				Wood debris with dark brown clay, medium plasticity; 100% recovery
					SP	SAND: medium- to coarse-grained, gray, dry to damp, poorly graded; 100% recovery (0/10/90/0)
15		10.1				dark gray; 100% recovery
		0.7				100% recovery
						Wood debris with brown clay, medium plasticity; intermittent coarse-grained sand; 100% recovery
20		17.5			SP	SAND: medium- to coarse-grained, dark gray, dry to damp, poorly graded; 100% recovery (0/10/90/0)

Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips



BORING LOG EB40

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Paul Prevou
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

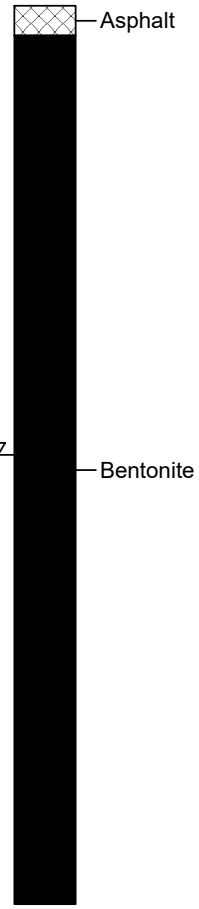
Date Drilled:	: 01/26/21
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 15' bgs
First GW Depth:	: 7.5' bgs

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: After Completion; During Drilling

Depth (ft)	Blow Count	OVM/PID (ppmv)	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0				6" Asphalt
		0.2	GW	GRAVEL with Sand: fine to coarse, well graded, angular; fine- to coarse grained sand, brown, dry, well graded; 70% recovery (0/5/25/70)
5		3.0	SP	SAND: medium- to coarse-grained, gray, moist, poorly graded; trace fine to coarse gravel; (0/5/90/5) 100% recovery
		0.3	SW	Silty SAND: fine- to medium-grained, gray to olive brown, wet, moderately graded; trace fine to coarse gravel; 80% recovery (0/25/70/5)
10		0.5		clayey wood debris and plant roots; 100% recovery
			CL	CLAY: blue gray; 100% recovery (100/0/0/0)
		0.4		Wood debris; 100% recovery
			SP	SAND: medium- to coarse-grained, dark gray, wet, poorly graded; trace fine gravel; (0/5/90/5)
15		0.0		100% recovery
20				

Boring: EB40



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG EB41

(Page 1 of 1)

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Paul Prevou
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

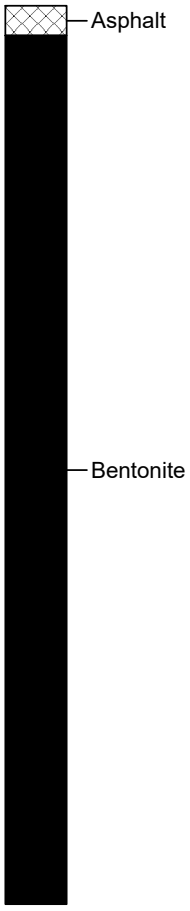
Date Drilled:	: 01/27/21
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 15' bgs
First GW Depth:	: N/A

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: After Completion; During Drilling

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt
					SW	SAND with Gravel: fine- to coarse-grained, brown, well graded; fine to coarse gravel, angular, well graded (0/5/55/40)
		0.4				SAND: fine- to coarse-grained, gray, moist, poorly graded; 100% recovery (0/5/95/0)
5		36.0			SW	gray to dark gray; 100% recovery
		27.5				wood chips; 100% recovery (0/10/90/0)
						Wood debris in dark brown clay
						SAND: fine- to coarse-grained, gray to dark gray, moist, poorly graded; 100% recovery (0/5/95/0)
10		5.8				
					SP	
		5.6				100% recovery
						wood debris; 100% recovery (0/15/85/0)
15		1.9				
20						

Boring: EB41



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG SB1

(Page 1 of 1)

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Paul Prevou
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

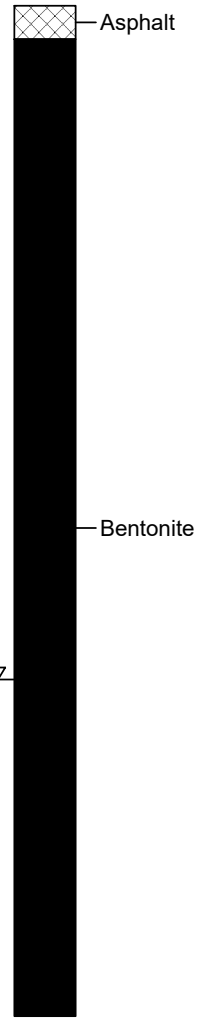
Date Drilled:	: 01/26/21
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 15' bgs
First GW Depth:	: 10' bgs

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: After Completion; During Drilling

Boring: SB1

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt
						Debris backfill
		0.6				SAND with Gravel: fine- to coarse-grained, dark brown, moist, well graded; fine to coarse gravel, subrounded, well graded; 100% recovery (0/15/45/40)
5		0.1			SW	light brown, trace cobbles; 100% recovery
		0.4				Silty SAND with Gravel: fine- to coarse-grained, dark brown, moist, well graded; fine gravel to cobbles, subrounded, well graded; 50% recovery (0/20/40/40)
10		0.2			SM	fine- to medium-grained, gray/brown, wet; fine to coarse gravel, subrounded and subangular; 50% recovery (0/25/40/35)
		15.0				SAND with Gravel: fine- to coarse-grained, brown, wet, well graded; fine to coarse gravel, subangular and some subrounded; 100% recovery (0/10/60/30)
					SW	medium- to coarse-grained, gray; fine to coarse gravel, poorly graded, subangular; 100% recovery (0/0/75/25)
15		0.9				
20						



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG SB2

(Page 1 of 1)

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Paul Prevou
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

Date Drilled:	: 01/26/21
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 15' bgs
First GW Depth:	: 12.5' bgs

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: After Completion; During Drilling

Boring: SB2

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						5" Asphalt
						Debris backfill
		0.0				GRAVEL with Sand: fine to coarse gravel, subangular, well graded; fine- to coarse-grained sand, gray, dry, well graded; 100% recovery (0/5/40/55)
5		0.0			GW	100% recovery
		0.3			SM	Silty SAND with Gravel: fine- to medium-grained, olive brown, well graded; fine to coarse gravel, subrounded, poorly graded; 80% recovery (0/30/40/30)
10		0.2			SC	Clayey SAND: fine- to medium-grained, light brown, moist; high plasticity; 100% recovery (50/0/50/0)
		0.4			SW	SAND with Gravel: fine- to coarse-grained, black, wet, well graded; fine to coarse gravel, subangular; 100% recovery (0/10/50/40)
15		0.2			SP	SAND: fine- to medium-grained, gray, wet; trace fine gravel; 100% recovery (0/5/90/5)
20						

Asphalt

Bentonite

Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG SB3

(Page 1 of 1)

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Paul Prevou
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

Date Drilled:	: 01/26/21
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 20' bgs
First GW Depth:	: 10' bgs

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: After Completion; During Drilling

Boring: SB3

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						4" Asphalt
						Debris backfill
		0.2			SW	SAND with Gravel: fine- to coarse-grained, light brown, dry, well graded; fine to coarse gravel, subrounded to subangular, moderately graded; 100% recovery (0/5/65/30)
5		0.4				black, moist; organics and wood present; 100% recovery (0/5/65/30)
		0.3			SM	Silty SAND: fine- to medium-grained, dark brown, moist, moderate to poorly graded; 100% recovery (0/20/80/0)
						Wood debris
10		0.1			CL	Clay lense, 2" thick
						Silty SAND: fine-grained, olive brown, wet, poorly graded; 100% recovery (0/50/50/0)
		0.2			SM	100% recovery
15		0.4				Wood debris, 2" layer
						Silty SAND: fine-grained, olive brown, wet, poorly graded; 100% recovery (0/50/50/0)
		0.1			SM	100% recovery
						100% recovery
20		0.1				

Asphalt

Bentonite

Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG SB4

(Page 1 of 1)

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Paul Prevou
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

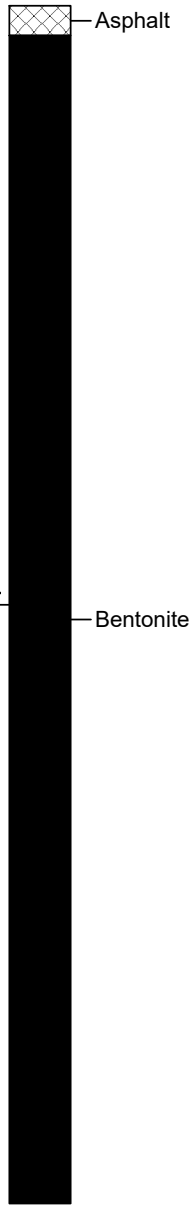
Date Drilled:	: 01/25/21
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 20' bgs
First GW Depth:	: 10' bgs

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: After Completion; During Drilling

Boring: SB4

Depth (ft)	Blow Count	OVM/PID (ppmv)	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0				6" Asphalt
				Debris backfill
		0.0	SW	SAND: fine- to coarse-grained, brown, dry; fine to coarse gravel, subangular; 80% recovery (0/5/85/10)
				wood debris
5		0.2	SP	SAND: coarse-grained, gray, dry, poorly graded; trace fine gravel; 100% recovery (0/5/90/5)
		0.4		
10		28.9	SP	SAND with Gravel: fine- to medium-grained, brown, wet, poorly graded; fine to coarse gravel, poorly graded, subrounded; trace silt; 30% recovery (0/5/50/45)
		24.5	SP	SAND: medium-grained, black, wet, poorly graded; 100% recovery (0/5/90/5)
15		14.6		medium- to coarse-grained, trace medium gravel, subrounded; 100% recovery
		12.2	SM	Silty SAND: medium- to coarse-grained, black, wet, moderate to poorly graded; trace fine gravel; 100% recovery (0/20/75/5)
20		9.6	SP	SAND with Gravel: medium- to coarse-grained, gray, wet, moderately graded; fine to coarse gravel, poorly graded, subangular; 100% recovery (0/5/65/30)



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG SB5

(Page 1 of 1)

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Paul Prevou
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

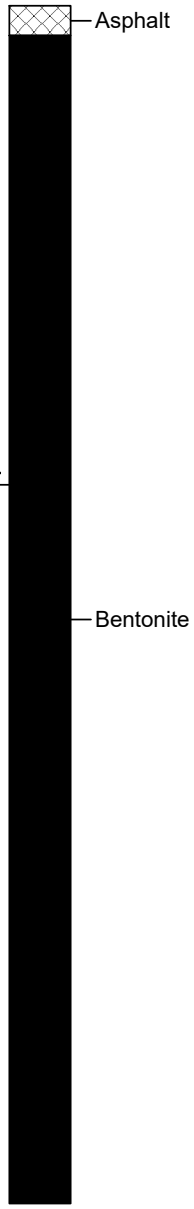
Date Drilled:	: 01/26/21
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 20' bgs
First GW Depth:	: 8' bgs

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: After Completion; During Drilling

Boring: SB5

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						2" Asphalt
						Debris backfill
		0.4				SAND with Gravel: fine- to coarse-grained, light brown, dry, well graded; fine gravel, subangular, moderately graded; 100% recovery (0/5/60/35)
5		0.7				100% recovery
		0.4			SW	100% recovery wet
10		0.2				dark brown; 100% recovery (0/10/60/30)
		0.2				100% recovery (0/15/55/30)
15		0.1			SM	Silty SAND with Gravel: fine- to coarse-grained, black, wet, well graded; fine gravel, subangular, moderately graded; 100% recovery (0/20/55/25)
		0.5			SM	Silty SAND: fine-grained, black, damp, poorly graded; trace organic matter; 100% recovery (0/30/70/0)
20		0.0			SP	SAND: medium- to coarse-grained, brown, damp, poorly graded; trace fine gravel; 100% recovery (0/5/90/5)



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG SB6

(Page 1 of 1)

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Paul Prevou
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

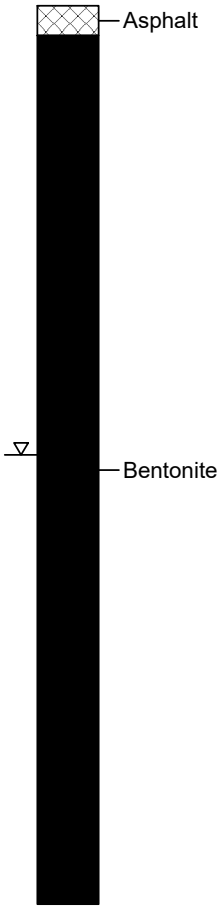
Date Drilled:	: 02/05/21
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 15' bgs
First GW Depth:	: 7.5' bgs

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: After Completion; During Drilling

Boring: SB6

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						5" Asphalt
						Borehole was not logged from 6 inches bgs to 2.5 feet bgs.
		3.5			SW	SAND with Gravel: fine- to coarse-grained, black to dark brown, moist, moderately graded; fine to coarse gravel, rounded to subangular, well graded; 100% recovery (0/5/60/35)
5		0.3			SM	Silty SAND: very fine- to medium-grained, gray, moist; 100% recovery (0/30/70/0)
		0.1				fine- to coarse-grained, bimodal primarily coarse-grained, brown, wet, low plasticity; trace fine gravel; 100% recovery (0/20/75/5)
						Wood debris with brown clay, dry to moist, roots
10		0.1				
		0.0			SP	SAND: medium- to coarse-grained, gray, wet, poorly graded; 100% recovery (0/5/95/0)
15		0.0			CL	CLAY with Sand: dark brown, moist, high plasticity; fine-grained sand, poorly graded; 100% recovery (85/0/15/0)
20						



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG SB7

(Page 1 of 1)

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Paul Prevou
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

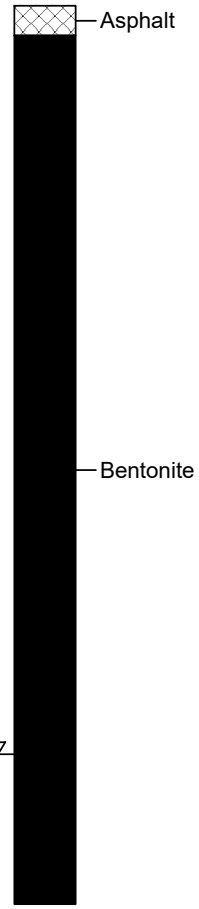
Date Drilled:	: 02/05/21
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Push Probe
Sampling Method:	: Dual Tube
Borehole Diameter:	: 3"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 15' bgs
First GW Depth:	: 12.5' bgs

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: After Completion; During Drilling

Boring: SB7

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						5" Asphalt
						Borehole not logged from 5 inches bgs to 2.5 feet bgs.
		0.1			SW	SAND with Gravel: fine- to coarse-grained, black to dark brown, moist, moderately graded; fine to coarse gravel, subrounded to subangular, well to moderately graded; 100% recovery (0/5/60/35)
5		0.1			SP	SAND: fine- to medium-grained, brown, moist, poorly graded; trace fine gravel; 100% recovery (0/5/90/5)
		0.0			SW	SAND: fine- to coarse-grained, dark gray, moist, moderately graded; 100% recovery (0/5/95/0)
10		3.4				Wood debris in brown clay, roots, high plasticity 100% recovery
		0.2			SC	Clayey SAND: fine- to medium-grained, dark brown, wet, poorly to moderately graded, medium plasticity; decayed plant material present; 100% recovery (40/0/60/0)
15		0.0			SP	SAND: medium- to coarse-grained, dark gray, wet, poorly to moderately graded; 100% recovery (0/10/90/0)
20						



Backfill Materials:

0.2 50-lb. bag of Asphalt
0.5 50-lb. bag of Bentonite Chips

BORING LOG GB1

(Page 1 of 1)

Project No.:	031447
Site:	ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	Brett McLees
Reviewed By:	Keri Chappell, L.G. 2719
Signature:	KeriChappell

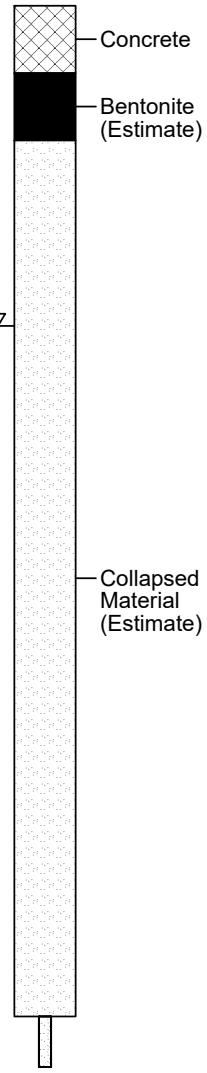
Date Drilled:	01/27/21
Drilling Co.:	Holocene Drilling, Inc.
Drilling Method:	Hollow-Stem Auger
Sampling Method:	Split Spoon
Borehole Diameter:	8"
Casing Diameter:	N/A
Latitude	N/A
Longitude	N/A
Total Depth:	31.5' bgs
First GW Depth:	9' bgs

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: After Completion; During Drilling

Boring: GB1

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt
						Borehole was cleared to 5' bgs on 01/26/21 using air knife and hand tools. Borehole was not logged from 3 inches bgs to 5 feet bgs.
5	6 12 13					Fill: fine- to coarse-grained sand matrix, brown/gray, damp, rounded, well graded, thin bed; 80% wood debris; 100% recovery (0/0/20/0)
						cuttings saturated
10	9 14 14					gray, wet; 50% wood debris; 100% recovery (0/0/50/0)
15	6 8 4					100% recovery
20	1 2 3				CL	CLAY: brown (100/0/0/0)
						SAND: fine- to coarse-grained, gray, wet, rounded, thin bed; 100% recovery (0/0/100/0)
25	1 2 3				SW	100% recovery
30	3 4 5					100% recovery
35						
40						



Geotechnical Information: Truck-mounted rig No. 113, Diedrich D-120, 140-pound Auto Hammer Certification complete on November 19, 2020.

Borehole collapsed during backfill activities due to high water table. Bottom of bentonite calulated via Cetco 3/8" Crumble standard volume.

Backfill Materials:

2 50-lb. bags of Cement
1 50-lb. bag of Bentonite Chips

BORING LOG GB2

(Page 1 of 1)

Project No.:	: 031447
Site:	: ExxonMobil ADC, 2717/2731 Federal Avenue, Everett, WA
Logged By:	: Brett McLees
Reviewed By:	: Keri Chappell, L.G. 2719
Signature:	: KeriChappell

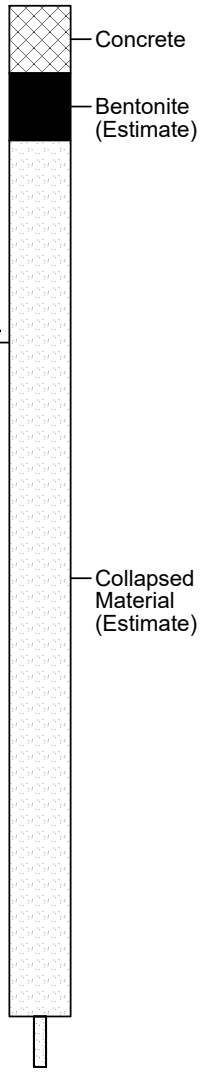
Date Drilled:	: 01/27/21
Drilling Co.:	: Holocene Drilling, Inc.
Drilling Method:	: Hollow-Stem Auger
Sampling Method:	: Split Spoon
Borehole Diameter:	: 8"
Casing Diameter:	: N/A
Latitude	: N/A
Longitude	: N/A
Total Depth:	: 31.5' bgs
First GW Depth:	: 10' bgs

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: After Completion; During Drilling

Boring: GB2

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION (%clay/silt/sand/gravel)
0						3" Asphalt
						Borehole was cleared to 5' bgs on 01/26/21 using air knife and hand tools. Borehole was not logged from 3 inches bgs to 5 feet bgs.
5	2 5 5					SAND: fine- to coarse-grained, gray, damp, rounded; 100% recovery (0/0/100/0)
10	3 4 5					wet; 100% recovery
15	1 2 3					brown; trace silt; trace wood; 100% recovery (0/5/95/0)
					SW	
20	4 5 5					gray; 100% recovery
25	6 9 11					100% recovery
30	3 4 6					100% recovery
35						
40						



Geotechnical Information: Truck-mounted rig No. 113, Diedrich D-120, 140-pound Auto Hammer Certification complete on November 19, 2020.

Borehole collapsed during backfill activities due to high water table. Bottom of bentonite calulated via Cetco 3/8" Crumble standard volume.

Backfill Materials:

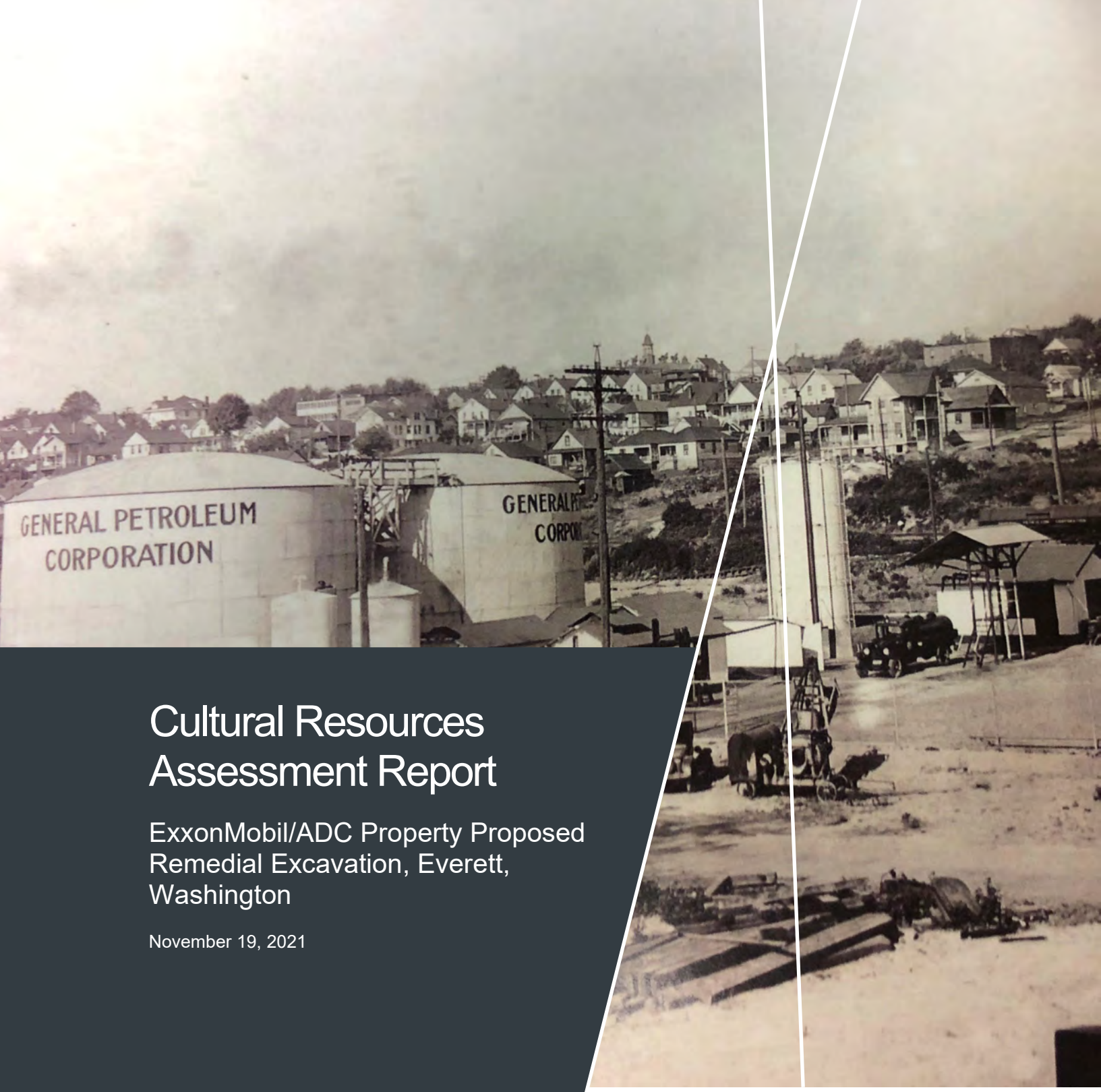
2 50-lb. bags of Cement
1 50-lb. bag of Bentonite Chips

ExxonMobil ADC

Cardno 03144702.R05

APPENDIX E

CULTURAL RESOURCES ASSESSMENT REPORT



Cultural Resources Assessment Report

ExxonMobil/ADC Property Proposed Remedial Excavation, Everett, Washington

November 19, 2021

Cardno®

Contact Information

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Seattle, WA 98108
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Prepared By: Emily Scott, BA,
Alana Vidmar, MSc, and
Shawn Fackler, MA, RPA

Document Information

Prepared for	ExxonMobil Environmental and Property Solutions Company 4096 Piedmont Avenue #194 Oakland, California 94611 (469) 913-3672 and American Distributing Co. 13618 45th Avenue NE Marysville, WA 98271 (360) 658-375
Project Name	Cultural Resources Assessment Report ExxonMobil/ADC Property Proposed Remedial Excavation, Everett, Washington
Job Reference	0314476040
Version Number	1.0
Date	November 19, 2021

Cover image: PSI Cleanup Sites - Port Gardner, Sound Living Conference presentation, October 25, 2014. Page 20.
https://ecology.wa.gov/DOE/files/02/02f2d202-9008-4049-ac30-63bc8c63f32d.pdf

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Tables

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Executive Summary

Cardno, Inc. (Cardno) conducted a cultural resources assessment for the proposed ExxonMobil/ American Distributing Company (ADC) project in Everett, Washington. The project proposed to cleanup soil and groundwater impacted by light non-aqueous phase liquid (LNAPL) and/or residual LNAPL saturation. Historical releases of petroleum products have been documented within the project area due to former operations of bulk petroleum storage, transfer, and distribution facilities and operations of other similar companies on nearby parcels. The project area is currently developed with a paved parking lot.

Results of the cultural resources assessment for the project area indicate a high level of human activity took place adjacent to the project area during precontact and historic times. Given the history of the project area and its immediate vicinity, Cardno concludes that the potential for encountering subsurface archaeological deposits beneath the historic fill layers is moderate to high. Cardno recommends that a monitoring and inadvertent discovery plan (MIDP) be implemented to minimize potential impacts to any currently unknown intact archaeological resources.

1.0 Introduction

Cardno, Inc. (Cardno) conducted a cultural resources assessment for the proposed ExxonMobil/ American Distributing Company (ADC) project in Everett, Washington (Figure 1). This project is listed by the Washington State Department of Ecology (Ecology) as Cleanup Site 5182. Historical releases of petroleum products have been documented within the project area due to former operations of bulk petroleum storage, transfer, and distribution facilities and operations of other similar companies on nearby parcels. The purpose of the project is to cleanup soil and groundwater impacted by light non-aqueous phase liquid (LNAPL) and/or residual LNAPL saturation. Proposed cleanup activities include installation of shoring walls, and excavation of impacted soils. Following excavation of contaminated soils, the project area will be backfilled, re-graded to preexisting contours, removal of shoring walls, and repaved.

The project area consists of 3.48 acres that are comprised of several tax parcels and portions of the City of Everett's (City) Right-of-Way (ROW). Parcel information is provided below (Table 1; Figure 2). Currently, the project area consists of a paved parking lot with no extant structures or buildings (Figure 3).

The cultural resources assessment consisted of a literature review of existing cultural resource records for previously recorded historic, ethnohistoric, and precontact archaeological and built environment resources; a review of any local, state, and national register nomination forms; a review of previously conducted cultural resources investigations; and a review of any known or potential Traditional Cultural Properties (TCPs) located within 1.0 mile (1.6 kilometer [km]) of the project area. This research included a records search at the Department of Archaeology and Historic Preservation's (DAHP's) Washington Information System for Architectural and Archaeological Records Data (WISAARD) database. Additional resources that were consulted include historic-era aerial photographs, U.S. Geological Survey (USGS) maps, General Land Office (GLO) maps, Snohomish County atlases, and Sanborn Fire Insurance Maps.

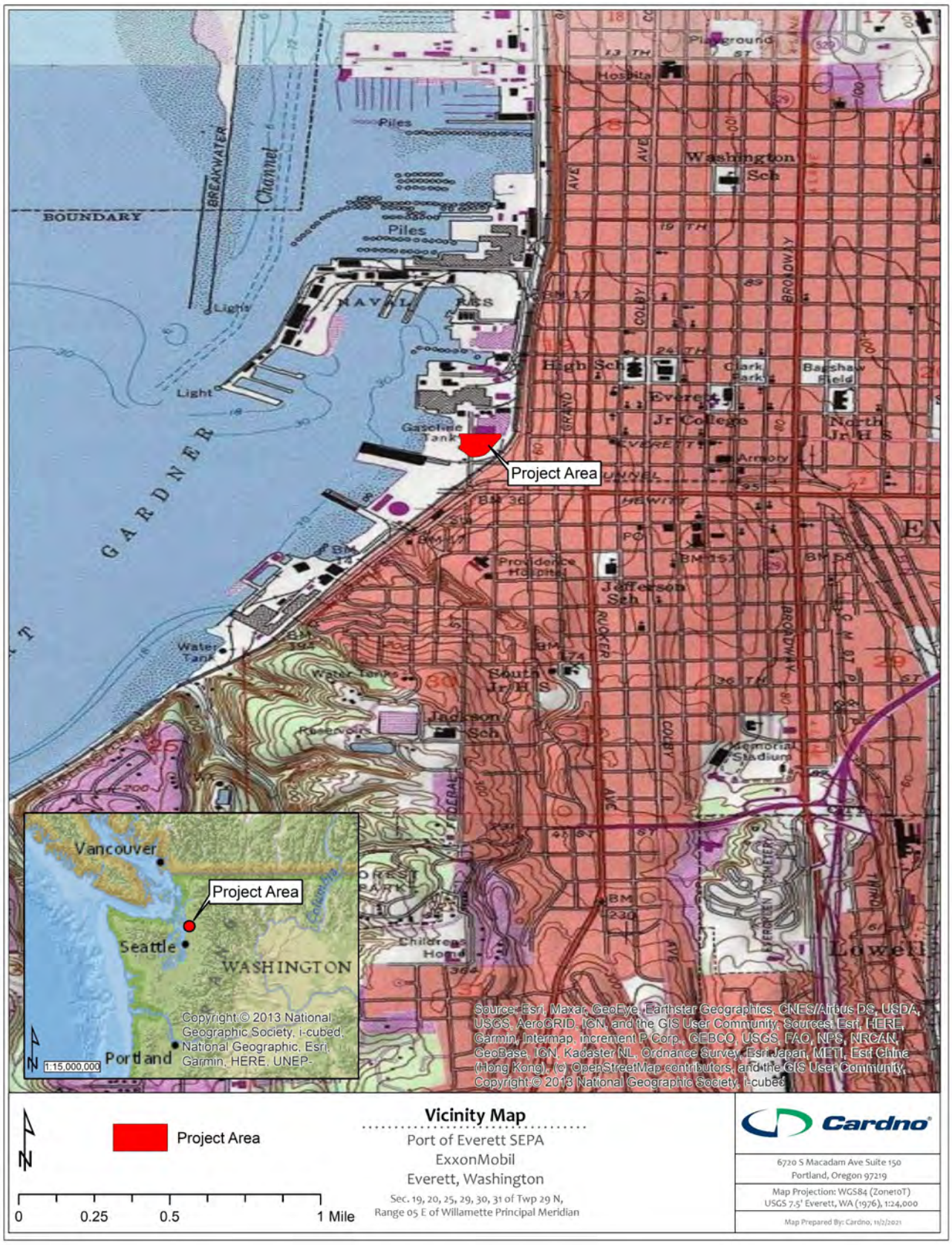

Figure 1. Project area and vicinity.

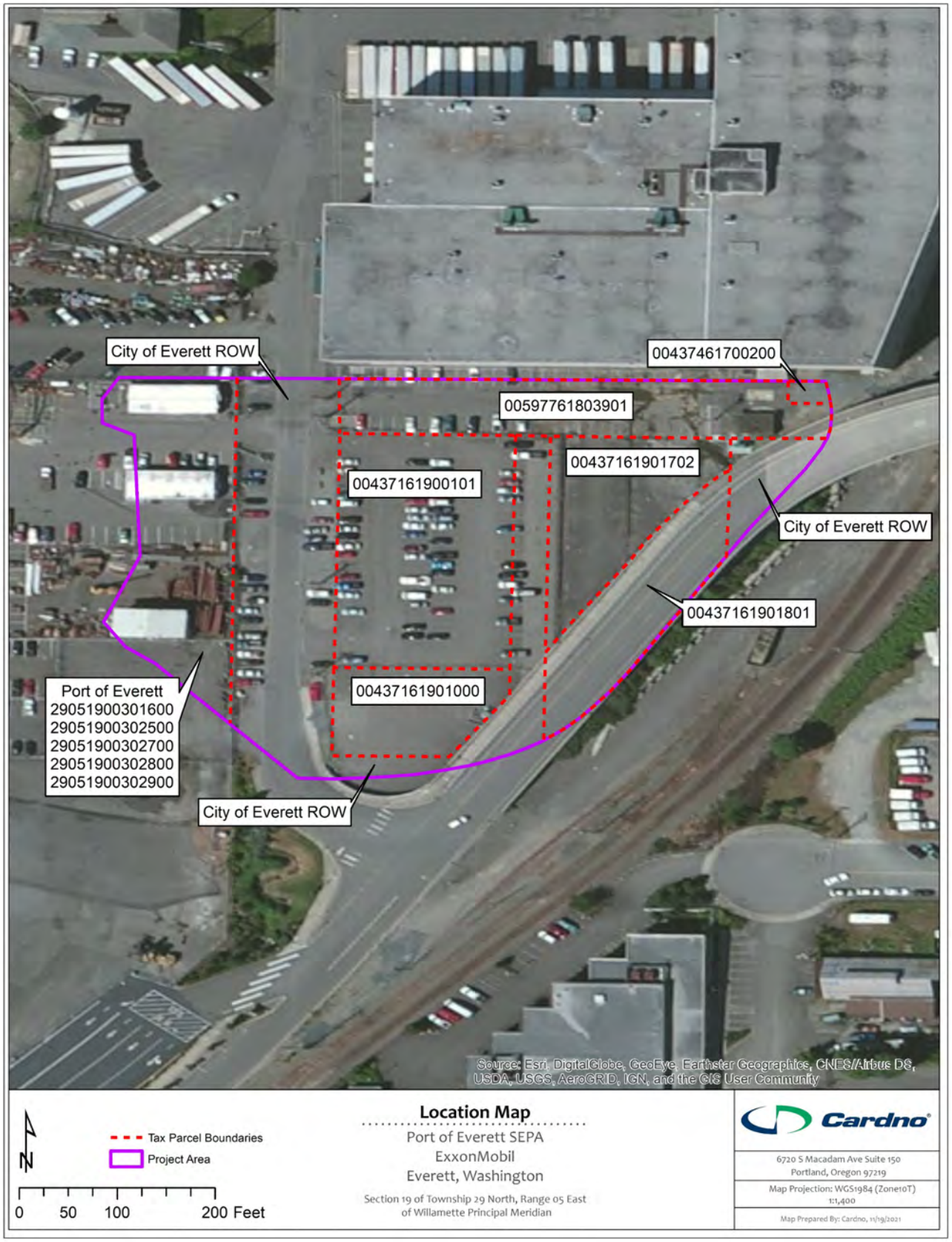

Figure 2. The project area denoting impacted Snohomish County tax parcels and City ROW.

Table 1. Snohomish County Tax Parcel Information.

Owners	Parcel Number(s)
Burlington Northern Railroad	00437161901702
City of Everett	00437161901801
Miller Trust (Cecilia Beverly Miller, beneficiary)	00437161900101
Mobil Oil Corporation	00437161901000
Port of Everett	00437461700200, 00597761803901, 29051900301600, 29051900302500, 29051900302700, 29051900302800, 29051900302900

Figure 3. Overview of project area, facing northeast.

2.0 Regulations

Cardno's cultural resources assessment was completed in compliance with Everett Municipal Code (EMC), Snohomish County Code (SCC), the State Environmental Policy Act (SEPA), and Revised Code of Washington (RCW). These regulations are discussed below. Additionally, information regarding other local, state, and federal regulations applicable to cultural resources is also provided.

2.1 Everett Municipal Code

EMC 19.28 outlines the process for identifying, listing, and protecting resources on the Everett Register of Historic Places and within historic overlay zones. Properties within historic overlay zones are governed by EMC 19.28.020 through 19.28.120. Criteria for placement on the Everett Register of Historic Places are described in EMC 19.28.130. Proposed changes to properties on the Everett Register are reviewed by the Everett historical commission per 19.28.140.

2.2 Snohomish County Code

SCC 30.67.340 requires developers and property owners to immediately stop work and notify the county, DAHP, and affected Indian tribes if archaeological resources are uncovered during excavation. It further stipulates that county permits issued in areas documented as containing archaeological resources require a site inspection or evaluation by a professional archaeologist in coordination with affected Indian tribes.

SCC 20.32D outlines the identification, evaluation, and protection of archaeological and historic resources within Snohomish County that are listed on the Washington State Archaeological Site Inventory. Additionally, it directs the preservation and rehabilitation of eligible historic properties for future generations. SCC 30.32D.020 established the Snohomish County Register of Historic Places, which includes historic buildings, sites, structures, objects, and districts within the county. SCC 30.32D.030-060 directs property designation to and removal from the Snohomish County Register of Historic Places, as well as alterations of properties on the register.

SCC 20.32D.070-100 outlines the process for obtaining and working under a certificate of appropriateness, and zoning. SCC 20.32D.200 requires recordation of archaeological sites. Additionally, completion of an archaeological report or relocation of a project is required for any construction, earth movement, clearing, or other site disturbance of a known archaeological site or any development application proposed on non-tribally owned, fee-simple properties designated Reservation Commercial on the Snohomish County Future Land Use Map. SCC 20.32D.220 outlines the process to follow if human remains or archaeological resources are found during construction, earth movement, clearing, or other site disturbance.

Lastly, SCC 30.32D.300 allows for an appeal process for any building permit issued with conditions imposed pursuant to this chapter. An appeal may occur as a Type 1 decision pursuant to SCC 30.71.

2.3 State Environmental Policy Act

The SEPA (RCW 43.21C) and its implementing rules contained in Washington Administrative Code (WAC) 197-11 require applicants to document cultural and historical significance that may be affected by project activities. The SEPA review process provides notice to all affected tribal, state, and private entities.

Per WAC 197-11-960, the SEPA checklist submitted to the local planning authority with an application for development review includes the following questions, which must be satisfactorily addressed to demonstrate that a project will not have a significant adverse impact on cultural and historic resources:

> *a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers? If so, specifically describe.*
>
> *b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.*

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archaeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

2.4 Revised Code of Washington 27.44 and 27.53

Precontact and historic archaeological sites are protected by several Washington state regulations on both public and private lands. RCW 27.44 and RCW 27.53.060 require that a person obtain a permit from the DAHP before excavating, removing, or altering Native American human remains or archaeological resources in Washington. A failure to obtain a permit is punishable by civil fines and penalties under RCW 27.53.095 and criminal prosecution under RCW 27.53.090.

If a person(s) violates this statute and knowingly disturbs or alters an archaeological site, the DAHP is allowed to issue civil penalties of up to $5,000, in addition to site restoration costs and investigative costs per RCW 27.53.095. Restorative and monetary remedies do not prevent concerned Indian tribes from undertaking civil action in state or federal court or law enforcement agencies from undertaking criminal investigation or prosecution. If human remains and/or burials are disturbed, RCW 27.44.050 allows an affected Indian tribe to undertake civil action. Additionally, the excavation of human remains without a permit is a felony.

2.5 Revised Code of Washington 68.60

RCW 68.60 requires “expeditious” notification of local law enforcement and the coroner if skeletal human remains are discovered. Failure to notify is considered a misdemeanor.

2.6 Washington Administrative Code 25-48-060

The complete requirements for filing an archaeological excavation permit can be found in WAC 25-48-060. In the state of Washington, permits are required for alterations (e.g., excavation, removal, and collection of archaeological materials) at all precontact archaeological sites and at historic archaeological sites that are eligible for or listed in the National Register of Historic Places (NRHP).

2.7 Governor’s Executive Order 21-02

In 2021, Washington Governor Jay Inslee signed executive order 21-02, which supersedes the previous GEO 05-05. GEO 21-02 requires the preservation and protection of Washington’s cultural resources, which are defined as archaeological and historical sites, Native American sacred places and landscapes, and sites, buildings and places that hold special cultural historical, and spiritual significance. The GEO requires state agencies to review their capital construction projects and land acquisitions made for the purpose of a capital construction project that are not undergoing review under Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA) with the Washington State Department of Archaeology and Historic Preservation (DAHP) and affected Indian tribes to determine potential impacts to cultural resources. GEO 21-02 outlines the steps of review and consultation that should be undertaken as early in the project planning process as possible. In the event a culturally significant site will be impacted by a capital project, the state agency must work with the DAHP and affected Indian tribes on appropriate archaeological survey and mitigation strategies consistent with state and federal laws. Additionally, the state agency must take reasonable action to avoid, minimize, or mitigate adverse effects to the resource.

2.8 Washington Heritage Register

The Washington Heritage Register (WHR) is an official listing of historically significant sites and properties found throughout the state and includes districts, sites, buildings, structures, and objects that have been identified and documented as being significant in local or state history, architecture, archaeology, engineering, or culture. The WHR is governed by several state laws, including Senate Bill 363, RCW 27.34.200, and WAC 25-12.

Any subdivision of state government or recipient of state funds must comply with the SEPA and Executive Order 21-02. These programs require that significant properties, specifically those listed in or eligible for the WHR, be considered when state undertakings (e.g., permits, grants, construction) affect historic and cultural values. If significant resources are identified, the DAHP considers the effects of a proposed project on such resources and makes a professional recommendation for appropriate treatments or actions. The DAHP does not regulate the treatment of properties that are found to be significant, and the local governing authority may choose to uphold the DAHP's recommendation and may require mitigation of adverse effects to significant properties.

2.9 National Register of Historic Places

The NRHP (16 U.S. Code 470a), created under the National Historic Preservation Act of 1966, as amended (16 U.S. Code 470 et seq.), is the federal list of historical, archaeological, and cultural resources worthy of preservation. Resources listed in the NRHP include districts, sites, buildings, structures, and objects that are significant in American history, prehistory, architecture, archaeology, engineering, and culture and that possess integrity of location, design, setting, material, workmanship, feeling, and association. The NRHP is maintained by the National Park Service (NPS) on behalf of the Secretary of the Interior (SOI). The DAHP administers the statewide NRHP program under the direction of the State Historic Preservation Officer, located in Olympia, Washington. The NPS has developed NRHP Criteria for Evaluation (36 Code of Federal Regulations [CFR] § 60.4) to guide the evaluation of cultural resources that may be either listed in or eligible for the NRHP. The NRHP Criteria of Evaluation are:

Criterion A: Are associated with events that have made a significant contribution to the broad patterns of our history; or

Criterion B: Are associated with the lives of persons significant in our past; or

Criterion C: Embody the distinctive characteristics of a type, period, or method of construction or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; or

Criterion D: Have yielded, or may be likely to yield, information important in prehistory or history.

NPS Bulletin No.15, "How to Apply the National Register Criteria for Evaluation," provides guidance on evaluating resources for listing in the NRHP. Archaeological sites are primarily assessed under Criterion D. While cultural resources may be present within the project area, if they do not meet the requirements for listing in the NRHP, they are not considered historic properties. Cultural resources less than 50 years old do not meet the NRHP criteria unless they are of exceptional importance, as described in Criteria Consideration G (36 CFR Part 60) and NPS Bulletin No. 22, "How to Evaluate and Nominate Potential National Register Properties That Have Achieved Significance Within the Last 50 Years."

3.0 Environmental Setting

The project area lies within the greater Puget Lowland physiographic province, which is a low-lying area between the Cascade Range to the east and the Olympic Mountains to the west. Puget Sound was

shaped by widespread continental glaciation that extended south from British Columbia to the northern Puget Lowland and along the western flanks of the Cascade Mountains (Miss 2008). This area is also known as the Puget Sound Trough physiographic province, which extends to the Cowlitz and Chehalis Rivers (Franklin and Dyrness 1988). The Vashon Stade of the Fraser Glaciation was the last glacial maximum in the region and is dated between 18,000 and 14,000 years before present (BP) (Easterbrook 2003). Rapid deglaciation, which saw the occurrence of meltwater channels and temporary ice marginal lakes, occurred after this glaciation. The land experienced isostatic rebound between 13,000 and 7000 years BP as global sea levels rose and deltas formed at the head of the Duwamish Valley, shaping the Puget Sound shoreline (Dragovich et al. 1994; Miss 2008). By 5000 years BP, the Puget Sound sea level was within 6.6 to 9.8 feet (2 to 3 meters [m]) of its current level (Kelsey et al. 2004; Sherrod et al. 2000).

The project area lies within the *Tsuga heterophylla* (western hemlock) vegetation zone in the Puget Lowland, which provides a highly productive ecological system with a complex mosaic of microenvironments (Franklin and Dyrness 1988). This vegetation zone is characterized by forests of western hemlock, western red cedar, and Douglas-fir. Shrub cover consists of sword fern, salal, Oregon grape, ocean spray, huckleberry, and red elderberry. The diversity of floral and faunal species in the area has decreased due to human settlement, which has led to a significant loss of faunal habitat. Additionally, historical and modern contaminants within Port Gardner Bay have significantly impacted mudflats, estuaries, tidal marshes, and shrub wetlands. The National Oceanic and Atmospheric Administration's Damage Assessment, Remediation, and Restoration Program (2021) notes that:

> *Releases of hazardous substances into Port Gardner Bay have resulted from industrial and municipal processes since the early 1900s, including factories, spills during cargo transfer and refueling, storm water runoff through contaminated soils at upland facilities, discharge of contaminated groundwater, and lumber operations, such as sawmills, and pulp and paper mills*.

Prior to historical and modern impacts, the *Tsuga heterophylla* vegetation zone could support large terrestrial animals like elk, deer, black bear, and coyote and smaller mammals like rabbit, squirrel, racoon, beaver, and river otter. Currently, the project area is located within modified industrial landscape with paved ground surface. Recent subsurface investigations note that the near-surface soils consist of a heterogeneous mixture of fill materials. The fill materials consist of very loose to medium dense, brown, brownish gray, and gray silty sand and sand with areas of wood and brick debris extending to depths of approximately 5 to 10 feet below ground surface (bgs). Gray silty sand and silt and dark-brown to black peat mixed with wood debris are encountered beneath the shallow fill and extend up to 20 to 27 feet bgs (Wood 2019, Cardno 2020a, 2020b).

3.1 Archaeology

The earliest known occupations in western Washington, termed Paleo-Indian, are evidenced by the appearance of large, fluted projectile points dating to approximately 12,800 years BP (Ames and Maschner 1999; Carlson 1990). Paleo-Indians were primarily hunter-gatherers with low populations and high levels of mobility. Some researchers have argued that these early people were maritime oriented (Carlson 2003; Dixon 1993; Fedje and Christensen 1999; Fladmark 1979). In western Washington, sites from this period are rare. Much of the late Pleistocene terrain was uninhabitable due to glaciers, and the lands that were occupied by Paleo-Indians were predominately coastal reaches. During the glaciation period, ocean levels fell almost 400 feet globally (Kirk and Daugherty 2007), but with the onset of the warming Holocene, ocean levels rose and submerged many of these coastal sites. However, some sites are not submerged and instead are located above the present shoreline due to eustatic, tectonic, and isostatic effects that vary throughout the region (Fedje and Christensen 1999).

The Archaic period dates from approximately 12,500 to 6,400 years BP (Ames and Maschner 1999; Carlson 1990). Archaic-period sites, similar to Paleo-Indian sites, are poorly represented. Changes in sea level and vegetation have obscured many Archaic-period sites along the coast (Ames and Maschner

1999). However, as the glaciers receded, people were able to occupy larger expanses in the interior of the Puget Sound. Archaic-period peoples likely maintained small populations and high levels of mobility, and focused on a combination of maritime, littoral, and terrestrial economies. Archaic-period occupations are largely characterized by stone tool assemblages that are typically composed of large, stemmed lanceolate projectile points and bifaces. In addition, the Pacific Northwest Archaic period saw an introduction of microblades, which are sometimes present in stone tool assemblages (Ames and Maschner 1999).

Pacific-period sites date from approximately 6,400 to 250 years BP. The period ends at the introduction of smallpox to the region (Ames and Maschner 1999). The Early Pacific period (6,400 to 3,800 years BP) was marked by the increased use of marine resources, the appearance of human burials in middens and cemeteries, a diversification in subsistence activities, the disappearance of microblade technology, and the increased use of bone, antler, and ground stone tools. Major developments also included the appearance of ground stone celts (adze blades) and a proliferation in chipped-stone tool forms and styles, and decorative/ornamental pieces that likely represent contact and trade with groups in neighboring cultural areas (Kirk and Daugherty 2007). The Middle Pacific period (3,800 to 1,800/1,500 years BP) displays major developments including the appearance of long-term settlements (plank houses), intensification of salmon capture (appearance of wooden fish weirs and girdled/drilled net sinkers), and a diversification in tool form and style. Late Pacific period (1,800/1,500 to 250 years BP) developments are represented by the appearance of heavy-duty woodworking tools, an overall decline in the use of chipped-stone tools, and an increase in funerary ritual/burial activities. Sea levels became stable by the start of the Middle Pacific period, and sites representing the Middle and Late Pacific periods are located across the Northwest Coast region (Ames and Maschner 1999).

3.2 Ethnography

The project area lies within the traditional territory of the Snohomish. Since time immemorial, the Snohomish people lived in various locations along the Snohomish River from present-day Monroe to the mouth of the river near Everett, on Camano Island, and on Whidbey Island (Ruby and Brown 1992:212; Tweddell 1974). The region was utilized for resource gathering, hunting, and villages/seasonal habitations. However, there are no known ethnographic sites within the immediate project area (Waterman et al. 2001).

The Snohomish spoke the southern dialects of Lushootseed—a Salish language (Suttles and Lane 1990:486). The Snohomish people followed a seasonal settlement pattern. Winter villages, composed of one or more cedar plank houses where families gathered in the late fall, were typically located along waterways, such as at the mouth of the Snohomish River, river confluences, or protected shorelines (Haeberlin and Gunther 1930; Lane and Lane 1977). During the winter months, they relied on stored foods supplemented by local hunting and fishing (Suttles and Lane 1990).

Coast Salish peoples developed a complex social and religious system in part due to the abundance of food and raw materials (e.g., wood, plants, stone) (Haeberlin and Gunther 1930). Potlatches and spirit quests were important activities in the pursuit of spiritual power, in addition to asserting control over resources and neighboring groups (Elmendorf 1971). Social stratification existed among Coast Salish groups, where villages consisted of elite, commoner, and slave classes (Ames 2001; Grier 2003; Tollefson 1987).

Winter housing consisted of large, multifamily longhouses constructed of cedar planks. Sleeping platforms lined the walls, and storage shelves for winter supplies were typically located on the walls above these sleeping platforms. Fires were located near the sides, and the central area was used as a passageway. Shed-roof houses were a common design among the Coast Salish in the Puget Sound region (Suttles 1991). This house type easily allowed for the addition of rooms when populations increased, such as during winter months, and for the reduction in house size when occupants left for summer food collection

rounds (Suttles 1991). Often, the different placements of sleeping platforms and individual fires portrayed status, where those with the highest status lived in the back of the house and commoners and slaves lived closer to the entryways (Suttles 1991).

During the spring, summer, and fall, people would journey from central villages to temporary camps. Camps were located along streams during salmon runs while smaller groups would hunt, fish, and gather plant resources. Gathering was most intensive during spring and summer. Plants such as cattail (*Typhaceae* spp.), cranberry (*Oxycoccus* spp.), wapato (*Sagittaria latifolia*), and salmonberry (*Rubus spectablilis*) shoots were collected from wetlands, such as those found along Lake Stickney (located directly west of the project area), and prairies were visited for gathering camas (*Liliaceae* spp.) bulbs (Haeberlin and Gunther 1930; Turner 1976).

A typical summer house was constructed for short-term occupation, and they were typically tipi or square-shaped. Mats were placed horizontally over a frame of poles to create the tipi, while square houses were a lean-to type form, with mats placed over a wooden structure with a gabled or single pitch roof. Short-term occupation mountain camps were made using a similar square form, but covered with boughs of various tree species. Another style of summer house consisted of four corner poles with horizontal poles placed on top to create a gable. Cedar twigs held the framework together, while mats covered the roof and three sides (Haeberlin and Gunther 1930).

The Tulalip Reservation was authorized under the Treaty of Point Elliot in 1855, and enlarged in 1873, as the home for several indigenous groups including the Snohomish, Stillaguamish, Snoqualmie, Skykomish, and other allied bands living in the region (Ruby and Brown 1992; Tulalip Tribes 2014). Some among these groups moved to the reservation, while others remained living on their traditional lands. The combined tribes became known as the Tulalip Tribes.

Cardno is not aware of any known ethnographic place names within the project area or immediately adjacent. However, there are several ethnographic place names recorded in the general vicinity of the project area and near the mouth of the Snohomish River (Waterman 1922; Waterman et al. 2001:336-342). Non-English names are Lushootseed when available.

16 ʔ*us*ʔ*us*ič (Watermann orthography: *Os³a/s1tc)* translates to “chasing a fish here and there” near an estuary between Steamboat and Union Sloughs.

16a *bəluʔəb* (Watermann orthography: *PE’ls1b)* translates to “boiling,” for an area at the mouth of the main Snohomish River channel.

17 *čikʷucid* (Watermann orthography: *Ctcqo’tsid)* translates to “that which chokes up the mouth of something,” for a small island located on the north side of the Snohomish River mouth.

18 *sexʷčulalqʷ* (Watermann orthography: *SExwtculalkw)* is noted for a sharp point of land running toward the Ctcqo’tsid island.

19 *hibuĺəb* (Watermann orthography: *Hibu’l³ub)* translates to “place where water boils out of the ground,” for a former village site south of the Snohomish River mouth.

20 Watermann orthography: *SEqʷsu’³ub* is noted for a small promontory with a slough that runs parallel to the shore.

21 *sluluwɬ* (Watermann orthography: *SLu’luw1L)* translates to “little perforation for a canoe,” for a narrow channel passing behind an island.

22 ƛ'*uxʷaɬ* (Watermann orthography: *tL’o’hwaL)* translates to “a cold spring” for a spot on the river bank opposite Everett.

3.3 Historical Context

Cardno referenced GLO land patents and cadastral maps for Township 29 North, Range 5 East as well as Snohomish County atlases and USGS topographic survey maps to determine changes in built environment features (e.g., piers, docks, railroads, buildings, and/or roads) in or near the project area (Table 2). According to the results of a land patent search through the Bureau of Land Management (BLM), in 1876 Dennis Brigham was granted a total of 160.15 acres for Lot/Tract 2, Lot/Tract 3, and Lot/Tract 4 within Section 19 of Township 29 North, Range 5 East. Brigham, a carpenter from Massachusetts, arrived in the Everett area in 1861 to begin the homesteading process. Considered the first permanent settler in the area, Brigham constructed a cabin on his acres near Port Gardner Bay and lived a solitary life (Oakley 2005). During the early 1860s, a lone telegraph operator "…and Brigham were the only settlers between Mukilteo and the mouth of the Snohomish River for many years" (Whitfield 1908: 285). Later, John Auson King claimed Lot/Tract 1, immediately north of Brigham within Section 19 (BLM 1874). These lands grants were authorized under the Land Act of 1820 and the Homestead Act of 1862. These acts reduced the price of federal lands and gave citizens up to 160 acres each of public land for improvement.

Table 2. Results of Cartographic Analysis.

Year	Author/Company	Description of project area
1869	BLM	The project area is located within Section 19, which is partially submerged in Port Gardner Bay. A trail extends along the east bank and connects to a telegraph office and through property homesteaded by "Brigam."
1902	Sanborn Map Co.	Federal Ave extends north through the railroad and ends at the west extent of Everett Ave. Lot/Tract 618 and 619 are labeled, but show no company or ownership. Block 619 contains 30 structures consisting of dwellings with associated outbuildings. Block 618 depicts 11 more structures labelled "Squatters Shacks." Area noted as "marsh."
1910	Anderson Map Co.	Several rail spurs extend west to docks and piers owned by G.N. Ry. Co., N.P. Ry. Co., and Everett Imp. Co. project area is situated west of Everett Ave terminus with railroad and tideland additions (labeled 618 and 619).
1914	Sanborn Map Co.	"Squatters shacks" have been removed from Blocks 618 and 619. Shoreline cuts northeast from intersection of Federal Ave and Everett Ave. Two structures are depicted in the southwest area of Block 618 near the waterline. Area noted as "marsh."
1927	Chas. F. Metsker	Project area is depicted west of main roadways within railroad and dock area of Port Gardner Bay. Sections 20 and 19 are not labeled.
1934	Kroll Map Co.	Project area is noted within an undetailed area heavily utilized by railroad and docks.
1936	Chas. F. Metsker	G.N. Rwy. Depicted east of project area with spurs to "City Dock" and other businesses. North of project area is Clark Nickerson Lbr. Co., and docks to west noted as 13, 14, and 21.
1943	Kroll Map Co.	Same as Kroll (1934).
1950	Sanborn Map Co.	Significant development of Blocks 618 and 619. General Petroleum Corporation, Gilmore Oil Co., and the Associated Oil Company have all constructed warehouses and fuel oil tanks. Within Port Gardner Bay there is a pier (Standard Oil Co.) and an outfitting basin.
1960	Thos. C. Metsker	Federal Street depicted within its current alignment. The project area is noted within property owned by Standard Oil. The block (619 and 618) contains storage tanks.
1960	Kroll Map Co.	Same as previous.

Year	Author/Company	Description of project area
1975	Chas. F. Metsker	Scott Paper Co. is north of the project area. Standard Oil property with storage tanks is located within the project area.
198x	Chas. F. Metsker	Same as previous.
1992	Metsker Maps	Same as previous.

The 1869 survey plat image for Township 26 North, Range 5 East, depicts a telegraph line aligned north-south along the east side of Port Gardner Bay. A “Telegraph Office” is noted south of Section 19. This telegraph line “followed along the beach from Seattle to Whatcom” (Whitfield 1908: 285). In the southeast quarter of Section 19, a small cabin is noted along with the misspelled label of “Brigam” (BLM 1869). In 1890, the Brigham homestead property was purchased by Wyatt and Bethel Rucker with plans to create a townsite called “Port Gardner” (Oakley 2005). During the next year, the Ruckers became associated with Henry Hewitt Jr., Charles L. Colby, and other optimistic landowners and incorporated the Everett Land Company. By 1891, the main thoroughfare called Hewitt Ave was cut east to west and 100 feet wide.

Development of the townsite, now called Everett after Charles Colby’s son, continued with stump removals, street grading, and the sale of Everett Land Company lots (Oakley 2005; Port of Everett 2021). The Everett Land Company won ownership of the waterfront in 1892. In April of 1893, Everett was incorporated and boasted more than 5,600 citizens supported by streetlights, streetcars, sawmills, railroads, and residential and commercial expansion. However, the Panic of 1893 led to a withdrawal of investments and money in the Everett Land Company. The holdings of the Everett Land Company were transferred to the Everett Improvement Company in 1899 (Oakley 2005).

Evidence of development revitalization is visible in a 1902 map in the numerous land lots divided and numbered to the East Waterway shoreline of Port Gardner Bay (Figure 4; Sanborn Map Co. 1902). Federal Ave extended north through the Great Northern Coast Line and terminated at the westerly extent of Everett Ave. At this time, no company or business name was noted on the Sanborn Fire Insurance Map within the project area. Within properties directly north of the project area, large structures are depicted for the Everett Flour Mill Co. and the Clark Nickerson Lumber Co.

The color-coded key indicates that within Block 619 within the project area, structures consisted of “frame building” (Sanborn Map Co. 1902). The detailed map page for Block 619 contains 30 frame structures, all dwellings and associated outbuildings, situated around a marshland at the center of the block (Figure 5). Within each dwelling, the maps include a notation of “S.P.,” which is specially called out on the key map introduction: “NOTE Practically all dwellings with a “S.P” (Stove pipe) are cheap, unpainted shacks” (Sanborn Map Co. 1902: Key Map). Eleven additional “S.P.” buildings consisting of dwellings, outbuildings, bath house, and boat house, are depicted within Block 618 to the north of the project area, and noted as “Squatters Shacks” (Sanborn Map Co. 1902).

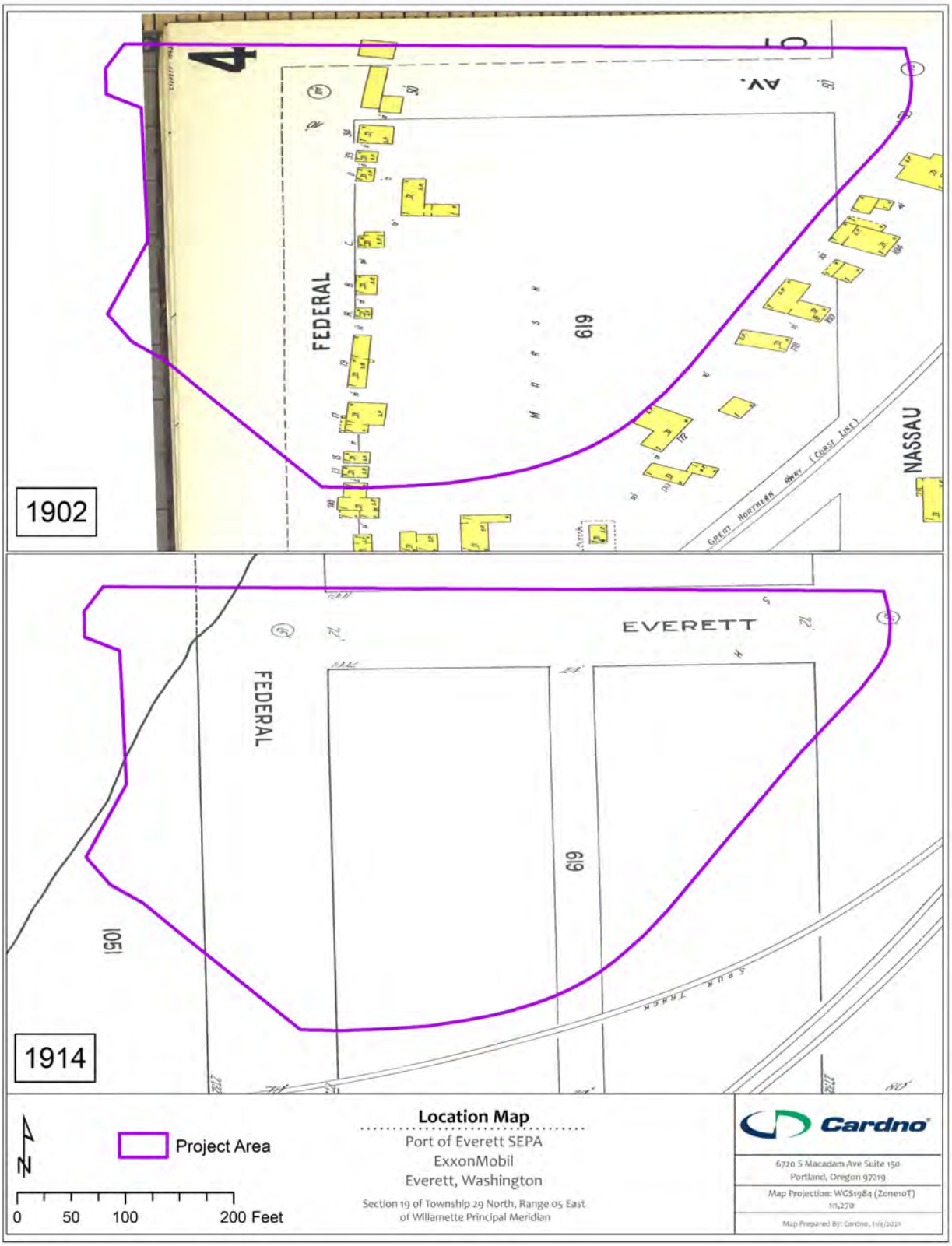

Figure 4. Details from 1902 and 1914 Sanborn Fire Insurance Maps (Sanborn Map Co. 1902, 1914).

Historical maps illustrate a changed landscape. In 1910, railway spurs extended west from the mainline to docks and piers owned by “G.N.Ry.Co.,” “N.P.Ry.Co.,” and “Everett Imp. Co.”:

“G.N.Ry.Co.” – Great Northern Railway

“N.P.RY.Co.” – Northern Pacific Railway

“Everett Imp. Co.” – Everett Improvement Company

By 1914 the “squatters shacks” north of the project area had been removed, and increasing development of piers and docks is evident (see Figure 4; Anderson Map Co. 1910; Sanborn Map Co. 1914). The position of the site between the railroad and waterfront was highly conducive to industrial uses. Between 1914 and 1950, the east shoreline of Port Gardner Bay was significantly filled and artificially extended into the East Waterway. Additionally, docks and piers expanded the industrial and commercial landscape west of the historical extent of Federal Ave (Sanborn Map Co. 1950).

By 1925, the northern part of the project area contained at least two large “General Petroleum Corporation” tanks, three smaller unlabeled tanks, and three gable-roof outbuildings just south of Everett Avenue. The project area spans Federal Avenue, across which was one large “General Petroleum Corporation” warehouse complex near the shoreline. Predecessors of ExxonMobil, owned the project area site beginning in 1927 (Washington Department of Ecology 2021).

The warehouse complex contained automobile truck storage, an oil and grease warehouse, a wash rack room, a boiler room, and an oil in steel drum staging yard adjacent to a wooden bulkhead (Figure 5; Sanborn Map Co. 1939 [Revised through June 1955]). By 1947 development within the project area had been expanded significantly to the south (Figure 6). Additional infrastructure constructed included several cylindrical petroleum tanks each containing 25,000 gallons of gasoline, eight outbuildings including a wooden office building, pump room, and warehouses, and a steel filling rack (Figures 5, 7, and 8; Sanborn Map Co. 1939 [Revised through June 1955]). The shoreline has not been modified with fill since approximately 1950 (Figure 9). An Everett USGS map from 1953 shows the area developed with gasoline tanks and a pier directly adjacent to the company warehouse complex (Figure 10). It does not appear the eastern portion of the project area was ever significantly developed.

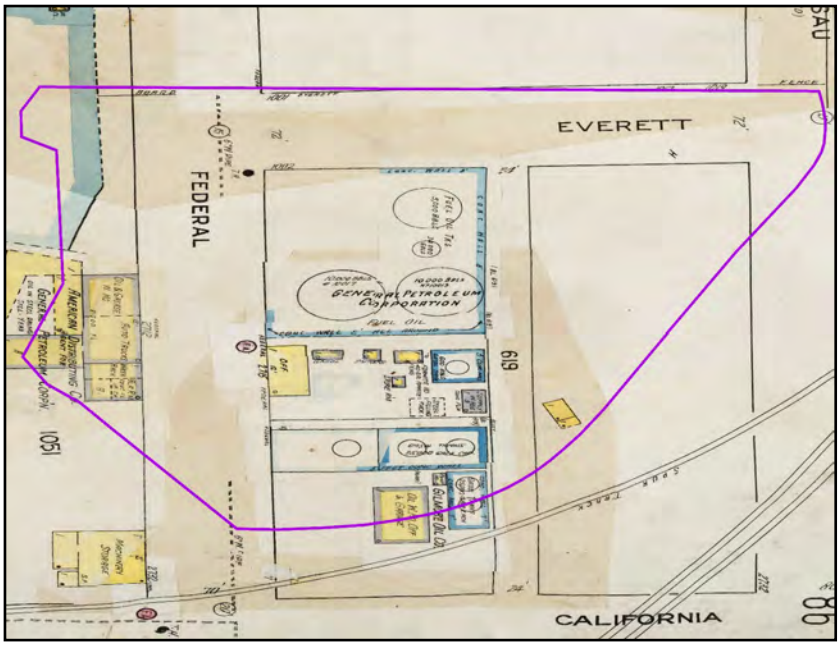

Figure 5. Project area displayed on 1939 Sanborn Fire Insurance Map. (Sanborn Map Co. 1939 [Revised through June 1955])

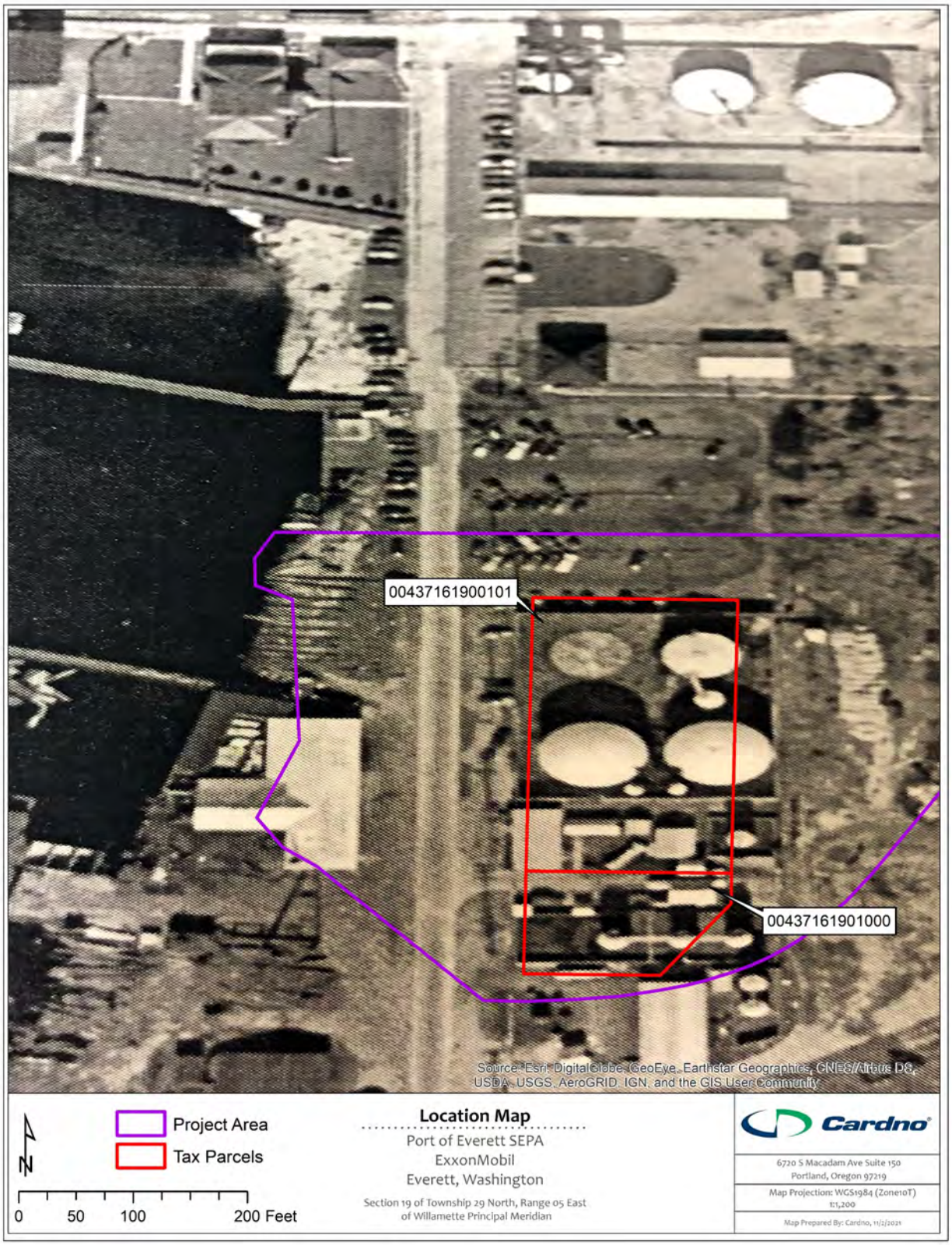

Figure 6. Project Area depicted on aerial imagery from 1947 (Image courtesy of ExxonMobil 2021).

Figure 7. Photograph of project area viewed facing north, taken from south end of site (Washington Department of Ecology 2021).

Figure 8. Undated photograph showing gasoline infrastructure after General Petroleum Corporation was rebranded to Mobilgas. The office building on the site is at the right. (Washington Department of Ecology 2014:65)

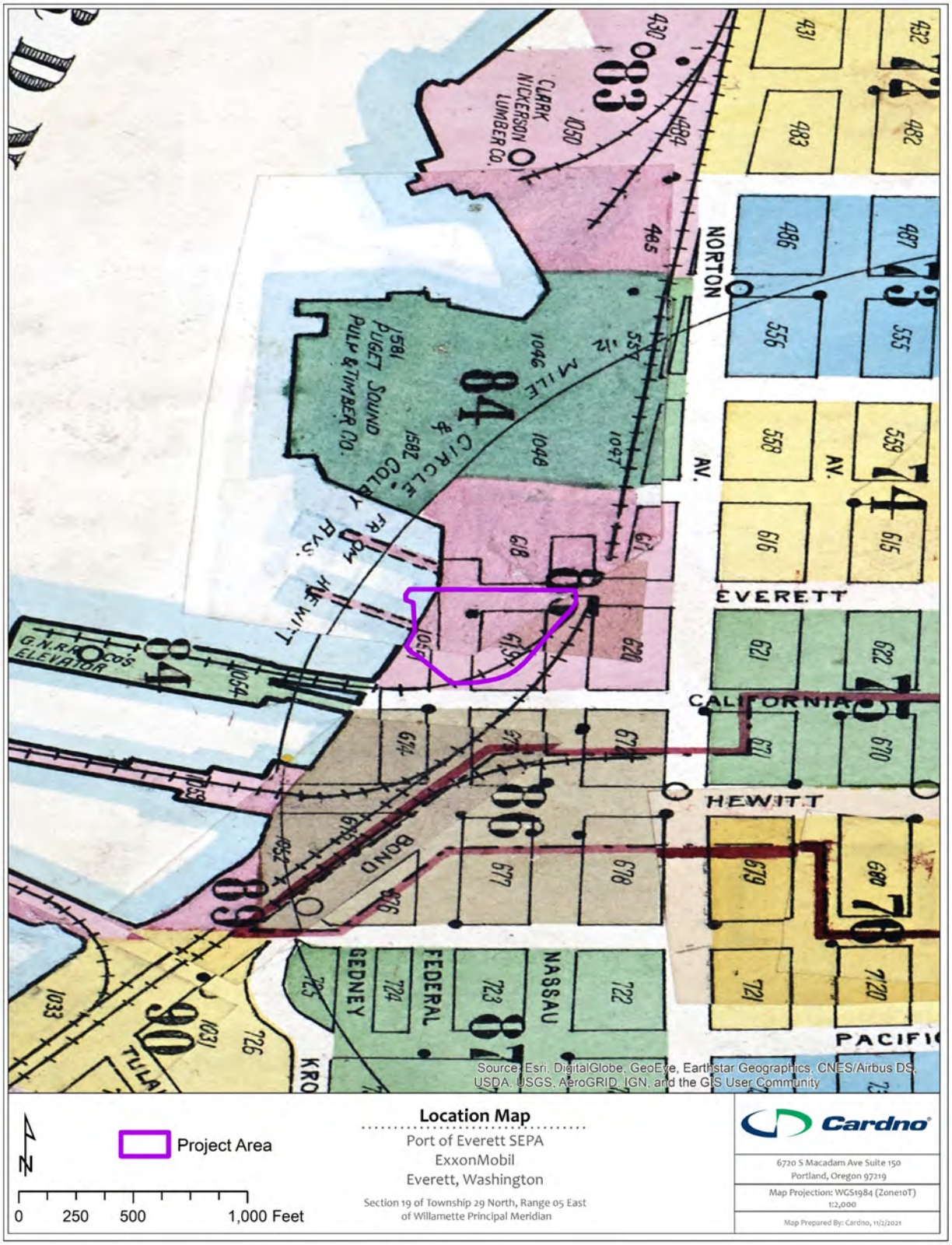

Figure 9. Project Area depicted on 1950 Sanborn Insurance Map (Sanborn Map Co. 1950).

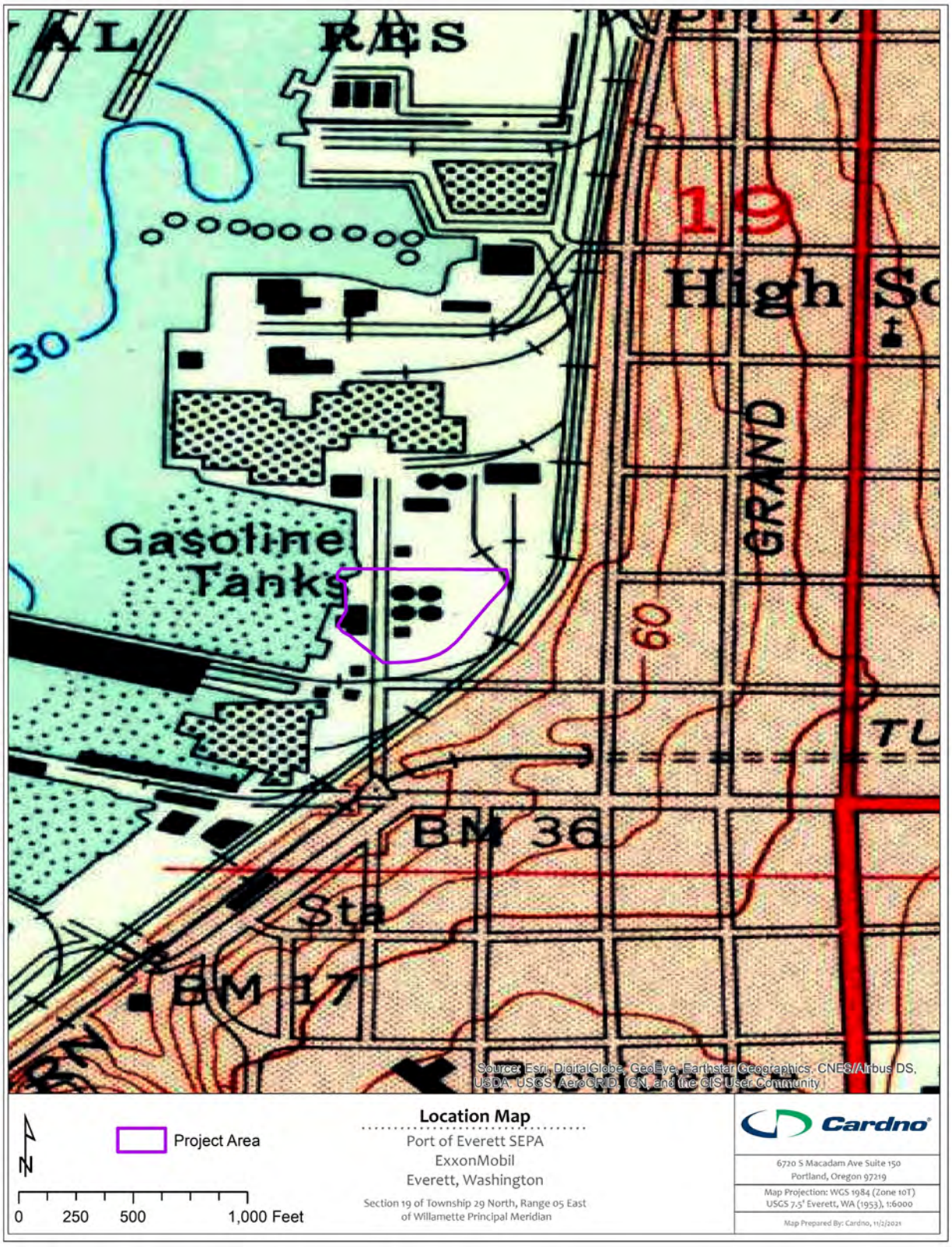

Figure 10. Project area depicted on the 1953 Everett USGS 7.5-minute quadrangle (USGS 1953).

In 1974, Mobil Oil sold the northern part of the project area to A.P. Miller for use by the American Distributing Company (ADC) who continued petroleum operations until 1990 (Washington Department of Ecology 2021). By 1977 the warehouse complex across Federal Avenue and the office building had been demolished (Figure 11). Mobil Oil ceased petroleum operations on the project area in 1987. All remaining infrastructure at the site was demolished between 1998 and 2002, and the project area was used as a parking lot (Washington Department of Ecology 2021). In late 2003 Terminal Avenue was developed adjacent to the site. The project area experienced continued development and change over several years precluding the identification of a particular year or period of importance of the petroleum infrastructure which was once extant.

Figure 11. A 1977 aerial photograph of the project area (Washington Department of Ecology 2021).

3.1 Literature Review

Cardno archaeologists conducted a background search and literature review of existing cultural resource records; local, state, and national register nomination forms; previous cultural resources investigations; and any known or potential TCPs in and within 1.0 mile (1.6 km) of the project area. According to the DAHP's predictive model available on the WISAARD online database, there is a very high risk of encountering buried precontact archaeological deposits in the project area.

3.1.1 Previous Investigations

The background search identified 15 cultural resources investigations that have been previously conducted within 1.0 mile (1.6 km) of the current project between 1975 and 2020 (Table 3). Seven investigations were surveys, two involved construction monitoring, two were historic structures surveys, three provided larger prehistoric and historic context for the area, and one was a monitoring and discovery plan. Recently, four cultural resources investigations fall within or immediately adjacent to the project area, as plotted by WISAARD (*see* Table 3): Johnson 2000; Rinck et al. 2013; Undem et al. 2014; Johnson 2020.

Table 3. Cultural Resources Investigations within 1.0 Mile of the project area (*n* = 15).

Year	Author	Report Title	NADB Number	Report Type	Location Relative to project area
1975	Dunell and Fuller	An Archaeological Survey of Everett Harbor and the Lower Snohomish Estuary-Delta	1332098	Survey Report	project area within Study Area
1987	Blukis Onat	Resource Protection Planning Process Identification of Prehistoric Archaeological Resources in the Northern Puget Sound Study-Unit	1349367	Overview	Overview of Area
1988	Evans-Hamilton, Inc.	The Location, Identification and Evaluation of Potential Submerged Cultural Resources in Three Puget Sound Dredged Material Disposal Sites	1340504	Survey Report	0.84 mile west
1991	Miss and Campbell	Prehistoric Cultural Resources of Snohomish County, Washington	1334282	Overview	Overview of Area
1998	Demuth	Technical Report: Historic, Cultural, and Archaeological Resources Assessment for Everett-to-Seattle Commuter Rail Project Environmental Impact Statement	1340269	Overview	Overview of Area
2000	Johnson	Letter to Molly Adolfson Regarding Proposed California Street Overpass, Everett	1344193	Survey Report	Within project area
2006	Juell	Archaeological Site Assessment of Sound Transit's Sounder: Everett to Seattle Commuter Rail System, King and Snohomish Counties	1348189	Survey Report	0.38 mile south
2008	Hartmann	Cultural Resources Assessment for the Swift Bus Rapid Transit Project	1351380	Survey Report	0.54 mile southeast
2011	Lenz et al.	Cultural Resources Assessment for the Broadway Bridge Replacement Project, Everett	1682948	Survey Report	0.68 mile west
2013	Pinyerd	Downtown Everett #SE03XC527 1602 Hewitt Ave., Everett	1683379	Historic Structures Survey Report	0.37 mile southeast
2013	Rinck	Cultural Resources Monitoring and Discovery Plan for the Kimberly-Clark Worldwide Site Upland Area, Everett	NA	Monitoring and Discovery Plan	0.11 mile north
2013	Rinck et al.	Archaeological Resources Assessment for the Kimberly-Clark Worldwide Site Upland Area, Everett	NA	Survey Report	0.06 mile north

Table 3. Cultural Resources Investigations within 1.0 Mile of the project area (*n* = 15).

Year	Author	Report Title	NADB Number	Report Type	Location Relative to project area
2014	Undem et al.	Letter to Steve Germiat RE: Results of Cultural Resources Monitoring at the Kimberly-Clark Worldwide Site Upland Area, Everett	1685767	Monitoring Report	0.11 mile north
2014	Sackett	Architectural Survey and Evaluation: Naval Station Everett	1685545	Historic Structures Survey Report	0.47 mile west
2020	Johnson	FINAL Results of Archaeological Monitoring for the Kimberly-Clark Everett Interim Action	1694736	Monitoring Report	0.07 mile north

In 2000, Paragon Research Associates conducted a survey for roadway connector alternatives between Everett Ave that would impact “Maggie’s Park” (Johnson 2000). Maggie’s Park, located approximately 400 feet east of the project area, is located within the Brigham land claim and possibly near the location of the original cabin. However, no archaeological materials have been identified to confirm this claim. Johnson conducted a pedestrian survey and identified no cultural materials.

In 2013, SWCA Environmental Consultants (SWCA) conducted an extensive study and background review for the Kimberly-Clark Worldwide Site Upland Area SEPA process (Rinck et al. 2013). This project area is located within 56 acres of upland lands and 12 acres of tidelands within the north parcel immediately adjacent to the current project area. Previously, this area was utilized as for industrial purposes which has contaminated the area. The first mill within this project area was the Robinson ad Company Mill, which began operations in the early 1890s. By 1901, this area contained an extensive sawmill and planning facility for the Clark-Nickerson Lumber Company. During the background review, SWCA identified the project area as containing a high potential for precontact and historical cultural materials within the natural Port Gardner shoreline. In response to the potential for buried archaeological materials, SWCA developed a site-specific Monitoring and Discovery Plan (MDP) (Rinck 2013).

SWCA performed archaeological monitoring for cleanup excavations at the Kimberly-Clark Worldwide Site Upland Area (Undem et al. 2014). Within one area, excavations intersected natural sediments underlying historic-period fill. Within Location 11, archaeologists observed miscellaneous historic debris and architectural remnants located between 2 and 6 feet below ground surface. One precontact artifact was documented during monitoring—45SN00629, an edge-altered basalt cobble (Undem 2014).

Archaeological monitoring continued at the Kimberly-Clark Worldwide Site Upland Area in 2020 (Johnson 2020). Archaeologists observed architectural and structural debris within the historic fill layer, likely associated with historical mill operations. No precontact materials or intact sediment layers were observed.

3.1.2 Archaeological Resources

One archaeological resource is recorded within a 1.0-mile (1.6-km) radius of the project area. The archaeological resource (45SN00629) is a precontact isolated find identified within historic dredge material underneath a parking lot (Undem 2014; Undem et al. 2014). Historically, the property was the location of a mill situated at 2600 Federal Avenue (Boswell and Sharley 2012). The single lithic artifact was recorded as an edge-altered basalt cobble with 13 multidirectional flake scars on one end. The artifact was donated to the Hibulb Cultural Center (Johnson 2020).

3.1.3 Built Environment

No historic properties listed in the NRHP, WHR, and/or ERHP are located within or immediately adjacent to the project area. Twelve properties listed in the NRHP are located within 1.0 mile (1.6 km) of the project area (Table 4). Additionally, two historic districts are located within 0.5 mile (0.8 km) of the project area: Hewitt Ave Historic District (45DT00231) and Rucker Hill Historic District (45DT00155). Four properties are listed in the WHR. Twenty-seven properties are listed on the ERHP, and all three Everett historic overlay districts begin within one mile of the site. Several properties are listed on more than one register. The dates of significance for the historic properties range from 1892 to 1967. There are no properties listed on the Snohomish County Register of Historic Places within one mile of the project area.

Table 4. NRHP/WHR/ERHP-Listed Properties Located within 1.0 Mile of the project area (*n* = 33).

Property Name	Address	Date Built	Property/Inventory No./Resource ID	Author	Year	Location Relative to project area
Roland & Nina Hartley House/Hartley Mansion (45SN00337)	2320 Rucker Ave	1910	Listing No. 86000958; Resource ID 676163 WHR, NRHP	Lambert	1986	0.37 mile northeast
Everett High School (45SN00351)	2400 Colby Ave	1910	Listing No. 97000493; Resource ID 676177 WHR, NRHP	Ravetz	1996	0.35 mile northeast
Everett Public Library (45SN00341)	2702 Hoyt Ave	1934	Resource ID 676167 WHR	Dilgard	1989a	0.27 mile east
Knights of Columbus Community Center and War Memorial Building (45SN00132)	1611 Everett Ave	1921	Listing No. 79002554; Resource ID 676151 WHR, NRHP	Potter	1975c	0.40 mile east
Pioneer Block – Everett (45SN00127)	2814-2816 Rucker	1892	Resource ID 676145 WHR	Lambert	1979	0.23 mile southeast
Marion Building, Hotel Marion, Tontine Saloon (45SN00128)	1401 Hewitt Ave	1895	Resource ID 676146 WHR	Dilgard	1979	0.27 mile southeast
Everett Theatre (45SN00115)	2911 Colby Ave	1901; 1924	Resource ID 676133 WHR	Potter	1975a	0.41 mile southeast
Monte Cristo Hotel (45SN00117)	1507 Wall Street	1925	Listing No. 76001907; Resource ID 676135 WHR, NRHP	Potter	1975b	0.39 mile southeast

Table 4. NRHP/WHR/ERHP-Listed Properties Located within 1.0 Mile of the project area (*n* = 33).

Property Name	Address	Date Built	Property/Inventory No./Resource ID	Author	Year	Location Relative to project area
U.S. Post Office and Customs House (45SN00135)	3006 Colby Ave	1917	Listing No. 76001909; Resource ID 676154 WHR, NRHP	Potter	1975d	0.43 mile southeast
Everett City Hall (45SN00344)	3002 Wetmore Ave	1929	Listing No. 90000674; Resource ID 676170 WHR, NRHP	Dilgard	1989b	0.48 mile southeast
Snohomish County Courthouse (45SN00116)	3000 Rockefeller Ave	1910; 1967	Listing No. 75001870; Resource ID 676134 WHR, NRHP	Potter	1975e	0.56 mile southeast
Everett Carnegie Library/Cassidy Funeral Home (45SN00133)	3001 Oakes Ave	1904; 1905	Listing No. 75001868; Resource ID 676152 WHR, NRHP	Potter	1975f	0.62 mile southeast
Commerce Building (45SN00345)	1801 Hewitt Ave	1910	Listing No. 92001290; Resource ID 676171 ERHP, WHR, NRHP	Sullivan	1992	0.52 mile east
Everett Fire Station No. 2 (45SN00342)	2801 Oakes Ave	1925	Listing No. 90000673; Resource ID 676168 WHR, NRHP	Dilgard	1989c	0.57 mile east
Rucker House (45SN00134)	412 Laurel Dr	1901	Listing No. 75001869; Resource ID 676153 WHR, NRHP	Potter	1975g	0.62 mile southwest
Hewitt Avenue Historic District (45DT00231)	1620 - 1915 Hewitt Avenue and portions of Wetmore, Rockefeller, Oakes, and Lombard Avenues	1894–1959	Listing No. 10001020; Resource ID 674762 WHR, NRHP	Fürész	2010	0.44 mile east
Rucker Hill Historic District (45DT00155)	Laurel, Snohomish, Niles, Warren, Bell, Tulalip, 33rd and 34th	1905–1930	Listing No. 89000399; Resource ID 674698 WHR, NRHP	Ravetz	1988	0.45 mile southwest

Table 4. NRHP/WHR/ERHP-Listed Properties Located within 1.0 Mile of the project area (*n* = 33).

Property Name	Address	Date Built	Property/Inventory No./Resource ID	Author	Year	Location Relative to project area
Rucker-Grand Historic Overlay Zone	Rucker and Grand Avenues between 10th and 24th Streets		N/A ERHP			0.37 mile northeast
Norton-Grand Historic Overlay District	Norton and Grand Avenues between Pacific Avenue and 3612 Norton Avenue		N/A ERHP			0.34 mile south
Riverside Historic Overlay District	N/A	Established 2008	N/A ERHP			0.88 mile east
Fratt Mansion (45SN00680)	1725 Grand Ave	1904	Listing No. 100000991 Resource ID 678273 ERHP, WHR, NRHP	Cope & Gillette	2017	0.91 mile northeast
Sittig House	1927 Rucker Ave	1893	N/A ERHP	O'Donnell	2018	0.75 mile northeast
Cleaver Clough House	2031 Grand Ave	1907	N/A ERHP			0.64 mile northeast
Hilzinger House	2108 Rucker Ave	1907	N/A ERHP			0.63 mile northeast
Wright House	2112 Rucker Ave	1905	N/A ERHP			0.61 mile northeast
Blackman House	2208 Rucker Ave	1910	N/A ERHP			0.54 mile northeast
Austin House	2201 Rucker Ave	1897-1900	N/A ERHP			0.57 mile northeast
Agnew House	2301 Rucker Ave	1899	N/A ERHP			0.49 mile northeast
Krieger Laundry	2808 Hoyt Ave	1915	N/A ERHP			0.3 mile southeast
Walsh Platt/Fisher Motors Building	2902 Rucker Ave	1930	N/A ERHP			0.27 mile southeast
Everett Downtown Storage	3001 Rucker Ave	1919	N/A ERHP			0.36 mile southeast
Howard House	3410 Snohomish Ave	1912	N/A ERHP			0.69 mile southwest
Jackson House	3602 Oakes Ave	1906	N/A ERHP			0.97 mile southeast
Culmback Building	3013 Colby Ave	1924	N/A ERHP			0.48 mile southeast

Table 4. NRHP/WHR/ERHP-Listed Properties Located within 1.0 Mile of the project area (*n* = 33).

Property Name	Address	Date Built	Property/Inventory No./Resource ID	Author	Year	Location Relative to project area
Port Gardner Building	2802 Wetmore Ave	1929	N/A ERHP			0.43 mile east
Bank of Everett (Cope Gillette Theatre	2703 Wetmore Ave	1963	N/A ERHP			0.44 mile east
Challacombe & Fickel Building	2727 Oakes Ave	1923	N/A ERHP			0.59 mile east
Evergreen Building	1909 Hewitt Ave	1902	N/A ERHP			0.62 mile southeast
Watson's Bakery	1812 Hewitt Ave	1910	N/A ERHP			0.57 mile southeast
Morrow Building	2823 Rockefeller Ave	1925	N/A ERHP			0.54 mile southeast
Van Valey House	2130 Colby Ave	1914	N/A ERHP			0.64 mile northeast
Sahlinger-Muck	2319 Colby Ave	1908	N/A ERHP			0.56 mile northeast
Clark Park	2400 Lombard Ave	1894	N/A ERHP			0.66 mile northeast
Ray Fosheim House	2017 26th St	1892	N/A ERHP			0.7 mile northeast
Lettelier House	2510 Baker Ave	1908	N/A ERHP			0.98 mile northeast

Three historic properties located within 0.5 mile (0.8 km) of the project area have been recommended and determined eligible for listing in the NRHP and/or WHR (Table 5). The Kimberly-Clark Everett Mill Main Office (Property ID 667716) is within 0.09 miles of the project area. The building was originally constructed in 1929 and consisted of a two-story Neoclassical rectangular structure with red brick cladding and low-pitched hipped roof. The building has a projecting Classical portico and round, white-painted Tuscan columns. In the 1940s and 1950s, the building underwent several alterations including the addition of two dormers on the roof, an addition to the south elevation of the building, the addition of a poured concrete deck and steps, and window replacements. The building is recommended as eligible for listing in the NRHP under Criterion A and listing in the WHR based on its historical association with the industrial development of Everett (Sharley 2012). All other listed and eligible properties are separated from the project area by the BNSF Railway train tracks. Most listed properties within one mile of the project area are clustered in areas to the east and to the north-northeast.

Table 5. Properties Recommended Eligible Located within 0.5 Mile of project area (*n* = 3)

Property Name	Address	Date Built	Property ID/ Resource ID	Author	Year	Location Relative to project area
Kimberly-Clark Everett Mill Main Office	2600 Federal Ave	1929	Property ID 667716; Resource ID 614724	Sharley	2012	0.09 mile north
Daulph Delicatessen	1416 Hewitt Ave	1927	Property ID 18268; Resource ID 12597	Dilgard and Riddle	1989	0.33 mile east
Everett Main Post Office	3102 Hoyt Ave	1964	Property ID 270916	Richards	2014	0.44 mile southeast

3.1.4 Cemeteries and Burials

According to information provided on the DAHP's WISAARD, there are no historic or precontact burials located within 1.0 mile (1.6 km) of the project area. One historic columbarium is located approximately 0.47-mile northeast of the project area (DAHP 2009). The Trinity Episcopal Church Columbarium (45SN00555) is situated at 2301 Hoyt Ave. The church was dedicated in 1921 with a new parish hall constructed in 1961 (Trinity Episcopal Church 2019). No further information is provided regarding the columbarium.

3.2 Cultural Resources Summary

Archival research indicates a high level of human activity took place adjacent to the project area during precontact and historic times. Given the history of the project area and its immediate vicinity, Cardno concludes that the potential for encountering subsurface archaeological deposits beneath the historic fill layers is moderate to high. Historical land modification, including the introduction of artificial fill and development, reduces the likelihood of encountering in situ precontact artifacts. Ethnographic-period archaeological deposits within and adjacent to the project area may include disturbed or redeposited midden deposits, burials, evidence of a village, or debris associated with short-term occupations and resource-processing locations. Historic-period deposits may include debris from agricultural and historic homestead structures and other early-twentieth-century structure (i.e., "squatters shacks"), or from manufacturing or commercial development.

4.0 Recommendations

Cardno recommends that a monitoring and inadvertent discovery plan (MIDP) be implemented to minimize potential impacts to any currently unknown intact archaeological resources. Monitoring should not be necessary in glacial deposits and sediments, nor in existing areas where disturbance has already occurred.

Cardno recommends that the MIDP outline the necessary steps to be taken by contractors in the event of an inadvertent discovery during construction. These steps would serve to minimize damage to any inadvertently discovered archaeological resources during ground-disturbing activities, which may include small, deeply buried, and/or widely dispersed historic or precontact cultural materials (e.g., railroad grade, rails, ties, stakes, and footings; glass bottles; sanitary cans; chipped-stone tools; ground stone; beads; shell; faunal remains; human remains; funerary objects; and objects of cultural patrimony).

Steps included in the MIDP would outline the applicable local laws and regulations, stop-work and notification protocols, discovery protection measures, procedures for assessment by archaeologists, and steps for consultation with the DAHP and any affected Indian tribes. In the state of Washington, archaeological sites are protected from knowing disturbance on both public and private lands. As described in Section 2, RCW 27.44 and RCW 27.53.060 require that a person obtain a permit from the DAHP before excavating, removing, or altering Native American human remains or archaeological resources in Washington. A failure to obtain a permit is punishable by civil fines and penalties under RCW 27.53.095 and criminal prosecution under RCW 27.53.090.

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About Cardno

Cardno is an ASX-200 professional infrastructure and environmental services company, with expertise in the development and improvement of physical and social infrastructure for communities around the world. Cardno's team includes leading professionals who plan, design, manage, and deliver sustainable projects and community programs. Cardno is an international company listed on the Australian Securities Exchange [ASX:CDD].

Cardno Zero Harm

Cardno ZERO HARM EVERY JOB. EVERY DAY.

At Cardno, our primary concern is to develop and maintain safe and healthy conditions for anyone involved at our project worksites. We require full compliance with our Health and Safety Policy Manual and established work procedures and expect the same protocol from our subcontractors. We are committed to achieving our Zero Harm goal by continually improving our safety systems, education, and vigilance at the workplace and in the field. Safety is a Cardno core value and through strong leadership and active employee participation, we seek to implement and reinforce these leading actions on every job, every day.

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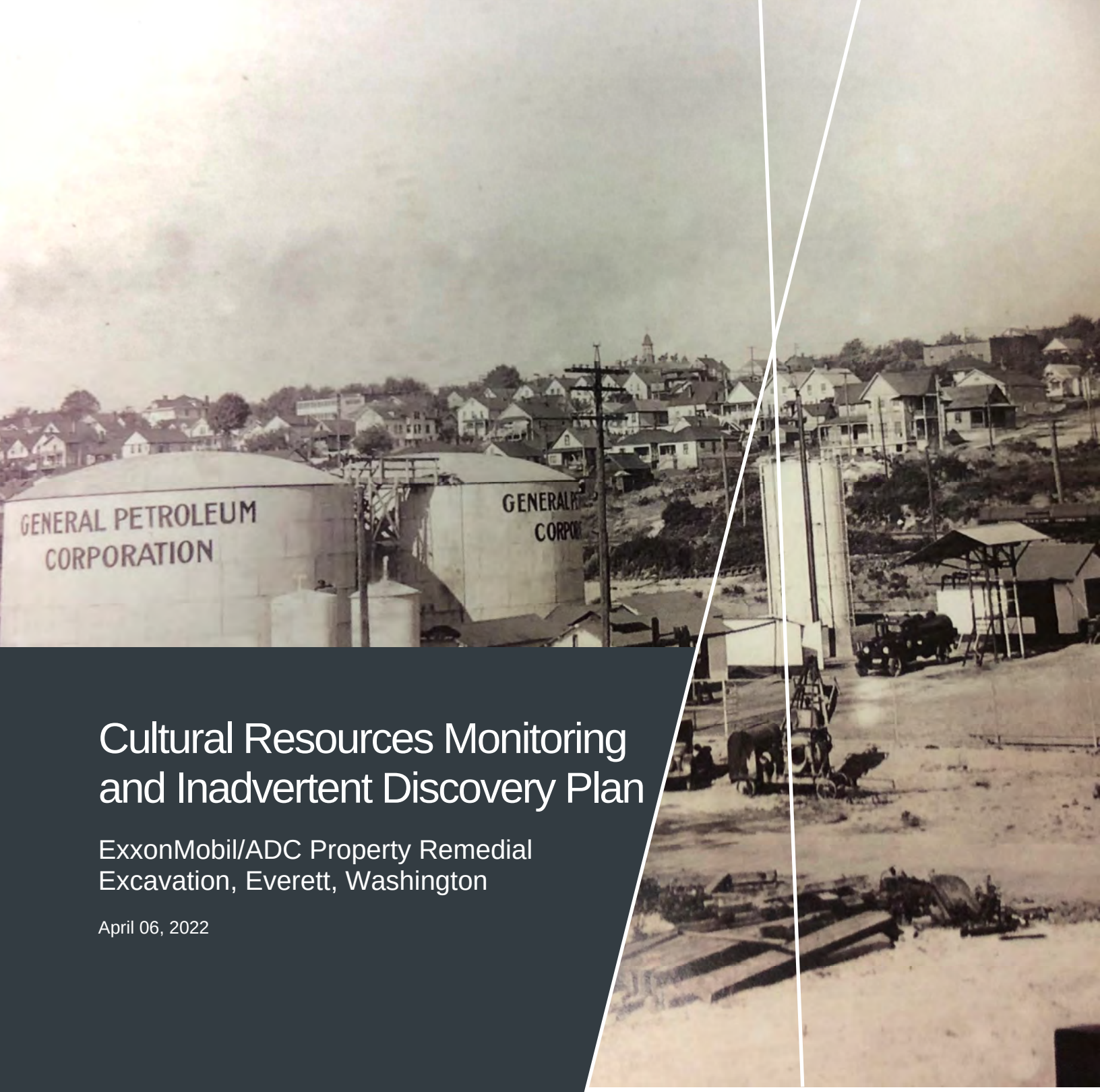
APPENDIX F

CULTURAL RESOURCES MONITORING AND INADVERTENT DISCOVERY PLAN



Cultural Resources Monitoring and Inadvertent Discovery Plan

ExxonMobil/ADC Property Remedial Excavation, Everett, Washington

April 06, 2022

Cardno®

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Document Information

Prepared for	ExxonMobil Environmental and Property Solutions Company 4096 Piedmont Avenue #194 Oakland, California 94611 (469) 913-3672 and American Distributing Co. 13618 45th Avenue NE Marysville, WA 98271 (360) 658-375
Project Name	Cultural Resources Monitoring and Inadvertent Discovery Plan ExxonMobil/ADC Property Remedial Excavation, Everett, Washington
Job Reference	0314476040
Version Number	2.0
Date	April 6, 2022

Cover image: PSI Cleanup Sites - Port Gardner, Sound Living Conference presentation, October 25, 2014. Page 20.
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Introduction

The proposed cleanup project by the ExxonMobil/ American Distributing Company (ADC) in Everett, Washington, is listed by the Washington State Department of Ecology (Ecology) as Cleanup Site 5182. Historical releases of petroleum products have been documented within the project area due to former operations of bulk petroleum storage, transfer, and distribution facilities and operations of other similar companies on nearby parcels. The purpose of the project is to cleanup soil and groundwater impacted by light non-aqueous phase liquid (LNAPL) and/or residual LNAPL saturation. Proposed cleanup activities include installation of shoring walls, and excavation of impacted soils. Following excavation of contaminated soils, the project area will be backfilled, re-graded to preexisting contours, removal of shoring walls, and repaved.

Cardno, Inc. (Cardno) previously prepared a cultural resources assessment in support of the project (Scott et al. 2021). The assessment consisted of a literature review and records search within 1.0 mile (1.6 kilometer [km]) of the project area that included cultural resource records for previously recorded historic, ethnohistoric, and precontact archaeological and built environment resources; a review of any local, state, and national register nomination forms; a review of previously conducted cultural resources investigations; and a review of any known or potential Traditional Cultural Properties (TCPs). This monitoring and inadvertent discovery plan (MIDP) was developed to use during cleanup operations.

Project Location and Description

The project is in Section 19 of Township 29 North, Range 5 East, Willamette Meridian (Figure 1). The ExxonMobil/ADC property consists of 3.48 acres. The acres are comprised of several tax parcels and portions of the City of Everett's (City) Right-of-Way (ROW). Parcel information is provided below (Table 1; Figure 2). Currently, the project area consists of a paved parking lot with no extant structures or buildings.

Regulatory Setting

The Washington State Environmental Policy Act (SEPA; RCW 43.21C) and its implementing rules contained in Washington Administrative Code (WAC) 197-11 require applicants to identify and document cultural and historical places and objects if national, state, or local significance that may be affected by project activities. The regulation requires proposed methods to reduce or control impacts to identified cultural resources during project activities. The SEPA review process provides notice to all affected tribal, state, and private entities.

Precontact and historic archaeological sites are protected by several Washington state regulations on both public and private lands. Revised Code of Washington (RCW) 27.44 and RCW 27.53.060 require that a person obtain a permit from the Washington Department of Archaeology and Historic Preservation (DAHP) before excavating, removing, or altering Native American human remains or archaeological resources in Washington. A failure to obtain a permit is punishable by civil fines and penalties under RCW 27.53.095 and criminal prosecution under RCW 27.53.090. The complete requirements for filing an archaeological excavation permit can be found in WAC 25-48-060. In the state of Washington, permits are required for alterations (e.g., excavation, removal, and collection of archaeological materials) at all precontact archaeological sites and at historic archaeological sites that are eligible for or listed in the National Register of Historic Places (NRHP).

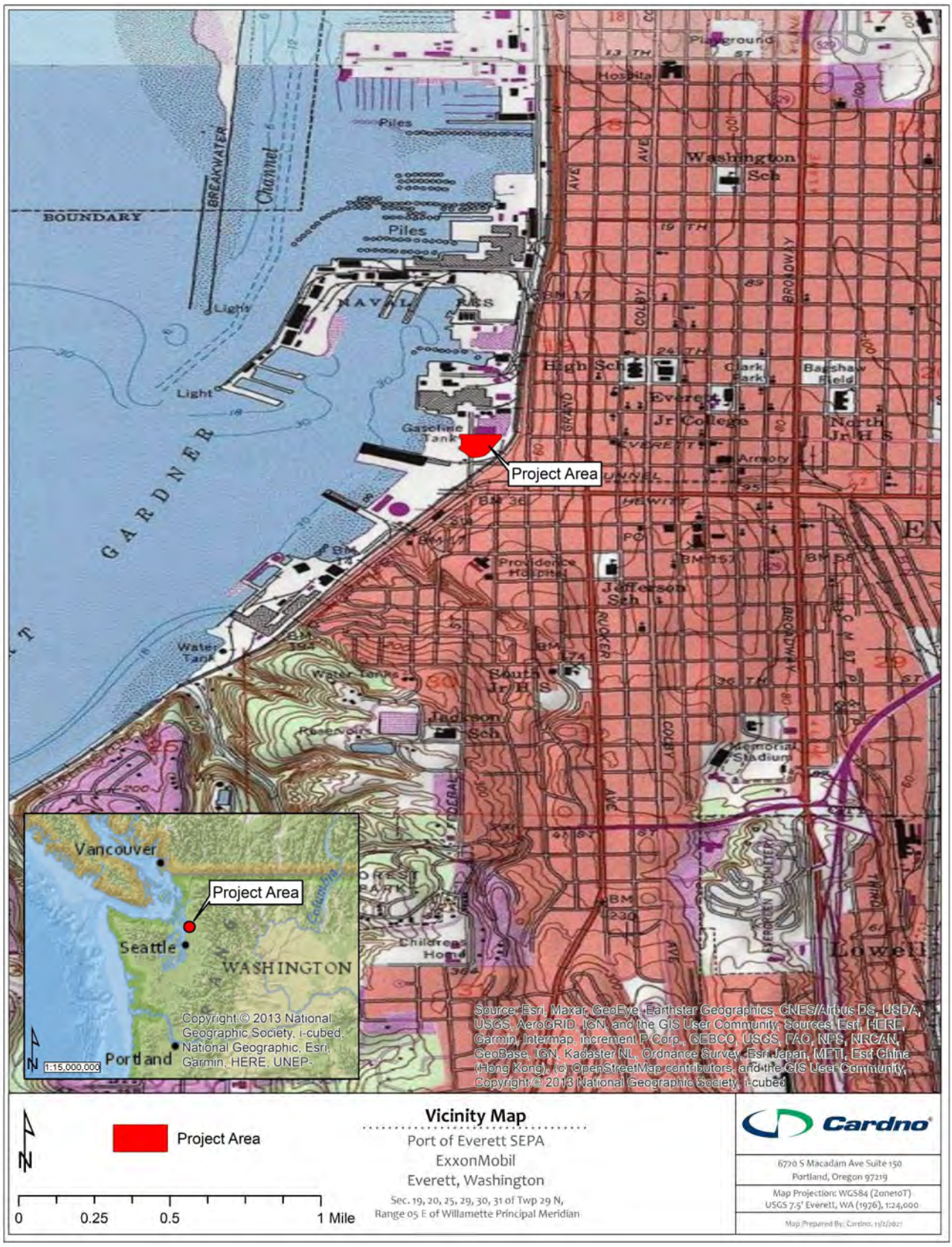

Figure 1. Project area and vicinity.

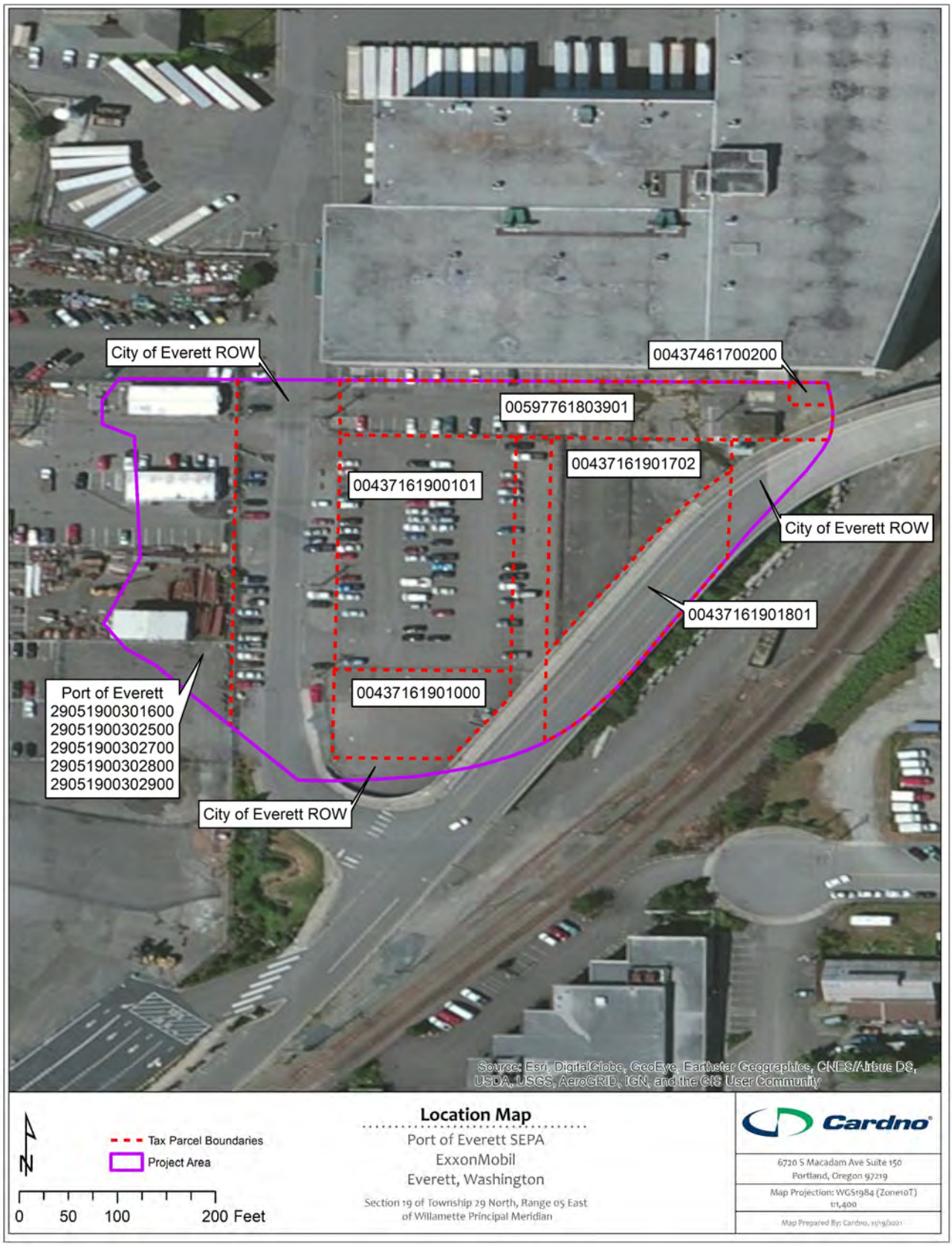

Figure 2. The project area denoting impacted Snohomish County tax parcels and City ROW.

Table 1. Snohomish County Tax Parcel Information.

Owners	Parcel Number(s)
Burlington Northern Railroad	00437161901702
City of Everett	00437161901801
Miller Trust (Cecilia Beverly Miller, beneficiary)	00437161900101
Mobil Oil Corporation	00437161901000
Port of Everett	00437461700200, 00597761803901, 29051900301600, 29051900302500, 29051900302700, 29051900302800, 29051900302900

If a person(s) violates this statute and knowingly disturbs or alters an archaeological site, the DAHP is allowed to issue civil penalties of up to $5,000, in addition to site restoration costs and investigative costs per RCW 27.53.095. Restorative and monetary remedies do not prevent concerned Indian tribes from undertaking civil action in state or federal court or law enforcement agencies from undertaking criminal investigation or prosecution. If human remains and/or burials are disturbed, RCW 27.44.050 allows an affected Indian Tribe to undertake civil action. Additionally, the excavation of human remains without a permit is a felony. RCW 68.60 requires “expeditious” notification of local law enforcement and the coroner if skeletal human remains are discovered. Failure to notify is considered a misdemeanor.

Snohomish County Code (SCC) 30.67.340 requires developers and property owners to immediately stop work and notify the county, DAHP, and affected Indian tribes if archaeological resources are uncovered during excavation. It further stipulates that county permits issued in areas documented as containing archaeological resources require a site inspection or evaluation by a professional archaeologist in coordination with affected Indian tribes. SCC 20.32D.070-100 outlines the process for obtaining and working under a certificate of appropriateness, and zoning. SCC 20.32D.200 requires recordation of archaeological sites. Additionally, completion of an archaeological report or relocation of a project is required for any construction, earth movement, clearing, or other site disturbance of a known archaeological site or any development application proposed on non-tribally owned, fee-simple properties designated Reservation Commercial on the Snohomish County Future Land Use Map. SCC 20.32D.220 outlines the process to follow if human remains or archaeological resources are found during construction, earth movement, clearing, or other site disturbance.

Everett Municipal Code (EMC) 19.28 outlines the process for identifying, listing, and protecting resources on the Everett Register of Historic Places and within historic overlay zones. Properties within historic overlay zones are governed by EMC 19.28.020 through 19.28.120. Criteria for placement on the Everett Register of Historic Places are described in EMC 19.28.130. Proposed changes to properties on the Everett Register are reviewed by the Everett historical commission per 19.28.140.

Potential for Discovery of Cultural Resources

Archival research indicates a high level of human activity took place adjacent to the project area during precontact and historic times (Scott et al. 2021). Given the history of the project area and its immediate vicinity, Cardno concludes that the potential for encountering subsurface archaeological deposits beneath the historic fill layers is moderate to high. Historical land modification, including the introduction of artificial fill and development, reduces the likelihood of encountering in situ precontact artifacts. Ethnographic-

period archaeological deposits within and adjacent to the project area may include disturbed or redeposited midden deposits, burials, evidence of a village, or debris associated with short-term occupations and resource-processing locations. Historic-period deposits may include debris from agricultural and historic homestead structures and other early-twentieth-century structure (i.e., “squatters shacks”), or from manufacturing or commercial development.

Cardno archaeologists conducted a background search and literature review of existing cultural resource records; local, state, and national register nomination forms; previous cultural resources investigations; and any known or potential TCPs in and within 1.0 mile (1.6 km) of the project area. According to the DAHP’s predictive model available on the WISAARD online database, there is a very high risk of encountering buried precontact archaeological deposits in the project area. Previous archaeological construction monitoring conducted between 2013 and 2020 suggest a high potential for buried intact cultural deposits.

In 2013, SWCA Environmental Consultants (SWCA) conducted an extensive study and background review for the Kimberly-Clark Worldwide Site Upland Area SEPA process (Rinck et al. 2013). This project area is immediately adjacent to the current project area. Previously, this area was utilized as for industrial purposes which has contaminated the area. During the background review, SWCA identified the project area as containing a high potential for precontact and historical cultural materials within the natural Port Gardner shoreline. In response to the potential for buried archaeological materials, SWCA developed a site-specific Monitoring and Discovery Plan (MDP) (Rinck 2013). SWCA performed archaeological monitoring for cleanup excavations at the Kimberly-Clark Worldwide Site Upland Area (Undem et al. 2014). Within one cleanup area, excavations intersected natural sediments underlying historic-period fill. Within Location 11, archaeologists observed miscellaneous historic debris and architectural remnants located between 2 and 6 feet below ground surface. One precontact artifact was documented during monitoring—45SN00629, an edge-altered basalt cobble (Undem 2014). Archaeological monitoring continued at the Kimberly-Clark Worldwide Site Upland Area in 2020 (Johnson 2020). Archaeologists observed architectural and structural debris within the historic fill layer, likely associated with historical mill operations. No precontact materials or intact sediment layers were observed.

No documented historic properties listed in the NRHP, Washington Heritage Register (WHR), and/or Everett Register of Historic Places (ERHP) are within or adjacent to the project area. There are three historic properties within 0.5 mile (0.8 km) of the project area have been recommended and determined eligible for listing in the NRHP and/or WHR including the Kimberly-Clark Everett Mill Main Office (Property ID 667716), the Daulph Delicatessen (Property ID 18268), and the Everett Main Post Office (Property ID 270916). All other listed and eligible properties are separated from the project area by the BNSF Railway Company train tracks.

Monitoring Measures

Cardno recommends that this MIDP be implemented to minimize potential impacts to any currently unknown intact archaeological resources. Monitoring should not be necessary in glacial deposits and sediments, nor in existing areas where disturbance has already occurred. The following outlines procedures to follow and the responsibilities of Cardno, ExxonMobil/ADC, and the contractor during construction.

Preconstruction Meeting

Prior to construction activities, an archaeologist familiar with the project will meet with the construction supervisors and project personnel. The objective is to review the area to be monitored, and to go over the procedures for coordination and notification of discoveries. Communication is critical to the success of the

MIDP and ensures that a monitor is present when needed. The roles and responsibilities of the monitor and other project personnel need to be outlined prior to construction. These include:

1. Review of all communication protocols. A list of contacts is at the end of this MIDP. When additions or changes in contacts are made, a revised contact list will be prepared at that time.

2. The responsibilities of each party will be reviewed, and each party identified including the contractor, ExxonMobil/ADC, Cardno, agencies, and Tribes.

3. Scheduling procedures for archaeological monitors will be outlined. The individual who will be responsible for making the initial request, and the period of advance notice to be given, will be agreed upon by ExxonMobil/ADC, Cardno, and the contractor.

4. On-site safety procedures will be reviewed.

Monitoring During Construction

An archaeologist will perform on-site monitoring of initial ground-disturbing activities to a depth of approximately 7 ft (2.13 m) below ground surface (bgs) because historic debris and architectural remnants were located between 2 and 6 ft bgs in an adjacent property in 2014 (Undem et al. 2014).

- Ground disturbance occurs when the surface is traversed or cut and may consist of excavation, trenching, potholing, grading, blading, grubbing, leveling, vehicular traffic that treads into the surface (as during wet weather), and hand-digging with a shovel. This list is not considered exhaustive, and essentially anytime possible native soil may be displaced it will be considered to be ground disturbance.

- If formed tools, concentrations, or features are observed during monitoring, construction work will be briefly halted so that the artifacts can be documented, photographed, and mapped in-place, if possible, using a Global Positioning System (GPS) unit. It is anticipated that the archaeological monitor will not collect artifacts or samples unless it is determined that they represent evidence of significant archaeological deposits or a feature, or the artifact is a formed tool.

- If burial features, artifacts, or human bone are encountered within the work area, Cardno has the authority to stop work and notify the construction manager, ExxonMobil/ADC, and DAHP. The procedures to be followed in the event of an inadvertent discovery that may need additional excavation or protection are outlined in a section below.

Report of Monitoring Activities

A technical memo report of the archaeological monitoring will be prepared following the completion of the project. The report will include information about the monitoring activities and documentation of artifacts or new archaeological resources, if found during construction, and will include maps and photographs. In addition, inadvertent discoveries will be described in the report, if encountered. If artifacts are collected, a catalog will be provided, and a summary prepared as part of the report. Within 90 days of the conclusion of fieldwork, the report will be submitted to ExxonMobil/ADC, DAHP, and the Tribes.

Summary of Monitoring Measures

ExxonMobil/ADC will ensure that the outlined procedures are followed during construction:

1. An on-site meeting prior to construction will take place between Cardno, the construction inspectors and supervisors, and the developer's representatives, to review specific archaeological resource monitoring procedures and responsibilities. All site safety will be reviewed at this time.

2. On-site archaeological monitoring of initial ground-disturbing activities to a depth of approximately 7 ft (2.13 m) bgs will occur across the project area.

3. Construction activities will be halted if the activity encounters, or may impact, artifact concentrations, features, human remains (or potential human remains), funerary items, or sacred objects. Construction work would not resume until the consulting parties agree on a course of action based on the inadvertent discovery protocol as described in the following section.

4. Cardno will prepare a report summarizing the activities that were monitored, and noting inadvertent discoveries and steps taken in response to a discovery, as outlined in this MIDP. The report will be submitted to ExxonMobil/ADC, DAHP, and the Tribes.

Inadvertent Discovery Protocol

The following outlines procedures to follow, in accordance with state laws, if certain archaeological materials and human remains are discovered in the project area, during construction. In the event of an inadvertent discovery such as intact archaeological features or human remains, the following steps will be taken.

Archaeological Resources Prompting Inadvertent Discovery Protocol

Archaeological resources, such as pre-contact (Native American) or historic-period artifacts or features, could be inadvertently discovered during construction. Work must stop when the following types of artifacts and/or features are encountered (the list is not exhaustive):

- Flaked stone tools (e.g., arrowheads, knives, scrapers) and debitage.
- Groundstone tools (e.g., mortars, pestles).
- Layers (strata) of discolored earth resulting from fire hearths or other features. May be black, red, or mottled brown and may contain discolored cracked rocks, charcoal, or dark soil.
- An area of charcoal or very dark stained soil with artifacts.
- An accumulation of shell, burned rocks, or other food-related materials.
- Animal bones, including small pieces of bone.
- Personal items, funerary materials, and mortuary objects.
- Structural remains (e.g., wooden beams, post holes).

When in doubt, assume the material is a cultural resource. Even what looks to be old garbage could be an archaeological resource.

On-site Responsibilities

If an inadvertent discovery is encountered during construction the following steps must be followed:

1. STOP WORK: If any Exxon Mobil/ADC employee, contractor, or subcontractor believes that he or she has uncovered an archaeological resource or evidence of a burial at any point in the project, all work adjacent to the discovery must stop. The discovery location should not be left unsecured at any time.

2. NOTIFY CARDNO: Notify the on-site archaeological monitor and the primary Cardno contact and follow the provisions in the MIDP to verify the discovery (contact list below).

3. NOTIFY EXXONMOBIL/ADC: Notify the ExxonMobil/ADC project manager immediately (contact list below).

4. CARDNO WILL NOTIFY DAHP AND THE TRIBES, ON BEHALF OF EXXONMOBIL/ADC.

Responsibilities of ExxonMobil/ADC:

1. PROTECT: ExxonMobil/ADC is responsible for taking appropriate steps to protect the discovery site.
    a. All work will stop in an area adequate to provide for the total security, protection, and integrity of the resource, typically within 30 meters (100 feet). Vehicles, equipment, and unauthorized personnel will not be permitted to traverse the discovery vicinity. Work in the immediate area will not resume until treatment of the discovery has been completed following provisions for treating archaeological materials as set forth in this document.

    b. ExxonMobil/ADC may allow construction away from archaeological resources, in other areas, prior to contacting the concerned parties.

    c. Until assessed by Cardno, treat all bone and bone fragments as possible human remains. If human remains, bone, or bone fragments are encountered, treat them with dignity and respect at all times. Cover the remains with a tarp or other materials (not soil or rocks) for temporary protection in place and to shield them from being photographed. Do not call 911 or speak with the media.

2. CONTACT: If Cardno has not been contacted, ExxonMobil/ADC will be responsible for doing so (contact list below).

Responsibilities of Archaeologist:

1. MONITOR: An archaeological monitor is required to be on-site ground-disturbing activities to a depth of approximately 7 ft (2.13 m) bgs.
2. IDENTIFY: The archaeologist will examine the inadvertent discovery to determine if it is archaeological or to verify remains are human.
    a. If the find is determined not archaeological, work may proceed with no further delay.

    b. If the find is determined to be archaeological, the archaeologist will continue with notification (see archaeological procedure below).

    c. If the find may be human remains or funerary objects, the archaeologist will ensure that a qualified individual examines the find.

    d. If it is determined that the remains are human, the procedure described in the following section will be followed.

3. NOTIFY: Notify DAHP (contact list below).
    a. If the discovery may relate to Native American interests, Cardno will also contact the Tribal representatives (contact list below).

Archaeological Procedures:

Pre-contact or historic-period archaeological material discovered inadvertently during project construction will be recorded, and Cardno will complete the documentation and assessment. Discovered features and formed tools will be photographed; stratigraphic profiles and soil/sediment descriptions of the newly discovered subsurface features will be prepared. Discovery locations will be documented on scaled site plans and site location maps.

Archaeological features and artifacts inadvertently discovered in buried sediments may require further excavation. After coordination on the appropriate procedures with DAHP and Tribes, a unit(s) or small trench(s) may be excavated to determine if an intact occupation surface is present. The controlled excavation of units may assist in gathering information on the nature, extent, and integrity of the subsurface deposits. Archaeological excavation units would be dug by hand in a controlled fashion to expose the feature, collect samples from undisturbed contexts, or assist in interpreting complex stratigraphy. Spatial information, depth of excavation levels, natural and cultural stratigraphy, presence or absence of archaeological material, and depth to sterile soil, or bedrock will be recorded for each excavation unit on a standard form. Unit-level forms will be used, which include plan maps for each excavated level, and material type, number, and vertical provenience (depth below surface and stratum association where applicable) for all subsurface artifacts and discovered features. All of the sediments from archaeological excavation units, for the purposes of additional investigations of newly discovered archaeological deposits or features, will be screened through 6.4-mm (¼-in) mesh.

All pre-contact formed tools collected from the subsurface excavation units will be analyzed, cataloged, and temporarily curated. Archaeological materials (with the exception of human remains, funerary items, and sacred objects) and copies of records will be curated at the Burke Museum in Seattle, Washington.

If assessment activity exposes human remains (e.g., burials, isolated teeth, or bones), the process described in the previous sections will be followed. The discovery will then be under the authority of DAHP.

Special Procedures for the Discovery of Human Remains

Any human remains or funerary objects will be treated with dignity and respect at all times. If an inadvertent discovery of human remains or funerary objects occurs during construction the following steps must be followed:

1. Notify the Snohomish County Medical Examiner's Office and Snohomish County Sheriff's Office (contact list below).
    a. The Medical Examiner has the responsibility to determine if the remains are "forensic" and under the medical examiner's jurisdiction or are "non-forensic."
    b. If the remains are determined to be "non-forensic," the Medical Examiner will notify DAHP. DAHP's physical anthropologist will examine the remains and notify affected Native American Indian Tribes of the results of the examination. The final disposition of the remains will be determined after consulting with the appropriate Tribal representatives, and others.
2. Participate in Consultation: Per RCW 27.44.055, RCW 68.50, and RCW 68.60, DAHP will have jurisdiction over non-forensic human remains. ExxonMobil/ADC personnel will participate in consultation.
3. Project construction outside the discovery location may continue while documentation and assessment of the feature proceeds. After Cardno verifies the boundaries of the discovery location, Cardno will determine the appropriate level of documentation and treatment of the resource, in consultation with ExxonMobil/ADC, DAHP, and the affected Tribes. Construction may continue at the discovery location only after the process outlined in this MIDP is followed and the DAHP determines that compliance with state and county laws is complete.

Summary of Inadvertent Discovery Protocol

If an inadvertent discovery is encountered during construction the following steps must be followed:

1. All construction activities that may affect possible human remains, a feature, or potentially significant archaeological deposits should be halted, and the remains, archaeological materials, and surrounding soil should not be disturbed. The site will be kept secure from further impacts

and trespass. Construction personnel will notify the archaeological monitor if the monitor is not present at the time of the discovery.

2. If the inadvertent discovery includes human remains, bones, or materials possibly representing human remains or a burial, all work in that area must stop and Cardno will contact the Snohomish County Medical Examiner's Office and Snohomish County Sheriff's Office (do not call 911). Treat the finds with dignity and shield them from view of personnel. Additional information on procedures for handling discoveries of possible human remains is detailed above.
3. If the medical examiner determines that the remains are "non-forensic," the medical examiner will officially contact DAHP. The DAHP physical anthropologist will confirm whether the remains are Native American or Non-Native American under the law, and will conduct consultation with the Tribes, ExxonMobil/ADC, and others deemed appropriate. Disposition of the remains will be made by DAHP, in consultation with Tribes and others, as appropriate.
4. Cardno will contact DAHP, as well as Exxon Mobil/ADC, if they have not yet been contacted, if there is a discovery that is not related to human remains. The nature of the discovery will be determined and consulting parties (i.e., the Tribes) will be contacted. Security measures will be taken to prevent illicit activities such as looting or vandalism.
5. If evidence of an important deposit or feature is encountered during construction, and no human remains are encountered, a plan to address the impacts will be determined among the consulting parties.

Contact Information

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ExxonMobil Environmental and Property Solutions Company (ExxonMobil)
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Medical Examiner
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DAHP Tribal Areas of Interest

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Swinomish Indian Tribal Community
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DAHP Human Remains Consultation – Inadvertent Discovery Tribal Contacts

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Sauk-Suiattle Indian Tribe
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Confederated Tribes and Bands of the Yakama Nation
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Toppenish, WA 98948
Phone: (509)865-5121
Email: Delano_saluskin@yakima.com

References Cited

Johnson, Jack

2020 *FINAL Results of Archaeological Monitoring for the Kimberly-Clark Everett Interim Action*. Prepared by Perteet, Seattle. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

Rinck, Brandy

2013 *Cultural Resources Monitoring and Discovery Plan for the Kimberly-Clark Worldwide Site Upland Area, Everett, Snohomish County, Washington*. Prepared by SWCA Environmental Consultants/Northwest Archaeological Associates, Seattle. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

Rinck, Brandy, Sharon Boswell, and Johonna Shea

2013 *Archaeological Resources Assessment for the Kimberly-Clark Worldwide Site Upland Area, Everett, Snohomish County, Washington*. Prepared by SWCA Environmental Consultants/Northwest Archaeological Associates, Seattle. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

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2021 *Cultural Resources Assessment Report: ExxonMobil/ADC Property Proposed Remedial Excavation, Everett, Washington.* On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

Undem, Cyrena

2014 *State of Washington Archaeological Isolate Inventory Form: 45SN00629*. Prepared by SWCA Environmental Consultants/Northwest Archaeological Associates, Seattle. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

About Cardno

Cardno is an ASX-200 professional infrastructure and environmental services company, with expertise in the development and improvement of physical and social infrastructure for communities around the world. Cardno's team includes leading professionals who plan, design, manage, and deliver sustainable projects and community programs. Cardno is an international company listed on the Australian Securities Exchange [ASX:CDD].

Cardno Zero Harm

Cardno ZERO HARM EVERY JOB. EVERY DAY.

At Cardno, our primary concern is to develop and maintain safe and healthy conditions for anyone involved at our project worksites. We require full compliance with our Health and Safety Policy Manual and established work procedures and expect the same protocol from our subcontractors. We are committed to achieving our Zero Harm goal by continually improving our safety systems, education, and vigilance at the workplace and in the field. Safety is a Cardno core value and through strong leadership and active employee participation, we seek to implement and reinforce these leading actions on every job, every day.

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APPENDIX G

SEPA CHECKLIST

SEPA Checklist

Port of Everett Proposed Remedial Excavation, Everett, Washington

February 23, 2022

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Appendices

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A. Background

1. Name of proposed project, if applicable:

Port of Everett Interim Action Remedial Excavation

2. Name of applicant:

ExxonMobil Environmental and Property Solutions (ExxonMobil), American Distributing Co. (ADC)

3. Address and phone number of applicant and contact person:

Ken Drake
ExxonMobil Environmental and Property Solutions Company
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Steve Miller
American Distributing Co.
13618 45th Avenue NE
Marysville, WA 98271
(360) 658-375

4. Date checklist prepared:

February 23, 2022

5. Agency requesting checklist:

Washington State Department of Ecology (Ecology)

6. Proposed timing or schedule (including phasing, if applicable):

Excavation: May 1, 2022 to December 31, 2022

Groundwater monitoring: Ongoing, until cleanup levels are achieved.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

No

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

Since 1985, various consultants have conducted environmental investigations to characterize the nature and extent of contaminants of concerns (COCs) in soil and groundwater at the Ecology recognized ExxonMobil ADC Site (Ecology Site). The Ecology Site is defined as the ExxonMobil)and ADC owned properties (ExxonMobil ADC Property), located at 2717 and 2731 Federal Avenue, Everett, Washington, and the surrounding right-of-ways and properties, including the Port Property, located at 2730 Federal Avenue, Everett, Washington. The investigations and reports related to the remedial excavation activities proposed in the draft Cleanup Action Plan (submitted to Ecology in October 2021) are provided in Appendix A.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

The remedial excavation and associated cleanup activities are exempt from the procedural requirements of local, state, and federal permits and approvals because they will be performed under a Washington State Model Toxics Control Act (MTCA) Agreed Order.

10. List any government approvals or permits that will be needed for your proposal, if known.

The remedial excavation and associated cleanup activities actions will be conducted under the Agreed Order. Pursuant to WAC 173-340-710(9), the project will comply with the substantive requirements of the following state laws, however it is exempt from their procedural requirements:

- Washington State Clean Air Act (70.94 RCW)
- Solid Waste Management Act (70.95 RCW)
- Hazardous Waste Management Act (70.105 RCW)
- Construction Projects in State Waters (75.20 RCW)
- Shoreline Management Act (90.58 RCW)
- City of Everett laws regarding excavation, shoring, dewatering, and erosion control

The procedural exemption is not applicable if Ecology determines the exemption would result in loss of approval from a federal agency for the agency to administer federal laws.

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

The Ecology Site boundary is 3.37 acres, encompassing private property to the east of Federal Avenue, and Port of Everett (Port Property) property to the west of Federal Avenue (Figure 2). The Ecology Site consists of a paved parking lot; portions of Federal Avenue, the Terminal Avenue Overpass, and the former Everett Avenue; and portions of Everett Ship Repair and Dunlap Towing. Historical releases of petroleum products have been documented at the Ecology Site due to former operation of bulk petroleum storage, transfer, and distribution facilities on the Ecology Site and operations of other companies on nearby parcels. The proposed Project is to cleanup soil and groundwater at the Ecology Site that is impacted by light non-aqueous phase liquid (LNAPL) and/or residual LNAPL saturation.

Proposed cleanup activities include excavation of impacted soils on the west side of Federal Avenue on Port Property (the Project Area, see Figure 3), and groundwater monitoring of the Ecology Site. Due to the shallow water table in the Project Area, water management during the excavation, including limited dewatering, may be necessary. Soil will be removed using dredging methodology with a clamshell bucket, which will facilitate excavation below the water table and minimize the need for dewatering. Any wastewater generated during dewatering will be discharged to a City of Everett-approved discharge point. Impacted soil will be transported offsite by truck to a temporary staging area, then loaded onto rail cars for transport to its final disposal location at a permitted landfill facility. The soils beneath Federal Avenue will not be excavated, and the street will remain open during cleanup activities.

After excavation has been completed, a low permeability barrier wall will be constructed along the excavation sidewall on the western side of Federal Avenue. The barrier wall will limit LNAPL migration following the remedial excavation on the Port Property. Then shoring will be removed, and the area will be backfilled, re-graded to preexisting contours, repaved, and restored to existing uses. A groundwater monitoring program will be conducted to monitor natural degradation of groundwater contaminants of concern (COCs) by natural processes in the areas below Federal Avenue, and otherwise inaccessible to excavation.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the Site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not

required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The Ecology Site is located at 2717/2731 Federal Avenue Everett, Washington (Township 29 North, Range 5 East, Section 19). The Ecology Site location boundaries are shown in Figures 1 and 2.

The Ecology Site is defined as the ExxonMobil and ADC properties, and the surrounding rights-of-way and properties that were affected by the migration of hydrocarbons in soil and groundwater.

B. Environmental Elements

1. Earth

a. General description of the Site:

The Ecology Site is graded, generally flat, and paved; with the exception of smaller graveled areas, and some ruderal vegetation growing along a fence-line.

b. What is the steepest slope on the Site (approximate percent slope)?

The area is flat. Prior to development it sloped gently to the west toward Port Gardner Bay.

c. What general types of soils are found on the Site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

According to historical aerial photography most of the proposed remedial excavation area was infilled during shoreline expansion efforts between 1914 and 1947. Based on previous subsurface investigations conducted at the Ecology Site and surrounding vicinity, the near-surface soils consist of a heterogeneous mixture of fill materials. The fill materials consist of very loose to medium dense, brown, brownish gray, and gray silty sand and sand with areas of wood and brick debris extending to depths of approximately 5 to 10 feet below ground surface (bgs). Gray silty sand and silt and dark-brown to black peat mixed with wood debris are encountered beneath the shallow fill and extend up to 20 to 27 feet bgs (Wood 2019, Cardno 2020a, 2020b).

Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

The area immediately east of the Ecology Site, across Terminal Ave, is classified as a landslide hazard, and the Terminal Ave Overpass on the southeast corner of the Ecology Site is classified as an erosion hazard. See Section 8(h) for additional detail.

d. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

The proposed remedial excavation footprint is 0.45 acres. The Project Area is entirely within the Ecology Site boundary, and will exclude the Federal Avenue right-of-way (Figure 3). Approximately 10,000 cubic yards (16,500 tons) of impacted soil will be excavated from the Project Area and disposed of offsite at a permitted location. Once excavation is complete, the excavated areas will be backfilled with clean granular fill material suitable for compaction and repaved. Areas within Port Property will be backfilled and restored according to specifications in an agreement with the Port.

e. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Erosion may occur within the footprint of the excavation and soil stockpiles could erode.

f. About what percent of the Site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

100 percent

g. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

Best Management Practices (BMPs) will be implemented to reduce erosion associated with the remediation activities. BMPs that will be implemented include silt fencing, erosion control straw wattles, sediment traps, sloping, shoring, covering stockpiles, maintaining construction entrances with coarse gravel, and preventing vehicles from driving across non-maintained surfaces. These BMPs will be implemented throughout the duration of the remedial activities, and work will be conducted in compliance with City of Everett erosion control requirements.

2. Air

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

Onsite emissions would be associated with operation of personnel vehicles, and diesel-fueled construction equipment during shoring installation/removal, soil removal, backfill, paving, and ongoing monitoring efforts. Equipment will include excavators, dump trucks with trailers, a shoring pile drill rig, paving equipment, and various mechanical tools. Offsite emissions would be associated with transportation of impacted soils by truck and rail to an approved disposal facility.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

No

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

None

3. Water

a. Surface Water

1) *Is there any surface water body on or in the immediate vicinity of the Site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.*

The shoreline of Port Gardner Bay is approximately 300 feet northwest of the Ecology Site.

2) *Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.*

No

3) *Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the Ecology Site that would be affected. Indicate the source of fill material.*

None

4) *Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.*

No

5) *Does the proposal lie within a 100-year floodplain? If so, note location on the Ecology Site plan.*

No

6) *Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.*

No

b. Ground Water

1) *Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.*

Impacted soils to be excavated are located below the water-table. During previous Ecology Site investigations, groundwater was observed at depths in the 5-foot bgs range to the south, and 15-foot bgs range to the north (Cardno 2020a, 2020b). During remedial excavation some dewatering may be

required; the approximate dewatering requirements are unknown. Wastewater disposal is addressed in Section 3(d) below. No groundwater will be withdrawn for drinking water purposes.

2) *Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.*

None

c. Water runoff (including stormwater):

1) *Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.*

Surface water drainage is controlled largely by surface topography and engineered drainage structures. Stormwater generally flows to the west and northwest, following the surface slope, toward catch basins located on the Ecology Site and on Federal Avenue directly west of the Ecology Site. Storm sewers serving the vicinity discharge to Port Gardner Bay via the storm sewer discharge located near the northwest corner of the Port property leased by Dunlap Towing. Some surface water may flow north toward the KC property and south from the Ecology Site to the City of Everett parcel (Wood 2019).

2) *Could waste materials enter ground or surface waters? If so, generally describe.*

Impacted soils will be placed directly into dump trucks and hauled offsite. Temporary stockpiling of soil may be necessary prior to removal offsite. Stockpiles would be placed on plastic sheeting, stabilized, and covered to avoid any potential impacts to groundwater or surface water.

3) *Does the proposal alter or otherwise affect drainage patterns in the vicinity of the Site? If so, describe.*

No. The Project Area will be regraded and repaved to existing conditions.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

Erosion and sediment control BMPs consistent with Ecology's current Stormwater Management Manual for Western Washington (SWMMWW) will be used during the excavation to prevent impacts to stormwater. A temporary erosion and sediment control plan will be prepared to prevent sediment, debris and sediment-laden water from leaving the work area, entering adjacent surface streets, storm drains, and the Puget Sound. Proposed temporary erosion and sediment control elements will include the following:

- Use of silt/filter fabric fences, straw bales, straw wattles, storm drain inlet protection, catch basin silt barriers and/or similar BMPs.
- Diversion BMPs to prevent offsite stormwater from entering the excavation area.
- Implementation of BMPs at the construction entrance/exit and internal haul routes to minimize the tracking of soil onto the adjacent surface streets
- Street sweeping and/or street cleaning, as necessary, to remove soil tracked onto the adjacent surface streets
- Implementation of stockpile BMPs

Any wastewater generated during dewatering activities will be properly managed under a City of Everett-approved permit, and in compliance with the City's Industrial Pretreatment Ordinance #3070-08, as amended. Wastewater will be discharged at an approved flow rate to the permit-specified discharge point. Routine samples will be collected of the wastewater to confirm that it is compliant with the applicable discharge levels for contaminants. All wastewater discharge data from the project (e.g., sample data, discharge events, and total volume discharged) will be recorded.

A low permeability barrier wall will be constructed in a north to south trending direction against the excavation wall along the western side of Federal Avenue. The barrier wall will be designed limit migration onto Port Property following the remedial excavation.

4. Plants

a. Check the types of vegetation found on the Site:

____deciduous tree: alder, maple, aspen, other

____evergreen tree: fir, cedar, pine, other

__X_shrubs

__X_grass

____pasture

____crop or grain

____Orchards, vineyards or other permanent crops.

____ wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other

____water plants: water lily, eelgrass, milfoil, other

____other types of vegetation

b. What kind and amount of vegetation will be removed or altered?

None. The small area with perennial grasses and noxious weeds will not be excavated or otherwise disturbed.

c. List threatened and endangered species known to be on or near the Site.

None. The entire Ecology Site is graded and developed. No functional native plant habitat occurs on the Ecology Site.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the Site, if any:

None

e. List all noxious weeds and invasive species known to be on or near the Site.

- Class B: butterfly bush (*Buddleja davidii)*
- Class C: Himalayan blackberry *(Rubus bifrons)*

5. Animals

a. List any birds and other animals which have been observed on or near the Site or are known to be on or near the Site.

The Port Property is located near the marine shoreline in the Snohomish River basin, in an area zoned for heavy industrial use. No wetlands, streams, shorelines, floodplains, or functional wildlife habitat occur on the Ecology Site. Nearby environmentally sensitive areas include Port Gardner Bay and the Snohomish River. The shoreline nearest the Ecology Site is deepwater that has been heavily modified by dredging, filling, and shoreline development; there is limited subtidal and intertidal habitat (Wood 2019). Common wildlife species known to occur in urban/heavily industrial areas may be present onsite.

b. List any threatened and endangered species known to be on or near the Site.

No threatened and endangered animal species would occur at the Ecology Site. Species listed under the Endangered Species Act (ESA) and Washington State Priority Species that may be present in Port Gardner Bay are detailed in the Ecology Site characterization/focused feasibility study report (Wood 2019).

c. Is the Site part of a migration route? If so, explain.

No

d. Proposed measures to preserve or enhance wildlife, if any:

N/A

e. List any invasive animal species known to be on or near the Site.

None

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

N/A

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

N/A

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

1) Describe any known or possible contamination at the Site from present or past uses.

The Ecology Site historically operated as a bulk petroleum storage, transfer, and distribution facility. Additional potential sources of contaminants of concern includes releases from the former rail loading racks located east of the ExxonMobil ADC Property, underneath the current Terminal Avenue Overpass (Cardno 2021). Multiple investigations have been conducted to characterize Ecology Site soil and groundwater contamination. The COCs known to occur at the Ecology Site include:

- TPHg
- TPHd
- TPHmo
- Benzene
- Ethylbenzene
- Total Xylenes
- Total cPAHs
- 1-Methylnaphthalene (Wood 2019).

2) *Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.*

   No underground hazardous liquid and gas transmission pipelines are located on or below the Ecology Site.

3) *Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.*

   Vehicles and equipment used and stored onsite could have minor leaks (e.g., fuel, oil, hydraulic fluids, etc.).

4) *Describe special emergency services that might be required.*

   None

5) *Proposed measures to reduce or control environmental health hazards, if any:*

   The purpose of the proposed Project is to cleanup and monitor environmental health hazards. Spill kits/absorbent clean-up materials will be available on-site and if used, disposed of properly.

b. Noise

1) *What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?*

   The Project is located within and adjacent to the Port, a heavy industrial use area. Noise from Port operations including heavy machinery use, and noise associated with truck, ship, and rail traffic are present.

2) *What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the Site.*

   Noise generated by vehicles and equipment during remedial excavation are compatible with the surrounding baseline noise levels that exist. Noise will be short-term: only lasting the duration of the shoring install and excavation. Larger equipment and vehicles will only operate in daylight hours, generally between 7 AM and 5 PM.

3) *Proposed measures to reduce or control noise impacts, if any:*

   N/A

8. Land and Shoreline Use

a. What is the current use of the Site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

The Ecology Site includes an asphalt-paved parking and portions of former Everett Avenue, Federal Avenue, and Port Properties just west of Federal Avenue. It also includes portions of the City of Everett right-of-way east and south of the Property, the BNSF Railway Company (BNSF) parcel, the BNSF railway corridor right-of-way east of the Property, and the land under the Terminal Avenue Overpass. The Ecology Site is adjoined by the following properties:

- The KC property is located immediately north at 2600 Federal Avenue. The KC property was used for several decades for wood and paper products manufacturing. It housed former bulk petroleum storage tanks and currently includes a warehouse near the southern end adjacent to the ExxonMobil/ADC Property. Most of the former paper manufacturing facility was demolished in 2012.
- A City of Everett right-of-way is located immediately east of the Ecology Site. The City of Everett right-of-way is currently paved with asphalt and is otherwise unoccupied.

- Another City of Everett right-of-way is located immediately south of the Ecology Site. This right-of-way was formerly part of the ExxonMobil Parcel but was transferred to the City of Everett as part of the Terminal Avenue Overpass project. This right-of-way is currently paved with asphalt and is otherwise unoccupied.
- Federal Avenue is located immediately east of the Port Property. Federal Avenue is a public street and City of Everett utility corridor.

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?

No

1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:

No

c. Describe any structures on the Site.

A wheeled-trailer used by Everett Ship Repair as an administrative office is currently located on the northwest corner of the Ecology Site. It will be temporarily relocated during remedial excavation activities.

d. Will any structures be demolished? If so, what?

No

e. What is the current zoning classification of the Site?

The Ecology Site is zoned M-2 Heavy Manufacturing land use by the City of Everett.

f. What is the current comprehensive plan designation of the Site?

The City's comprehensive plan shows The Ecology Site as E.5.1 Heavy Industrial land use.

g. If applicable, what is the current shoreline master program designation of the Site?

The northwest corner of the Ecology Site is located within or immediately adjacent to an area designated as Urban Deepwater Port (UDWP) in the City of Everett's Shoreline Master Program (City of Everett, 2019).

h. Has any part of the Site been classified as a critical area by the city or county? If so, specify.

The portion of the Ecology Site with the Terminal Ave Overpass is classified as a Critical Area Erosion Hazard with Very High/Severe Slopes of greater than 40% in Qva and Qal geologic units (City of Everett 2006a).

The area immediately east of the Ecology Site across Terminal Ave is classified as a Critical Area Landslide Hazard, with Medium Slopes < 15% for Qtb, Qw, Qls geologic units and uncontrolled fill Slopes of 25% - 40% in "other" geologic units (City of Everett 2006b).

i. Approximately how many people would reside or work in the completed project?

Once the Project is complete, the wheeled-trailer used by Everett Ship Repair as an administrative office will be returned to the Ecology Site for use.

j. Approximately how many people would the completed project displace?

None

k. Proposed measures to avoid or reduce displacement impacts, if any:

N/A

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

The Project is compatible with existing and future land uses and plans. The Ecology Site will likely continue as heavy industrial/or commercial for the foreseeable future. The City of Everett M-2 zoning allows for a mix of commercial and industrial uses at the Ecology Site, and specifically prohibits residential use, and daycare facilities. Use of the Ecology Site for parks is allowed. The Ecology Site owners anticipate that institutional controls will be established, limiting use of the Ecology Site to industrial/commercial purposes. If future redevelopment requires installation of utilities or new structures, this may require implementation of passive or active vapor intrusion protection measures (Wood 2019).

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any:

N/A

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

None

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

None

c. Proposed measures to reduce or control housing impacts, if any:

None

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

No structures are proposed as part of the Project.

b. What views in the immediate vicinity would be altered or obstructed?

None

b. Proposed measures to reduce or control aesthetic impacts, if any:

N/A

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

The remedial excavation work will occur during daylight hours and no additional lighting sources are required. Light and glare from vehicles and equipment during the excavation and groundwater monitoring activities are consistent with existing sources of light and glare in the area.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No

c. What existing off-site sources of light or glare may affect your proposal?

None

d. Proposed measures to reduce or control light and glare impacts, if any:

N/A

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

The parking area along Terminal Avenue for the Pigeon Creek Beach Trailhead is located approximately 300 feet south of the Ecology Site.

b. Would the proposed project displace any existing recreational uses? If so, describe.

No

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

N/A

13. Historic and cultural preservation

a. Are there any buildings, structures, or sites, located on or near the Site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers? If so, specifically describe.

No permanent buildings, structures, or sites are within or immediately adjacent to the Project Area (defined as the boundaries of the Ecology Site). One archaeological resource (45SN629) was previously recorded approximately 0.07 mile north of the Project Area. The archaeological resource is a precontact isolated find identified within historic dredge material encountered beneath an asphalt-paved parking lot (Undem 2014; Undem et al. 2014). Historically, the properties were the location of a mill situated at 2600 Federal Avenue (Boswell and Sharley 2012). The single lithic artifact was recorded as an edge-altered basalt cobble with 13 multidirectional flake scars on one end.

The Kimberly-Clark Everett Mill Main Office (Property ID 667716), located 0.09 mile north of the project area, was originally constructed in 1929 and consisted of a two-story Neoclassical rectangular structure with red brick cladding and low-pitched hipped roof. The building is recommended as eligible for listing in the National Register of Historic Places under Criterion A and listing in the Washington Heritage Register based on its historical association with the industrial development of Everett (Sharley 2012).

b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the Site? Please list any professional studies conducted at the Site to identify such resources.

The current project area contains no historic or precontact landmarks, features, or other evidence. Ethnographic place names within Everett list several near the mouth of the Snohomish River and for water resources near Everett; however, none of these ethnographic place names are located within or immediately adjacent to the project area (Watermann 1922; Watermann et al. 2001):

- *ʔusʔusič* (Watermann orthography: *Os3a/s1tc*) translates to “chasing a fish here and there” near an estuary between Steamboat and Union Sloughs.
- *bəluʔəb* (Watermann orthography: *PE’ls1b*) translates to “boiling,” for an area at the mouth of the main Snohomish River channel.
- *čik’wucid* (Watermann orthography: *Ctcqo’tsid*) translates to “that which chokes up the mouth of something,” for a small island located on the north side of the Snohomish River mouth.
- *sexwčulalqw* (Watermann orthography: *SExwtculalkw*) is noted for a sharp point of land running toward the Ctcqo’tsid island.
- *hibuĺəb* (Watermann orthography: *Hibu’l3ub*) translates to “place where water boils out of the ground,” for a former village site south of the Snohomish River mouth.

- Watermann orthography: *SEqwsu'3ub* is noted for a small promontory with a slough that runs parallel to the shore.
- *sluluwiɬ* (Watermann orthography: *SLu'luw1L*) translates to "little perforation for a canoe," for a narrow channel passing behind an island.
- *ƛ'uxwaɬ* (Watermann orthography: *tL'o'hwaL*) translates to "a cold spring" for a spot on the riverbank opposite Everett.

Historically, most of the project area consisted of tidelands and the waters of Port Gardner Bay (Sanborn 1902). The Ecology Site resides within the land claim of Dennis Brigham, who began the homestead process at this location in 1861 (General Land Office 1869; Oakley 2005). "Squatters Shacks" populated the Ecology Site area east of the railroad. Between 1914 and 1950, extensive fill material expanded the usable ground surface west (Sanborn 1914, 1950).

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

The Archaeological Assessment which describes the methods used to assess the potential impacts to cultural and historic resources on or near the project area is appended to this checklist (Appendix B).

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

A Monitoring and Inadvertent Discovery Plan (MIDP) will be utilized to minimize potential impacts to any currently unknown intact archaeological resources and that all project-related ground-disturbing activities in native sediment be monitored. Monitoring is not recommended in glacial deposits and sediments, nor in existing areas where disturbance has already occurred. Monitoring will be conducted by a professional archaeologist who meets the Secretary of the Interior's (SOI's) professional qualifications standards (36 Code of Federal Regulations [CFR] Part 61) for archaeology or by a qualified archaeologist supervised by a professional archaeologist who meets the SOI standards.

14. Transportation

a. Identify public streets and highways serving the Site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.

The Ecology Site is accessible from Federal Avenue, via Terminal Avenue. Federal Avenue is a public 2-way paved street that crosses the Ecology Site, and provides access to private and Port properties.

b. Is the Site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

No. The nearest transit stop is located approximately 0.5 miles east of the Ecology Site at Hewitt Ave and Hoyt Ave.

c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?

During the excavation the parking lot portion of the Ecology Site will be closed to the public. Once the excavation is complete the parking area will be restored to existing conditions; no parking spaces will be eliminated.

d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

No

e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

The BNSF railroad right-of-way is located approximately 200 feet east of the Ecology Site, and the Hewitt Terminal with deep-water vessel access is located approximately 300 feet west of the Ecology Site.

f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?

Excavation requires removal of 16,500 tons of soil, and a single truck/trailer combo can haul approximately 25 tons per load. Assuming the current schedule, approximately 40 vehicle trips per day would be generated by the Project. Peak volumes would occur during daytime hours, and 75 percent would be from commercial/non-passenger vehicles hauling impacted soil from the Ecology Site. This data is based on knowledge of similar projects, and approximate calculation of truck capacity. Loaded trucks will be covered to prevent dust and soils from escaping during transit.

g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

No

h. Proposed measures to reduce or control transportation impacts, if any:

No excavation within the Federal Avenue right-of-way will occur, and no significant impacts to transportation are anticipated. Federal Avenue currently serves Dunlap Towing and Everett Ship Repair. Prior to closure of the Kimberly-Clark mill just north of the Ecology Site, Federal Avenue experienced an average of 220 daily truck trips and 500 employee daily trips per day (Kimberly-Clark 2012). The Project is being undertaken in collaboration with the Port, and access will be maintained for all Port tenants serviced by Federal Avenue. City of Everett traffic control requirements will be followed.

15. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.

No

b. Proposed measures to reduce or control direct impacts on public services, if any.

N/A

16. Utilities

a. Circle utilities currently available at the Site:

Stormwater drainage lines are present beneath the Ecology Site. Underground stormwater, sanitary sewer, water, and telephone lines run beneath Federal Avenue and the adjoining KC property. The City of Everett's new 24-inch underground force main also runs beneath Federal Avenue and the KC property. An overhead power line runs along Federal Avenue and the KC property (Wood 2019).

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the Site or in the immediate vicinity which might be needed.

N/A

C. Signature

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: Adele Pozzuto

Name of signee Adele Pozzuto

Position and Agency/Organization Senior Environmental Scientist, Cardno

Date Submitted: June 16, 2022

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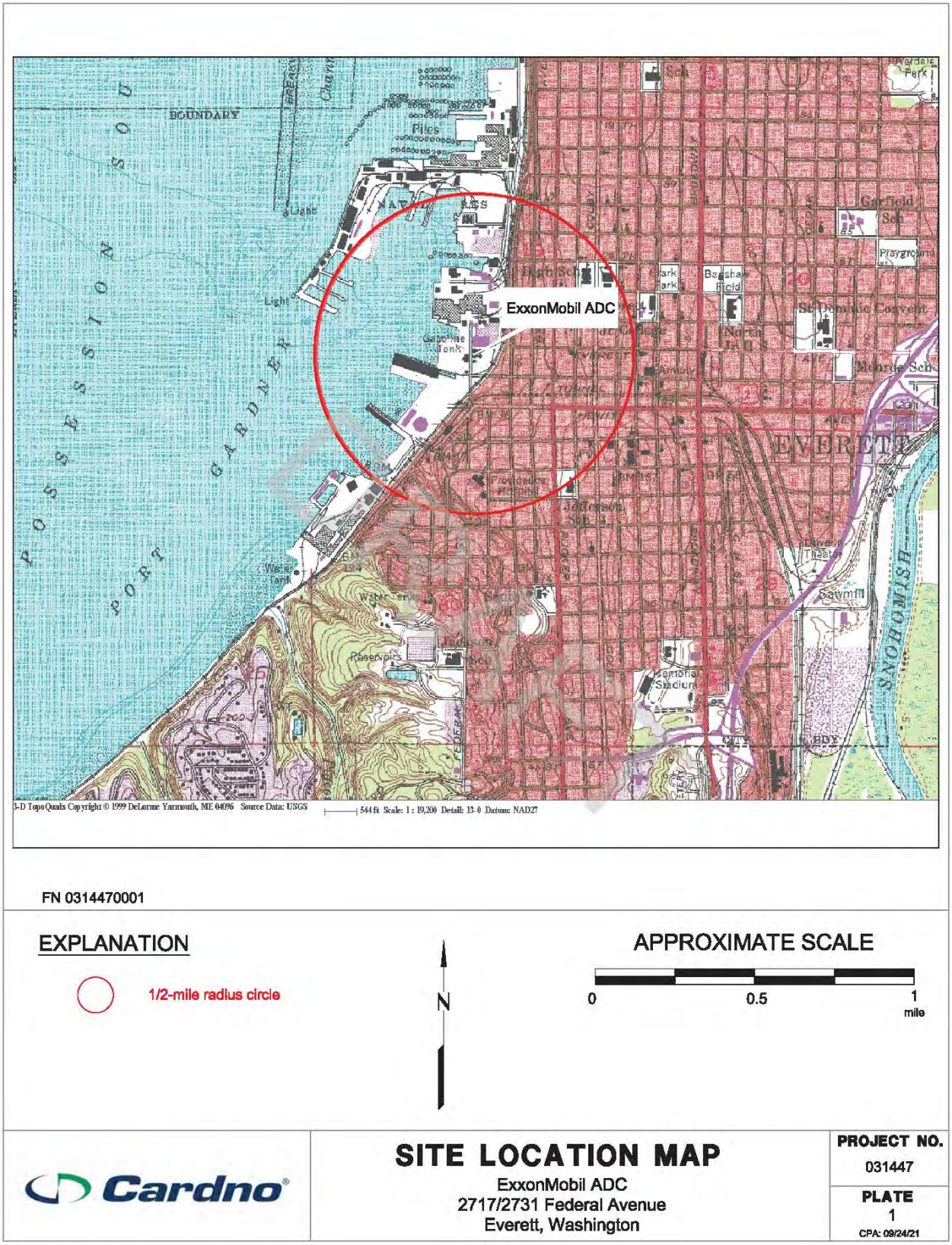


Figure 1. Site Location

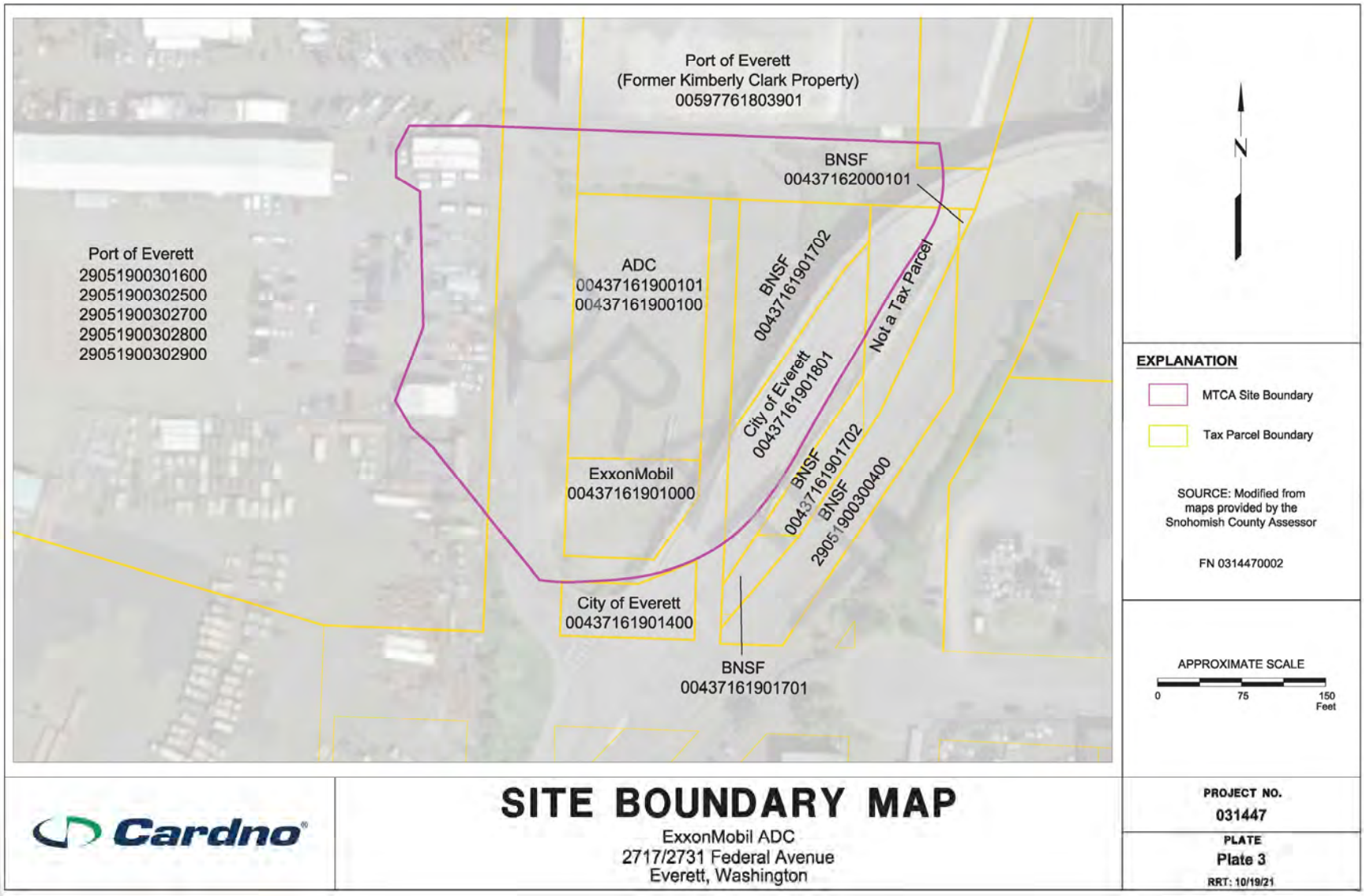


Figure 2. Site Boundary

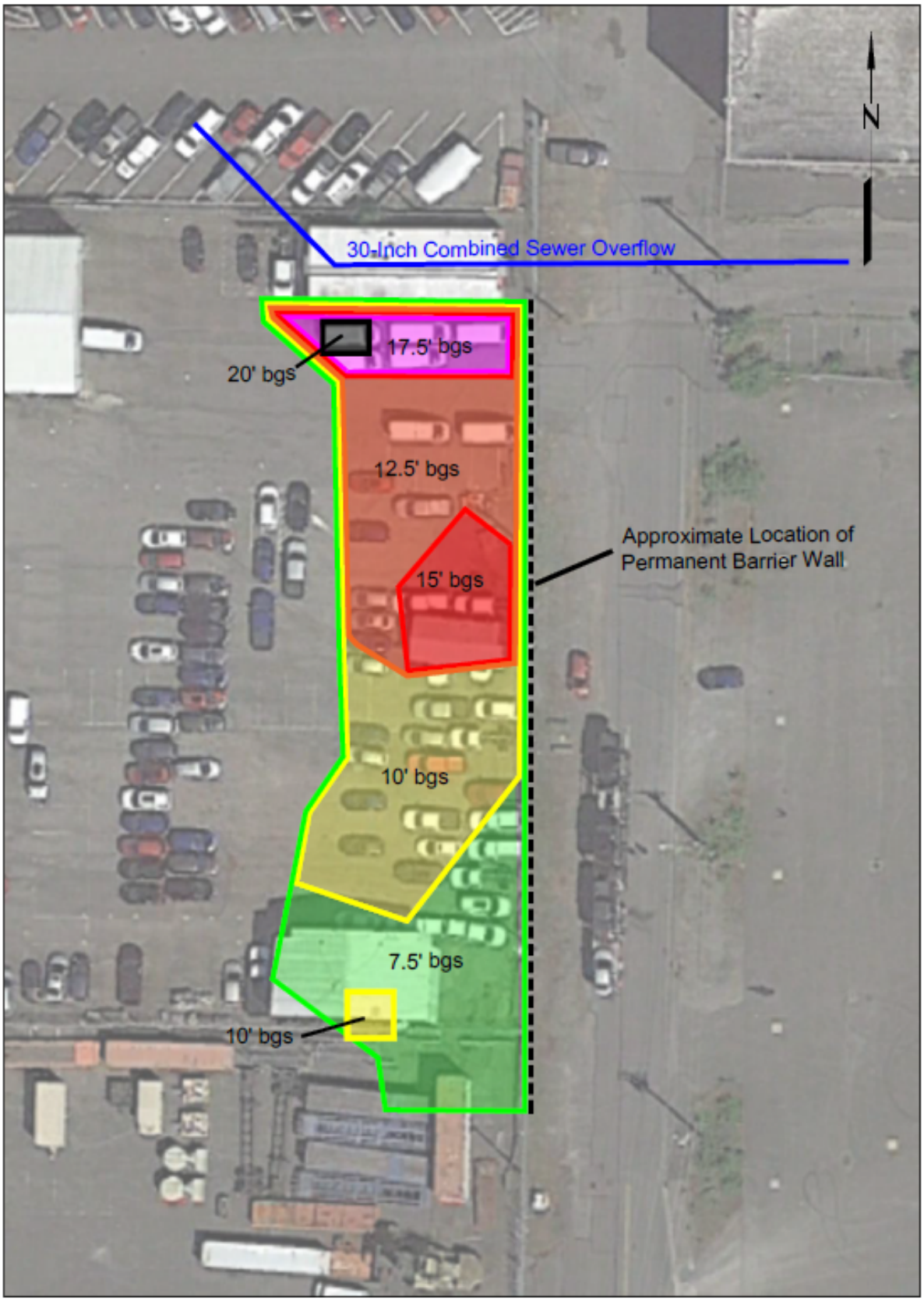


Figure 3. Proposed Excavation Extent

Appendix A List of Environmental Investigations and Reports

List of Environmental Investigations and Reports

Date	Consultant	Location	Report/Activities	Summary
2022 (Estimated	Cardno	Site	Agreed Order	A new Agreed Order will be negotiated with Ecology prior to remedial activities.
Ongoing	Cardno	Site	Groundwater monitoring reports	Semi-annual groundwater monitoring and sampling reports will be submitted to Ecology.
May-22 (Estimated)	Cardno	Site	Monitoring and Inadvertent Discovery Plan (MIDP)	Plan to minimize potential impacts to any currently unknown intact archaeological resources and ensure that all project-related ground-disturbing activities in native sediment be monitored.
Feb-22 (Estimated)	Cardno	Site	Engineering Design Report	The Engineering Design Report will document technical specifications, plan sets, and engineering design drawings used to manage and implement the selected environmental remedy described in the CAP.
Nov-21	Cardno	Site	Archaeological Assessment	The Archaeological Assessment was prepared to determine the probability for encountering archaeological resources during remedial excavation.
Oct-21	Cardno	Site	Work Plan	The Conditional Point of Compliance Groundwater Well Installation Work Plan submitted to the Port of Everett in October 2021.
Oct-21	Cardno	Site	Draft Cleanup Action Plan (CAP)	The draft CAP describes the cleanup standards for the subject site, the cleanup methods selected to achieve the cleanup standards, and the rationale for these decisions. Cardno submitted the draft CAP to Ecology in October 2021. The plan will be finalized after public comment.
2020-2021	Cardno	Port of Everett	Excavation delineation	A total of 51 soil borings were drilled on the Port of Everett property, and soil samples were analyzed to delineate areas exceeding remediation levels for future excavation. Two geotechnical borings were also advanced. Analytical results will be used so that collection of sidewall and base soil samples during future excavation work is not necessary. Cardno submitted the Excavation Delineation Report to Ecology in April 2021.
2019	Wood	Site	Site Characterization/ Focused Feasibility Study (SC/FFS)	SC/FFS identifies the recommended cleanup alternative for the Site. The study will be finalized after public comment.
2013–2014	AMEC	Site	Data gaps investigation	A total of 33 soil borings were drilled on the Property and nearby properties, and soil samples were analyzed to delineate areas of affected soil at the Site. One of the borings was completed as a new monitoring well (MW-A8).

Date	Consultant	Location	Report/Activities	Summary
2012	AMEC	Federal Avenue and former Everett Avenue	Observations during City of Everett force main replacement	AMEC observed excavation and drilling activities during installation of the City's force main and recorded notable subsurface features when relevant, including the presence of LPH if encountered.
2011	AMEC	Former Everett Avenue	Observations of seeps along former Everett Avenue	AMEC recorded photographs in the field to document observations of petroleum product seeps through the pavement on former Everett Avenue.
2011	AMEC	Site	Tidal influence investigation	A stilling well with transducer was installed on the Everett Pier to automatically record tidal elevations. Pressure transducer/ data loggers were installed in monitoring wells W-3, W-6, MW-11, MW-19, MW-28, MW-40R, and MW-A1 through MW-A7 to record groundwater levels every 6 minutes for 6 days.
2011	AMEC	Site	Data gaps investigation	Seven deep borings (AB-1 to AB-5, AP-6, MW-7ab), six shallow borings (AP-1 through AP-5, AP-7), five new off-Property monitoring wells (MW-A3 through MW-A7), aquifer testing, and tidal influence study.
2010	AMEC	Site	Sampling for City of Everett Force Main	Borings CE-1 to CE-8 advanced on Federal Avenue, former Everett Avenue, and the BNSF property to characterize soils in the alignment of City's planned force main.
2010	AMEC	Site	Agreed Order DE 6184	
2010	AMEC	Site	Focused Feasibility Study Work Plan	Summarized Site history, previous environmental investigations and interim remedial activities, known environmental conditions, preliminary conceptual site model, and remaining data gaps.
Jun-08	AMEC	Site	Well head elevations survey	True North Land Surveying of Seattle, Washington, surveyed recovery and monitoring wells located on-Site.
Feb-08	AMEC	Site	Tidal study	Measured tidal response in W-3, W-6, MW-11, MW-28, & MW-40R.
2008	AMEC	West of the Property	Monitoring wells	Off-property monitoring wells MW-A1 and MW-A2 installed on the west side of Federal Avenue.
2007–present	AMEC	Site	Groundwater monitoring	AMEC requested to change to semiannual groundwater monitoring in 2007.
Feb-07	AMEC/Bravo Environmental	Site	Video survey of storm drain system	AMEC contracted Bravo to conduct a video survey of the storm drain system installed as part of 1999 interim measure to verify that groundwater from the Property is not infiltrating into the stormwater system through possible cracks and fissures in the piping and catch basins.
Jul-02	ERI	West of the ExxonMobil Parcel	Well decommissioning	Monitoring wells MW-20, MW-21, and one unidentified well were decommissioned.
2002-2007	Kleinfelder, ERI, AMEC	Site	Groundwater monitoring	Monthly LPH gauging and quarterly groundwater monitoring.

Date	Consultant	Location	Report/Activities	Summary
2002	Reid Middleton	CSTO	Memorandum to Ecology	Southeast corner of the asphalt cap over the ExxonMobil Parcel removed. Steel piles for concrete foundation were installed.
Feb-02	ERI	Site and vicinity	Monitoring well decommissioning and re-installment	Abandonment of monitoring wells (MW-22, MW-23, MW-24, MW-35, and MW-37) and piezometer DM-6 due to proximity to the CSTO Project. Re-installed well W-2 screened from 3 to 23 feet bgs.
Jul-01	URS	Johnston Petroleum parcel	Borings	Phase II investigation for Johnson Petroleum parcel. Push-probe borings JP-1 through JP-7.
Sep-00	URS	South, east, and southeast of the Property	Borings	Phase II investigation for the CSTO Project. Push-probe borings UG-1 through UG-12.
Dec-99	Dames and Moore/URS	South and southeast of the Property	Geotechnical drilling and piezometer installation	DM-6, DM-7, and DM-8 were sampled for environmental samples.
Oct-99	Kleinfelder	The Property	Monitoring wells installation	Monitoring wells W-10R, W-15R, and MW-40R.
Jul-98	Exponent	Site	Final Interim Action Work Plan and Engineering Design Report	Exponent presented design for interim measures at the Property.
Jul-98	Exponent	Site	Remedial Investigation and Focused Feasibility Study	Exponent summarized the history of the Property and evaluated feasible remedial options for the Site.
1998			Agreed Order DE98TC-P-N223	
November 1997through January 1998	Pacific Environmental Group, Inc.	Kimberly-Clark property	Borings, monitoring wells	Direct-push borings Probe-1 through Probe-15 were advanced, and 2-inch diameter HSA monitoring wells KC-1 and KC-2 were installed inside the KC warehouse.
Feb-97	PTI	Site	LPH recovery technical memorandum	Technical memorandum to summarize environmental investigations, LPH recovery activities, and geology.
Aug-96	AGRA	Site	Monitoring wells	Gauged wells at the property.
Jun-96	AGRA	ADC Parcel	Borings, monitoring wells, and test pits	4-inch diameter recovery well VRW-1 and 2-inch diameter monitoring well MW-38 installed. Seven test pits TP-1-96 through TP-7-96 excavated.
May-96	AGRA	ADC Parcel	Borings	Bobcat borings BB-1 through BB-14.
Apr-96	City of Everett		Meeting	Meeting held to discuss options for repairing the section of CSO line.

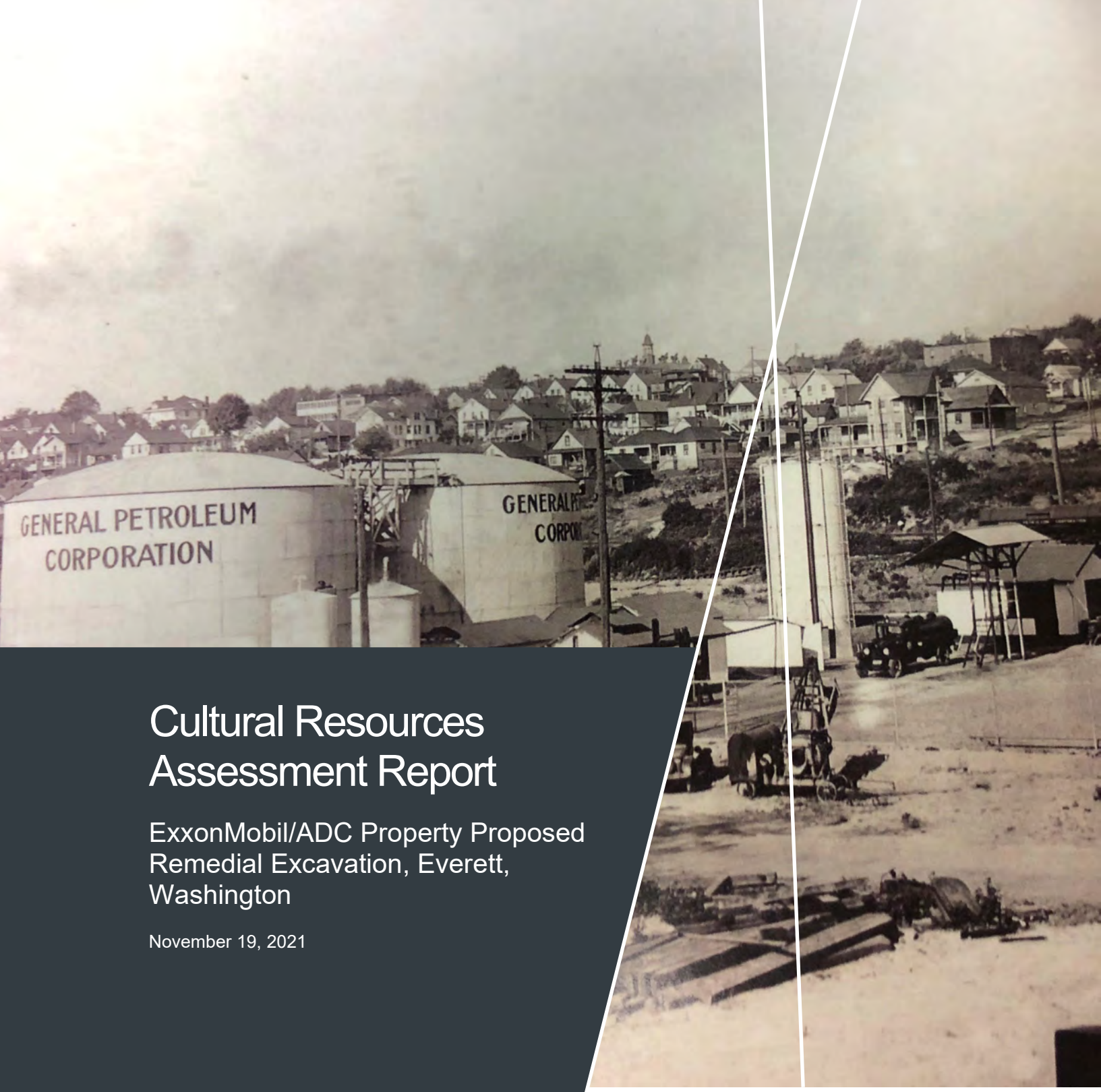
Date	Consultant	Location	Report/Activities	Summary
Mar-96	AGRA	North of the Property	Borings	Direct-push soil borings GP-1 through GP-13. Borings associated with the CSO line repair.
Dec-95	RZA AGRA	Site	Groundwater monitoring	Groundwater monitoring event. Gauged wells: RW-2, B-2, MW-8, MW-9, MW-18, MW-15 through MW-18, MW-27, and MW-28.
Nov-95	RZA AGRA	Site	Groundwater monitoring	Groundwater monitoring event. Gauged wells: RW-1, RW-2, B-1, B-2, MW-6, MW-8 to MW-13, MW-15 to MW-18, MW-27 to MW-37, and NRW-1.
Oct-95	U.S. Coast Guard Puget Sound Marine Safety Office & City of Everett	North of the Property	Investigation of petroleum product discharge into Everett Harbor	Camera surveys of the sewer lines made.
Jul-95	RZA AGRA	ADC Parcel	Quarterly groundwater monitoring	Groundwater monitoring event. Gauged wells: W-3, W-5, W-9, W-10, W-12 through W-15.
1995			Agreed Order DE-95TC-N402	
Dec-93	RZA AGRA	West of ExxonMobil Parcel	Test pits, recovery trench	Excavated five test pits, TP-1 through TP-5, to depths ranging from 3 to 3.5 feet bgs. Recovery trench installed along the western border of ExxonMobil Parcel.
Dec-93	RZA AGRA	ExxonMobil Parcel and off-Property to the west	Quarterly groundwater monitoring	Groundwater monitoring event. Gauged wells B-1, B-2, MW-6, MW-8 through MW-13, MW-15 through MW-18, MW-27 through MW-33, MW-35 through MW-37.
Dec-93	RZA AGRA	West of ExxonMobil Parcel	Off-Property borings, monitoring well installation, GPR survey	2-inch diameter monitoring wells MW-31 through MW-33 and MW-35 through MW-37 were installed; B-34 advanced and backfilled. GPR survey was conducted to assess whether underground product lines had been removed.
1992	RZA AGRA	NA	Discussions with Ecology	Ecology discussed enforcement with Mobil and RZA AGRA. Ecology decided to allow Site to go independent.
Dec-91	RZA AGRA	ExxonMobil Parcel	Quarterly groundwater monitoring, aquifer and tidal study	Quarterly groundwater monitoring. Gauged wells: RW-1, B-1, B-2, B-5, MW-6, MW-8 through MW-13, MW-15 through MW-30, and AD-19. Aquifer study involved 24-hour pumping from MW-10 at a rate of 1 to 2 gpm and measuring response in MW-18, RW-1, and RW-2 for 48 hours.
Nov-91	RZA AGRA	ExxonMobil Parcel	Borings, recovery well	8-inch diameter recovery well RW-2 installed. Deep soil borings B-1A, B-8A, and B-15A advanced.

Date	Consultant	Location	Report/Activities	Summary
Jun-91	RZA and ESE	The Property	Quarterly groundwater monitoring	Groundwater monitoring event. New 2-inch diameter monitoring wells MW-25 and MW-26 installed. Gauged wells: RW-1, B-1, B-2, B-5, MW-6, MW-8 through MW-13, MW-15 through MW-18, AD-19, W-1 through W-6, and W-8 through W-15.
March–June 1991	RZA	Parcels surrounding ExxonMobil Parcel	Borings, monitoring well installation	Six percussion soil borings to depths ranging from 5 to 5.5 feet bgs, 2-inch diameter monitoring wells MW-19 through MW-24, and 4-inch diameter monitoring wells MW-27 through MW-30 installed. Soil boring B-21-91 advanced to depth of 29 feet bgs.
Nov-90	Unknown	ExxonMobil Parcel	Monitoring well decommissioning	B-3 (MW-3), B-4 (MW-4), and MW-7 destroyed.
Oct-90	RZA	ExxonMobil Parcel	Shallow grid soil sampling, bio-feasibility study	Hand augers B-1 through B-25. Two soil samples were studied to conduct a slurry flask bio-feasibility study.
Jun-90	ESE	ADC Parcel	Hand-auger borings	Hand-auger borings W-8 through W-17 to depths of 6–10 feet.
Feb-90	ESE	ADC Parcel	Borings, monitoring well installation	HSA borings W-1 through W-7. 2-inch-diameter monitoring wells W-1 through W-6 installed.
Jan-90	ESE	ADC Parcel	Borings	Hand augers AD-01 through AD-19 to depths ranging from 1 to 4.5 feet.
Mar-88	RZA	ExxonMobil Parcel	Borings, monitoring well installation	2-inch-diameter monitoring wells MW-6 through MW-18 installed.
May-85	RZA	ExxonMobil Parcel	Borings, monitoring well installation	2-inch-diameter monitoring wells B-1 through B-5 (MW-1 through MW-5 in several reports) installed.

Source: Wood 2019

Abbreviations:
ADC = American Distributing Company
AMEC = AMEC Environment & Infrastructure, Inc.
AMEC E&E = AMEC Earth & Environmental, Inc.
AST = aboveground storage tank
bgs = below ground surface
CAP = Cleanup Action Plan
COC = constituent of concern
CSO = combined sewer outflow
CSTO = California Street Overcrossing
Ecology = Washington State Department of Ecology
ERI = Environmental Resolutions, Inc.
ESE = Environmental Science and Engineering, Inc.
FFS = Focused Feasibility Study
gpm = gallons per minute
GPR = ground penetrating radar
HSA = hollow-stem auger
KC = Kimberly-Clark
Kleinfelder = Kleinfelder, Inc.
LPH = liquid petroleum hydrocarbons
MTCA = Model Toxics Control Act
PTI = PTI Environmental Services
RZA = Rittenhouse-Zeman & Associates, Inc.
RZA AGRA = RZA AGRA Earth & Environmental, Inc.
TPH = total petroleum hydrocarbons
TPH-D = total petroleum hydrocarbons-diesel range organics
TPH-G = total petroleum hydrocarbons-gasoline range organics
TPH-O = total petroleum hydrocarbons-residual range organics

Appendix B Archaeological Assessment



Cultural Resources Assessment Report

ExxonMobil/ADC Property Proposed Remedial Excavation, Everett, Washington

November 19, 2021

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Cover image: PSI Cleanup Sites - Port Gardner, Sound Living Conference presentation, October 25, 2014. Page 20.
https://ecology.wa.gov/DOE/files/02/02f2d202-9008-4049-ac30-63bc8c63f32d.pdf

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Executive Summary

Cardno, Inc. (Cardno) conducted a cultural resources assessment for the proposed ExxonMobil/ American Distributing Company (ADC) project in Everett, Washington. The project proposed to cleanup soil and groundwater impacted by light non-aqueous phase liquid (LNAPL) and/or residual LNAPL saturation. Historical releases of petroleum products have been documented within the project area due to former operations of bulk petroleum storage, transfer, and distribution facilities and operations of other similar companies on nearby parcels. The project area is currently developed with a paved parking lot.

Results of the cultural resources assessment for the project area indicate a high level of human activity took place adjacent to the project area during precontact and historic times. Given the history of the project area and its immediate vicinity, Cardno concludes that the potential for encountering subsurface archaeological deposits beneath the historic fill layers is moderate to high. Cardno recommends that a monitoring and inadvertent discovery plan (MIDP) be implemented to minimize potential impacts to any currently unknown intact archaeological resources.

1.0 Introduction

Cardno, Inc. (Cardno) conducted a cultural resources assessment for the proposed ExxonMobil/ American Distributing Company (ADC) project in Everett, Washington (Figure 1). This project is listed by the Washington State Department of Ecology (Ecology) as Cleanup Site 5182. Historical releases of petroleum products have been documented within the project area due to former operations of bulk petroleum storage, transfer, and distribution facilities and operations of other similar companies on nearby parcels. The purpose of the project is to cleanup soil and groundwater impacted by light non-aqueous phase liquid (LNAPL) and/or residual LNAPL saturation. Proposed cleanup activities include installation of shoring walls, and excavation of impacted soils. Following excavation of contaminated soils, the project area will be backfilled, re-graded to preexisting contours, removal of shoring walls, and repaved.

The project area consists of 3.48 acres that are comprised of several tax parcels and portions of the City of Everett's (City) Right-of-Way (ROW). Parcel information is provided below (Table 1; Figure 2). Currently, the project area consists of a paved parking lot with no extant structures or buildings (Figure 3).

The cultural resources assessment consisted of a literature review of existing cultural resource records for previously recorded historic, ethnohistoric, and precontact archaeological and built environment resources; a review of any local, state, and national register nomination forms; a review of previously conducted cultural resources investigations; and a review of any known or potential Traditional Cultural Properties (TCPs) located within 1.0 mile (1.6 kilometer [km]) of the project area. This research included a records search at the Department of Archaeology and Historic Preservation's (DAHP's) Washington Information System for Architectural and Archaeological Records Data (WISAARD) database. Additional resources that were consulted include historic-era aerial photographs, U.S. Geological Survey (USGS) maps, General Land Office (GLO) maps, Snohomish County atlases, and Sanborn Fire Insurance Maps.

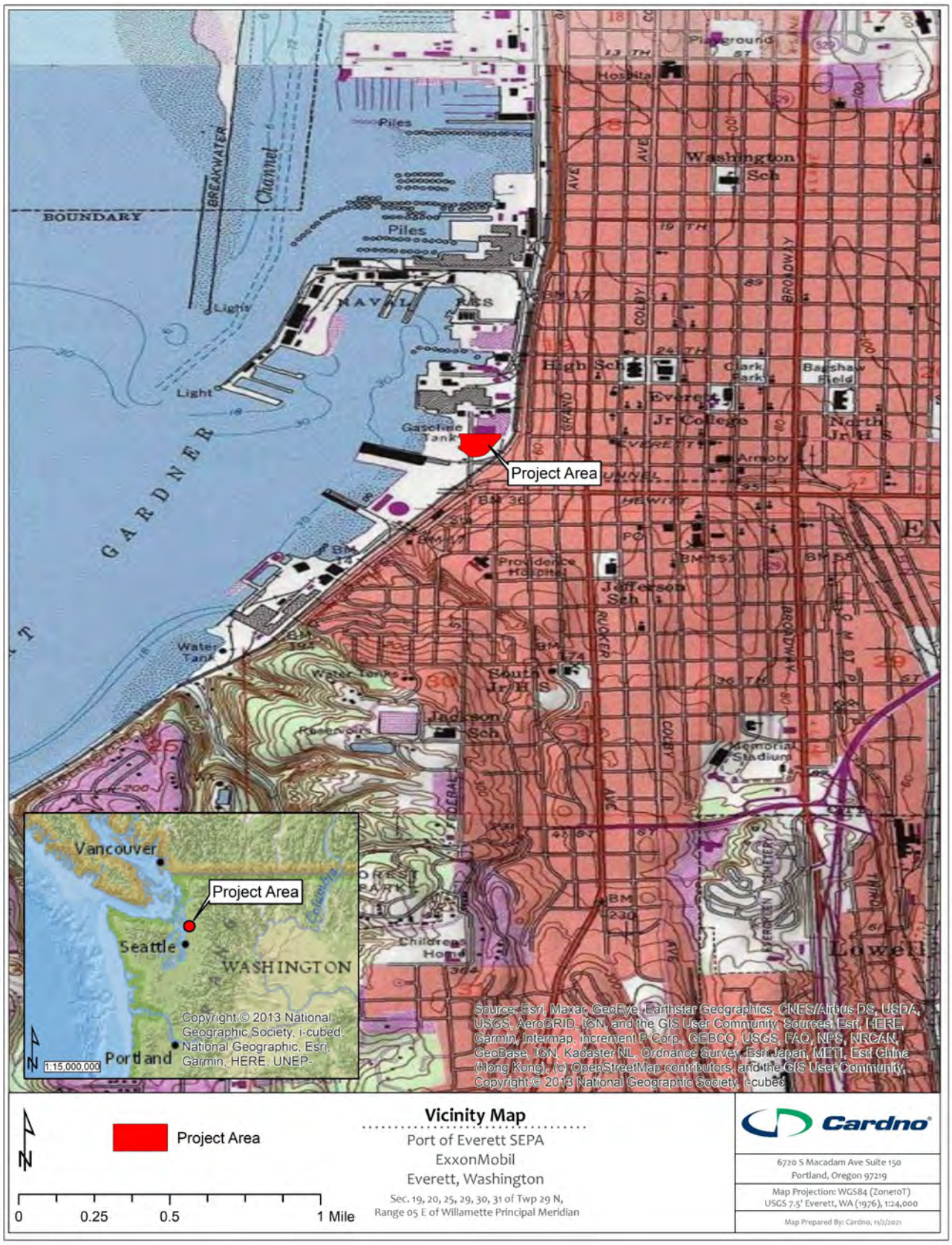

Figure 1. Project area and vicinity.

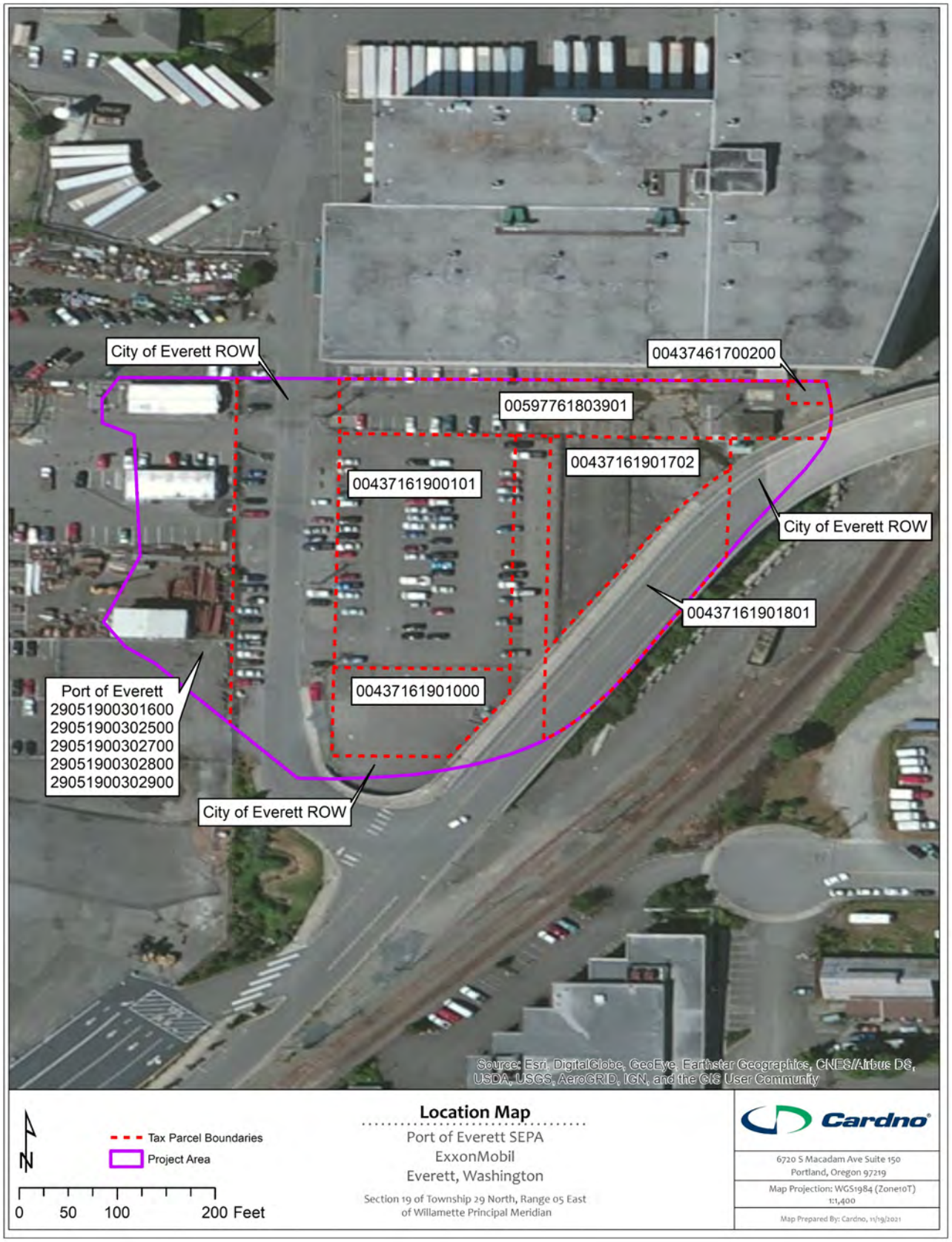

Figure 2. The project area denoting impacted Snohomish County tax parcels and City ROW.

Table 1. Snohomish County Tax Parcel Information.

Owners	Parcel Number(s)
Burlington Northern Railroad	00437161901702
City of Everett	00437161901801
Miller Trust (Cecilia Beverly Miller, beneficiary)	00437161900101
Mobil Oil Corporation	00437161901000
Port of Everett	00437461700200, 00597761803901, 29051900301600, 29051900302500, 29051900302700, 29051900302800, 29051900302900

Figure 3. Overview of project area, facing northeast.

2.0 Regulations

Cardno's cultural resources assessment was completed in compliance with Everett Municipal Code (EMC), Snohomish County Code (SCC), the State Environmental Policy Act (SEPA), and Revised Code of Washington (RCW). These regulations are discussed below. Additionally, information regarding other local, state, and federal regulations applicable to cultural resources is also provided.

2.1 Everett Municipal Code

EMC 19.28 outlines the process for identifying, listing, and protecting resources on the Everett Register of Historic Places and within historic overlay zones. Properties within historic overlay zones are governed by EMC 19.28.020 through 19.28.120. Criteria for placement on the Everett Register of Historic Places are described in EMC 19.28.130. Proposed changes to properties on the Everett Register are reviewed by the Everett historical commission per 19.28.140.

2.2 Snohomish County Code

SCC 30.67.340 requires developers and property owners to immediately stop work and notify the county, DAHP, and affected Indian tribes if archaeological resources are uncovered during excavation. It further stipulates that county permits issued in areas documented as containing archaeological resources require a site inspection or evaluation by a professional archaeologist in coordination with affected Indian tribes.

SCC 20.32D outlines the identification, evaluation, and protection of archaeological and historic resources within Snohomish County that are listed on the Washington State Archaeological Site Inventory. Additionally, it directs the preservation and rehabilitation of eligible historic properties for future generations. SCC 30.32D.020 established the Snohomish County Register of Historic Places, which includes historic buildings, sites, structures, objects, and districts within the county. SCC 30.32D.030-060 directs property designation to and removal from the Snohomish County Register of Historic Places, as well as alterations of properties on the register.

SCC 20.32D.070-100 outlines the process for obtaining and working under a certificate of appropriateness, and zoning. SCC 20.32D.200 requires recordation of archaeological sites. Additionally, completion of an archaeological report or relocation of a project is required for any construction, earth movement, clearing, or other site disturbance of a known archaeological site or any development application proposed on non-tribally owned, fee-simple properties designated Reservation Commercial on the Snohomish County Future Land Use Map. SCC 20.32D.220 outlines the process to follow if human remains or archaeological resources are found during construction, earth movement, clearing, or other site disturbance.

Lastly, SCC 30.32D.300 allows for an appeal process for any building permit issued with conditions imposed pursuant to this chapter. An appeal may occur as a Type 1 decision pursuant to SCC 30.71.

2.3 State Environmental Policy Act

The SEPA (RCW 43.21C) and its implementing rules contained in Washington Administrative Code (WAC) 197-11 require applicants to document cultural and historical significance that may be affected by project activities. The SEPA review process provides notice to all affected tribal, state, and private entities.

Per WAC 197-11-960, the SEPA checklist submitted to the local planning authority with an application for development review includes the following questions, which must be satisfactorily addressed to demonstrate that a project will not have a significant adverse impact on cultural and historic resources:

> *a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers? If so, specifically describe.*
>
> *b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.*

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archaeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

2.4 Revised Code of Washington 27.44 and 27.53

Precontact and historic archaeological sites are protected by several Washington state regulations on both public and private lands. RCW 27.44 and RCW 27.53.060 require that a person obtain a permit from the DAHP before excavating, removing, or altering Native American human remains or archaeological resources in Washington. A failure to obtain a permit is punishable by civil fines and penalties under RCW 27.53.095 and criminal prosecution under RCW 27.53.090.

If a person(s) violates this statute and knowingly disturbs or alters an archaeological site, the DAHP is allowed to issue civil penalties of up to $5,000, in addition to site restoration costs and investigative costs per RCW 27.53.095. Restorative and monetary remedies do not prevent concerned Indian tribes from undertaking civil action in state or federal court or law enforcement agencies from undertaking criminal investigation or prosecution. If human remains and/or burials are disturbed, RCW 27.44.050 allows an affected Indian tribe to undertake civil action. Additionally, the excavation of human remains without a permit is a felony.

2.5 Revised Code of Washington 68.60

RCW 68.60 requires “expeditious” notification of local law enforcement and the coroner if skeletal human remains are discovered. Failure to notify is considered a misdemeanor.

2.6 Washington Administrative Code 25-48-060

The complete requirements for filing an archaeological excavation permit can be found in WAC 25-48-060. In the state of Washington, permits are required for alterations (e.g., excavation, removal, and collection of archaeological materials) at all precontact archaeological sites and at historic archaeological sites that are eligible for or listed in the National Register of Historic Places (NRHP).

2.7 Governor’s Executive Order 21-02

In 2021, Washington Governor Jay Inslee signed executive order 21-02, which supersedes the previous GEO 05-05. GEO 21-02 requires the preservation and protection of Washington’s cultural resources, which are defined as archaeological and historical sites, Native American sacred places and landscapes, and sites, buildings and places that hold special cultural historical, and spiritual significance. The GEO requires state agencies to review their capital construction projects and land acquisitions made for the purpose of a capital construction project that are not undergoing review under Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA) with the Washington State Department of Archaeology and Historic Preservation (DAHP) and affected Indian tribes to determine potential impacts to cultural resources. GEO 21-02 outlines the steps of review and consultation that should be undertaken as early in the project planning process as possible. In the event a culturally significant site will be impacted by a capital project, the state agency must work with the DAHP and affected Indian tribes on appropriate archaeological survey and mitigation strategies consistent with state and federal laws. Additionally, the state agency must take reasonable action to avoid, minimize, or mitigate adverse effects to the resource.

2.8 Washington Heritage Register

The Washington Heritage Register (WHR) is an official listing of historically significant sites and properties found throughout the state and includes districts, sites, buildings, structures, and objects that have been identified and documented as being significant in local or state history, architecture, archaeology, engineering, or culture. The WHR is governed by several state laws, including Senate Bill 363, RCW 27.34.200, and WAC 25-12.

Any subdivision of state government or recipient of state funds must comply with the SEPA and Executive Order 21-02. These programs require that significant properties, specifically those listed in or eligible for the WHR, be considered when state undertakings (e.g., permits, grants, construction) affect historic and cultural values. If significant resources are identified, the DAHP considers the effects of a proposed project on such resources and makes a professional recommendation for appropriate treatments or actions. The DAHP does not regulate the treatment of properties that are found to be significant, and the local governing authority may choose to uphold the DAHP's recommendation and may require mitigation of adverse effects to significant properties.

2.9 National Register of Historic Places

The NRHP (16 U.S. Code 470a), created under the National Historic Preservation Act of 1966, as amended (16 U.S. Code 470 et seq.), is the federal list of historical, archaeological, and cultural resources worthy of preservation. Resources listed in the NRHP include districts, sites, buildings, structures, and objects that are significant in American history, prehistory, architecture, archaeology, engineering, and culture and that possess integrity of location, design, setting, material, workmanship, feeling, and association. The NRHP is maintained by the National Park Service (NPS) on behalf of the Secretary of the Interior (SOI). The DAHP administers the statewide NRHP program under the direction of the State Historic Preservation Officer, located in Olympia, Washington. The NPS has developed NRHP Criteria for Evaluation (36 Code of Federal Regulations [CFR] § 60.4) to guide the evaluation of cultural resources that may be either listed in or eligible for the NRHP. The NRHP Criteria of Evaluation are:

Criterion A: Are associated with events that have made a significant contribution to the broad patterns of our history; or

Criterion B: Are associated with the lives of persons significant in our past; or

Criterion C: Embody the distinctive characteristics of a type, period, or method of construction or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; or

Criterion D: Have yielded, or may be likely to yield, information important in prehistory or history.

NPS Bulletin No.15, "How to Apply the National Register Criteria for Evaluation," provides guidance on evaluating resources for listing in the NRHP. Archaeological sites are primarily assessed under Criterion D. While cultural resources may be present within the project area, if they do not meet the requirements for listing in the NRHP, they are not considered historic properties. Cultural resources less than 50 years old do not meet the NRHP criteria unless they are of exceptional importance, as described in Criteria Consideration G (36 CFR Part 60) and NPS Bulletin No. 22, "How to Evaluate and Nominate Potential National Register Properties That Have Achieved Significance Within the Last 50 Years."

3.0 Environmental Setting

The project area lies within the greater Puget Lowland physiographic province, which is a low-lying area between the Cascade Range to the east and the Olympic Mountains to the west. Puget Sound was

shaped by widespread continental glaciation that extended south from British Columbia to the northern Puget Lowland and along the western flanks of the Cascade Mountains (Miss 2008). This area is also known as the Puget Sound Trough physiographic province, which extends to the Cowlitz and Chehalis Rivers (Franklin and Dyrness 1988). The Vashon Stade of the Fraser Glaciation was the last glacial maximum in the region and is dated between 18,000 and 14,000 years before present (BP) (Easterbrook 2003). Rapid deglaciation, which saw the occurrence of meltwater channels and temporary ice marginal lakes, occurred after this glaciation. The land experienced isostatic rebound between 13,000 and 7000 years BP as global sea levels rose and deltas formed at the head of the Duwamish Valley, shaping the Puget Sound shoreline (Dragovich et al. 1994; Miss 2008). By 5000 years BP, the Puget Sound sea level was within 6.6 to 9.8 feet (2 to 3 meters [m]) of its current level (Kelsey et al. 2004; Sherrod et al. 2000).

The project area lies within the *Tsuga heterophylla* (western hemlock) vegetation zone in the Puget Lowland, which provides a highly productive ecological system with a complex mosaic of microenvironments (Franklin and Dyrness 1988). This vegetation zone is characterized by forests of western hemlock, western red cedar, and Douglas-fir. Shrub cover consists of sword fern, salal, Oregon grape, ocean spray, huckleberry, and red elderberry. The diversity of floral and faunal species in the area has decreased due to human settlement, which has led to a significant loss of faunal habitat. Additionally, historical and modern contaminants within Port Gardner Bay have significantly impacted mudflats, estuaries, tidal marshes, and shrub wetlands. The National Oceanic and Atmospheric Administration's Damage Assessment, Remediation, and Restoration Program (2021) notes that:

> *Releases of hazardous substances into Port Gardner Bay have resulted from industrial and municipal processes since the early 1900s, including factories, spills during cargo transfer and refueling, storm water runoff through contaminated soils at upland facilities, discharge of contaminated groundwater, and lumber operations, such as sawmills, and pulp and paper mills*.

Prior to historical and modern impacts, the *Tsuga heterophylla* vegetation zone could support large terrestrial animals like elk, deer, black bear, and coyote and smaller mammals like rabbit, squirrel, racoon, beaver, and river otter. Currently, the project area is located within modified industrial landscape with paved ground surface. Recent subsurface investigations note that the near-surface soils consist of a heterogeneous mixture of fill materials. The fill materials consist of very loose to medium dense, brown, brownish gray, and gray silty sand and sand with areas of wood and brick debris extending to depths of approximately 5 to 10 feet below ground surface (bgs). Gray silty sand and silt and dark-brown to black peat mixed with wood debris are encountered beneath the shallow fill and extend up to 20 to 27 feet bgs (Wood 2019, Cardno 2020a, 2020b).

3.1 Archaeology

The earliest known occupations in western Washington, termed Paleo-Indian, are evidenced by the appearance of large, fluted projectile points dating to approximately 12,800 years BP (Ames and Maschner 1999; Carlson 1990). Paleo-Indians were primarily hunter-gatherers with low populations and high levels of mobility. Some researchers have argued that these early people were maritime oriented (Carlson 2003; Dixon 1993; Fedje and Christensen 1999; Fladmark 1979). In western Washington, sites from this period are rare. Much of the late Pleistocene terrain was uninhabitable due to glaciers, and the lands that were occupied by Paleo-Indians were predominately coastal reaches. During the glaciation period, ocean levels fell almost 400 feet globally (Kirk and Daugherty 2007), but with the onset of the warming Holocene, ocean levels rose and submerged many of these coastal sites. However, some sites are not submerged and instead are located above the present shoreline due to eustatic, tectonic, and isostatic effects that vary throughout the region (Fedje and Christensen 1999).

The Archaic period dates from approximately 12,500 to 6,400 years BP (Ames and Maschner 1999; Carlson 1990). Archaic-period sites, similar to Paleo-Indian sites, are poorly represented. Changes in sea level and vegetation have obscured many Archaic-period sites along the coast (Ames and Maschner

1999). However, as the glaciers receded, people were able to occupy larger expanses in the interior of the Puget Sound. Archaic-period peoples likely maintained small populations and high levels of mobility, and focused on a combination of maritime, littoral, and terrestrial economies. Archaic-period occupations are largely characterized by stone tool assemblages that are typically composed of large, stemmed lanceolate projectile points and bifaces. In addition, the Pacific Northwest Archaic period saw an introduction of microblades, which are sometimes present in stone tool assemblages (Ames and Maschner 1999).

Pacific-period sites date from approximately 6,400 to 250 years BP. The period ends at the introduction of smallpox to the region (Ames and Maschner 1999). The Early Pacific period (6,400 to 3,800 years BP) was marked by the increased use of marine resources, the appearance of human burials in middens and cemeteries, a diversification in subsistence activities, the disappearance of microblade technology, and the increased use of bone, antler, and ground stone tools. Major developments also included the appearance of ground stone celts (adze blades) and a proliferation in chipped-stone tool forms and styles, and decorative/ornamental pieces that likely represent contact and trade with groups in neighboring cultural areas (Kirk and Daugherty 2007). The Middle Pacific period (3,800 to 1,800/1,500 years BP) displays major developments including the appearance of long-term settlements (plank houses), intensification of salmon capture (appearance of wooden fish weirs and girdled/drilled net sinkers), and a diversification in tool form and style. Late Pacific period (1,800/1,500 to 250 years BP) developments are represented by the appearance of heavy-duty woodworking tools, an overall decline in the use of chipped-stone tools, and an increase in funerary ritual/burial activities. Sea levels became stable by the start of the Middle Pacific period, and sites representing the Middle and Late Pacific periods are located across the Northwest Coast region (Ames and Maschner 1999).

3.2 Ethnography

The project area lies within the traditional territory of the Snohomish. Since time immemorial, the Snohomish people lived in various locations along the Snohomish River from present-day Monroe to the mouth of the river near Everett, on Camano Island, and on Whidbey Island (Ruby and Brown 1992:212; Tweddell 1974). The region was utilized for resource gathering, hunting, and villages/seasonal habitations. However, there are no known ethnographic sites within the immediate project area (Waterman et al. 2001).

The Snohomish spoke the southern dialects of Lushootseed—a Salish language (Suttles and Lane 1990:486). The Snohomish people followed a seasonal settlement pattern. Winter villages, composed of one or more cedar plank houses where families gathered in the late fall, were typically located along waterways, such as at the mouth of the Snohomish River, river confluences, or protected shorelines (Haeberlin and Gunther 1930; Lane and Lane 1977). During the winter months, they relied on stored foods supplemented by local hunting and fishing (Suttles and Lane 1990).

Coast Salish peoples developed a complex social and religious system in part due to the abundance of food and raw materials (e.g., wood, plants, stone) (Haeberlin and Gunther 1930). Potlatches and spirit quests were important activities in the pursuit of spiritual power, in addition to asserting control over resources and neighboring groups (Elmendorf 1971). Social stratification existed among Coast Salish groups, where villages consisted of elite, commoner, and slave classes (Ames 2001; Grier 2003; Tollefson 1987).

Winter housing consisted of large, multifamily longhouses constructed of cedar planks. Sleeping platforms lined the walls, and storage shelves for winter supplies were typically located on the walls above these sleeping platforms. Fires were located near the sides, and the central area was used as a passageway. Shed-roof houses were a common design among the Coast Salish in the Puget Sound region (Suttles 1991). This house type easily allowed for the addition of rooms when populations increased, such as during winter months, and for the reduction in house size when occupants left for summer food collection

rounds (Suttles 1991). Often, the different placements of sleeping platforms and individual fires portrayed status, where those with the highest status lived in the back of the house and commoners and slaves lived closer to the entryways (Suttles 1991).

During the spring, summer, and fall, people would journey from central villages to temporary camps. Camps were located along streams during salmon runs while smaller groups would hunt, fish, and gather plant resources. Gathering was most intensive during spring and summer. Plants such as cattail (*Typhaceae* spp.), cranberry (*Oxycoccus* spp.), wapato (*Sagittaria latifolia*), and salmonberry (*Rubus spectablilis*) shoots were collected from wetlands, such as those found along Lake Stickney (located directly west of the project area), and prairies were visited for gathering camas (*Liliaceae* spp.) bulbs (Haeberlin and Gunther 1930; Turner 1976).

A typical summer house was constructed for short-term occupation, and they were typically tipi or square-shaped. Mats were placed horizontally over a frame of poles to create the tipi, while square houses were a lean-to type form, with mats placed over a wooden structure with a gabled or single pitch roof. Short-term occupation mountain camps were made using a similar square form, but covered with boughs of various tree species. Another style of summer house consisted of four corner poles with horizontal poles placed on top to create a gable. Cedar twigs held the framework together, while mats covered the roof and three sides (Haeberlin and Gunther 1930).

The Tulalip Reservation was authorized under the Treaty of Point Elliot in 1855, and enlarged in 1873, as the home for several indigenous groups including the Snohomish, Stillaguamish, Snoqualmie, Skykomish, and other allied bands living in the region (Ruby and Brown 1992; Tulalip Tribes 2014). Some among these groups moved to the reservation, while others remained living on their traditional lands. The combined tribes became known as the Tulalip Tribes.

Cardno is not aware of any known ethnographic place names within the project area or immediately adjacent. However, there are several ethnographic place names recorded in the general vicinity of the project area and near the mouth of the Snohomish River (Waterman 1922; Waterman et al. 2001:336-342). Non-English names are Lushootseed when available.

16 ʔ*us*ʔ*us*ič (Watermann orthography: *Os³a/s1tc)* translates to “chasing a fish here and there” near an estuary between Steamboat and Union Sloughs.

16a *bəluʔəb* (Watermann orthography: *PE’ls1b)* translates to “boiling,” for an area at the mouth of the main Snohomish River channel.

17 *čikʷucid* (Watermann orthography: *Ctcqo’tsid)* translates to “that which chokes up the mouth of something,” for a small island located on the north side of the Snohomish River mouth.

18 *sexʷčulalqʷ* (Watermann orthography: *SExwtculalkw)* is noted for a sharp point of land running toward the Ctcqo’tsid island.

19 *hibuĺəb* (Watermann orthography: *Hibu’l³ub)* translates to “place where water boils out of the ground,” for a former village site south of the Snohomish River mouth.

20 Watermann orthography: *SEqʷsu’³ub* is noted for a small promontory with a slough that runs parallel to the shore.

21 *sluluwɬ* (Watermann orthography: *SLu’luw1L)* translates to “little perforation for a canoe,” for a narrow channel passing behind an island.

22 ƛ'*uxʷaɬ* (Watermann orthography: *tL’o’hwaL)* translates to “a cold spring” for a spot on the river bank opposite Everett.

3.3 Historical Context

Cardno referenced GLO land patents and cadastral maps for Township 29 North, Range 5 East as well as Snohomish County atlases and USGS topographic survey maps to determine changes in built environment features (e.g., piers, docks, railroads, buildings, and/or roads) in or near the project area (Table 2). According to the results of a land patent search through the Bureau of Land Management (BLM), in 1876 Dennis Brigham was granted a total of 160.15 acres for Lot/Tract 2, Lot/Tract 3, and Lot/Tract 4 within Section 19 of Township 29 North, Range 5 East. Brigham, a carpenter from Massachusetts, arrived in the Everett area in 1861 to begin the homesteading process. Considered the first permanent settler in the area, Brigham constructed a cabin on his acres near Port Gardner Bay and lived a solitary life (Oakley 2005). During the early 1860s, a lone telegraph operator "…and Brigham were the only settlers between Mukilteo and the mouth of the Snohomish River for many years" (Whitfield 1908: 285). Later, John Auson King claimed Lot/Tract 1, immediately north of Brigham within Section 19 (BLM 1874). These lands grants were authorized under the Land Act of 1820 and the Homestead Act of 1862. These acts reduced the price of federal lands and gave citizens up to 160 acres each of public land for improvement.

Table 2. Results of Cartographic Analysis.

Year	Author/Company	Description of project area
1869	BLM	The project area is located within Section 19, which is partially submerged in Port Gardner Bay. A trail extends along the east bank and connects to a telegraph office and through property homesteaded by "Brigam."
1902	Sanborn Map Co.	Federal Ave extends north through the railroad and ends at the west extent of Everett Ave. Lot/Tract 618 and 619 are labeled, but show no company or ownership. Block 619 contains 30 structures consisting of dwellings with associated outbuildings. Block 618 depicts 11 more structures labelled "Squatters Shacks." Area noted as "marsh."
1910	Anderson Map Co.	Several rail spurs extend west to docks and piers owned by G.N. Ry. Co., N.P. Ry. Co., and Everett Imp. Co. project area is situated west of Everett Ave terminus with railroad and tideland additions (labeled 618 and 619).
1914	Sanborn Map Co.	"Squatters shacks" have been removed from Blocks 618 and 619. Shoreline cuts northeast from intersection of Federal Ave and Everett Ave. Two structures are depicted in the southwest area of Block 618 near the waterline. Area noted as "marsh."
1927	Chas. F. Metsker	Project area is depicted west of main roadways within railroad and dock area of Port Gardner Bay. Sections 20 and 19 are not labeled.
1934	Kroll Map Co.	Project area is noted within an undetailed area heavily utilized by railroad and docks.
1936	Chas. F. Metsker	G.N. Rwy. Depicted east of project area with spurs to "City Dock" and other businesses. North of project area is Clark Nickerson Lbr. Co., and docks to west noted as 13, 14, and 21.
1943	Kroll Map Co.	Same as Kroll (1934).
1950	Sanborn Map Co.	Significant development of Blocks 618 and 619. General Petroleum Corporation, Gilmore Oil Co., and the Associated Oil Company have all constructed warehouses and fuel oil tanks. Within Port Gardner Bay there is a pier (Standard Oil Co.) and an outfitting basin.
1960	Thos. C. Metsker	Federal Street depicted within its current alignment. The project area is noted within property owned by Standard Oil. The block (619 and 618) contains storage tanks.
1960	Kroll Map Co.	Same as previous.

Year	Author/Company	Description of project area
1975	Chas. F. Metsker	Scott Paper Co. is north of the project area. Standard Oil property with storage tanks is located within the project area.
198x	Chas. F. Metsker	Same as previous.
1992	Metsker Maps	Same as previous.

The 1869 survey plat image for Township 26 North, Range 5 East, depicts a telegraph line aligned north-south along the east side of Port Gardner Bay. A “Telegraph Office” is noted south of Section 19. This telegraph line “followed along the beach from Seattle to Whatcom” (Whitfield 1908: 285). In the southeast quarter of Section 19, a small cabin is noted along with the misspelled label of “Brigam” (BLM 1869). In 1890, the Brigham homestead property was purchased by Wyatt and Bethel Rucker with plans to create a townsite called “Port Gardner” (Oakley 2005). During the next year, the Ruckers became associated with Henry Hewitt Jr., Charles L. Colby, and other optimistic landowners and incorporated the Everett Land Company. By 1891, the main thoroughfare called Hewitt Ave was cut east to west and 100 feet wide.

Development of the townsite, now called Everett after Charles Colby’s son, continued with stump removals, street grading, and the sale of Everett Land Company lots (Oakley 2005; Port of Everett 2021). The Everett Land Company won ownership of the waterfront in 1892. In April of 1893, Everett was incorporated and boasted more than 5,600 citizens supported by streetlights, streetcars, sawmills, railroads, and residential and commercial expansion. However, the Panic of 1893 led to a withdrawal of investments and money in the Everett Land Company. The holdings of the Everett Land Company were transferred to the Everett Improvement Company in 1899 (Oakley 2005).

Evidence of development revitalization is visible in a 1902 map in the numerous land lots divided and numbered to the East Waterway shoreline of Port Gardner Bay (Figure 4; Sanborn Map Co. 1902). Federal Ave extended north through the Great Northern Coast Line and terminated at the westerly extent of Everett Ave. At this time, no company or business name was noted on the Sanborn Fire Insurance Map within the project area. Within properties directly north of the project area, large structures are depicted for the Everett Flour Mill Co. and the Clark Nickerson Lumber Co.

The color-coded key indicates that within Block 619 within the project area, structures consisted of “frame building” (Sanborn Map Co. 1902). The detailed map page for Block 619 contains 30 frame structures, all dwellings and associated outbuildings, situated around a marshland at the center of the block (Figure 5). Within each dwelling, the maps include a notation of “S.P.,” which is specially called out on the key map introduction: “NOTE Practically all dwellings with a “S.P” (Stove pipe) are cheap, unpainted shacks” (Sanborn Map Co. 1902: Key Map). Eleven additional “S.P.” buildings consisting of dwellings, outbuildings, bath house, and boat house, are depicted within Block 618 to the north of the project area, and noted as “Squatters Shacks” (Sanborn Map Co. 1902).

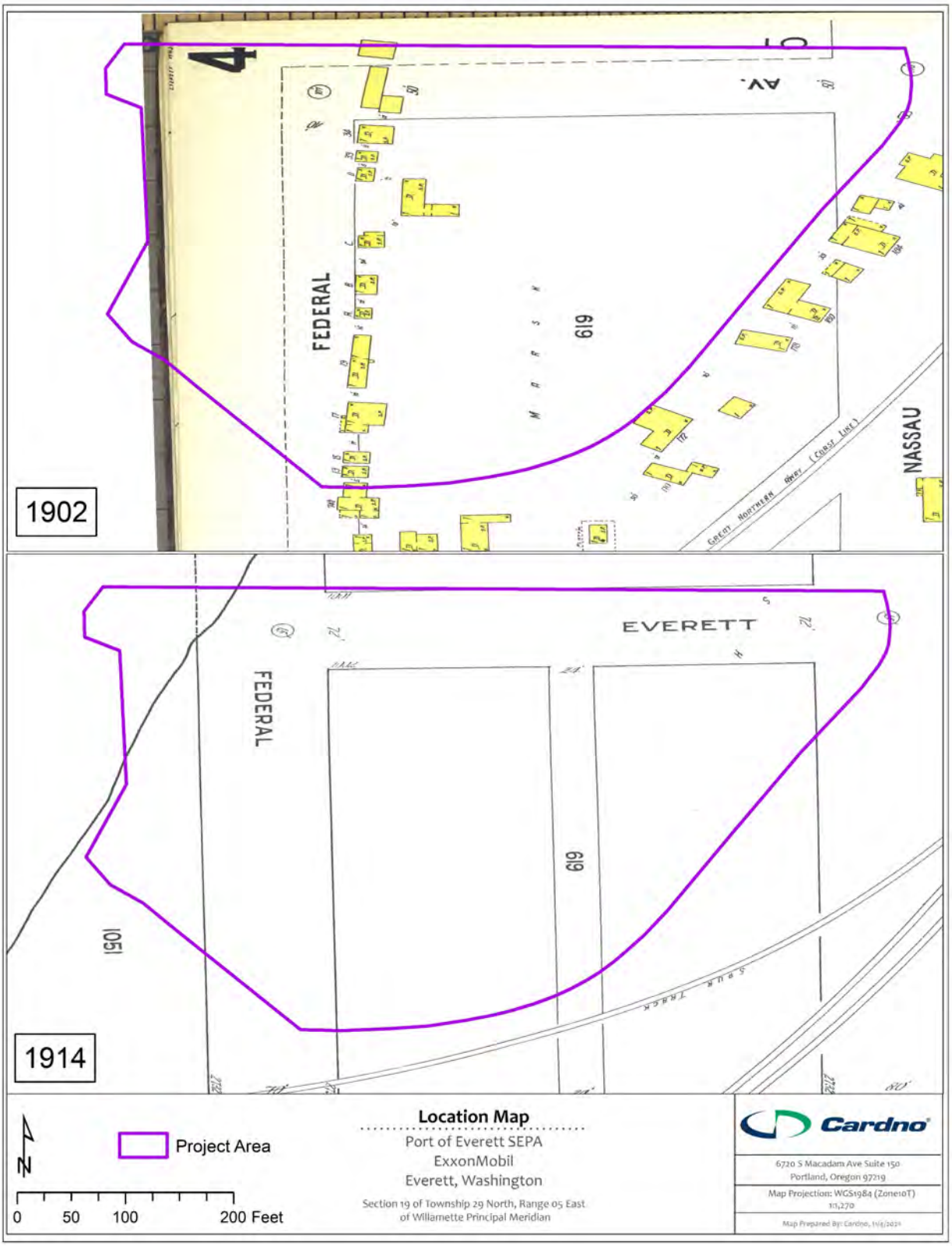

Figure 4. Details from 1902 and 1914 Sanborn Fire Insurance Maps (Sanborn Map Co. 1902, 1914).

Historical maps illustrate a changed landscape. In 1910, railway spurs extended west from the mainline to docks and piers owned by “G.N.Ry.Co.,” “N.P.Ry.Co.,” and “Everett Imp. Co.”:

“G.N.Ry.Co.” – Great Northern Railway

“N.P.RY.Co.” – Northern Pacific Railway

“Everett Imp. Co.” – Everett Improvement Company

By 1914 the “squatters shacks” north of the project area had been removed, and increasing development of piers and docks is evident (see Figure 4; Anderson Map Co. 1910; Sanborn Map Co. 1914). The position of the site between the railroad and waterfront was highly conducive to industrial uses. Between 1914 and 1950, the east shoreline of Port Gardner Bay was significantly filled and artificially extended into the East Waterway. Additionally, docks and piers expanded the industrial and commercial landscape west of the historical extent of Federal Ave (Sanborn Map Co. 1950).

By 1925, the northern part of the project area contained at least two large “General Petroleum Corporation” tanks, three smaller unlabeled tanks, and three gable-roof outbuildings just south of Everett Avenue. The project area spans Federal Avenue, across which was one large “General Petroleum Corporation” warehouse complex near the shoreline. Predecessors of ExxonMobil, owned the project area site beginning in 1927 (Washington Department of Ecology 2021).

The warehouse complex contained automobile truck storage, an oil and grease warehouse, a wash rack room, a boiler room, and an oil in steel drum staging yard adjacent to a wooden bulkhead (Figure 5; Sanborn Map Co. 1939 [Revised through June 1955]). By 1947 development within the project area had been expanded significantly to the south (Figure 6). Additional infrastructure constructed included several cylindrical petroleum tanks each containing 25,000 gallons of gasoline, eight outbuildings including a wooden office building, pump room, and warehouses, and a steel filling rack (Figures 5, 7, and 8; Sanborn Map Co. 1939 [Revised through June 1955]). The shoreline has not been modified with fill since approximately 1950 (Figure 9). An Everett USGS map from 1953 shows the area developed with gasoline tanks and a pier directly adjacent to the company warehouse complex (Figure 10). It does not appear the eastern portion of the project area was ever significantly developed.

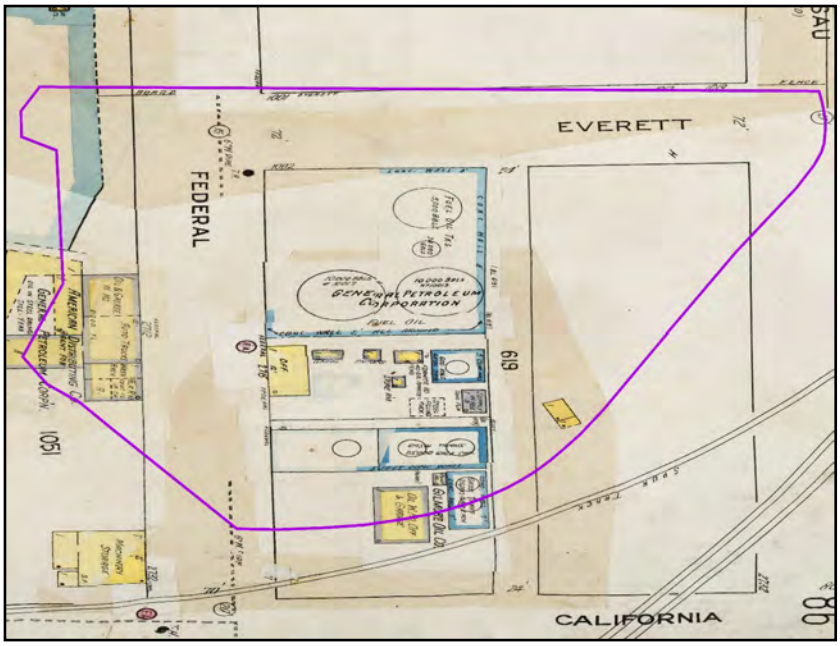

Figure 5. Project area displayed on 1939 Sanborn Fire Insurance Map. (Sanborn Map Co. 1939 [Revised through June 1955])

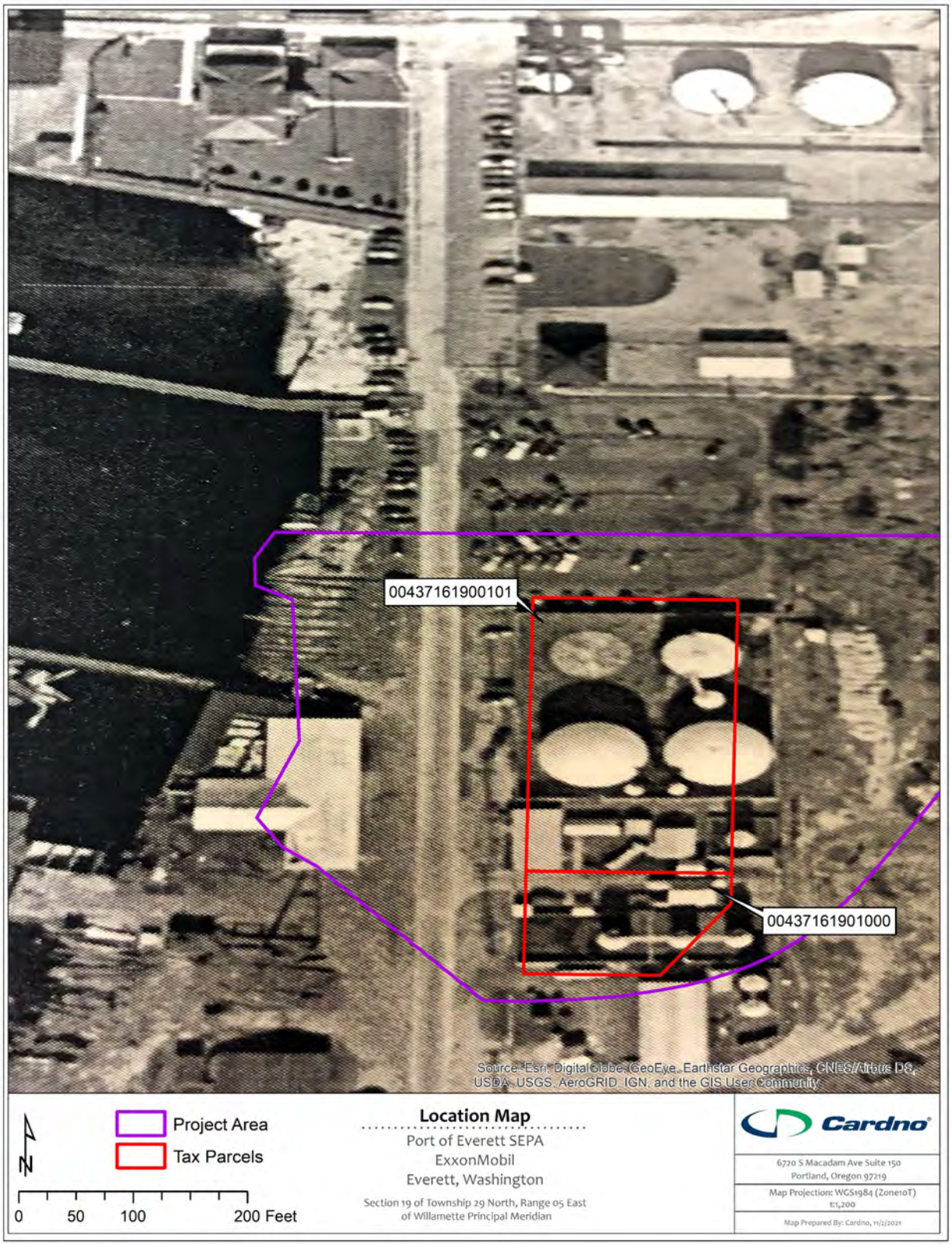

Figure 6. Project Area depicted on aerial imagery from 1947 (Image courtesy of ExxonMobil 2021).

Figure 7. Photograph of project area viewed facing north, taken from south end of site (Washington Department of Ecology 2021).

Figure 8. Undated photograph showing gasoline infrastructure after General Petroleum Corporation was rebranded to Mobilgas. The office building on the site is at the right. (Washington Department of Ecology 2014:65)

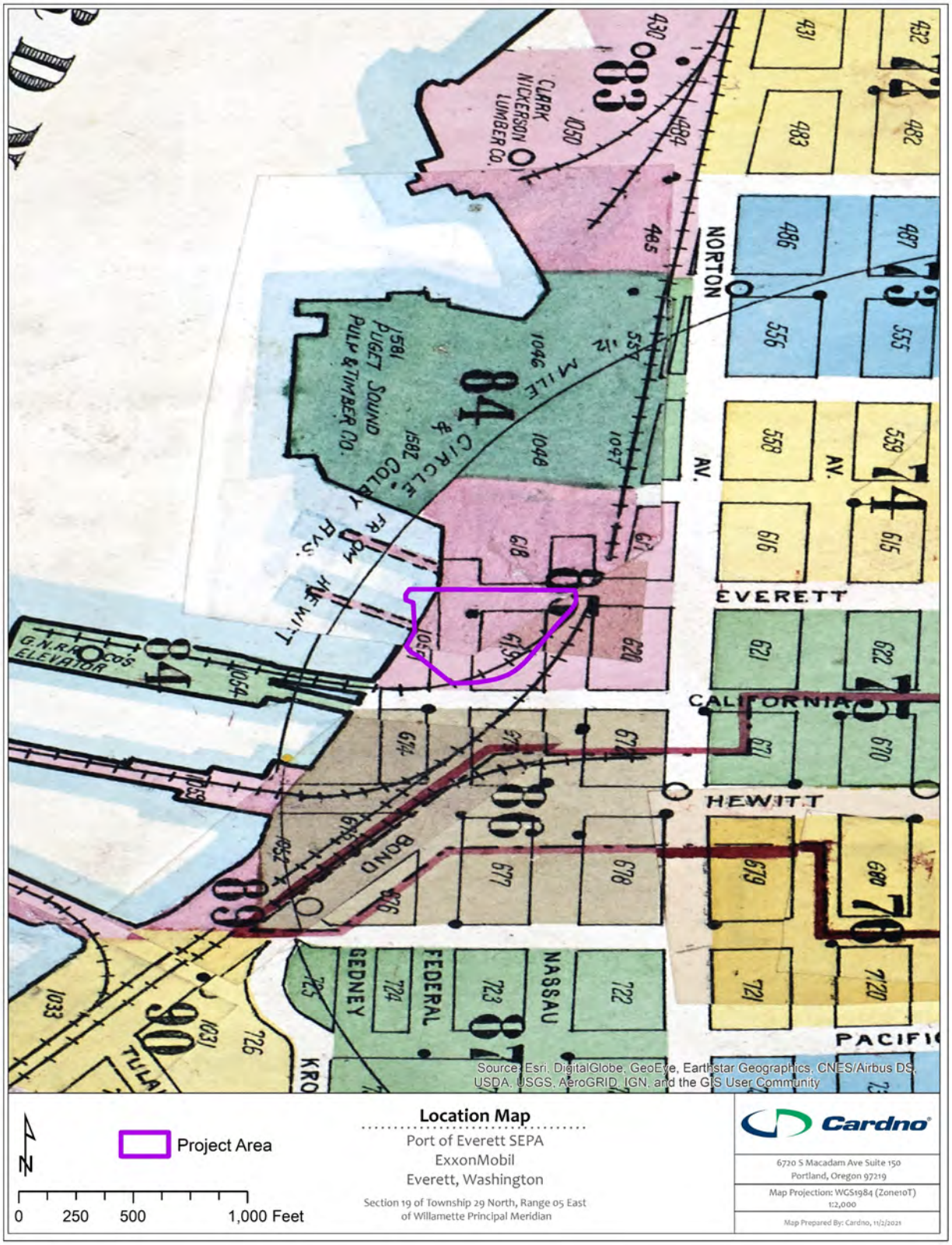

Figure 9. Project Area depicted on 1950 Sanborn Insurance Map (Sanborn Map Co. 1950).

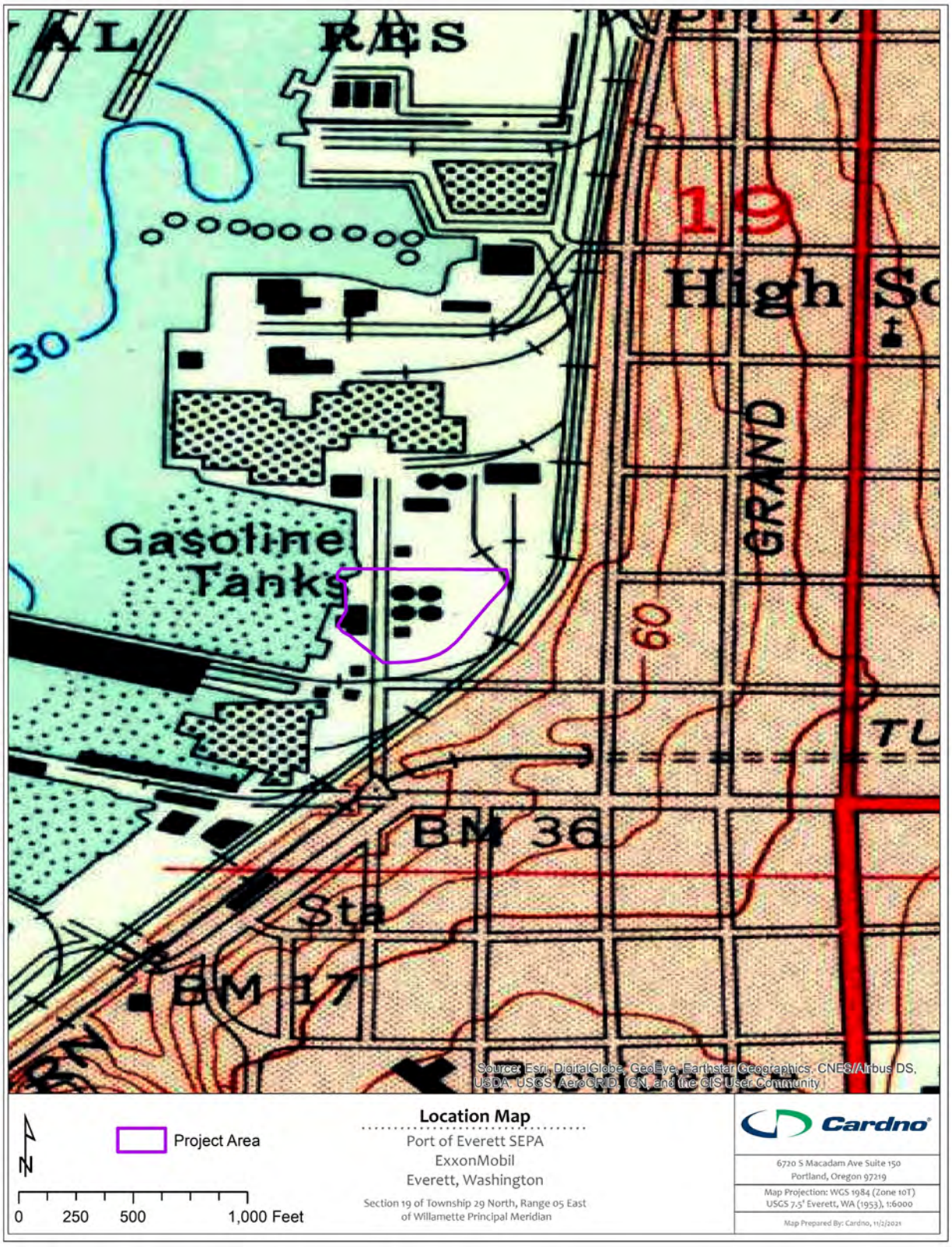

Figure 10. Project area depicted on the 1953 Everett USGS 7.5-minute quadrangle (USGS 1953).

In 1974, Mobil Oil sold the northern part of the project area to A.P. Miller for use by the American Distributing Company (ADC) who continued petroleum operations until 1990 (Washington Department of Ecology 2021). By 1977 the warehouse complex across Federal Avenue and the office building had been demolished (Figure 11). Mobil Oil ceased petroleum operations on the project area in 1987. All remaining infrastructure at the site was demolished between 1998 and 2002, and the project area was used as a parking lot (Washington Department of Ecology 2021). In late 2003 Terminal Avenue was developed adjacent to the site. The project area experienced continued development and change over several years precluding the identification of a particular year or period of importance of the petroleum infrastructure which was once extant.

Figure 11. A 1977 aerial photograph of the project area (Washington Department of Ecology 2021).

3.1 Literature Review

Cardno archaeologists conducted a background search and literature review of existing cultural resource records; local, state, and national register nomination forms; previous cultural resources investigations; and any known or potential TCPs in and within 1.0 mile (1.6 km) of the project area. According to the DAHP's predictive model available on the WISAARD online database, there is a very high risk of encountering buried precontact archaeological deposits in the project area.

3.1.1 Previous Investigations

The background search identified 15 cultural resources investigations that have been previously conducted within 1.0 mile (1.6 km) of the current project between 1975 and 2020 (Table 3). Seven investigations were surveys, two involved construction monitoring, two were historic structures surveys, three provided larger prehistoric and historic context for the area, and one was a monitoring and discovery plan. Recently, four cultural resources investigations fall within or immediately adjacent to the project area, as plotted by WISAARD (*see* Table 3): Johnson 2000; Rinck et al. 2013; Undem et al. 2014; Johnson 2020.

Table 3. Cultural Resources Investigations within 1.0 Mile of the project area (*n* = 15).

Year	Author	Report Title	NADB Number	Report Type	Location Relative to project area
1975	Dunell and Fuller	An Archaeological Survey of Everett Harbor and the Lower Snohomish Estuary-Delta	1332098	Survey Report	project area within Study Area
1987	Blukis Onat	Resource Protection Planning Process Identification of Prehistoric Archaeological Resources in the Northern Puget Sound Study-Unit	1349367	Overview	Overview of Area
1988	Evans-Hamilton, Inc.	The Location, Identification and Evaluation of Potential Submerged Cultural Resources in Three Puget Sound Dredged Material Disposal Sites	1340504	Survey Report	0.84 mile west
1991	Miss and Campbell	Prehistoric Cultural Resources of Snohomish County, Washington	1334282	Overview	Overview of Area
1998	Demuth	Technical Report: Historic, Cultural, and Archaeological Resources Assessment for Everett-to-Seattle Commuter Rail Project Environmental Impact Statement	1340269	Overview	Overview of Area
2000	Johnson	Letter to Molly Adolfson Regarding Proposed California Street Overpass, Everett	1344193	Survey Report	Within project area
2006	Juell	Archaeological Site Assessment of Sound Transit's Sounder: Everett to Seattle Commuter Rail System, King and Snohomish Counties	1348189	Survey Report	0.38 mile south
2008	Hartmann	Cultural Resources Assessment for the Swift Bus Rapid Transit Project	1351380	Survey Report	0.54 mile southeast
2011	Lenz et al.	Cultural Resources Assessment for the Broadway Bridge Replacement Project, Everett	1682948	Survey Report	0.68 mile west
2013	Pinyerd	Downtown Everett #SE03XC527 1602 Hewitt Ave., Everett	1683379	Historic Structures Survey Report	0.37 mile southeast
2013	Rinck	Cultural Resources Monitoring and Discovery Plan for the Kimberly-Clark Worldwide Site Upland Area, Everett	NA	Monitoring and Discovery Plan	0.11 mile north
2013	Rinck et al.	Archaeological Resources Assessment for the Kimberly-Clark Worldwide Site Upland Area, Everett	NA	Survey Report	0.06 mile north

Table 3. Cultural Resources Investigations within 1.0 Mile of the project area (*n* = 15).

Year	Author	Report Title	NADB Number	Report Type	Location Relative to project area
2014	Undem et al.	Letter to Steve Germiat RE: Results of Cultural Resources Monitoring at the Kimberly-Clark Worldwide Site Upland Area, Everett	1685767	Monitoring Report	0.11 mile north
2014	Sackett	Architectural Survey and Evaluation: Naval Station Everett	1685545	Historic Structures Survey Report	0.47 mile west
2020	Johnson	FINAL Results of Archaeological Monitoring for the Kimberly-Clark Everett Interim Action	1694736	Monitoring Report	0.07 mile north

In 2000, Paragon Research Associates conducted a survey for roadway connector alternatives between Everett Ave that would impact “Maggie’s Park” (Johnson 2000). Maggie’s Park, located approximately 400 feet east of the project area, is located within the Brigham land claim and possibly near the location of the original cabin. However, no archaeological materials have been identified to confirm this claim. Johnson conducted a pedestrian survey and identified no cultural materials.

In 2013, SWCA Environmental Consultants (SWCA) conducted an extensive study and background review for the Kimberly-Clark Worldwide Site Upland Area SEPA process (Rinck et al. 2013). This project area is located within 56 acres of upland lands and 12 acres of tidelands within the north parcel immediately adjacent to the current project area. Previously, this area was utilized as for industrial purposes which has contaminated the area. The first mill within this project area was the Robinson ad Company Mill, which began operations in the early 1890s. By 1901, this area contained an extensive sawmill and planning facility for the Clark-Nickerson Lumber Company. During the background review, SWCA identified the project area as containing a high potential for precontact and historical cultural materials within the natural Port Gardner shoreline. In response to the potential for buried archaeological materials, SWCA developed a site-specific Monitoring and Discovery Plan (MDP) (Rinck 2013).

SWCA performed archaeological monitoring for cleanup excavations at the Kimberly-Clark Worldwide Site Upland Area (Undem et al. 2014). Within one area, excavations intersected natural sediments underlying historic-period fill. Within Location 11, archaeologists observed miscellaneous historic debris and architectural remnants located between 2 and 6 feet below ground surface. One precontact artifact was documented during monitoring—45SN00629, an edge-altered basalt cobble (Undem 2014).

Archaeological monitoring continued at the Kimberly-Clark Worldwide Site Upland Area in 2020 (Johnson 2020). Archaeologists observed architectural and structural debris within the historic fill layer, likely associated with historical mill operations. No precontact materials or intact sediment layers were observed.

3.1.2 Archaeological Resources

One archaeological resource is recorded within a 1.0-mile (1.6-km) radius of the project area. The archaeological resource (45SN00629) is a precontact isolated find identified within historic dredge material underneath a parking lot (Undem 2014; Undem et al. 2014). Historically, the property was the location of a mill situated at 2600 Federal Avenue (Boswell and Sharley 2012). The single lithic artifact was recorded as an edge-altered basalt cobble with 13 multidirectional flake scars on one end. The artifact was donated to the Hibulb Cultural Center (Johnson 2020).

3.1.3 Built Environment

No historic properties listed in the NRHP, WHR, and/or ERHP are located within or immediately adjacent to the project area. Twelve properties listed in the NRHP are located within 1.0 mile (1.6 km) of the project area (Table 4). Additionally, two historic districts are located within 0.5 mile (0.8 km) of the project area: Hewitt Ave Historic District (45DT00231) and Rucker Hill Historic District (45DT00155). Four properties are listed in the WHR. Twenty-seven properties are listed on the ERHP, and all three Everett historic overlay districts begin within one mile of the site. Several properties are listed on more than one register. The dates of significance for the historic properties range from 1892 to 1967. There are no properties listed on the Snohomish County Register of Historic Places within one mile of the project area.

Table 4. NRHP/WHR/ERHP-Listed Properties Located within 1.0 Mile of the project area (*n* = 33).

Property Name	Address	Date Built	Property/Inventory No./Resource ID	Author	Year	Location Relative to project area
Roland & Nina Hartley House/Hartley Mansion (45SN00337)	2320 Rucker Ave	1910	Listing No. 86000958; Resource ID 676163 WHR, NRHP	Lambert	1986	0.37 mile northeast
Everett High School (45SN00351)	2400 Colby Ave	1910	Listing No. 97000493; Resource ID 676177 WHR, NRHP	Ravetz	1996	0.35 mile northeast
Everett Public Library (45SN00341)	2702 Hoyt Ave	1934	Resource ID 676167 WHR	Dilgard	1989a	0.27 mile east
Knights of Columbus Community Center and War Memorial Building (45SN00132)	1611 Everett Ave	1921	Listing No. 79002554; Resource ID 676151 WHR, NRHP	Potter	1975c	0.40 mile east
Pioneer Block – Everett (45SN00127)	2814-2816 Rucker	1892	Resource ID 676145 WHR	Lambert	1979	0.23 mile southeast
Marion Building, Hotel Marion, Tontine Saloon (45SN00128)	1401 Hewitt Ave	1895	Resource ID 676146 WHR	Dilgard	1979	0.27 mile southeast
Everett Theatre (45SN00115)	2911 Colby Ave	1901; 1924	Resource ID 676133 WHR	Potter	1975a	0.41 mile southeast
Monte Cristo Hotel (45SN00117)	1507 Wall Street	1925	Listing No. 76001907; Resource ID 676135 WHR, NRHP	Potter	1975b	0.39 mile southeast

Table 4. NRHP/WHR/ERHP-Listed Properties Located within 1.0 Mile of the project area (*n* = 33).

Property Name	Address	Date Built	Property/Inventory No./Resource ID	Author	Year	Location Relative to project area
U.S. Post Office and Customs House (45SN00135)	3006 Colby Ave	1917	Listing No. 76001909; Resource ID 676154 WHR, NRHP	Potter	1975d	0.43 mile southeast
Everett City Hall (45SN00344)	3002 Wetmore Ave	1929	Listing No. 90000674; Resource ID 676170 WHR, NRHP	Dilgard	1989b	0.48 mile southeast
Snohomish County Courthouse (45SN00116)	3000 Rockefeller Ave	1910; 1967	Listing No. 75001870; Resource ID 676134 WHR, NRHP	Potter	1975e	0.56 mile southeast
Everett Carnegie Library/Cassidy Funeral Home (45SN00133)	3001 Oakes Ave	1904; 1905	Listing No. 75001868; Resource ID 676152 WHR, NRHP	Potter	1975f	0.62 mile southeast
Commerce Building (45SN00345)	1801 Hewitt Ave	1910	Listing No. 92001290; Resource ID 676171 ERHP, WHR, NRHP	Sullivan	1992	0.52 mile east
Everett Fire Station No. 2 (45SN00342)	2801 Oakes Ave	1925	Listing No. 90000673; Resource ID 676168 WHR, NRHP	Dilgard	1989c	0.57 mile east
Rucker House (45SN00134)	412 Laurel Dr	1901	Listing No. 75001869; Resource ID 676153 WHR, NRHP	Potter	1975g	0.62 mile southwest
Hewitt Avenue Historic District (45DT00231)	1620 - 1915 Hewitt Avenue and portions of Wetmore, Rockefeller, Oakes, and Lombard Avenues	1894–1959	Listing No. 10001020; Resource ID 674762 WHR, NRHP	Fürész	2010	0.44 mile east
Rucker Hill Historic District (45DT00155)	Laurel, Snohomish, Niles, Warren, Bell, Tulalip, 33rd and 34th	1905–1930	Listing No. 89000399; Resource ID 674698 WHR, NRHP	Ravetz	1988	0.45 mile southwest

Table 4. NRHP/WHR/ERHP-Listed Properties Located within 1.0 Mile of the project area (*n* = 33).

Property Name	Address	Date Built	Property/Inventory No./Resource ID	Author	Year	Location Relative to project area
Rucker-Grand Historic Overlay Zone	Rucker and Grand Avenues between 10th and 24th Streets		N/A ERHP			0.37 mile northeast
Norton-Grand Historic Overlay District	Norton and Grand Avenues between Pacific Avenue and 3612 Norton Avenue		N/A ERHP			0.34 mile south
Riverside Historic Overlay District	N/A	Established 2008	N/A ERHP			0.88 mile east
Fratt Mansion (45SN00680)	1725 Grand Ave	1904	Listing No. 100000991 Resource ID 678273 ERHP, WHR, NRHP	Cope & Gillette	2017	0.91 mile northeast
Sittig House	1927 Rucker Ave	1893	N/A ERHP	O'Donnell	2018	0.75 mile northeast
Cleaver Clough House	2031 Grand Ave	1907	N/A ERHP			0.64 mile northeast
Hilzinger House	2108 Rucker Ave	1907	N/A ERHP			0.63 mile northeast
Wright House	2112 Rucker Ave	1905	N/A ERHP			0.61 mile northeast
Blackman House	2208 Rucker Ave	1910	N/A ERHP			0.54 mile northeast
Austin House	2201 Rucker Ave	1897-1900	N/A ERHP			0.57 mile northeast
Agnew House	2301 Rucker Ave	1899	N/A ERHP			0.49 mile northeast
Krieger Laundry	2808 Hoyt Ave	1915	N/A ERHP			0.3 mile southeast
Walsh Platt/Fisher Motors Building	2902 Rucker Ave	1930	N/A ERHP			0.27 mile southeast
Everett Downtown Storage	3001 Rucker Ave	1919	N/A ERHP			0.36 mile southeast
Howard House	3410 Snohomish Ave	1912	N/A ERHP			0.69 mile southwest
Jackson House	3602 Oakes Ave	1906	N/A ERHP			0.97 mile southeast
Culmback Building	3013 Colby Ave	1924	N/A ERHP			0.48 mile southeast

Table 4. NRHP/WHR/ERHP-Listed Properties Located within 1.0 Mile of the project area (*n* = 33).

Property Name	Address	Date Built	Property/Inventory No./Resource ID	Author	Year	Location Relative to project area
Port Gardner Building	2802 Wetmore Ave	1929	N/A ERHP			0.43 mile east
Bank of Everett (Cope Gillette Theatre	2703 Wetmore Ave	1963	N/A ERHP			0.44 mile east
Challacombe & Fickel Building	2727 Oakes Ave	1923	N/A ERHP			0.59 mile east
Evergreen Building	1909 Hewitt Ave	1902	N/A ERHP			0.62 mile southeast
Watson's Bakery	1812 Hewitt Ave	1910	N/A ERHP			0.57 mile southeast
Morrow Building	2823 Rockefeller Ave	1925	N/A ERHP			0.54 mile southeast
Van Valey House	2130 Colby Ave	1914	N/A ERHP			0.64 mile northeast
Sahlinger-Muck	2319 Colby Ave	1908	N/A ERHP			0.56 mile northeast
Clark Park	2400 Lombard Ave	1894	N/A ERHP			0.66 mile northeast
Ray Fosheim House	2017 26th St	1892	N/A ERHP			0.7 mile northeast
Lettelier House	2510 Baker Ave	1908	N/A ERHP			0.98 mile northeast

Three historic properties located within 0.5 mile (0.8 km) of the project area have been recommended and determined eligible for listing in the NRHP and/or WHR (Table 5). The Kimberly-Clark Everett Mill Main Office (Property ID 667716) is within 0.09 miles of the project area. The building was originally constructed in 1929 and consisted of a two-story Neoclassical rectangular structure with red brick cladding and low-pitched hipped roof. The building has a projecting Classical portico and round, white-painted Tuscan columns. In the 1940s and 1950s, the building underwent several alterations including the addition of two dormers on the roof, an addition to the south elevation of the building, the addition of a poured concrete deck and steps, and window replacements. The building is recommended as eligible for listing in the NRHP under Criterion A and listing in the WHR based on its historical association with the industrial development of Everett (Sharley 2012). All other listed and eligible properties are separated from the project area by the BNSF Railway train tracks. Most listed properties within one mile of the project area are clustered in areas to the east and to the north-northeast.

Table 5. Properties Recommended Eligible Located within 0.5 Mile of project area (*n* = 3)

Property Name	Address	Date Built	Property ID/ Resource ID	Author	Year	Location Relative to project area
Kimberly-Clark Everett Mill Main Office	2600 Federal Ave	1929	Property ID 667716; Resource ID 614724	Sharley	2012	0.09 mile north
Daulph Delicatessen	1416 Hewitt Ave	1927	Property ID 18268; Resource ID 12597	Dilgard and Riddle	1989	0.33 mile east
Everett Main Post Office	3102 Hoyt Ave	1964	Property ID 270916	Richards	2014	0.44 mile southeast

3.1.4 Cemeteries and Burials

According to information provided on the DAHP's WISAARD, there are no historic or precontact burials located within 1.0 mile (1.6 km) of the project area. One historic columbarium is located approximately 0.47-mile northeast of the project area (DAHP 2009). The Trinity Episcopal Church Columbarium (45SN00555) is situated at 2301 Hoyt Ave. The church was dedicated in 1921 with a new parish hall constructed in 1961 (Trinity Episcopal Church 2019). No further information is provided regarding the columbarium.

3.2 Cultural Resources Summary

Archival research indicates a high level of human activity took place adjacent to the project area during precontact and historic times. Given the history of the project area and its immediate vicinity, Cardno concludes that the potential for encountering subsurface archaeological deposits beneath the historic fill layers is moderate to high. Historical land modification, including the introduction of artificial fill and development, reduces the likelihood of encountering in situ precontact artifacts. Ethnographic-period archaeological deposits within and adjacent to the project area may include disturbed or redeposited midden deposits, burials, evidence of a village, or debris associated with short-term occupations and resource-processing locations. Historic-period deposits may include debris from agricultural and historic homestead structures and other early-twentieth-century structure (i.e., "squatters shacks"), or from manufacturing or commercial development.

4.0 Recommendations

Cardno recommends that a monitoring and inadvertent discovery plan (MIDP) be implemented to minimize potential impacts to any currently unknown intact archaeological resources. Monitoring should not be necessary in glacial deposits and sediments, nor in existing areas where disturbance has already occurred.

Cardno recommends that the MIDP outline the necessary steps to be taken by contractors in the event of an inadvertent discovery during construction. These steps would serve to minimize damage to any inadvertently discovered archaeological resources during ground-disturbing activities, which may include small, deeply buried, and/or widely dispersed historic or precontact cultural materials (e.g., railroad grade, rails, ties, stakes, and footings; glass bottles; sanitary cans; chipped-stone tools; ground stone; beads; shell; faunal remains; human remains; funerary objects; and objects of cultural patrimony).

Steps included in the MIDP would outline the applicable local laws and regulations, stop-work and notification protocols, discovery protection measures, procedures for assessment by archaeologists, and steps for consultation with the DAHP and any affected Indian tribes. In the state of Washington, archaeological sites are protected from knowing disturbance on both public and private lands. As described in Section 2, RCW 27.44 and RCW 27.53.060 require that a person obtain a permit from the DAHP before excavating, removing, or altering Native American human remains or archaeological resources in Washington. A failure to obtain a permit is punishable by civil fines and penalties under RCW 27.53.095 and criminal prosecution under RCW 27.53.090.

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Please Respect the Environment

About Cardno

Cardno is an ASX-200 professional infrastructure and environmental services company, with expertise in the development and improvement of physical and social infrastructure for communities around the world. Cardno's team includes leading professionals who plan, design, manage, and deliver sustainable projects and community programs. Cardno is an international company listed on the Australian Securities Exchange [ASX:CDD].

Cardno Zero Harm

Cardno ZERO HARM EVERY JOB. EVERY DAY.

At Cardno, our primary concern is to develop and maintain safe and healthy conditions for anyone involved at our project worksites. We require full compliance with our Health and Safety Policy Manual and established work procedures and expect the same protocol from our subcontractors. We are committed to achieving our Zero Harm goal by continually improving our safety systems, education, and vigilance at the workplace and in the field. Safety is a Cardno core value and through strong leadership and active employee participation, we seek to implement and reinforce these leading actions on every job, every day.

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ExxonMobil ADC

Cardno 03144702.R05

APPENDIX H

TERRESTRIAL ECOLOGICAL EVALUATION FORM

Voluntary Cleanup Program

Washington State Department of Ecology
Toxics Cleanup Program

TERRESTRIAL ECOLOGICAL EVALUATION FORM

Under the Model Toxics Control Act (MTCA), a terrestrial ecological evaluation is necessary if hazardous substances are released into the soils at a Site. In the event of such a release, you must take one of the following three actions as part of your investigation and cleanup of the Site:

1. Document an exclusion from further evaluation using the criteria in WAC 173-340-7491.
2. Conduct a simplified evaluation as set forth in WAC 173-340-7492.
3. Conduct a site-specific evaluation as set forth in WAC 173-340-7493.

When requesting a written opinion under the Voluntary Cleanup Program (VCP), you must complete this form and submit it to the Department of Ecology (Ecology). The form documents the type and results of your evaluation.

Completion of this form is not sufficient to document your evaluation. You still need to document your analysis and the basis for your conclusion in your cleanup plan or report.

If you have questions about how to conduct a terrestrial ecological evaluation, please contact the Ecology site manager assigned to your Site. For additional guidance, please refer to https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Terrestrial-ecological-evaluation.

Step 1: IDENTIFY HAZARDOUS WASTE SITE	
Please identify below the hazardous waste site for which you are documenting an evaluation.	
Facility/Site Name: ExxonMobil ADC	
Facility/Site Address: 2717/ 2731 Federal Avenue, Everett, Washington 98201	
Facility/Site No: 2728	VCP Project No.: N/A

Step 2: IDENTIFY EVALUATOR			
Please identify below the person who conducted the evaluation and their contact information.			
Name: Cameron Penner-Ash		Title: Assistant Project Manager	
Organization: Cardno			
Mailing address: 309 South Cloverdale Street, Unit A13			
City: Seattle		State: WA	Zip code: 98108
Phone: 503 869 1196	Fax: N/A	E-mail: cameron.penner-ash@cardno.com	

Step 3: DOCUMENT EVALUATION TYPE AND RESULTS

A. Exclusion from further evaluation.

1. Does the Site qualify for an exclusion from further evaluation?

☑ Yes *If you answered **"YES,"** then answer **Question 2**.*

☐ No or Unknown *If you answered **"NO" or "UNKNOWN,"** then skip to **Step 3B** of this form.*

2. What is the basis for the exclusion? *Check all that apply. Then skip to **Step 4** of this form.*

Point of Compliance: WAC 173-340-7491(1)(a)

☐ All soil contamination is, or will be,* at least 15 feet below the surface.

☐ All soil contamination is, or will be,* at least 6 feet below the surface (or alternative depth if approved by Ecology), and institutional controls are used to manage remaining contamination.

Barriers to Exposure: WAC 173-340-7491(1)(b)

☐ All contaminated soil, is or will be,* covered by physical barriers (such as buildings or paved roads) that prevent exposure to plants and wildlife, and institutional controls are used to manage remaining contamination.

Undeveloped Land: WAC 173-340-7491(1)(c)

☐ There is less than 0.25 acres of contiguous[#] undeveloped[±] land on or within 500 feet of any area of the Site and any of the following chemicals is present: chlorinated dioxins or furans, PCB mixtures, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, heptachlor epoxide, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, or pentachlorobenzene.

☑ For sites not containing any of the chemicals mentioned above, there is less than 1.5 acres of contiguous[#] undeveloped[±] land on or within 500 feet of any area of the Site.

Background Concentrations: WAC 173-340-7491(1)(d)

☐ Concentrations of hazardous substances in soil do not exceed natural background levels as described in WAC 173-340-200 and 173-340-709.

* An exclusion based on future land use must have a completion date for future development that is acceptable to Ecology.

[±] "Undeveloped land" is land that is not covered by building, roads, paved areas, or other barriers that would prevent wildlife from feeding on plants, earthworms, insects, or other food in or on the soil.

[#] "Contiguous" undeveloped land is an area of undeveloped land that is not divided into smaller areas of highways, extensive paving, or similar structures that are likely to reduce the potential use of the overall area by wildlife.

B. Simplified evaluation.

1. Does the Site qualify for a simplified evaluation?

☐ Yes *If you answered **"YES,"** then answer **Question 2** below.*

☐ No or Unknown *If you answered **"NO"** or **"UNKNOWN,"** then skip to **Step 3C** of this form.*

2. Did you conduct a simplified evaluation?

☐ Yes *If you answered **"YES,"** then answer **Question 3** below.*

☐ No *If you answered **"NO,"** then skip to **Step 3C** of this form.*

3. Was further evaluation necessary?

☐ Yes *If you answered **"YES,"** then answer **Question 4** below.*

☐ No *If you answered **"NO,"** then answer **Question 5** below.*

4. If further evaluation was necessary, what did you do?

☐ Used the concentrations listed in Table 749-2 as cleanup levels. *If so, then skip to **Step 4** of this form.*

☐ Conducted a site-specific evaluation. *If so, then skip to **Step 3C** of this form.*

5. If no further evaluation was necessary, what was the reason? *Check all that apply. Then skip to **Step 4** of this form.*

Exposure Analysis: WAC 173-340-7492(2)(a)

☐ Area of soil contamination at the Site is not more than 350 square feet.

☐ Current or planned land use makes wildlife exposure unlikely. Used Table 749-1.

Pathway Analysis: WAC 173-340-7492(2)(b)

☐ No potential exposure pathways from soil contamination to ecological receptors.

Contaminant Analysis: WAC 173-340-7492(2)(c)

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations that exceed the values listed in Table 749-2.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations that exceed the values listed in Table 749-2, and institutional controls are used to manage remaining contamination.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays, and institutional controls are used to manage remaining contamination.

C. Site-specific evaluation. A site-specific evaluation process consists of two parts: (1) formulating the problem, and (2) selecting the methods for addressing the identified problem. Both steps require consultation with and approval by Ecology. *See* WAC 173-340-7493(1)(c).

1. Was there a problem? *See* WAC 173-340-7493(2).

☐ Yes *If you answered **"YES,"** then answer **Question 2** below.*

☐ No *If you answered **"NO,"** then identify the reason here and then skip to **Question 5** below:*

- ☐ No issues were identified during the problem formulation step.
- ☐ While issues were identified, those issues were addressed by the cleanup actions for protecting human health.

2. What did you do to resolve the problem? *See* WAC 173-340-7493(3).

- ☐ Used the concentrations listed in Table 749-3 as cleanup levels. *If so, then skip to **Question 5** below.*
- ☐ Used one or more of the methods listed in WAC 173-340-7493(3) to evaluate and address the identified problem. *If so, then answer **Questions 3 and 4** below.*

3. If you conducted further site-specific evaluations, what methods did you use?
Check all that apply. See WAC 173-340-7493(3).

- ☐ Literature surveys.
- ☐ Soil bioassays.
- ☐ Wildlife exposure model.
- ☐ Biomarkers.
- ☐ Site-specific field studies.
- ☐ Weight of evidence.
- ☐ Other methods approved by Ecology. If so, please specify:

4. What was the result of those evaluations?

- ☐ Confirmed there was no problem.
- ☐ Confirmed there was a problem and established site-specific cleanup levels.

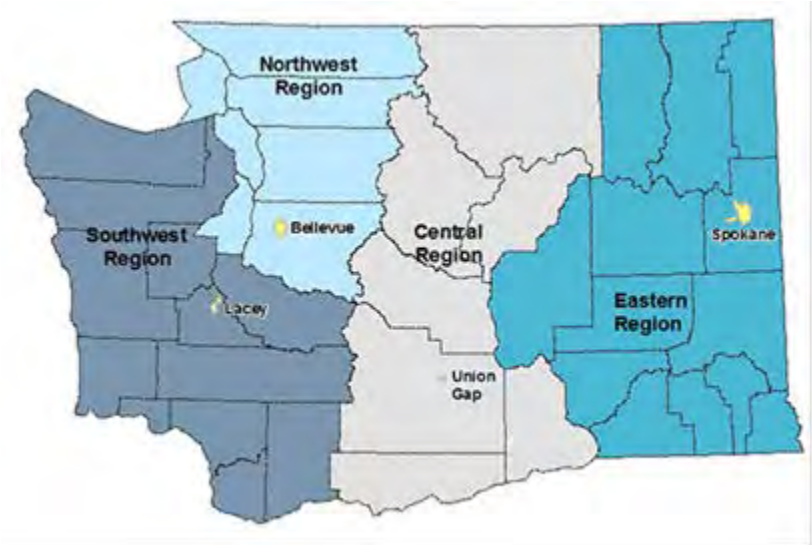
5. Have you already obtained Ecology's approval of both your problem formulation and problem resolution steps?

☐ Yes If so, please identify the Ecology staff who approved those steps:

☐ No

Step 4: SUBMITTAL

Please mail your completed form to the Ecology site manager assigned to your Site. If a site manager has not yet been assigned, please mail your completed form to the Ecology regional office for the County in which your Site is located.



Northwest Region: Attn: VCP Coordinator 3190 160th Ave. SE Bellevue, WA 98008-5452	**Central Region:** Attn: VCP Coordinator 1250 West Alder St. Union Gap, WA 98903-0009
Southwest Region: Attn: VCP Coordinator P.O. Box 47775 Olympia, WA 98504-7775	**Eastern Region:** Attn: VCP Coordinator N. 4601 Monroe Spokane WA 99205-1295

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Cardno Zero Harm

Cardno ZERO HARM EVERY JOB. EVERY DAY.

At Cardno, our primary concern is to develop and maintain safe and healthy conditions for anyone involved at our project worksites. We require full compliance with our Health and Safety Policy Manual and established work procedures and expect the same protocol from our subcontractors. We are committed to achieving our Zero Harm goal by continually improving our safety systems, education, and vigilance at the workplace and in the field. Safety is a Cardno core value and through strong leadership and active employee participation, we seek to implement and reinforce these leading actions on every job, every day.

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