REMEDIAL INVESTIGATION WORK PLAN

DESC Belmont Permanent Supportive Housing Project
1727, 1733, and 1737 Belmont Avenue
Seattle, Washington

Prepared for: Downtown Emergency Service Center

Project No. AS240571 • December 1, 2025 FINAL

Aspect
A Geosyntec Company

earth + water

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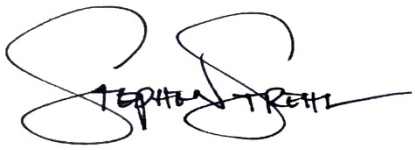

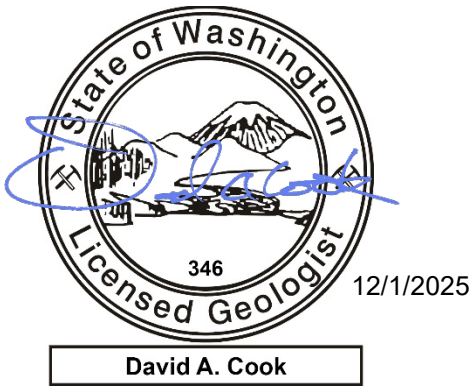

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Acronyms

AO	Agreed Order
Aspect	Aspect Consulting
AST	aboveground storage tank
ASTM	ASTM International
bgs	below ground surface
CDF	controlled density fill
COCs	contaminants of concern
COPCs	contaminants of potential concern
cPAHs	carcinogenic polycyclic aromatic hydrocarbons
CUL	Cleanup level
dCAP	draft Cleanup Action Plan
DESC	Downtown Emergency Service Center
Ecology	Washington Department of Ecology
ESA	Environmental Site Assessment
GPR	ground-penetrating radar
IDP	Inadvertent Discovery Plan
IDW	investigation-derived waste
MTCA	Model Toxics Control Act
NTU	Nephelometric Turbidity Units
PID	photoionization detector
QAPP	Quality Assurance Project Plan
RCW	Revised Code of Washington
RI/FS	Remedial Investigation/Feasibility Study
RIWP	Remedial Investigation Work Plan
ROW	right-of-way
SAP	Sampling Analysis Plan
SDCI	Seattle Department of Construction and Inspections

SES	SoundEarth Strategies
TPH-D	diesel- range petroleum hydrocarbons
TPH-G	gasoline-range petroleum hydrocarbons
TPH-O	oil- range petroleum hydrocarbons
USCS	Unified Soil Classification System
UST	underground storage tank
WAC	Washington Administrative Code

1 Introduction

Aspect Consulting, a Geosyntec company, (Aspect) on behalf of Downtown Emergency Service Center (DESC), prepared this Remedial Investigation Work Plan (RIWP) for the DESC Belmont Permanent Supportive Housing Project located at 1727, 1733, and 1737 Belmont Avenue in Seattle, Washington (referred to herein as the Subject Property). The Subject Property is a 0.32-acre lot comprised of three adjacent parcels (King County parcel numbers: 880490-0660, 880490-0665, and 880490-0670) located in Seattle's Capitol Hill neighborhood. Historically, the Subject Property parcels were developed as extended-stay and multifamily apartment buildings. Each of the three buildings were historically heated by oil-burning furnaces and each building stored heating oil in an on-property underground storage tank (UST). The three USTs were decommissioned in place in 1996 after all three buildings were converted to natural gas-based heating systems. The buildings were vacated between 2022 and 2024 and were then demolished in 2025. The Subject Property is shown relative to surrounding physical features on Figure 1.

The use and storage of heating-oil in three USTs at the Subject Property resulted in known releases of petroleum to soil in the vicinity of the tanks (as described in Section 2.3). These areas are included within the Site, as generally defined by the Model Toxics Control Act (MTCA) as anywhere hazardous substances or contamination has come to be located.

The RIWP is presented in three sections after this Introduction (Section 1):

- **Section 2** presents the Subject Property history and discusses previous investigations and existing data.
- **Section 3** describes the preliminary conceptual site model, including the physical setting of the Subject Property, sources of contaminants of potential concern (COPCs), potential exposure pathways and receptors, and the applicable preliminary site screening levels to be used during the investigation.
- **Section 4** describes the data gaps and the general approach for the investigation to address those data gaps, including the project schedule.

The RIWP presented in the following sections has been prepared to meet the requirements of the MTCA Regulation, Washington Administrative Code (WAC) Chapter 173-340, and Revised Code of Washington (RCW) 70.105D.010(1), and to be consistent with Section 7.1 and Exhibit C of Agreed Order No. DE 23756 ("AO") between the State of Washington Department of Ecology ("Ecology") and DESC signed on May 29, 2025.

DESC is in the process of redeveloping the Subject Property with permanent supportive housing. Preparation of this RIWP was conducted using grant funding awarded by Ecology, in accordance with Grant Agreement no. TCPAHC-2325-DoEmSC-00019.

2 Project Description and Background

This section describes the project location, a summary of historical use, and a summary of previous environmental investigations and existing data.

2.1 Current and Future Land Use

The Subject Property spans approximately 0.32-acres and is comprised of three parcels; Parcel A (1737 Belmont Avenue; King County tax parcel no. 880490-0660), Parcel B (1733 Belmont Avenue; King County tax parcel no. 880490-0665), and Parcel C (1727 Belmont Avenue; King County parcel no. 880490-0670). According to the Seattle Department of Construction and Inspections (SDCI) permit records, Parcel A was first developed in 1908, and Parcels B and C were developed in 1910. The buildings were initially used as extended-stay hotels and later as multifamily apartment buildings, and each building had a daylight basement with mechanical and laundry rooms. The buildings remained in use as multifamily units until Parcel B and Parcel C were vacated in 2022, and Parcel A was vacated in 2024. All three buildings were demolished in early 2025, but the concrete foundational slabs of each building were left in place. The elevation of the ground surface at the Subject Property ranges from approximately 257 to 274 feet NAVD88 from west to east. In June 2025, during building demolition, the building basements were temporarily backfilled to the elevation of Belmont Avenue (approximately elevation 274). The layer of imported fill is approximately 6 feet thick across the Subject Property.

The Subject Property will ultimately be redeveloped as a permanent supportive housing building with common areas.

2.2 Historical Operations

Each of the three buildings on the Subject Property were historically heated by oil-burning furnaces (SES, 2024). The fuel for each furnace was primarily stored in an UST located on each of the three Parcels below the foundation slabs, shown in Figure 2. Additionally, an aboveground storage tank (AST) that formerly contained heating oil was observed in the mechanical room of the building on Parcel A of the Subject Property (SES, 2023). This AST was removed during building demolition in 2025. The oil-burning furnaces were used until at least 1995 when the buildings' heating systems were converted to natural gas. All three USTs were then decommissioned in place in 1996, as described below.

A 1996 UST Closure-in-Place Decommissioning Report by Clayton Environmental Consultants (Clayton) indicated the presence of one 1,500-gallon heating oil UST on Parcel A located beneath the northwestern portion of the basement of the former building, one 1,000-gallon heating oil UST on Parcel B located in the southwest portion of Parcel B between the buildings, and one 500-gallon heating oil UST located to the east of the building on Parcel C (Clayton, 1996). All three USTs were decommissioned in place in February of 1996 with controlled density fill (CDF).

2.3 Previous Investigations and Existing Data

Previous environmental investigations were conducted at the Site between 1995 and 2024, as described in this section. We performed a site visit on July 31, 2025, to document the condition of the Subject Property. Information and data collected during that site visit are included in this section. Historical exploration locations are shown in Figure 3 and historical data is summarized in Table 1.

1995 Phase I Environmental Site Assessment. In July 1995, Hazcon Incorporated (Hazcon) conducted a Phase I Environmental Site Assessment (ESA) for the Subject Property (Parcels A, B and C) and three adjacent properties on the same city block, to the south and southwest of the Subject Property (1712 Summit Avenue, 1723 Belmont Avenue, and 1717 Belmont Avenue). Hazcon reported that all three Subject Property USTs were "still in the ground" and "out of use and require closing by regulation" at that time (Hazcon, 1995). Hazcon searched for USTs at each of the three parcels within the Subject Property and was only able to identify the UST located on Parcel B. Hazcon measured approximately one inch of water in the tank and reported that the presence of water "indicates the possibility that the tank has leaked" (Hazcon, 1995). They further recommended discovery and removal of the USTs, followed by soil sampling "to determine the presence or absence of leaked or spilled heating oil at each building" on the Subject Property (Hazcon, 1995). This work was not completed on Parcel A or Parcel C, and a UST Site Assessment was completed in Parcel B in 2017 (see below).

1996 Fuel UST(s) Closure-in-Place Decommissioning Report. In February 1996, Clayton oversaw the in-place decommissioning of the three USTs on the Subject Property, and two other USTs on west-adjoining properties (1717 Belmont Avenue and 1712 Summit Avenue). Decommissioning activities included removal and disposal of residual fuel in the USTs, cleaning of the UST interiors, and filling the USTs and associated lines with CDF. Soil samples were not collected at the time of decommissioning of the Subject Property USTs or from the USTs on the adjoining properties. We were not able to acquire a copy of the 1996 UST Closure-in-Place Decommissioning Report by Clayton, but a summary of its contents was provided in the 2023 SoundEarth Strategies (SES) Phase I ESA.

2017 Contaminated Soil Characterization at 1728 Summit Avenue (west-adjoining to Parcel B). During redevelopment of the west-adjacent property to Parcel B, 1728 Summit Avenue (the development known as the Brava aPodments), contaminated soil was reportedly encountered along the eastern property boundary during the advancement of soil augers for the installation of a retaining wall, particularly within 5 to 10 feet of the west side of the retaining wall and from depths of 5 feet to at least 15 feet below ground surface (bgs), or approximately elevations 265 to 255, respectively (PBS, 2017). The contaminated soil was excavated and disposed of at permitted facilities by Brava LLC. In June 2017, 14 soil samples were collected by PBS Engineering and Environmental Inc. (PBS) at the bottom of the eastern retaining wall at the 1728 Summit Avenue property and at the base of the redevelopment excavation. Based on the knowledge of the nearby UST on Parcel B, PBS analyzed soil samples for gasoline-, diesel-, and oil- range petroleum hydrocarbons (TPH-G, TPH-D, and TPH-O) and benzene, toluene, ethylbenzene and xylenes (BTEX). Six of the 14 samples contained TPH-D at

concentrations above the MTCA Method A cleanup levels (CULs) for unrestricted use in soil at depths ranging from 11 to 15 feet bgs, approximate elevations 259 to 255 NAVD88 (PBS, 2017). The remaining analytes were not detected above laboratory reporting limits.

2017 Heating Oil UST Site Assessment Report (on Parcel B). In July 2017, PBS conducted a UST Site Assessment at the closed-in-place UST on Parcel B. Four soil borings were advanced in the vicinity of the UST to depths of up to 12 feet bgs (B-1 to B-4; PBS, 2017). Four soil samples were collected and analyzed for TPH-D and TPH-O. Two samples from the western side of the UST (B-1 and B-2) showed TPH-D at concentrations above the MTCA Method A CULs in soil at depths ranging from 10 to 11 feet bgs (PBS, 2017).

2017 Groundwater Monitoring Well Installation. Well records obtained from Ecology's Washington State Well Report Viewer in July 2025 indicate the presence of groundwater monitoring wells at or associated with Parcels B and C (1733 Belmont Avenue and 1728 Summit Avenue). Records indicate PBS oversaw the installation of one groundwater monitoring well in the Belmont Avenue right-of-way (ROW), east of Parcel C (1727 Belmont Avenue), in December 2017 (Figure 3). The monitoring well was installed to a depth of 39 feet bgs and is screened from 29 to 39 feet bgs. The static groundwater level was recorded as 31 feet bgs at the time of installation. Additional records indicate three monitoring wells were installed at or near the Brava aPodment property at 1728 Summit Avenue (west-adjoining property to Parcel B of the Subject Property) in August 2017. Two wells were installed to a depth of 20 feet bgs and screened from 5 to 20 feet bgs, and the third well to a depth of 25 feet bgs and screened from 10 to 25 feet bgs. Static groundwater levels were recorded as 12 and 17 feet bgs in these wells at the time of installation. Environmental reports that may document the installation of and potential data collection from these wells could not be obtained nor provided to us for review. No decommissioning log(s) were identified for the three wells installed on the west-adjoining properties and were not observed during our site reconnaissance performed on July 31, 2025.

2023 Phase I ESA. In December 2023, SES conducted a Phase I ESA for the Subject Property (SES, 2023). The findings are summarized below:

- The historical use and storage of heating oil on the Subject Property were considered a potential environmental concern (SES, 2023). Each of the three buildings on the Subject Property were historically heated by oil-burning furnaces, and each of the heating oil USTs were closed in place in 1996.
- The confirmed presence of petroleum contamination in soil beneath Parcel B of the Subject Property was considered a potential environmental concern by SES. Soil sampling conducted by PBS in 2017 in the vicinity of the heating oil UST on Parcel B, and on the west-adjoining property located at 1728 Summit Avenue, confirmed the presence of petroleum hydrocarbons. Petroleum hydrocarbons were present at concentrations exceeding MTCA CULs on the west-central portion of the Subject Property and on the shared property boundary with the west-adjoining property. Petroleum-contaminated soil removed from the west-adjoining property during redevelopment in 2017 was attributed to a release from

the heating oil UST on Parcel B by PBS (PBS, 2017). The extent of petroleum-contaminated soil beneath the Subject Property has not been fully evaluated.

- The historical use and storage of heating oil on the north- and south-adjoining properties was considered a potential environmental concern by SES. Tax records indicated that several properties to the north, west, and south of the Subject Property previously used oil-burning furnaces, the fuel for which SES asserted was likely stored in USTs (SES, 2023). The locations of the USTs on adjoining properties were not apparent, but the potential risk of impacts from a release on north-, south-, and west-adjoining properties was represented by SES as low due to their downgradient or cross-gradient hydrologic positions.

2024 Phase II ESA. In June 2024, SES completed a Phase II ESA where 11 soil borings were advanced in the vicinity of each of the three USTs on the Subject Property as shown on Figure 3. Borings in the vicinity of the Parcel A UST were advanced to depths ranging from 4 feet to 10 feet bgs, borings in the vicinity of the Parcel B UST were advanced to depths ranging from 8 feet to 12 feet bgs, and borings in the vicinity of the Parcel C UST were advanced to depths ranging from 6 feet to 8 feet bgs. Soil samples were collected and analyzed for TPH-D and TPH-O from depths ranging from 2 to 12 feet bgs (SES, 2024). The 6-foot sample from B10, advanced on the east side of the UST on Parcel C, showed concentrations of TPH-D and TPH-O above the MTCA Method A CUL. The 8-foot sample from B05, advanced on the south side of the UST on Parcel B, showed concentrations of TPH-D above the MTCA Method A CUL (SES, 2024). The complete Phase II ESA Report could not be obtained, but the laboratory reports, boring logs, and a site map containing data collected during the Phase II investigation were provided for our review.

3 Preliminary Conceptual Site Model

A preliminary conceptual site model (CSM) for the Site is presented in this section. The results of the investigation outlined in this RIWP, and the future Remedial Investigation (RI), will be used to further refine the CSM as a basis for developing CULs for the confirmed contaminants of concern (COCs) during the future Feasibility Study (FS).

3.1 Environmental Setting

The physical characteristics of the Subject Property and its immediate vicinity, including topography, hydrologic conditions, and existing uses of groundwater, are described in this section.

3.1.1 Geology and Hydrogeology

The Subject Property is in the Puget Lowland region, characterized by heterogenous, glacially deposited sediments within a large topographic basin. Geologic maps identify the surface unit at the Subject Property as Quaternary Vashon till (Qvt) deposited during the Vashon Stade of the Fraser Glaciation between 25,000 to 10,000 years ago (Troost, 2008), which formed a north-south glacial feature known as a drumlin in the Capitol Hill neighborhood. Vashon till is characterized by very dense silt, sand, and gravel. However, the upper three feet of the unit is generally weathered and exhibits medium density.

The Subject Property is situated on the western slope of a north-south trending hill in the Capitol Hill neighborhood and has a moderate to steep slope downward from east to west between Belmont Avenue and Summit Avenue.

Soil observed in previous investigations at the Subject Property consisted of brown silty sand with gravel, tan to brown sandy silt, and tan to brown sand with silt and fine gravel to the maximum explored depth of 12 feet bgs (SES, 2024).

Groundwater is anticipated to be at depths between 20 and 35 feet bgs (approximately elevation 230 to 245), based on recorded static groundwater levels measured in the nearby monitoring wells in the Belmont Avenue ROW and at the west-adjacent 1728 Summit Avenue property. The publicly available well records for the three 1728 Summit Avenue wells indicate static water levels at the time of installation were measured at 12 to 17 feet bgs, but that property is situated at an elevation 10-15 feet lower than the Subject Property (approximately elevation 255 to 260). During our site visit conducted on July 31, 2025, the monitoring well installed by PBS in the east-adjacent Belmont Avenue ROW was located and the water level was measured at 33.91 feet below top of casing (approximately elevation 240).

The nearest surface water body, Lake Union, is located approximately 0.75 miles northwest of the Subject Property, and groundwater flow is anticipated to be west or northwest, in the approximate direction of the lake. Groundwater is not used for drinking water in the City of Seattle and Ecology's well log database did not identify water supply wells within ¼-mile of the Subject Property.

3.2 Sources and Contaminants

As discussed in Section 2.3, prior investigations have evaluated the presence of COPCs at the Subject Property, which have identified petroleum hydrocarbon releases to soil from the heating oil USTs. The list of COPCs presented in this section is based on the historical uses of the Subject Property and the data and results from prior studies.

For all areas of the Site, the list of COPCs to be evaluated in both soil and groundwater are as follows:

- Diesel- and oil-range petroleum hydrocarbons (TPH-D and TPH-O)

The COPCs list was developed based on Table 830-1 of MTCA and Ecology's *Guidance for Remediation of Petroleum Contaminated Sites* (Ecology, 2016a). Historical investigations tested for the presence of gasoline-range TPH (TPH-G), benzene, toluene, ethylbenzene, and total xylenes (BTEX) in soil samples collected in the vicinity of the Parcel B UST, and all results showed concentrations of these constituents were below laboratory reporting limits (Table 1). Historical investigations also tested for carcinogenic polycyclic aromatic hydrocarbons (cPAHs) in soil samples collected in the vicinity of the Parcel A and Parcel C USTs, and results showed concentrations were either below MTCA Method A CULs, or below laboratory reporting limits (Table 1). Therefore, these constituents are not considered COPCs at the Site.

Proposed analysis methods for the COPCs listed above are presented in Section A.2 of Appendix A.

3.3 Proposed Screening Levels and Exposure Pathways

The screening levels for the investigation, or values that are used to evaluate data collected during the investigation to assess the nature and extent of contamination, are the lowest published MTCA Method A CULs for Unrestricted Land Use for soil and Method A CULs for groundwater. For soil vapor, the screening levels are the MTCA Method B screening levels for subslab soil gas. The screening levels are selected based on the current and potential future exposure pathways and receptors, and applicable regulatory criteria are as follows:

- **Soil leaching to groundwater.** Contaminants in soil can leach to groundwater by infiltration of precipitation below unpaved or gravel surface areas through contaminated soil, or where groundwater is in contact with contaminated soil.
- **Ingestion of groundwater.** Human receptors, specifically construction workers, have the potential to contact contaminants in groundwater via ingestion during redevelopment activities.
- **Direct contact with soil.** Human receptors, specifically construction workers, have the potential to contact contaminants in soil during the redevelopment activities.
- **Soil vapor discharge to ambient air and/or into future structures.** Contaminated soil vapor emanating from contaminated soil or groundwater has

the potential to migrate and expose ambient air receptors, humans in confined spaces, and/or humans in structures built above contamination sources.

Each of these potential exposure pathways will be evaluated as complete or incomplete during the future RI and to support cleanup alternative evaluation.

3.4 Nature and Extent of Known Contamination

This section presents a summary of the nature and extent of known contamination identified during the prior studies others described in Section 2.3. Soil data are shown on Figure 3 and Table 1.

Concentrations of COPCs above the MTCA Method A CULs are present in soil near two of the three Subject Property heating oil USTs, as follows:

Parcel A UST Source Area. At the northwest corner of the Parcel A UST (explorations B-12 through B-15) TPH-D was detected at concentrations less than MTCA Method A CULs in soil samples obtained from B-13. However, the soil borings were only drilled to shallow depths and not down to 15 feet bgs (the soil direct contact compliance depth) nor down to groundwater. So, it is unclear whether this area has been impacted by heating oil releases or not, based on the limited data in this area.

Parcel B UST Source Area. Previous investigations advanced immediately adjacent to the Parcel B UST (explorations B-1, B-2, B-3, B-4, and B05), showed TPH-D exceeding the MTCA Method A CUL is present in soil at 8 to 12 feet bgs.

The petroleum-contaminated soil identified along the property boundary retaining wall of the west-adjacent 1728 Summit Avenue property indicate TPH-D exceeding MTCA CULs is present between 7 and at least 15 feet bgs (approximately elevations 263 to 255). The eastern extent and southern extent of the petroleum-contaminated soil near the property boundary (to the north and south of the Parcel B UST) have not been identified. The vertical bound immediately south of the UST appears to have been established at 12 feet bgs (exploration B05) where TPH-D concentrations are below MTCA CULs. However, one soil sample taken at 15 feet bgs (PBS soil sample G6-7) at the base of the excavation on the 1728 Summit Avenue property, contained TPH-D at a concentration exceeding the CUL (Figure 3).

Parcel C UST Source Area. To the east of the Parcel C UST (exploration B10), TPH-D and TPH-O exceeding the MTCA Method A CULs are present in soil at 6 feet bgs, but the vertical boundary in this direction has not been identified. The presence of petroleum-contaminated soil to the west of the UST has not been investigated, and therefore, vertical and horizontal extents in this direction are unknown. Concentrations of TPH-D and TPH-O in soil to the north and south of the Parcel C UST did not exceed MTCA CULs.

4 Investigation Approach

The scope of work for the investigation described in this RIWP has been developed to address data gaps regarding the nature and extent of contamination, to support development of the future RI and enable selection of cleanup standards, and to identify cleanup alternatives. The data gaps and investigation approach to address them are provided in this section.

4.1 Site Characterization Data Gaps

Four Site characterization data gaps have been identified for evaluation by the work outlined in this RIWP:

1. Vertical extent of petroleum-contaminated soil in the vicinity of all three Subject Property USTs.
2. Lateral extent of petroleum-contaminated soil to the north, south, and west of Parcel B UST, to the east of the 1728 Summit Avenue retaining wall area, and to the west of the Parcel C UST.
3. Petroleum impacts to groundwater at the Site.
4. Soil vapor impacts at the Site.

The scope of work outlined in Section 4.2 has been developed to evaluate the data gaps identified above. Proposed exploration locations are depicted on Figure 4.

4.2 Remedial Investigation Field Program

This section presents the general approach for the Remedial Investigation field program. Additionally, Appendix A presents a Sampling and Analysis Plan (SAP), Appendix B presents the Quality Assurance Project Plan (QAPP), and Appendix C presents the Inadvertent Discovery Plan (IDP).

Proposed exploration depths and soil sample intervals for this field program were chosen based on the assumption that the elevation of the foundational building slab is equivalent to the ‘ground surface elevation’. The ground surface elevation was used as a point of reference by historical investigations, as the current ground surface at the Subject Property was artificially raised to the elevation of Belmont Avenue with imported backfill (approximately 6 feet above the building foundation).

4.2.1 Utility Locates and Tank Identification

Prior to drilling, a public one-call locate will be completed to mark the property and adjacent ROW for subsurface utilities. A desktop search for publicly available data sets for utility information will also be conducted.

A ground-penetrating radar (GPR) survey will be conducted on the Subject Property to positively identify each of the three heating-oil USTs as any fill ports or piping associated with the USTs are covered by the temporary backfill. This will ensure the explorations

described in the subsequent sections will be advanced in the appropriate locations to identify potential petroleum impacts to Site media.

4.2.2 Soil Investigation

To assess the lateral and vertical extent of petroleum-contaminated soil (Data Gaps 1 and 2), nine boring locations will be advanced in the vicinity of each of the USTs and along the property boundary between Parcel B and the 1728 Summit Avenue property, and in the sidewalk of Summit Avenue immediately adjacent to the 1728 Summit Avenue property. The proposed boring locations are shown on Figure 4.

Soil borings will be advanced using sonic drilling methods to maximum depths of 25 feet below the grade of the foundation slab (soil borings that will be completed as groundwater monitoring wells will be advanced deeper, see Section 4.2.3). Soil will be logged and field screened continuously and samples will be obtained at 2.5- to 5-foot intervals for potential chemical analysis. An Aspect field representative will log soils in general accordance with the ASTM International (ASTM) standard D2488 for visual classification of soils using the Unified Soil Classification System (USCS). Field screening will include measuring headspace volatiles using a photoionization detector (PID), water sheen testing, and recording observations related to staining, odor, and sample core temperature. Up to 5 soil samples from each boring (15 total) will be analyzed for the COPCs (Section 3.2) using the analysis methods presented in Appendix A.

To address Data Gap 2, Aspect conducted an evaluation to determine if a small, limited access drilling rig could access locations immediately west of the retaining wall and east of and between the existing buildings at 1726 and 1728 Summit Avenue. Aspect inspected potential access points that would have to be navigated to mobilize a small drilling rig from Summit Avenue to drilling in those locations. Both access points present challenges to rig access, either due to elevated surfaces, fencing, or limited space for a drilling rig to safely operate. Photographs of the two potential access points (alleys) off Summit Avenue and potential drilling locations behind the two buildings are shown on Figure 5.

An east-west cross-section was also developed to show the pre- and post-construction ground surface elevations of the Brava aPodment Suites at 1728 Summit Avenue (Figure 6). The cross-section shows the approximate area of soil excavated west of the retaining wall during construction of the building. Historical soil boring and excavation confirmation sample locations are also shown relative to the UST on Parcel B. Petroleum-contaminated soil was identified along the property boundary retaining wall of the west-adjacent 1728 Summit Avenue with TPH-D exceeding MTCA CULs at depths of 7 and at least 15 feet bgs (approximately elevations 263 to 255). Although the shallow TPH-D contaminated soil was removed during the excavation, the soil sample taken at 15 feet bgs (PBS soil sample G6-7) at the base of the excavation confirms that TPH-D is still present at that depth at a concentration exceeding the CUL. Even if access was possible with a portable probe rig, a small rig would be incapable of drilling to the depths required to complete delineation (15 feet bgs). Due to these access limitations, investigation via soil borings immediately west of the retaining wall between Parcel B and the 1728 Summit Avenue building is not feasible.

4.2.3 Groundwater Investigation

To assess potential petroleum impacts to groundwater (Data Gap 3), four of the soil borings will be completed as groundwater monitoring wells. The proposed well locations are shown on Figure 4.

Well installations on the topographically lower west side of the site will be advanced using sonic drilling methods until groundwater is encountered, or to a maximum depth of 35 feet below the grade of the foundation slab. Well installations completed on the topographically higher east side of the site will be advanced to a maximum depth of 40 feet bgs. All well explorations will be analyzed with the same sampling, field screening, and logging methods as described in Section 4.2.1. Up to five soil samples from each boring (15 total) will be analyzed for the COPCs (Section 3.2) using the analysis methods presented in Appendix A.

After drilling, a permanent monitoring well will be constructed in each borehole of 2-inch-diameter Schedule 40 PVC with 10 feet of 0.010-inch (10-slot) screen set across the water table, and completed with a flush-mount, traffic-rated monument set in concrete. Based on well records and the depth to groundwater measurement taken in July 2025 from the monitoring well installed by PBS in Belmont Avenue, it is anticipated that groundwater will be encountered between 20 to 35 feet bgs (approximately elevations 230 to 245). Precise screen intervals will be determined at the time of drilling and will depend on lithology and the depth of groundwater encountered during drilling. Following installation, wells will be developed to remove fine-grained material from inside the well and filter pack, and to improve hydraulic communication between the well and the surrounding water-bearing formation. Development will be completed using a combination of surging along the length of the well screen combined with purging and monitoring of field parameters. The monitoring well will be developed until turbidity falls below 25 Nephelometric Turbidity Units (NTU) and field parameters have stabilized, or when 10 well casing volumes of water have been removed. Newly installed wells will be surveyed by a licensed surveyor for evaluation of groundwater flow direction and gradient.

No sooner than 48 hours after development, a groundwater monitoring event will occur at the three newly installed wells. Groundwater monitoring will consist of measuring depth to groundwater using an electronic interface tape relative to the north side top of well casing. Groundwater samples will be collected using low-flow sampling methods following stabilization of field parameters (temperature, dissolved oxygen, pH, conductivity, and oxidation reduction potential). Groundwater samples will be analyzed for the COPCs (Section 3.2) using the analysis methods presented in Appendix A.

4.2.4 Soil Vapor Evaluation

To assess potential petroleum impacts to soil vapor across the Site (Data Gap 4), one soil vapor probe will be installed in the vicinity of each of the three Subject Property USTs, and two soil vapor probes will be installed in the side and back yards of the 1726 and 1728 Summit Avenue properties, assuming access agreements can be negotiated with the property owners. The proposed vapor probe locations are shown on Figure 4. Permanent soil vapor probes will be installed using sonic drilling methods, to a depth of approximately 5 feet below the grade of the foundation slab. Soil vapor samples will be

collected from each probe and analyzed for volatile petroleum compounds. One soil sample per boring will also be collected and analyzed for Site COPCs (Section 3.2) using the analysis methods presented in Appendix A.

4.2.5 Investigation-Derived Waste Management and Disposal

Investigation-derived waste (IDW) will be collected and stored on the Subject Property in Department of Transportation-approved steel drums. The drums will be designated as nonhazardous waste pending laboratory analysis and clearly labeled with a description of contents. Soil and water will be segregated and consolidated into the fewest number of drums to the extent possible, to be disposed of off-site in accordance with federal, state, and local regulations.

4.3 Schedule and Reporting

The investigation field program outlined in Section 4 is scheduled to begin in December 2025, but is dependent upon Ecology's approval of this RIWP, property access limitations, and subcontractor availability. The RI field program will be completed within 12 months following Ecology's approval of this RIWP, per Exhibit C of the AO.

At the completion of RI data collection, a Remedial Investigation, Feasibility Study, and draft Cleanup Action Plan (RI/FS/dCAP) will be prepared in accordance with WAC 173-340-350, WAC 173-204-550, WAC 173-340-351, and WAC 173-340-380 and the requirements described in Ecology's Remedial Investigation, Feasibility Study, and Cleanup Action Plan Checklists (Ecology, 2016b, 2016c, 2016d). Draft and final versions will be provided for Ecology's review.

5 References

Clayton Environmental Consultants (Clayton), 1996, UST Closure-in-Place Decommissioning Report at 1717, 1727, 1733, and 1737 Belmont Avenue and 1712 Summit Avenue, Seattle, Washington, Prepared for Pioneer Human Services Site, March 25, 1996.

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SoundEarth Strategies, Inc. (SES), 2023, Phase I Environmental Site Assessment, DESC Belmont Property, 1727, 1733, and 1737 Belmont Avenue, Seattle, Washington 98122, December 15, 2023.

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Washington State Department of Ecology (Ecology), 2016a, Guidance for Remediation of Petroleum Contaminated Sites, Toxics Cleanup Program Publication No. 10-09-057, revised June 2016.

Washington State Department of Ecology (Ecology), 2016b, Remedial Investigation Checklist, Publication No. 16-09-006, May 2016.

Washington State Department of Ecology (Ecology), 2016c, Feasibility Study Checklist, Publication No. 16-09-007, May 2016.

Washington State Department of Ecology (Ecology), 2016d, Cleanup Action Plan Checklist, Publication No. 16-09-008, May 2016.

6 Limitations

Work for this project was performed for the DESC (Client), and this report was prepared in accordance with generally accepted professional practices for the nature and conditions of work completed in the same or similar localities, at the time the work was performed. This report does not represent a legal opinion. No other warranty, expressed or implied, is made.

All reports prepared by Aspect Consulting for the Client apply only to the services described in the Agreement(s) with the Client. Any use or reuse by any party other than the Client is at the sole risk of that party, and without liability to Aspect Consulting. Aspect Consulting's original files/reports shall govern in the event of any dispute regarding the content of electronic documents furnished to others.

Please refer to Appendix D titled "Report Limitations and Guidelines for Use" for additional information governing the use of this report.

TABLE

Table 1. Historical Soil Results

Project No. AS240571, DESC Belmont Permanent Supportive Housing Project, 1727, 1733, 1737 Belmont Avenue, Seattle, Washington

Analyte Group				Petroleum Hydrocarbons							Metals				
Analyte				Gasoline Range Organics	Diesel Range Organics	Motor Oil Range Organics	Benzene	Toluene	Ethylbenzene	Total Xylenes	Arsenic	Cadmium	Chromium	Lead	Mercury
Unit				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
MTCA Method A Cleanup Levels				100	2000	2000	0.03	7	6	9	20	2	2000	250	2
Area	Sample Location	Sample Depth (ft bgs)	Sample Date												
1728 Summit Soil Investigation[1]	A1-2	7 - 11 ft	06/22/2017	< 3.5 U	< 20.9 U	< 52.3 U	< 0.014 U	< 0.014 U	< 0.021 U	< 0.014 U	--	--	--	--	--
	A10-11	7 - 11 ft	06/22/2017	< 3.25 U	**2070**	< 54.9 U	< 0.013 U	< 0.013 U	< 0.0195 U	< 0.013 U	--	--	--	--	--
	A4-5	7 - 11 ft	06/22/2017	< 3.21 U	< 19.2 U	< 47.9 U	< 0.0129 U	< 0.0129 U	< 0.0193 U	< 0.0129 U	--	--	--	--	--
	A5-6	7 - 11 ft	06/22/2017	< 3.59 U	**1580**	< 48.5 U	< 0.0144 U	< 0.0144 U	< 0.0215 U	< 0.0144 U	--	--	--	--	--
	B5-6	11 - 15 ft	06/26/2017	--	**3810**	< 271 U	--	--	--	--	--	--	--	--	--
	B4-5	11 - 15 ft	06/26/2017	--	**3030**	< 285 U	--	--	--	--	--	--	--	--	--
	B7-8	11 - 15 ft	06/26/2017	< 2.64 U	**3470**	< 247 U	< 0.0106 U	< 0.0106 U	< 0.0159 U	< 0.0106 U	--	--	--	--	--
	B3-4	11 - 15 ft	06/26/2017	--	**7590**	< 554 U	--	--	--	--	--	--	--	--	--
	B9-10	11 - 15 ft	06/26/2017	--	**94.4**	< 51.7 U	--	--	--	--	--	--	--	--	--
	B12-13	11 - 15 ft	06/26/2017	--	< 19.9 U	< 49.8 U	--	--	--	--	--	--	--	--	--
	G4-5	15 ft	06/26/2017	--	**944**	< 54.7 U	--	--	--	--	--	--	--	--	--
	G6-7	15 ft	06/26/2017	--	**2180**	< 56.3 U	--	--	--	--	--	--	--	--	--
	G9-10	15 ft	06/26/2017	--	**45.9**	< 47.8 U	--	--	--	--	--	--	--	--	--
	G8-9	15 ft	06/26/2017	--	**258**	< 51.5 U	--	--	--	--	--	--	--	--	--
Parcel B UST[1]	B-1	10 - 11 ft	07/07/2017	--	**5980**	< 46.8 U	--	--	--	--	--	--	--	--	--
	B-2	10 - 11 ft	07/07/2017	--	**4190**	< 50.1 U	--	--	--	--	--	--	--	--	--
	B-3	4 - 5 ft	07/07/2017	--	< 21.9 U	**223**	--	--	--	--	--	--	--	--	--
	B-4	10 - 12 ft	07/07/2017	--	**377**	< 48.1 U	--	--	--	--	--	--	--	--	--
	B05	4 ft	06/13/2024	--	< 50 U	< 250 U	--	--	--	--	--	--	--	--	--
		8 ft	06/13/2024	--	**2600**	**1100**	--	--	--	--	--	--	--	--	--
		12 ft	06/13/2024	--	**1400**	< 250 U	--	--	--	--	--	--	--	--	--
	B06	4 ft	06/13/2024	--	< 50 U	< 250 U	--	--	--	--	--	--	--	--	--
		8 ft	06/13/2024	--	< 50 U	< 250 U	--	--	--	--	--	--	--	--	--
Parcel C UST[1]	B07	4 ft	06/13/2024	--	< 50 U	< 250 U	--	--	--	--	--	--	--	--	--
		8 ft	06/13/2024	--	< 50 U	< 250 U	--	--	--	--	--	--	--	--	--
	B08	5 ft	06/13/2024	--	**410**	**450**	--	--	--	--	**2.9**	< 1 U	**14**	**9**	< 1 U
		7 ft	06/13/2024	--	< 50 U	< 250 U	--	--	--	--	--	--	--	--	--
	B09	4 ft	06/13/2024	--	< 50 U	< 250 U	--	--	--	--	--	--	--	--	--
		8 ft	06/13/2024	--	< 50 U	< 250 U	--	--	--	--	--	--	--	--	--
	B10	4 ft	06/13/2024	--	< 50 U	< 250 U	--	--	--	--	--	--	--	--	--
		6 ft	06/13/2024	--	**5600**	**2900**	--	--	--	--	--	--	--	--	--
Parcel A UST[1]	B11	4 ft	06/13/2024	--	< 50 U	< 250 U	--	--	--	--	**3.3**	< 1 U	**15**	**5.1**	< 1 U
		7 ft	06/13/2024	--	< 50 U	< 250 U	--	--	--	--	--	--	--	--	--
	B12	4 ft	06/14/2024	--	--	--	--	--	--	--	**7.6**	< 1 U	**27**	**7.1**	< 1 U
		8 ft	06/14/2024	--	< 50 U	< 250 U	--	--	--	--	--	--	--	--	--
	B12A	10 ft	06/14/2024	--	< 50 U	< 250 U	--	--	--	--	--	--	--	--	--
	B13	6 ft	06/14/2024	--	**440**	**580**	--	--	--	--	--	--	--	--	--
		7.5 ft	06/14/2024	--	< 50 U	< 250 U	--	--	--	--	--	--	--	--	--
	B14	2 ft	06/14/2024	--	< 50 U	< 250 U	--	--	--	--	--	--	--	--	--
		4 ft	06/14/2024	--	< 50 U	< 250 U	--	--	--	--	--	--	--	--	--
	B15	2 ft	06/14/2024	--	< 50 U	< 250 U	--	--	--	--	--	--	--	--	--
		6 ft	06/14/2024	--	< 50 U	< 250 U	--	--	--	--	--	--	--	--	--

Notes:

[1]All **d**ata displayed in this table was collected by PBS Engineering and Environmental (PBS) and SoundEarth Strategies (SES).

Bold - detected

Blue Shaded - Detected result exceeded screening level

U - Analyte not detected at or above Reporting Limit (RL) shown

mg/kg = milligrams per kilogram

ft bgs = feet below ground surface

Table 1. Historical Soil Results

Project No. AS240571, DESC Belmont Permanent Supportive Housing Project, 1727, 1733, 1737 Belmont Avenue, Seattle, Washington

Analyte Group				Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)						
Analyte Unit MTCA Method A Cleanup Levels				Benz(a)anthracene mg/kg	Benzo(a)pyrene mg/kg 0.1	Benzo(b)fluoranthene mg/kg	Benzo(k)fluoranthene mg/kg	Chrysene mg/kg	Dibenzo(a,h)anthracene mg/kg	Indeno(1,2,3-cd)pyrene mg/kg
Area	Sample Location	Sample Depth (ft bgs)	Sample Date							
1728 Summit Soil Investigation[1]	A1-2	7 - 11 ft	06/22/2017	--	--	--	--	--	--	--
	A10-11	7 - 11 ft	06/22/2017	--	--	--	--	--	--	--
	A4-5	7 - 11 ft	06/22/2017	--	--	--	--	--	--	--
	A5-6	7 - 11 ft	06/22/2017	--	--	--	--	--	--	--
	B5-6	11 - 15 ft	06/26/2017	--	--	--	--	--	--	--
	B4-5	11 - 15 ft	06/26/2017	--	--	--	--	--	--	--
	B7-8	11 - 15 ft	06/26/2017	--	--	--	--	--	--	--
	B3-4	11 - 15 ft	06/26/2017	--	--	--	--	--	--	--
	B9-10	11 - 15 ft	06/26/2017	--	--	--	--	--	--	--
	B12-13	11 - 15 ft	06/26/2017	--	--	--	--	--	--	--
	G4-5	15 ft	06/26/2017	--	--	--	--	--	--	--
	G6-7	15 ft	06/26/2017	--	--	--	--	--	--	--
	G9-10	15 ft	06/26/2017	--	--	--	--	--	--	--
	G8-9	15 ft	06/26/2017	--	--	--	--	--	--	--
Parcel B UST[1]	B-1	10 - 11 ft	07/07/2017	--	--	--	--	--	--	--
	B-2	10 - 11 ft	07/07/2017	--	--	--	--	--	--	--
	B-3	4 - 5 ft	07/07/2017	--	--	--	--	--	--	--
	B-4	10 - 12 ft	07/07/2017	--	--	--	--	--	--	--
	B05	4 ft	06/13/2024	--	--	--	--	--	--	--
		8 ft	06/13/2024	--	--	--	--	--	--	--
		12 ft	06/13/2024	--	--	--	--	--	--	--
	B06	4 ft	06/13/2024	--	--	--	--	--	--	--
		8 ft	06/13/2024	--	--	--	--	--	--	--
Parcel C UST[1]	B07	4 ft	06/13/2024	--	--	--	--	--	--	--
		8 ft	06/13/2024	--	--	--	--	--	--	--
	B08	5 ft	06/13/2024	**0.13**	**0.054**	< 0.05 U	< 0.05 U	**0.14**	< 0.1 U	< 0.1 U
		7 ft	06/13/2024	--	--	--	--	--	--	--
	B09	4 ft	06/13/2024	**--**	**--**	--	--	**--**	--	--
		8 ft	06/13/2024	--	--	--	--	--	--	--
	B10	4 ft	06/13/2024	--	--	--	--	--	--	--
		6 ft	06/13/2024	--	--	--	--	--	--	--
Parcel A UST[1]	B11	4 ft	06/13/2024	< 0.005 U	< 0.0025 U	< 0.0025 U	< 0.0025 U	< 0.0025 U	< 0.005 U	< 0.005 U
		7 ft	06/13/2024	--	--	--	--	--	--	--
	B12	4 ft	06/14/2024	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U
		8 ft	06/14/2024	--	--	--	--	--	--	--
	B12A	10 ft	06/14/2024	--	--	--	--	--	--	--
	B13	6 ft	06/14/2024	**--**	**--**	--	--	**--**	--	--
		7.5 ft	06/14/2024	--	--	--	--	--	--	--
	B14	2 ft	06/14/2024	**--**	**--**	--	--	**--**	--	--
		4 ft	06/14/2024	--	--	--	--	--	--	--
	B15	2 ft	06/14/2024	**--**	**--**	--	--	**--**	--	--
		6 ft	06/14/2024	--	--	--	--	--	--	--

Notes:

[1]All **d**ata displayed in this table was collected by PBS Engineering and

Bold - detected

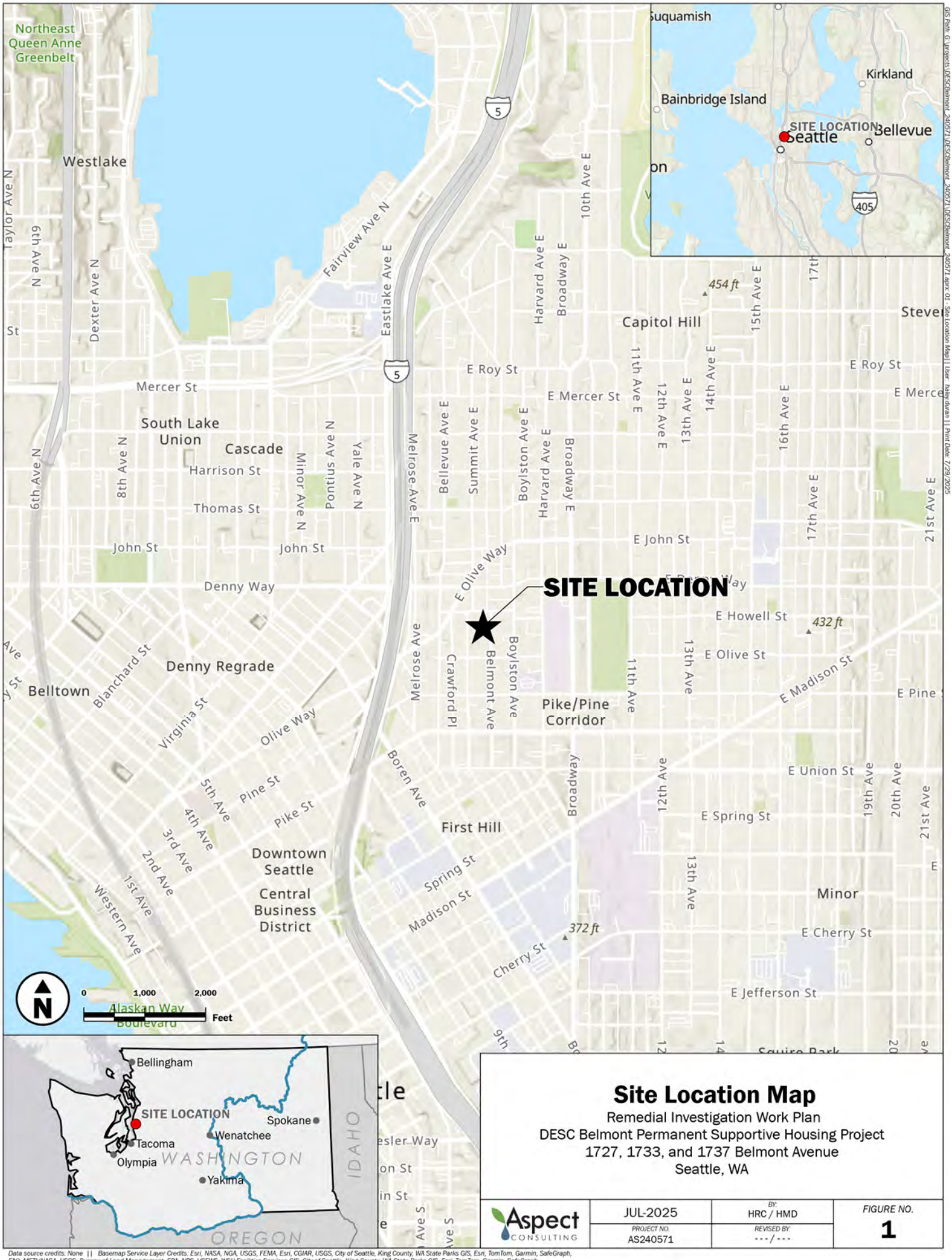
Blue Shaded - Detected result exceeded screening level

U - Analyte not detected at or above Reporting Limit (RL) shown

mg/kg = milligrams per kilogram

ft bgs = feet below ground surface

FIGURES



Site Location Map

Remedial Investigation Work Plan
DESC Belmont Permanent Supportive Housing Project
1727, 1733, and 1737 Belmont Avenue
Seattle, WA

Aspect Consulting	JUL-2025	BY: HRC / HMD	FIGURE NO. 1
	PROJECT NO. AS240571	REVISED BY: ---/---	

Data source credits: None || Basemap Service Layer Credits: Esri, NASA, NGA, USGS, FEMA, Esri, CGIAR, USGS, City of Seattle, King County, WA State Parks GIS, Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USFWS, WSU Facilities Services GIS, City of Seattle, King County, WA State Parks GIS, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS, Esri, HERE, Garmin, USGS, EPA, NPS

Decommissioned Heating Oil UST

Site Property

King County Tax Parcel

Elevation Contour (5-ft interval)

0 15 30 Feet

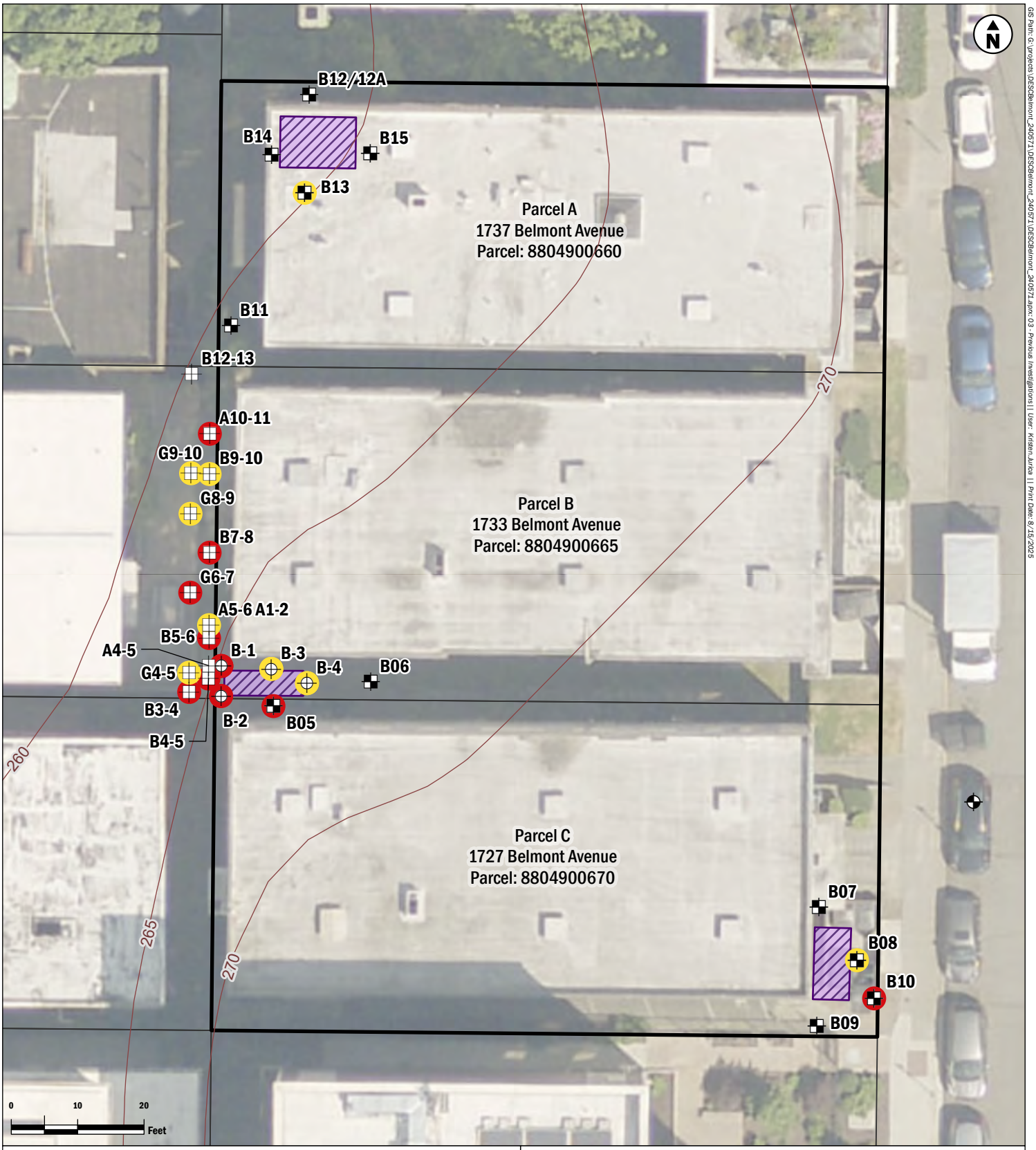
Site Plan with Historical Features

Remedial Investigation Work Plan
DESC Belmont Permanent Supportive Housing Project
1727, 1733, and 1737 Belmont Avenue
Seattle, WA

Aspect Consulting	AUG-2025	BY: HRC / HMD	FIGURE NO. 2
	PROJECT NO. AS240571	REVISED BY: KMJ	

Data source credits: King County || Basemap Service Layer Credits: EagleView Technologies, Inc., King County

GIS Path: G:\projects\DESC\Belmont_240571\DESC\Belmont_240571\DESC\Belmont_240571.aprx; 02 - Site Plan with Historical Features || User: Kristen.Jurica || Print Date: 8/15/2025



Denotes TPH-D and/or TPH-O in soil at concentrations exceeding MTCA Method A Cleanup Levels

Denotes TPH-D and/or TPH-O in soil at concentrations below MTCA Method A Cleanup Levels

PBS Boring (2017)

PBS Soil Sample (2017)

PBS Groundwater Monitoring Well

SoundEarth Boring (2017)

Decommissioned Heating Oil UST

Site Property

King County Tax Parcel

Elevation Contour (5-ft interval)

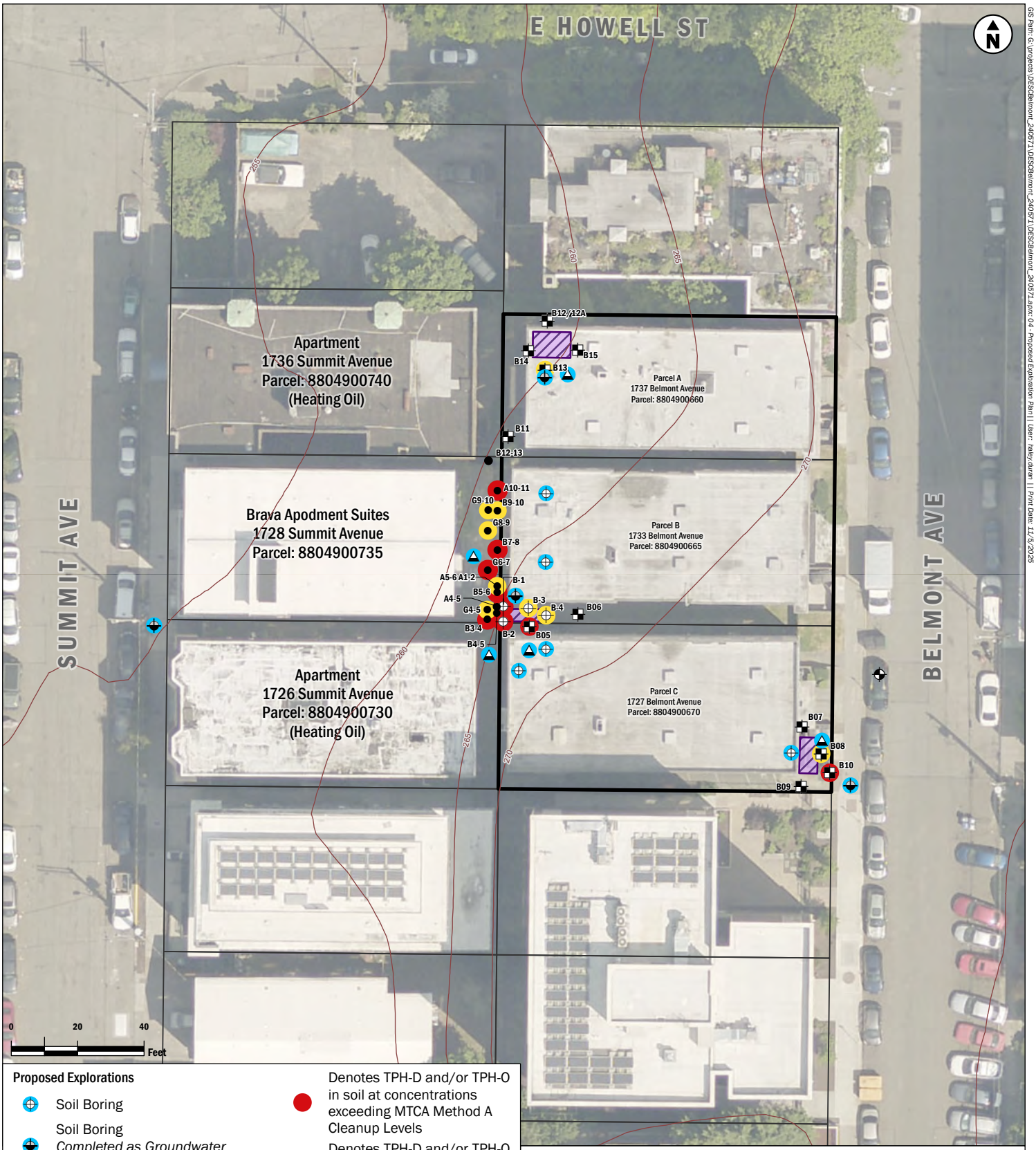
Previous Investigations

Remedial Investigation Work Plan
DESC Belmont Permanent Supportive Housing Project
1727, 1733, and 1737 Belmont Avenue
Seattle, WA

Aspect Consulting	AUG-2025	BY: HRC / HMD	FIGURE NO. 3
	PROJECT NO. AS240571	REVISED BY: KMJ	

Data source credits: King County || Basemap Service Layer Credits: EagleView Technologies, Inc., King County

GIS Path: G:\projects\DESC\Belmont_240571\DESCBelmont_240571\DESCBelmont_240571.aprx: 03 - Previous Investigations || User: Kristen.Jurica || Print Date: 8/15/2025



GIS Path: G:\projects\DESCBelmont_240571\DESCBelmont_240571\DESCBelmont_240571.aprx: 04 - Proposed Exploration Plan || User: haley.duran || Print Date: 11/5/2025

Proposed Explorations

- Soil Boring
- Soil Boring *Completed as Groundwater Monitoring Well*
- Soil Boring *Completed as Soil Vapor Probe*

Previous Explorations

- PBS Boring (2017)
- PBS Excavation Soil Sample (2017)
- PBS Groundwater Monitoring Well
- SoundEarth Boring (2024)

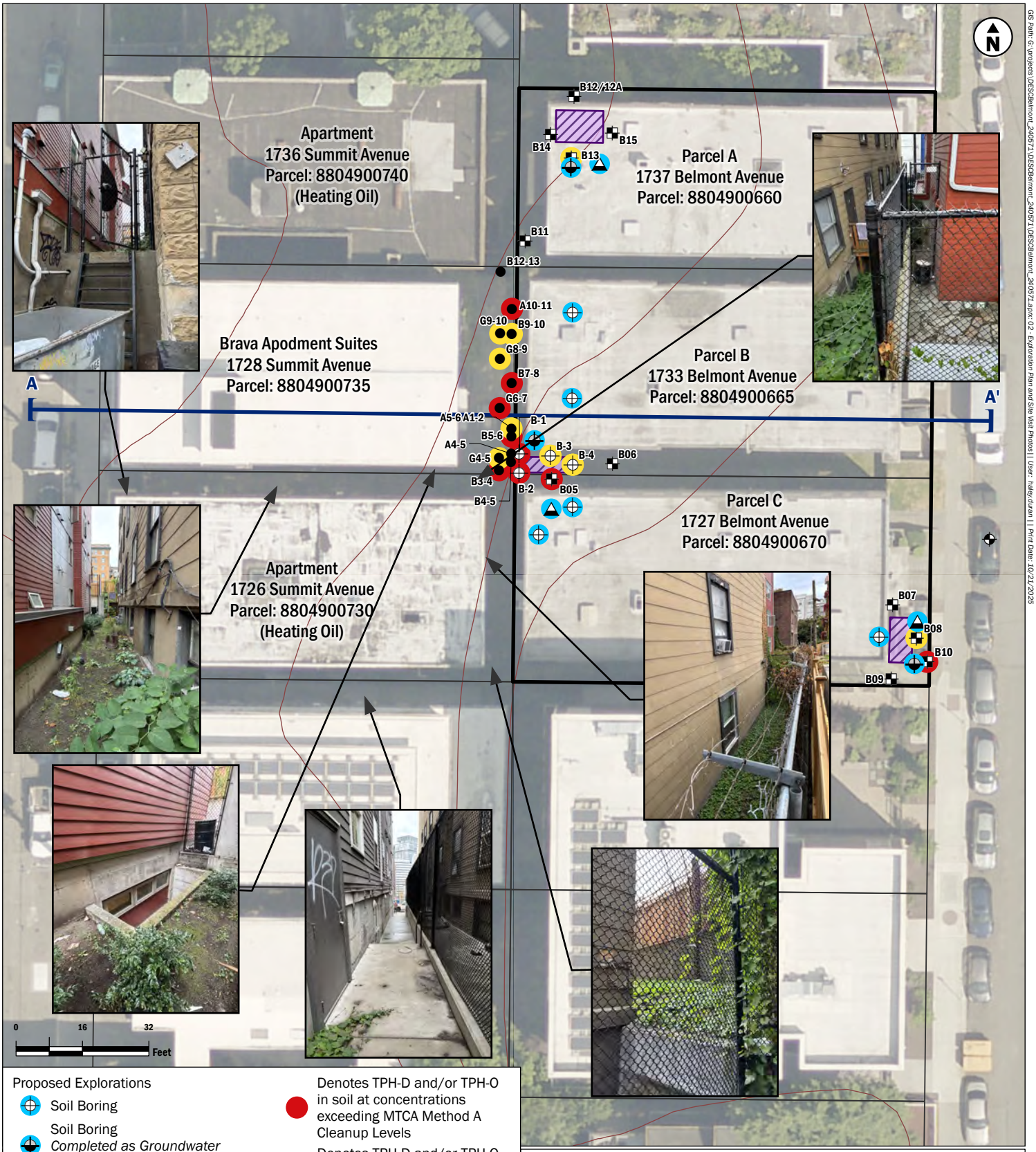
- Denotes TPH-D and/or TPH-O in soil at concentrations exceeding MTCA Method A Cleanup Levels
- Denotes TPH-D and/or TPH-O in soil at concentrations below MTCA Method A Cleanup Levels
- Decommissioned Heating Oil UST
- Site Property
- King County Tax Parcel
- Elevation Contour (5-ft interval)

Proposed Exploration Plan

Remedial Investigation Work Plan
DESC Belmont Permanent Supportive Housing Project
1727, 1733, and 1737 Belmont Avenue
Seattle, WA

Aspect Consulting	NOV-2025	BY: HRC / HMD	FIGURE NO. 4
	PROJECT NO. AS240571	REVISED BY: KMJ	

Data source credits: King County || Basemap Service Layer Credits: EagleView Technologies, Inc., King County



Proposed Explorations

- Soil Boring
- Soil Boring *Completed as Groundwater Monitoring Well*
- Soil Boring *Completed as Soil Vapor Probe*

Previous Explorations

- PBS Boring (2017)
- PBS Excavation Soil Sample (2017)
- PBS Groundwater Monitoring Well
- SoundEarth Boring (2024)

- Denotes TPH-D and/or TPH-O in soil at concentrations exceeding MTCA Method A Cleanup Levels
- Denotes TPH-D and/or TPH-O in soil at concentrations below MTCA Method A Cleanup Levels
- Decommissioned Heating Oil UST
- Site Property
- King County Tax Parcel

Exploration Plan and Site Visit Photos

Remedial Investigation Work Plan
DESC Belmont Permanent Supportive Housing Project
1727, 1733, and 1737 Belmont Avenue
Seattle, WA

Aspect Consulting	OCT-2025	BY: HRC / HMD	FIGURE NO. 5
	PROJECT NO. AS240571	REVISED BY: KMJ	

Data source credits: King County || Basemap Service Layer Credits: EagleView Technologies, Inc., King County

Summit Ave. | 1728 Summit Ave. | Alley | 1733 Belmont Ave. | Belmont Ave.

A (West) — **A' (East)**

Second Floor of Brava Apodments

First Floor of Brava Apodments

Pre-Construction Surface Grade

Existing Grade (Alley)

Subgrade Portion of Brava Apodments

Area of Excavation

Existing Grade

Potential Depth of Groundwater

UST

SM

SP-SM

?

?

B-2 (Offset 14' S)

B-4 (Offset 12' S)

B-06 (Offset 11' S)

A4-5 (Offset 9' S)

B4-5 (Offset 11' S)

G4-5 (Offset 10' S)

G6-7 (Offset 2' N)

B3-4 (Offset 13' S)

Elevation (feet)

280
275
270
265
260
255
250

0
50
100
150
200
231

Distance (feet)

Analytical Results

One or more of contaminants of concern detected at a concentration greater than the MTCA Method A cleanup level.

One or more of contaminants of concern detected at a concentration less than the MTCA Method A cleanup level.

Contaminants of concern not detected.

Soil Types

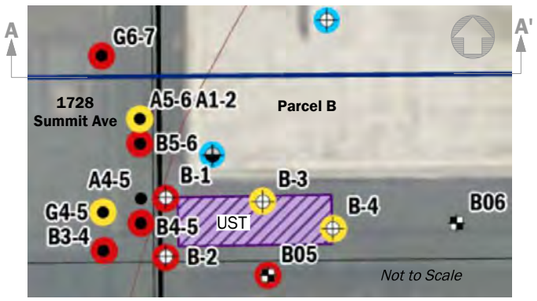
SM: USCS Silty Sand

SP-SM: USCS Poorly-graded Sand with Silt

0 20 40 Feet

0 5 10 Feet

Horizontal Scale: 1" = 20'
Vertical Scale: 1" = 5'
Vertical Exaggeration 4x



Underground Storage Tank (UST)

B-4 (Offset 12' S) — Boring ID

SM — Soil Type

Analytical Sample Location

Inferred Geologic Contact

Cross-Section A-A'

Remedial Investigation Work Plan
DESC Belmont Permanent Supportive Housing Project
1727, 1733, and 1737 Belmont Avenue
Seattle, Washington

Aspect A Geosyntec Company

PROJECT NO: AS240571 | NOVEMBER 2025

FIGURE 6

CAD Path: Q:\DESC Belmont AS240571\Cross-section.dwg Layout: F3 || Date Saved: 11/4/2025 12:26:36 PM || User: caroline.vanslyke

APPENDIX A

Sampling and Analysis Plan (SAP)

A. Sampling and Analysis Plan

This Sampling and Analysis Plan (SAP) has been prepared as Appendix A to the Remedial Investigation Work Plan (RIWP) for work at the DESC Belmont Permanent Supportive Housing Project. The purpose of this SAP is to ensure that field sampling collection, handling, and laboratory analysis conducted during the Remedial Investigation (RI) will generate data to support development of future remedial action objectives. The SAP has been developed to meet the requirements of MTCA, outlined under WAC 173-340-820.

A.1. Sample Handling Procedures

Soil, groundwater, soil gas, and quality control samples will be collected from soil borings, monitoring wells, or temporary soil gas probes during the work outlined in the RIWP. All soil samples will be placed in laboratory-provided sampleware, consisting of 4- to 8-ounce glass jars and/or volatile organic analysis (VOA) containers (filled in accordance with Environmental Protection Agency [EPA] Method 5035A). All groundwater samples will be placed in laboratory-provided sampleware, consisting of 1-liter amber glass bottles and VOA containers filled to limit headspace. All soil gas samples will be collected in individually-certified laboratory supplied evacuated cannisters with dedicated sampling trains and fitted with dedicated flow controllers set to 150 milliliters per minute.

Filled soil and groundwater sample jars will be placed on ice in coolers with internal temperatures maintained at 4 degrees Celsius (°C). Sample coolers containing soil and groundwater samples and the soil gas sample cannisters will be transported by field personnel or courier to the laboratory under standard chain-of-custody procedures.

All reusable sampling equipment will be decontaminated between samples using an Alconox wash and clean water rinse.

A.1.1. Sample Identification

Each sample container will be labeled with the following using permanent, nonvolatile ink: unique sample identification, date, time, and project number.

- ***Soil sample nomenclature.*** The unique sample identification format is "AB-YY-ZZ" for which AB represents the exploration type (AB for soil borings and AMW for monitoring wells), Y is a sequential two-digit ID number starting with AB-09 for soil borings and AMW-07 for monitoring wells, and ZZ is the depth in feet below ground surface (bgs).
- ***Groundwater sample nomenclature.*** Each groundwater sample will be assigned a unique sample identification number that includes the well number and the six-digit date on which the sample was collected. For example, a groundwater sample

collected from monitoring well AMW-12 on October 5, 2021, would be identified as AMW-12-100521.

- ***Soil gas sample nomenclature.*** Each soil gas sample will be assigned a unique sample identification number that includes the exploration number and the six-digit date on which the sample was collected. For example, a soil gas sample collected from soil vapor pin SV-01 on September 30, 2022, would be identified as SV-01-093022.

A.1.2. Sample Custody

After collection, samples will be maintained in Aspect's custody until formally transferred to the analytical laboratory. A chain of custody record provided by the laboratory will be initiated at the time of sampling for all samples collected and signed by the field representative and all others who subsequently take custody of the samples, including the laboratory representative who receives the sample cooler.

A.1.3. Field Documentation

While conducting fieldwork, the field representative will document pertinent observations and events on field forms and/or in a field notebook and provide photographic documentation, as needed. Field notes will include a description of the field activities, sample descriptions, and associated details such as date, time, and field conditions.

Horizontal coordinates for each exploration location will be recorded using a hand-held GPS instrument with real-time differential correction. The horizontal coordinates and elevations of monitoring wells will be surveyed by a licensed surveyor relative to Washington State Plan coordinates (horizontal) and NAVD88 (vertical). Monitoring well top-of-casing and groundwater surface elevations will be surveyed to the nearest 0.01 foot, and horizontal coordinates to the nearest 0.1 foot, or better. Each well will be surveyed at the marked spot on the top of the PVC well casing from which depth-to-water measurements are collected.

A.2. Quality Assurance/Quality Control Plan

Field quality control (QC) samples will be collected and submitted for chemical analysis to monitor the precision and accuracy associated with the field procedures. For the work outlined in this RIWP, the QC samples consist of field duplicates. Field duplicates of soil, groundwater, and soil gas samples will be collected at a frequency of 5%, or one for every 20 samples.

Samples will be collected such that data will support development of the future RI and future remedial action objectives and meet the data quality objectives in accordance with MTCA requirements (WAC 173-340-350). Chemical analysis of the soil and groundwater samples will be conducted by a laboratory accredited by Ecology, using MTCA-required analytical methods as outlined in Ecology's Guidance (Ecology, 2016), as follows:

- Northwest Method NWTPH-Dx for diesel- and oil-range TPH

Chemical analysis of soil gas samples will be conducted using the following method:

- Massachusetts Department of Environmental Protection (MDEP) Method for air-phase petroleum hydrocarbons (APHs)

The quality control procedures specified by these methods will be implemented by the laboratory in accordance with their internal QC standards (lab method blanks, spikes, etc.) to ensure that the analytical results are of known quality. The laboratory will qualify results to identify QC concerns and upon receipt of the data, Aspect will review the analytical results and laboratory qualifiers in accordance with Aspect's internal data Quality Review (DQR) procedures to ensure that data is appropriate to meet the project objectives. Laboratory results will be managed in a controlled database environment to ensure data integrity and consistency.

APPENDIX B

Quality Assurance Project Plan (QAPP)

Contents – Appendix B

B. Quality Assurance/Quality Control Project Plan

This Quality Assurance Project Plan (QAPP) identifies quality assurance and quality control (QA/QC) procedures and criteria required to ensure that data collected during the subsurface investigation are of known quality and acceptable to achieve project objectives. Specific protocols and criteria are also set forth in this QAPP for data quality evaluation, upon the completion of data collection, to determine the level of completeness and usability of the data. It is the responsibility of the project personnel performing or overseeing the sampling and analysis activities to adhere to the requirements of this QAPP.

B.1. Purpose of the QAPP

As stated in Washington State Department of Ecology (Ecology) *Guidelines for Preparation of Quality Assurance Project Plans for Environmental Studies* (Ecology, 2016), specific goals of this QAPP are as follows:

- Focus project manager and project team to factors affecting data quality during the planning stage of the project.
- Facilitate communication among field, laboratory, and management staff as the project progresses.
- Document the planning, implementation, and assessment procedures for QA/QC activities for the investigation.
- Ensure that the data quality objectives (DQOs) are achieved.
- Provide a record of the project to facilitate final report preparation.

The DQOs for the project include both qualitative and quantitative objectives, which define the appropriate type of data, and specify the tolerable levels of potential decision errors that will be used as a basis for establishing the quality and quantity of data needed to support the environmental assessment. This QAPP describes both quantitative and qualitative measures of data to ensure that the DQOs are achieved. DQOs dictate data collection rationale, sample collection procedures, and sampling and analysis designs that are presented in the main body of the Remedial Investigation Work Plan (RIWP).

B.2. Data Quality Objectives

DQOs, including the Measurement Quality Indicators (MQIs)—precision, accuracy, representativeness, comparability, completeness, and sensitivity (namely PARCCS parameters)—and sample-specific reporting limits (RLs) are dictated by the project requirements and intended uses of the data. For this project, the analytical data must be of sufficient technical quality to determine whether contaminants are present and, if present,

whether their concentrations are greater than or less than applicable screening criteria, based on protection of human health and the environment.

The quality of data generated through this subsurface investigation will be assessed against the MQIs set forth in this QAPP. Specific MQI goals and evaluation criteria, including method detection limits (MDLs), RLs, percent recovery (%R) for accuracy measurements, and relative percent difference (RPD) for precision measurements, are defined below.

B.2.1. Precision

Precision measures the reproducibility of measurements under a given set of conditions. Specifically, it is a quantitative measure of the variability of a group of measurements compared with their average values. Analytical precision is measured through matrix spike/matrix spike duplicate (MS/MSD) samples and laboratory control samples/laboratory control sample duplicate (LCS/LCSD) for organic analysis and through laboratory duplicate samples for inorganic analyses.

Analytical precision is quantitatively expressed as the RPD between the LCS/LCSD, MS/MSD, or laboratory duplicate pairs and is calculated with the following formula:

$$RPD\ (\%) = 100 \times \frac{|S - D|}{(S + D)/2}$$

where:

S = analyte concentration in sample

D = analyte concentration in duplicate sample

B.2.2. Accuracy

Accuracy measures the closeness of the measured value to the true value. The accuracy of chemical test results is assessed by "spiking" samples with known standards (surrogates, blank spikes, or matrix spikes) and establishing the average recovery. Accuracy is quantified as the %R. The closer the %R is to 100 percent, the more accurate the data.

Surrogate recovery will be calculated as follows:

$$\text{Recovery}\ (\%) = \frac{MC}{SC} \times 100$$

where:

SC = spiked concentration
MC = measured concentration

MS percent recovery will be calculated as follows:

$$\text{Recovery (\%)} = \frac{MC - USC}{SC} \times 100$$

where:

SC = spiked concentration
MC = measured concentration
USC = unspiked sample concentration

B.2.3. Representativeness

Representativeness measures how closely the measured results reflect the actual concentration or distribution of the chemical compounds in the matrix sampled. The sampling techniques and sample-handling protocols, including storage, preservation, and use of blanks, have been developed to ensure representative samples. Only representative data will be used in the subsurface investigation. Sampling locations for subsurface investigation activities are shown on Figure 4 of the RIWP. The subsurface investigation field sampling procedures are described in the RIWP.

B.2.4. Comparability

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared with another. This goal will be achieved using standard techniques to collect samples, U.S. Environmental Protection Agency-approved (EPA) standard methods to analyze samples, and consistent units to report analytical results. Data comparability also depends on data quality. Data of unknown quality cannot be compared.

B.2.5. Sensitivity

Sensitivity depicts the level of ability that an analytical system—such as sample preparation and instrumental analysis—has for detecting a target component in a given sample matrix with a defined level of confidence. Factors affecting the sensitivity of an analytical system include: analytical system background (laboratory artifact or method blank contamination), sample matrix (mass spectrometry ion ratio change, coelution of peaks, or baseline elevation), and instrument instability.

B.3. Quality Control Procedures

Field and laboratory QC procedures are outlined below.

B.3.1. Field Quality Control

Beyond use of standard sampling protocols defined in the field sampling plan field QC procedures include maintaining the field instrumentation used. Field instruments, including a photo ionization detector (PID) for evaluating presence of volatile organic compounds (VOCs) in soil and soil gas samples and the YSI meter for measuring field parameters during groundwater sampling, are maintained and calibrated regularly prior to use, in accordance with manufacturer recommendations.

In addition, field QC samples will be collected and submitted for analyses to monitor the precision and accuracy associated with field procedures. Field QC samples to be collected and analyzed for this subsurface investigation are field duplicates. The definition and sampling requirements for field QC samples are presented below.

B.3.1.1. Trip Blank

Trip blank samples are used to evaluate potential cross-contamination of volatile constituents during sample transport. Since VOCs will not be analyzed during the field program, trip blanks will not be included in this field program.

B.3.1.2. Field Duplicate

Field duplicate samples are used to check for sampling and analysis reproducibility; however, the field duplicate sample results include variability introduced during both field sampling and laboratory preparation and analysis, and EPA data validation guidance provides no specific evaluation criteria for field duplicate samples. Advisory evaluation criteria are set forth at 35 percent for RPD (if both results are greater than five times the RL) and two times the RLs for concentration difference (if either result is less than five times the RL) between the original and field duplicate results.

Field duplicates will be submitted "blind" to the laboratory as discrete samples (i.e., given unique sample identifiers to keep the duplicate identity unknown to the laboratory), but will be clearly identified in the field log. Field duplicate samples will be collected at a frequency of 5 percent (1 per 20) of the field samples for each matrix (soil and groundwater) and analytical method, but not less than one duplicate per sampling event per matrix.

If a given soil sample depth interval lacks sufficient volume (recovery) to supply material for a planned analysis and its field duplicate analysis, the field duplicate aliquot will be collected for that analysis from another depth interval in that same location if practical.

B.3.2. Laboratory Quality Control

The laboratory's analytical procedures must meet requirements specified in the respective analytical methods or approved laboratory standard operating procedures (SOPs), including instrument performance check, initial calibration, calibration check, blanks, surrogate spikes, internal standards, and/or labeled compound spikes. Specific laboratory QC analyses required for this project will consist of the following at a minimum:

- Instrument tuning, instrument initial calibration, and calibration verification analyses, as required in the analytical methods and the laboratory standard operating procedures (SOPs).
- Laboratory and/or instrument method blank measurements at a minimum frequency of 5 percent (1 per 20 samples) or in accordance with method requirements, whichever is more frequent.
- Accuracy and precision measurements at a minimum frequency of 5 percent (1 per 20 samples) or in accordance with method requirements.

The laboratory's QA officers are responsible for ensuring that the laboratory implements the internal QC and QA procedures detailed in their Quality Assurance Manual.

B.4. Corrective Actions

If routine QC audits by the laboratory result in detection of unacceptable conditions or data, corrective actions specified in the laboratory SOPs will be taken. Specific corrective actions are outlined in each SOP used and can include the following:

- Identifying the source of the violation
- Reanalyzing samples if holding-time criteria permit
- Resampling and analyzing
- Evaluating and amending sampling and analytical procedures
- Accepting but qualifying data to indicate the level of uncertainty

If unacceptable conditions occur, the laboratory will contact Aspect's project manager to discuss the issues and determine the appropriate corrective action. Corrective actions taken by the laboratory during analysis of samples for this project will be documented by the laboratory in the case narrative associated with the affected samples.

In addition, the project data quality manager will review the laboratory data generated for this investigation to ensure that project DQOs are met. If the review indicates that nonconformances in the data have resulted from field sampling or documentation procedures or laboratory analytical or documentation procedures, the impact of those nonconformances on the overall project data usability will be assessed. Appropriate actions, including resampling and/or reanalysis of samples, may be recommended to the project manager to achieve project objectives.

B.5. Data Reduction, Quality Review, and Reporting

All data will undergo a QA/QC evaluation at the laboratory, which will then be reviewed by the Aspect database manager and the project data quality manager. Initial data reduction, evaluation, and reporting at the laboratory will be carried out in full compliance with the method requirement and laboratory SOPs. The laboratory internal review will include verification (for correctness and completeness) of the electronic data deliverable (EDD) accompanied with each laboratory report. The Aspect database manager will verify the completeness and correctness of all laboratory deliverables, including the laboratory report and EDDs.

B.5.1.Minimum Data Reporting Requirements

The following sections specify general and specific requirements for analytical data reporting to provide sufficient deliverables for project documentation and data quality assessment.

B.5.1.1. General Requirements

The following requirements apply to laboratory reports for all types of analyses:

- Include a cover page signed by the laboratory director, the laboratory QA officer, or their designee to certify the eligibility of the reported contents and the conformance with applicable analytical methodology.
- Include definitions of abbreviations, data flags, and data qualifiers used in the report.
- Include cross-reference of field sample names and laboratory sample identity for all samples in the sample delivery group (SDG).
- Include completed chain-of-custody (COC) document signed and dated by parties who are acquiring and receiving samples.
- Include completed sample receipt document with record of cooler temperature and sample conditions upon receipt at the laboratory. Anomalies, such as inadequate sample preservation, inconsistent bottle counts, and sample container breakage, and communication record and corrective actions in response to the anomalies will be documented and incorporated in the sample receipt document. The document will be initialed and dated by personnel that complete the document.
- Include a case narrative that addresses any anomalies or QC outliers in relation to sample receiving, sample preparation, and sample analysis on samples in the SDG. The narrative will be presented separately for each analytical method and each sample matrix.
- All pages in the report are to be paginated. Any insertion of pages after the laboratory report is issued will be paginated with starting page number suffixed with letters. For example, pages inserted between pages 134 and 135 should be paginated as 134A, 134B, and so on.
- Any resubmitted or revised report pages will be submitted to Aspect with a cover page stating the reason(s) and scope of resubmission or revision, and signed by laboratory director, QA officer, or the designee.

B.5.1.2. Specific Requirements

The following presents specific requirements for laboratory reports:

- Sample results: Sample results will be evaluated and reported down to the MDLs. Detections at levels greater than the MDLs, but less than the RLs, will be reported and flagged with “J.” Results less than the MDLs (or EDLs) will be reported at the RLs and flagged with “U.” All soil sample results will be reported on a dry-weight basis. The report pages for sample results (namely Form 1s) will, at minimum, include sample results, RLs, unit, proper data flags, dates of sample collection, preparation, and analysis, dilution factor, percent moisture (for solid samples), and sample volume (used for analysis).
- Instrument run log: The run log will list, in chronological order, all analytical runs on field samples, QC samples, calibrations, and calibration verification analyses in the SDG with data file name (and/or legible laboratory codes) and analysis date/time for each analytical run.

- Original sample preparation and analyst worksheet: Initialed and dated by analyst and reviewer.
- GC/MS and inductively coupled plasma (ICP)/MS tune report: Including ion abundance ratios and criteria for all required ions.
- Initial calibration summary: Including data file name for each calibration standard file; response factor (RF) or calibration factor (CF) for each calibration standard and each target and surrogate compound; average RF or CF, percent relative standard deviation (%RSD), correlation coefficient, or coefficient of determination; and absolute and relative retention times and ion ratios for HRGC/HRMS methods for each target compound and surrogate (labeled) compounds. As applicable and if required by the methods, initial calibrations should be verified with a second-source standard (namely the initial calibration verification [ICV]) at the mid-point concentration of the initial calibration. ICV results should be reported as part of the initial calibration.
- Calibration verification summary: Including true amount, calculated amount, and percent difference (%D), or percent drift ($\%D_f$) as applicable, for target compounds.
- Method blank and calibration blank (as applicable such as metals analyses) results.
- LCS and LCSD (if matrix spike duplicate analysis is not performed) results with laboratory acceptance criteria for %R and RPD.
- Surrogate spike results with laboratory acceptance criteria for %R.
- MS and MSD results with laboratory acceptance criteria for %R and RPD. In cases where MS/MSD analyses were not performed on a project sample, LCS/LCSD analyses should be performed and reported instead.
- Internal standard (as applicable) results: Internal standard absolute retention times and response areas in field samples, QC analyses, and associated calibration verification analyses.
- Labeled compound (HRGC/HRMS methodology only) results, ion abundance ratios, and recovery.

B.6. Data Quality Verification and Validation

Reported analytical results will be qualified by the laboratory to identify QC concerns in accordance with the specifications of the analytical methods. Additional laboratory data qualifiers may be defined and reported by the laboratory to more completely explain QC concerns regarding a particular sample result. All data qualifiers will be defined in the laboratory's narrative reports associated with each case.

In cases of multiple analyses (such as an undiluted and a diluted analysis) performed on one sample, the optimal result will be determined and only the determined result will be reported for the sample.

B.7. Preventative Maintenance Procedures and Schedules

Preventative maintenance in the laboratory will be the responsibility of the laboratory personnel and analysts. This maintenance includes routine care and cleaning of instruments and inspection and monitoring of carrier gases, solvents, and glassware used in analyses. Details of the maintenance procedures are addressed in the respective laboratory SOPs (provided upon request).

Precision and accuracy data are examined for trends and excursions beyond control limits to determine evidence of instrument malfunction. Maintenance will be performed when an instrument begins to change as indicated by the degradation of peak resolution, shift in calibration curves, decrease in sensitivity, or failure to meet one or another of the method-specific QC criteria.

Maintenance and calibration of instruments used in the field for sampling (PID and YSI meter) will be conducted regularly in accordance with manufacturer recommendations prior to use.

B.8. Performance and System Audits

The Aspect project manager is responsible for reviewing the performance of the laboratory QA program; this review will be achieved through regular contact with the analytical laboratory's project manager. To ensure comparable data, all samples of a given matrix to be analyzed by each specified analytical method will be processed consistently by the same analytical laboratory.

B.9. Data and Records Management

Records will be maintained documenting all activities and data related to field sampling and chemical analyses.

B.9.1. Field Documentation

Inspection and monitoring results will be documented on field report forms and/or in field notebooks. Adequate records will be maintained for each sample collected. The field representative will document pertinent observations and events specific to each activity and specific to each sample collected and, when warranted, provide photographic documentation of specific sampling efforts. Field notes will include the following:

- Date, time, weather conditions, project location, and sampler's name
- Sample location, sample type, and sample number
- Description of the field activity
- Sample descriptions and sampling method
- Size, type, and quantity of sample containers
- Field equipment used

- Field parameters

Pertinent observations of the sample condition that are worthy of noting in the field documentation include the following:

- Sample color
- Sedimentation or turbidity
- Oil or sheen
- Separate phase liquids
- Odor
- Effervescence
- Beginning canister vacuum (soil gas samples only)
- Ending canister vacuum (soil gas samples only)

Other information to be included in the field notebook includes the following:

- Reason for sampling
- Problems encountered due to unusual conditions
- Communications with Ecology, laboratory, or field staff

B.9.2. Analytical Data Management

Raw data received from the analytical laboratory will be reviewed, entered into a computerized database, and verified for consistency and correctness. The database will be updated based on data review and independent validation, if necessary.

The following field data will be included in the database:

- Sample location coordinates
- Sample type (groundwater, soil, or soil gas)
- Soil, soil gas, or groundwater sampling depth interval

Information regarding whether concentrations represent total phase (unfiltered samples) or dissolved phase (filtered samples) will be compiled and stored in the database. Data will be reviewed, validated, and maintained to facilitate future submittals to Ecology's Environmental Information Management (EIM) database.

B.10. References

Washington State Department of Ecology (Ecology) 2016, Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies, Publication No. 04-03-030, December 2016.

APPENDIX C

Inadvertent Discovery Plan (IDP)

INADVERTENT DISCOVERY PLAN

PLAN AND PROCEDURES FOR THE DISCOVERY OF CULTURAL RESOURCES AND HUMAN SKELETAL REMAINS

To request ADA accommodation, including materials in a format for the visually impaired, call Ecology at 360-407-6000 or visit https://ecology.wa.gov/accessibility. People with impaired hearing may call Washington Relay Service at 711. People with a speech disability may call TTY at 877-833-6341.

Site Name(s): Stewart House/ DESC Belmont Project Location: 1727, 1733, and 1737 Belmont Ave, Seattle, WA

Project Lead/Organization: Aspect Consulting, a Geosyntec Company County: King

If this Inadvertent Discovery Plan (IDP) is for multiple (batched) projects, ensure the location information covers all project areas.

1. INTRODUCTION

The IDP outlines procedures to perform in the event of a discovery of archaeological materials or human remains, in accordance with applicable state and federal laws. An IDP is required, as part of Agency Terms and Conditions for all grants and loans, for any project that creates disturbance above or below the ground. An IDP is not a substitute for a formal cultural resource review (Executive 21-02 or Section 106).

Once completed, **the IDP should always be kept at the project site** during all project activities. All staff, contractors, and volunteers should be familiar with its contents and know where to find it.

2. CULTURAL RESOURCE DISCOVERIES

A cultural resource discovery could be prehistoric or historic. Examples include (see images for further examples):

- An accumulation of shell, burned rocks, or other food related materials.
- Bones, intact or in small pieces.
- An area of charcoal or very dark stained soil with artifacts.
- Stone tools or waste flakes (for example, an arrowhead or stone chips).
- Modified or stripped trees, often cedar or aspen, or other modified natural features, such as rock drawings.
- Agricultural or logging materials that appear older than 50 years. These could include equipment, fencing, canals, spillways, chutes, derelict sawmills, tools, and many other items.
- Clusters of tin cans or bottles, or other debris that appear older than 50 years.
- Old munitions casings. ***Always assume these are live and never touch or move.***
- Buried railroad tracks, decking, foundations, or other industrial materials.
- Remnants of homesteading. These could include bricks, nails, household items, toys, food containers, and other items associated with homes or farming sites.

The above list does not cover every possible cultural resource. When in doubt, assume the material is a cultural resource.

3. ON-SITE RESPONSIBILITIES

If any employee, contractor, or subcontractor believes that they have uncovered cultural resources or human remains at any point in the project, take the following steps to ***Stop-Protect-Notify***. **If you suspect that the discovery includes human remains, also follow Sections 5 and 6.**

STEP A: Stop Work.

All work must stop immediately in the vicinity of the discovery.

STEP B: Protect the Discovery.

Leave the discovery and the surrounding area untouched and create a clear, identifiable, and wide boundary (30 feet or larger) with temporary fencing, flagging, stakes, or other clear markings. Provide protection and ensure integrity of the discovery until cleared by the Department of Archaeological and Historical Preservation (DAHP) or a licensed, professional archaeologist.

Do not permit vehicles, equipment, or unauthorized personnel to traverse the discovery site. Do not allow work to resume within the boundary until the requirements of this IDP are met.

STEP C: Notify Project Archaeologist (if applicable).

If the project has an archaeologist, notify that person. If there is a monitoring plan in place, the archaeologist will follow the outlined procedure.

STEP D: Notify Project and Washington Department of Ecology (Ecology) contacts.

Project Lead Contacts

Primary Contact		Alternate Contact	
Name:	Dave Cook	Name:	Hannah Cohen
Organization:	Aspect Consulting	Organization:	Aspect Consulting
Phone:	206-372-7637	Phone:	206-512-9091
Email:	dave.cook@aspectconsulting.com	Email:	hannah.cohen@aspectconsulting.com

Ecology Contacts (completed by Ecology Project Manager)

Ecology Project Manager		Alternate or Cultural Resource Contact	
Name:	Zak Wall	Name:	Jon Klem
Program:	Toxics Cleanup Program	Program:	Toxics Cleanup Program
Phone:	425-758-5231	Phone:	206-556-5584
Email:	zwal461@ecy.wa.gov	Email:	jonk461@ecy.wa.gov

STEP E: Ecology will notify DAHP.

Once notified, the Ecology Cultural Resource Contact or the Ecology Project Manager will contact DAHP to report and confirm the discovery. To avoid delay, the Project Lead/Organization will contact DAHP if they are not able to reach Ecology.

DAHP will provide the steps to assist with identification. DAHP, Ecology, and Tribal representatives may coordinate a site visit following any necessary safety protocols. DAHP may also inform the Project Lead/Organization and Ecology of additional steps to further protect the site.

Do not continue work until DAHP has issued an approval for work to proceed in the area of, or near, the discovery.

DAHP Contacts:

Name: Rob Whitlam, PhD
Title: State Archaeologist
Cell: 360-890-2615
Email: Rob.Whitlam@dahp.wa.gov
Main Office: 360-586-3065

Human Remains/Bones:

Name: Guy Tasa, PhD
Title: State Anthropologist
Cell: 360-790-1633 (24/7)
Email: Guy.Tasa@dahp.wa.gov

4. TRIBAL CONTACTS

In the event cultural resources are discovered, the following tribes will be contacted. See Section 10 for Additional Resources.

Tribe:	Muckleshoot Indian Tribe	Tribe:	Tulalip Tribes of Washington
Name:	Laura Murphy	Name:	Richard Young
Title:	Archaeologist	Title:	Cultural Resources Director
Phone:	253-876-3272	Phone:	360-716-2652
Email:	laura.murphy@muckleshoot.nsn.us	Email:	ryoung@tulaliptribes-nsn.gov
Tribe:	Suquamish Tribe	Tribe:	Stillaguamish Tribe of Indians
Name:	Stephanie Trudel	Name:	Nakita Strangeways
Title:	THPO	Title:	THPO
Phone:	(360) 394-8533	Phone:	(360) 652-7362
Email:	strudel@suquamish.nsn.us	Email:	nstrangeways@stillaguamish.com

Please provide contact information for additional tribes within your project area, if needed, in Section 11.

5. FURTHER CONTACTS (if applicable)

If the discovery is confirmed by DAHP as a cultural or archaeological resource, or as human remains, and there is a partnering federal or state agency, Ecology or the Project Lead/Organization will ensure the partnering agency is immediately notified.

Federal Agency:		State Agency:	
Agency:		Agency:	
Name:		Name:	
Title:		Title:	
Phone:		Phone:	
Email:		Email:	

6. SPECIAL PROCEDURES FOR THE DISCOVERY OF HUMAN SKELETAL MATERIAL

Any human skeletal remains, regardless of antiquity or ethnic origin, will at all times be treated with dignity and respect. Follow the steps under ***Stop-Protect-Notify.*** For specific instructions on how to handle a human remains discovery, see: *RCW 68.50.645: Skeletal human remains—Duty to notify—Ground disturbing activities—Coroner determination—Definitions*.

Suggestion: If you are unsure whether the discovery is human bone or not, contact Guy Tasa with DAHP, for identification and next steps. Do not pick up the discovery.

Guy Tasa, PhD State Physical Anthropologist
Guy.Tasa@dahp.wa.gov
(360) 790-1633 (Cell/Office)

For discoveries that are confirmed or suspected human remains, follow these steps:

1. Notify law enforcement and the Medical Examiner/Coroner using the contacts below. **Do not call 911** unless it is the only number available to you.

   Enter contact information below (required):
   - Local Medical Examiner or Coroner name and phone: Seattle Medical Examiner Office, 206-731-3232
   - Local Law Enforcement main name and phone: Seattle Police Department, 206-625-5011
   - Local Non-Emergency phone number (911 if without a non-emergency number): (same as local law enforcement, above)
2. The Medical Examiner/Coroner (with assistance of law enforcement personnel) will determine if the remains are human or if the discovery site constitutes a crime scene and will notify DAHP.
3. **DO NOT speak with the media, allow photography or disturbance of the remains, or release any information about the discovery on social media.**
4. If the remains are determined to be non-forensic, Cover the remains with a tarp or other materials (not soil or rocks) for temporary protection and to shield them from being photographed by others or disturbed.

Further activities:

- Per RCW 27.44.055, RCW 68.50, and RCW 68.60, DAHP will have jurisdiction over non-forensic human remains. Ecology staff will participate in consultation. Organizations may also participate in consultation.
- Documentation of human skeletal remains and funerary objects will be agreed upon through the consultation process described in RCW 27.44.055, RCW 68.50, and RCW 68.60.
- When consultation and documentation activities are complete, work in the discovery area may resume as described in Section 8.

If the project occurs on federal lands (such as a national forest or park or a military reservation) the provisions of the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) apply and the responsible federal agency will follow its provisions. Note that state highways that cross federal lands are on an easement and are not owned by the state.

If the project occurs on non-federal lands, the Project Lead/Organization will comply with applicable state and federal laws, and the above protocol.

7. DOCUMENTATION OF ARCHAEOLOGICAL MATERIALS

Archaeological resources discovered during construction are protected by state law RCW 27.53 and assumed eligible for inclusion in the National Register of Historic Places under Criterion D until a formal Determination of Eligibility is made.

The Project Lead/Organization must ensure that proper documentation and field assessment are made of all discovered cultural resources in cooperation with all parties: the federal agencies (if any), DAHP, Ecology, affected tribes, and the archaeologist.

The archaeologist will record all prehistoric and historic cultural material discovered during project construction on a standard DAHP archaeological site or isolate inventory form. They will photograph site overviews, features, and artifacts and prepare stratigraphic profiles and soil/sediment descriptions for minimal subsurface exposures. They will document discovery locations on scaled site plans and site location maps.

Cultural features, horizons, and artifacts detected in buried sediments may require the archaeologist to conduct further evaluation using hand-dug test units. They will excavate units in a controlled fashion to expose features, collect samples from undisturbed contexts, or to interpret complex stratigraphy. They may also use a test unit or trench excavation to determine if an intact occupation surface is present. They will only use test units when necessary to gather information on the nature, extent, and integrity of subsurface cultural deposits to evaluate the site's significance. They will conduct excavations using standard archaeological techniques to precisely document the location of cultural deposits, artifacts, and features.

The archaeologist will record spatial information, depth of excavation levels, natural and cultural stratigraphy, presence or absence of cultural material, and depth to sterile soil, regolith, or bedrock for each unit on a standard form. They will complete test excavation unit level forms, which will include plan maps for each excavation level and artifact counts and material types, number, and vertical provenience (depth below

surface and stratum association where applicable) for all recovered artifacts. They will draw a stratigraphic profile for at least one wall of each test excavation unit.

The archaeologist will screen sediments excavated for purposes of cultural resources investigation through 1/8-inch mesh, unless soil conditions warrant 1/4-inch mesh.

The archaeologist will analyze, catalogue, and temporarily curate all prehistoric and historic artifacts collected from the surface and from probes and excavation units. The ultimate disposition of cultural materials will be determined in consultation with the federal agencies (if any), DAHP, Ecology, and the affected tribe(s).

Within 90 days of concluding fieldwork, the archaeologist will provide a technical report describing any and all monitoring and resultant archaeological excavations to the Project Lead/Organization, who will forward the report to Ecology, the federal agencies (if any), DAHP, and the affected tribe(s) for review and comment.

If assessment activities expose human remains (burials, isolated teeth, or bones), the archaeologist and Project Lead/Organization will follow the process described in **Section 6**.

8. PROCEEDING WITH WORK

The Project Lead/Organization shall work with the archaeologist, DAHP, and affected tribe(s) to determine the appropriate discovery boundary and where work can continue.

Work may continue at the discovery location only after the process outlined in this plan is followed and the Project Lead/Organization, DAHP, any affected tribe(s), Ecology, and the federal agencies (if any) determine that compliance with state and federal laws is complete.

9. ORGANIZATION RESPONSIBILITY

The Project Lead/Organization is responsible for ensuring:

- This IDP has complete and accurate information.
- This IDP is immediately available to all field staff at the sites and available by request to any party.
- This IDP is implemented to address any discovery at the site.
- That all field staff, contractors, and volunteers are instructed on how to implement this IDP.

10. ADDITIONAL RESOURCES

Informative Video

Ecology recommends that all project staff, contractors, and volunteers view this informative video explaining the value of IDP protocol and what to do in the event of a discovery. The target audience is anyone working on the project who could unexpectedly find cultural resources or human remains while excavating or digging. The video is also posted on DAHP's inadvertent discovery language website.

Ecology's IDP Video (https://www.youtube.com/watch?v=ioX-4cXfbDY)

Informational Resources

DAHP (https://dahp.wa.gov)

Washington State Archeology (DAHP 2003)
(https://dahp.wa.gov/sites/default/files/Field%20Guide%20to%20WA%20Arch_0.pdf)

Association of Washington Archaeologists (https://www.archaeologyinwashington.com)

Potentially Interested Tribes

Interactive Map of Tribes by Area
(https://dahp.wa.gov/archaeology/tribal-consultation-information)

WSDOT Tribal Contact Website
(https://wsdot.wa.gov/tribal/TribalContacts.htm)

11. ADDITIONAL INFORMATION

Please add any additional contact information or other information needed within this IDP.

Squaxin Island Tribe
Shaun Dinubilo, Archaeologist
Phone: 360-432-3998
Email: sdinubilo@squaxin.us

Snoqualmie Indian Tribe
Adam Osbekoff, Cultural Resources Compliance Manager
Phone: 425-753-0388
Email: adam@snoqualmietribe.us

Duwamish Tribe
Nancy Sackman, Cultural Preservation Officer
Email: preservationdept@duwamishtribe.org

Implement the IDP if you see…

Chipped stone artifacts.

Examples are:

- Glass-like material.
- Angular material.
- “Unusual” material or shape for the area.
- Regularity of flaking.
- Variability of size.

Stone artifacts from Oregon.

Stone artifacts from Washington.

Biface-knife, scraper, or pre-form found in NE Washington. Thought to be a well knapped object of great antiquity. Courtesy of Methow Salmon Rec. Foundation.

Implement the IDP if you see…

Ground stone artifacts.

Examples are:

- Unusual or unnatural shapes or unusual stone.
- Striations or scratching.
- Etching, perforations, or pecking.
- Regularity in modifications.
- Variability of size, function, or complexity.

Above: Fishing Weight - credit CRITFC Treaty Fishing Rights website.

Artifacts from unknown locations (left and right images).

Implement the IDP if you see…

Bone or shell artifacts, tools, or beads.

Examples are:

- Smooth or carved materials.
- Unusual shape.
- Pointed as if used as a tool.
- Wedge shaped like a “shoehorn”.
- Variability of size.
- Beads from shell (dentalium) or tusk.

Upper Left:*Bone Awls from Oregon.*

Upper Center: *Bone Wedge from California.*

Upper Right: *Plateau dentalium choker and bracelet, from Nez Perce National Historical Park, 19th century, made using Antalis pretiosa shells Credit: Nez Perce - Nez Perce National Historical Park, NEPE 8762, Public Domain.*

Above: *Tooth Pendants. Right: Bone Pendants. Both from Oregon and Washington.*

Implement the IDP if you see…

Culturally modified trees, fiber, or wood artifacts.

Examples are:

- Trees with bark stripped or peeled, carvings, axe cuts, de-limbing, wood removal, and other human modifications.
- Fiber or wood artifacts in a wet environment.
- Variability of size, function, and complexity.

Left and Below: *Culturally modified tree and an old carving on an aspen (Courtesy of DAHP).*

Right, Top to Bottom: *Artifacts from Mud Bay, Olympia: Toy war club, two strand cedar rope, wet basketry*.

Implement the IDP if you see…

Strange, different, or interesting looking dirt, rocks, or shells.

Human activities leave traces in the ground that may or may not have artifacts associated with them. Examples are:

- "Unusual" accumulations of rock (especially fire-cracked rock).
- "Unusual" shaped accumulations of rock (such as a shape similar to a fire ring).
- Charcoal or charcoal-stained soils, burnt-looking soils, or soil that has a "layer cake" appearance.
- Accumulations of shell, bones, or artifacts. Shells may be crushed.
- Look for the "unusual" or out of place (for example, rock piles in areas with otherwise few rocks).

Shell Midden pocket in modern fill discovered in sewer trench.

Underground oven. Courtesy of DAHP.

Shell midden with fire cracked rock.

Hearth excavated near Hamilton, WA.

Implement the IDP if you see…

Historic period artifacts (historic archaeology considered older than 50 years).

Examples are:

- Agricultural or logging equipment. May include equipment, fencing, canals, spillways, chutes, derelict sawmills, tools, etc.
- Domestic items including square or wire nails, amethyst colored glass, or painted stoneware.

Left: Top to Bottom: *Willow pattern serving bowl and slip joint pocket knife discovered during Seattle Smith Cove shantytown (45-KI-1200) excavation.*

Right: *Collections of historic artifacts discovered during excavations in eastern Washington cities.*

Implement the IDP if you see…

Historic period artifacts (historic archaeology considered older than 50 years).

Examples are:

- Railway tokens, coins, and buttons.
- Spectacles, toys, clothing, and personal items.
- Items helping to understand a culture or identity.
- Food containers and dishware.

Main Image: *Dishes, bottles, workboot found at the North Shore Japanese bath house (ofuro) site, Courtesy Bob Muckle, Archaeologist, Capilano University, B.C. This is an example of an above ground resource.*

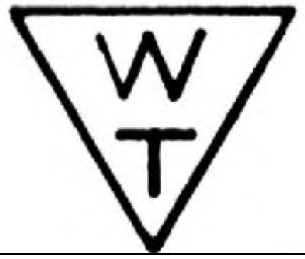
Right, from Top to Bottom: *Coins, token, spectacles and Montgomery Ward pitchfork toy discovered during Seattle Smith Cove shantytown (45-KI-1200) excavation.*

Implement the IDP if you see…

- Old munition casings – if you see ammunition of any type – ***always assume they are live and never touch or move!***
- Tin cans or glass bottles with an older manufacturer's technique – maker's mark, distinct colors such as turquoise, or an older method of opening the container.

Far Left: .303 British cartridge found by a WCC planting crew on Skagit River. Don't ever touch something like this!
Left: Maker's mark on bottom of old bottle.

Right: *Old beer can found in Oregon. ACME was owned by Olympia Brewery. Courtesy of Heather Simmons.*



Logo employed by Whithall Tatum & Co. between 1924 to 1938 (Lockhart et al. 2016).

Can opening dates, courtesy of W.M. Schroeder.

Implement the IDP if you see…

You see historic foundations or buried structures.

Examples are:

- Foundations.
- Railroad and trolley tracks.
- Remnants of structures.

Counter Clockwise, Left to Right: *Historic structure 45KI924, in WSDOT right of way for SR99 tunnel. Remnants of Smith Cove shantytown (45-KI-1200) discovered during Ecology CSO excavation, City of Spokane historic trolley tracks uncovered during stormwater project, intact foundation of historic home that survived the Great Ellensburg Fire of July 4, 1889, uncovered beneath parking lot in Ellensburg.*

Implement the IDP if you see...

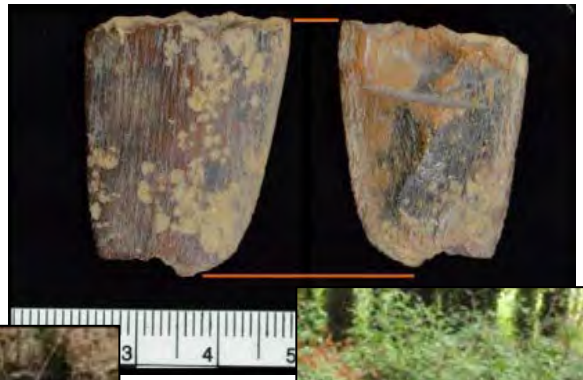
Potential human remains.

Examples are:

- Grave headstones that appear to be older than 50 years.
- Bones or bone tools--intact or in small pieces. It can be difficult to differentiate animal from human so they must be identified by an expert.
- These are all examples of animal bones and are not human.

Center: *Bone wedge tool, courtesy of Smith Cove Shantytown excavation (45KI1200).*

Other images (Top Right, Bottom Left, and Bottom) Center: Courtesy of DAHP.



Directly Above: This is a real discovery at an Ecology sewer project site.

What would you do if you found these items at a site? Who would be the first person you would call?

Hint: *Read the plan!*

APPENDIX D

Report Limitations and Guidelines for Use

REPORT LIMITATIONS AND USE GUIDELINES

Reliance Conditions for Third Parties

This report was prepared for the exclusive use of the Client. No other party may rely on this report or the product of our services without the express written consent of Aspect Consulting (Aspect). This limitation is to provide our firm with reasonable protection against liability claims by third parties with whom there would otherwise be no contractual conditions or limitations and guidelines governing their use of the report. Within the limitations of scope, schedule and budget, our services have been executed in accordance with our Agreement with the Client and recognized standards of professionals in the same locality and involving similar conditions.

Services for Specific Purposes, Persons and Projects

Aspect has performed the services in general accordance with the scope and limitations of our Agreement. This report has been prepared for the exclusive use of the Client and their authorized third parties, approved in writing by Aspect. This report is not intended for use by others, and the information contained herein is not applicable to other properties.

This report is not, and should not, be construed as a warranty or guarantee regarding the presence or absence of hazardous substances or petroleum products that may affect the subject property. The report is not intended to make any representation concerning title or ownership to the subject property. If real property records were reviewed, they were reviewed for the sole purpose of determining the subject property's historical uses. All findings, conclusions, and recommendations stated in this report are based on the data and information provided to Aspect, current use of the subject property, and observations and conditions that existed on the date and time of the report.

Aspect structures its services to meet the specific needs of our clients. Because each environmental study is unique, each environmental report is unique, prepared solely for the specific client and subject property. This report should not be applied for any purpose or project except the purpose described in the Agreement.

This Report Is Project-Specific

Aspect considered a number of unique, project-specific factors when establishing the Scope of Work for this project and report. You should not rely on this report if it was:

- Not prepared for you
- Not prepared for the specific purpose identified in the Agreement
- Not prepared for the specific real property assessed
- Completed before important changes occurred concerning the subject property, project or governmental regulatory actions

If changes are made to the project or subject property after the date of this report, Aspect should be retained to assess the impact of the changes with respect to the conclusions contained in the report.

Geoscience Interpretations

The geoscience practices (geotechnical engineering, geology, and environmental science) require interpretation of spatial information that can make them less exact than other engineering and natural science disciplines. It is important to recognize this limitation in evaluating the content of the report. If you are unclear how these "Report Limitations and Use Guidelines" apply to your project or site, you should contact Aspect.

Discipline-Specific Reports Are Not Interchangeable

The equipment, techniques and personnel used to perform an environmental study differ significantly from those used to perform a geotechnical or geologic study and vice versa. For that reason, a geotechnical engineering or geologic report does not usually address any environmental findings, conclusions or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Similarly, environmental reports are not used to address geotechnical or geologic concerns regarding the subject property.

Environmental Regulations Are Not Static

Some hazardous substances or petroleum products may be present near the subject property in quantities or under conditions that may have led, or may lead, to contamination of the subject property, but are not included in current local, state or federal regulatory definitions of hazardous substances or petroleum products or do not otherwise present potential liability. Changes may occur in the standards for appropriate inquiry or regulatory definitions of hazardous substance and petroleum products; therefore, this report has a limited useful life.

Property Conditions Change Over Time

This report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time (for example, Phase I ESA reports are applicable for 180 days), by events such as a change in property use or occupancy, or by natural events, such as floods, earthquakes, slope failure or groundwater fluctuations. If more than six months have passed since issuance of our report, or if any of the described events may have occurred following the issuance of the report, you should contact Aspect so that we may evaluate whether changed conditions affect the continued reliability or applicability of our conclusions and recommendations.

Phase I ESAs – Uncertainty Remains After Completion

Aspect has performed the services in general accordance with the scope and limitations of our Agreement and the current version of the “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process”, ASTM E1527, and U.S. Environmental Protection Agency (EPA)'s Federal Standard 40 CFR Part 312 "Innocent Landowners, Standards for Conducting All Appropriate Inquiries".

No ESA can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with subject property. Performance of an ESA study is intended to reduce, but not eliminate, uncertainty regarding the potential for environmental conditions affecting the subject property. There is always a potential that areas with contamination that were not identified during this ESA exist at the subject property or in the study area. Further evaluation of such potential would require additional research, subsurface exploration, sampling and/or testing.

Historical Information Provided by Others

Aspect has relied upon information provided by others in our description of historical conditions and in our review of regulatory databases and files. The available data does not provide definitive information with regard to all past uses, operations or incidents affecting the subject property or adjacent properties. Aspect makes no warranties or guarantees regarding the accuracy or completeness of information provided or compiled by others.

Exclusion of Mold, Fungus, Radon, Lead, and HBM

Aspect’s services do not include the investigation, detection, prevention or assessment of the presence of molds, fungi, spores, bacteria, and viruses, and/or any of their byproducts. Accordingly, this report does not include any interpretations, recommendations, findings, or conclusions regarding the detection, assessment, prevention or abatement of molds, fungi, spores, bacteria, and viruses, and/or any of their byproducts. Aspect’s services also do not include the investigation or assessment of hazardous building materials (HBM) such as asbestos, polychlorinated biphenyls (PCBs) in light ballasts, lead based paint, asbestos-containing building materials, urea-formaldehyde insulation in on-site structures or debris or any other HBMs. Aspect’s services do not include an evaluation of radon or lead in drinking water, unless specifically requested.