Contaminated Media Management Plan

701 South Jackson Street
Seattle, Washington

for
701 South Jackson Partners, LLC
c/o Housing Diversity Corp

May 16, 2023

GeoEngineers
Earth Science + Technology

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File No. 24504-001-01

May 16, 2023

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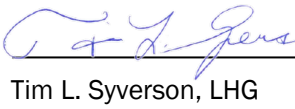

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1.0 INTRODUCTION

This document presents the Contaminated Media Management Plan (CMMP) to be utilized for the Seventh Avenue Service Site (Site) during upcoming earthwork activities associated with the redevelopment of the 0.31-acre property located at 701 South Jackson Street (Property) in the Chinatown-International District neighborhood of Seattle, Washington. Redevelopment plans for the Property include a new eight-story building with affordable housing and ground level commercial retail space. As part of the redevelopment, the existing buildings and structures will be demolished followed by Property-line to Property-line excavation of subsurface soils to a depth of approximately 15 to 20 feet below ground surface (bgs; Elevation 85 to 80 feet[1]) and subsequent construction of the new building.

Based on environmental investigations conducted between 1992 and 2022, soil in the central and western portions of the Property contain gasoline-range total petroleum hydrocarbons, benzene, toluene, ethylbenzene, and xylenes (BTEX) and naphthalene at concentrations greater than the Model Toxics Control Act (MTCA) cleanup levels (CULs) associated with the former gasoline service station and garage that historically operated at the Property between the 1930s and 1970s. Additionally, localized areas of the shallow fill soil imported to the Property during construction for the existing structures contain lead and carcinogenic polycyclic aromatic hydrocarbons (cPAHs) at concentrations greater than the MTCA CULs. As part of the selected cleanup action for the Site, contaminant containing soil will be removed from the Property during redevelopment for permitted off-Site disposal followed by confirmation sampling to document soil conditions at the final construction excavation limit. Because residual soil contamination will remain in place beneath portions of the 7th Avenue South and South Jackson Street Rights-of-Way (ROW) following construction, a vapor barrier will be included in the project design to prevent vapor intrusion by residual contaminants into the occupied spaces of the new building and protect the future residents and retail space workers. To facilitate cleanup as part of project construction, 701 S Jackson Partners, LLC (South Jackson Partners) entered a Prospective Purchaser Consent Decree (PPCD) No. 22-2-15886-7 SEA with the Washington State Department of Ecology (Ecology), and the Assistant Attorney General, Ecology Division (the AGO), to facilitate cleanup as part of project construction.

This CMMP has been developed to provide guidance for the construction team to recognize and manage known or potentially contaminated media that may be encountered during construction excavation. The CMMP also provides recommended handling and disposal procedures for this material. Data and observations during construction excavation, including additional subsurface characterization (as needed), will be used to ensure the proper management of generated materials. At the completion of the soil cleanup action, a Cleanup Action Report will be prepared to document the remedial actions completed and soil conditions at the final construction excavation limits.

The Property is shown relative to other surrounding physical features on the Vicinity Map, Figure 1. The layout of the Property and the proposed construction excavation area in relation to previous explorations locations are shown on Environmental Investigation Sampling Locations, Figure 2.

[1] Elevations in this document are referenced to North American Vertical Datum 1988 (NAVD88).

2.0 BACKGROUND

2.1. Location and Description

The Property is bounded by South Jackson Street to the north, 7th Avenue South to the west, a mixed-use retail and apartment building (currently vacant) to the south, and a restaurant building (House of Hong) to the east (Figure 2). The Property is currently developed with two single-story structures, including a former gasoline station building in the northwest portion and an "L"-shaped automobile repair garage along the east and south Property boundaries, and paved parking and drive areas. A small building on the southwest corner of the Property is currently used for a storage room for "New Century Tea Gallery". Other buildings on Property are currently vacant.

Surface grades at the Property range from an elevation of approximately 106 feet to approximately 93 feet. Surface grades slope toward the southwest.

2.2. Historical Land Use

Since redevelopment following the Jackson Street regrading project in 1927, the Property has been used for automobile repair and fueling services. During redevelopment, the large "L"-shaped building was constructed along the southern and eastern portions of the Property. As early as 1932, a gasoline service station was added to the northwest portion of the Property until sales of gasoline ceased in the 1970s. The former gasoline service station operations included two gasoline underground storage tanks (USTs) and an associated fuel dispenser/pump island, and vehicle service/repair. In 2010, the gasoline USTs associated with the service station were decommissioned and removed from the Property.

2.3. Geology and Hydrogeology

2.3.1. Local Geology

Soil encountered at the Site consists of fill overlying pre-Vashon deposits consisting of interbedded sand, gravel, silt, and poorly sorted mixtures that are of unspecified age and origin (Troost, et al. 2005). Based on the previous investigations completed at the Property, summarized in the Revised Remedial Investigation and Feasibility Study (RI/FS; GeoEngineers 2022), soil conditions at the Property generally consist of:

- **Fill** – Surficial fill was encountered in each exploration. The fill is approximately 4 to 7 feet thick, although fill may extend to depths of up to 10 feet bgs (elevation ranging from approximately 96 to 85 feet) at some exploration locations. The fill consisted primarily of silty fine to fine sand with silt containing occasional debris (concrete, plastic, metal and brick debris).
- **Glacial Deposits** – Interbedded fine sand with silt and clayey silt is present beneath the fill deposits to a depth of approximately 12 feet bgs. Fine to medium silty sand and sand with trace silt underlies the interbedded silt and clayey silt deposits to an approximate depth of 20 feet bgs (approximately Elevation 77 feet). Deposits from approximately 20 feet to the maximum depth explored (76.5 feet bgs; Elevation 22 feet) consist of fine sand with varying amounts of silt and clayey silt.

Exploration logs for the investigations completed at the Property detailing soil types encountered are presented in Appendix A.

2.3.2. Local Hydrogeology

Moist and/or wet soil interpreted as shallow perched groundwater was observed in 5 of the 25 explorations completed at the Site at depths ranging from approximately 12 to 20 feet (approximately Elevation 90 to 75 feet). Based on the investigation results, shallow perched groundwater may be present at the Property and surrounding area; however, the occurrence of this unit is likely discontinuous and not widespread.

The deep regional groundwater is present beneath the Property at a depth ranging from approximately 61 to 69 feet bgs (Elevation 31 to 34 feet NAVD88), based on depths to groundwater measured in one deep temporary monitoring well in the central portion of the Property, and two deep monitoring wells within the west adjacent ROW. Based on the proximity of the Property to surrounding surface water bodies (i.e., Puget Sound) and local topography, the inferred groundwater flow direction is to the west-southwest.

2.4. Environmental Conditions

Soil, groundwater and soil gas conditions based on the results of the previous environmental investigation activities indicate that soil in the central and western portions of the Property contain gasoline-range total petroleum hydrocarbons, BTEX, and naphthalene at concentrations greater than MTCA CULs between approximately 5 and 20 feet bgs (approximately Elevation 95 to 80 feet NAVD88). Additionally, localized areas of the shallow fill soil imported to the Property during construction for the existing structures contain lead (GEI-6) and carcinogenic polycyclic aromatic hydrocarbons (cPAHs; GEI-4) at concentrations greater than MTCA CULs at a depth of approximately 2.5 feet bgs. Other contaminants of potential concern including diesel- and heavy oil-range total petroleum hydrocarbons, volatile organic compounds (VOCs; not including BTEX), halogenated VOCs (HVOCs), metals (not including lead) and polychlorinated biphenyls (PCBs) either were not detected at concentrations greater than the laboratory reporting limits or were detected at concentrations less than the corresponding MTCA CULs.

Analytical results for groundwater samples collected from the deep regional groundwater unit (GEI-1, GEI-11 and GEI-12) indicate that contaminants either were not detected at concentrations greater than the laboratory reporting limits or were detected at concentrations less than the MTCA CULs.

The concentrations of total petroleum hydrocarbons (sum of EC5-8 aliphatics, EC9-12 aliphatics and EC9-10 aromatics) detected in shallow sub-slab vapor samples at locations SSV-1 and SSV-2 and deep sub-slab vapor sample locations SSV-2 and SSV-3 were greater than the MTCA Method B soil gas screening levels. In addition, the benzene, 1,2-Dibromoethane (EDB) and naphthalene concentrations were greater than the MTCA Method B soil gas screening values in shallow soil in the northern and southwestern portions of the Property.

Chemical analytical results for soil, groundwater and soil gas samples are summarized in Tables 1 through 3, respectively.

2.5. Regulatory Framework

The Site is listed by Ecology with Facility/Site No. 99187287 and Cleanup Site ID No. 11348 and has been identified as a Leaking Underground Storage Tank (LUST) site (LUST Release No. 592055) for benzene, naphthalene, and gasoline-range petroleum hydrocarbons confirmed in soil at concentrations greater than the MTCA CULs. As part of the planned redevelopment, South Jackson Partners entered a PPCD No. 22-2-15886-7 SEA with Ecology, and the AGO, to facilitate cleanup as part of project construction.

Prior to initiating the PPCD process, the Site was enrolled in Ecology's Voluntary Cleanup Program (VCP) to receive Ecology's technical advice and assistance on the independent RI/FS. The Site entered into the Expedited VCP on April 23, 2021 and was assigned a VCP No. XS0009. Ecology issued an Opinion Letter on May 25, 2022 on the independent RI/FS. Upon initiating the PPCD process, the VCP agreement governing No. XS0009 was terminated.

3.0 MATERIAL MANAGEMENT DURING CONSTRUCTION

Guidelines for material management during construction were developed based on the results of the previous investigations completed at the Site and are intended to provide guidance for the construction team for the recognition and management of known or previously unidentified contamination that may be encountered during construction excavation. The following sections (Sections 3.1 through 3.6) describe the recommended excavation approach, health and safety considerations, recommendations for the proper management of excavated soil for off-property disposal, and recommendations for equipment decontamination and construction stormwater management.

3.1. General Excavation Approach

Standard earthwork technologies will be used for demolition and removal of existing surface features and utilities (where occurring), as well as the installation of new utilities, building foundations and landscape features. Materials generated during construction, including soil, will be transported from the Property to facilities permitted to receive such waste streams.

Construction excavation at the Property will include removal of soil in stages as excavation activities proceed. Excavated soil is planned to be directly loaded into trucks for off-site disposal or temporarily stockpiled pending off-site disposal. The General Contractor will be responsible for developing means and methods for soil and stormwater management, equipment decontamination, and tracking waste streams during construction. During construction, GeoEngineers will assist with material management (see Section 3.2) based on existing chemical analytical data and physical evidence of contamination including color, staining, sheen and/or headspace vapors measured using a photoionization detector (PID). Confirmation soil sampling and field screening methods are further described in Section 4.0.

As noted above, recommendations in this plan are based on the results of the environmental investigations conducted to date, historical land use and geologic and hydrogeologic conditions at the Property as described in Section 2.0.

3.2. Material Management Units

Based on previous environmental investigation results, three material management units are identified to guide the General Contractor and/or Earthwork Contractor (collectively "Contractor") during soil excavation activities to ensure the proper handling and disposal of each waste stream to comply with applicable solid waste regulations. Each management unit corresponds to a different soil category (i.e., Category 1 through 3) with specific handling and disposal protocols. The protocols for each category are summarized in the following sections (Sections 3.2.1 through 3.2.3).

The distinction between the materials management units for construction excavation is based on the results of environmental investigations performed at the Property to date. The materials management areas are shown graphically on Figures 3 through 12.

3.2.1. Category 1 Soil

Category 1 soil is recommended for transport and disposal to an owner-approved fill location following the protocols presented in Section 3.3. Soil in Category 1 has each of the following characteristics:

- Physical evidence of contamination (sheen, odor, staining, etc.) is **not** observed;
- Contaminant concentrations are not detected except for metals; and
- Metals are detected at concentrations that are less than natural background concentrations for Puget Sound region (Natural Background; Ecology 1994).

Soil classified as Category 1 does not require special handling and may be re-used on site or transported and disposed of at an owner-approved fill site. The Contractor should provide information regarding the environmental conditions at the Category 1 receiving facility to the owner with sufficient time for document/records review of the facility to determine if the proposed Category 1 receiving facility is acceptable for use for the 701 South Jackson Street redevelopment project. In addition, the owner of the fill site will provide a written confirmation to accept the material as-is with an acknowledgement that the soil may contain contaminants such as low concentrations of metals at or below background levels.

The Contractor will identify and implement Best Management Practices (BMPs) to minimize the potential for cross-contamination of Category 1 soil with other soil categories during excavation, handling, stockpiling, loading and transport. At a minimum, these practices should include minimizing the tracking of construction equipment between areas of different soil categories, and minimizing contact between excavated Category 2 and/or 3 soils (further discussed below). If temporary soil stockpiles are required to manage excavated Category 2 and/or 3 soil, plastic sheeting will be used to provide a contact/visual barrier beneath the load-out piles when there is a potential for cross-contaminating Category 1 soil. In the event that Category 2 and/or 3 soil comes into contact with the underlying Category 1 soil, the Contractor will over-excavate these areas in coordination with field guidance provided by GeoEngineers and dispose of the soil at an appropriate permitted disposal facility.

3.2.2. Category 2 Soil

Category 2 soil contains residual contaminants at concentrations greater than Natural Background levels but less than MTCA CULs. Category 2 soil will be transported to a controlled and permitted landfill such as Cadman in Everett, Washington, and/or other owner-approved landfill following the protocols presented in Section 3.3. Soil defined by Category 2 has the following characteristics:

- Physical evidence of contamination (sheen, odor, staining, etc.) is **not** observed;
- Metals are detected at concentrations that are greater than Natural Background (Ecology 1994); and
- Contaminant concentrations are **less** than MTCA CULs.

Special handling and end-use considerations are required for soil classified as a Category 2 soil, including:

- **Soil Excavation and Segregation** – Soil classified by this category should be segregated by the Contractor from other soil categories to prevent co-mingling of Category 2 soil with other soil categories.
- **Loading and/or Temporary Stockpiling of Category 2 Soil** – Category 2 soil may either be loaded directly into trucks for off-site permitted disposal or may be temporarily stockpiled on asphalt surfaces

or plastic sheeting (Visqueen or similar) to separate this material from other soil categories while pending end-use/disposal. Plastic sheeting or other BMPs (as necessary) should be employed to prevent wind erosion, water erosion and/or the off-site release of stockpiled material.

- **Transport and Disposal Facilities** – Category 2 soil that is generated from the Property must be transported to the selected disposal facility following applicable state and federal regulations. The Contractor must employ BMPs to prevent the tracking of Category 2 soil off Property. Prior to transport from the Property, waste disposal acceptance must be obtained from the receiving facility.
- **Off-Site Reuse Alternative to Disposal** – Excavated Category 2 soil can be transported to a receiving facility that is prequalified by the owner and has been provided with the chemical analytical results and agrees in writing to accept the material as-is with an acknowledgement that the soil may contain contaminants at low concentrations, less than MTCA CULs.

3.2.3. Category 3 Soil

Category 3 soils contain residual contamination at concentrations greater than MTCA CULs. Material under this category is subject to permitted disposal at a landfill following the protocols presented in Section 3.3 and has the following characteristics:

- Physical evidence of contamination (sheen, odor, staining, etc.) may or may not be present; and
- Contains one or more contaminants with a detected concentration greater than the MTCA CULs.

Special handling and end-use considerations are required for the excavation and disposal of Category 3 soil, including:

- **Soil Excavation and Segregation** – A GeoEngineers' representative will be present to oversee Category 3 soil excavation activities to field screen soil and assist the General Contractor and/or Earthwork Contractor in soil segregation. Field screening methods are described in Section 4.2. The Contractor must employ BMPs to prevent cross-contamination with other soil categories as identified above.
- **Loading and/or Temporary Stockpiling of Category 3 Soil** – Category 3 soil may either be loaded directly into trucks for off-site permitted disposal or may be temporarily stockpiled on asphalt surfaces or plastic sheeting (Visqueen or similar) to separate this material from other soil categories while pending end-use/disposal. Plastic sheeting or other BMPs (as necessary) should be employed to prevent wind erosion, and/or water erosion and/or the off-site release of stockpiled material.
- **Transport and Disposal Facilities** – Category 3 soil that is generated from the Property must be transported to the selected disposal facility in accordance with applicable solid waste regulations. The Contractor must employ BMPs to prevent the tracking of Category 3 soil off the Property. Prior to transport from the Property, waste disposal acceptance must be obtained from the receiving facility. Potential disposal facilities appropriate to receive Category 3 soil include but are not limited to:
    - Waste Management's Columbia Ridge Landfill in Arlington, Oregon. Waste Management operates a transfer station (Alaska Street Transfer Station) for this landfill in Seattle, Washington.
    - Republic Service's Rabanco-Roosevelt Subtitle D Landfill located in Klickitat County, Washington via local transfer stations.

- **Confirmation Soil Sampling** – As discussed in Section 4.1, confirmation soil samples will be obtained from the excavation base and sidewalls to verify the removal of Category 3 soil. Soil samples will be submitted for laboratory chemical analysis on a rush (2-business-day) turnaround time (TAT). In general, sidewall confirmation soil samples will be collected at a minimum frequency of one per approximately 40 linear feet of excavation sidewall. If the perimeter of the excavation sidewall is less than 40 linear feet, a minimum of one confirmation sample will be collected from each sidewall. Base confirmation samples will be collected at a minimum frequency of one per approximately 625 square feet. The confirmation soil samples will be analyzed to verify the removal of soil with concentrations of the contaminants of concern, including gasoline-range total petroleum hydrocarbons (TPH-G), BTEX, lead, naphthalenes and/or cPAHs, greater than the MTCA CULs.

3.3. Recommendations for Soil Handling and Disposal

The recommendations that follow pertain to Category 2 and 3 soil and have been established for soil that will be generated during construction to ensure proper handling and disposal. To track these waste streams leaving the Property, the Contractor will be required to develop and maintain procedures and protocols to track Category 2 and 3 soil loads transported from the Property for disposal. Trucking records must include:

- Trucking company;
- Truck number;
- Solo or truck and trailer loaded;
- Driver name;
- Name of disposal facility; and
- Material Management Unit being transported.

The Contractor will also be required to provide documentation of delivery of all generated materials to the selected disposal facility(s).

It is generally anticipated that soil will be transported to the disposal facilities without stockpiling or performing additional chemical testing before transport off-site (i.e., dig and haul approach). However, opportunities to conduct additional soil characterization during construction will be evaluated to potentially recategorize materials generated by excavation in areas not previously sampled or where existing soil data are limited. Additionally, soil characterization will be performed during construction if previously unidentified physical evidence of soil contamination is encountered within a material management unit. Previously unidentified soil with physical evidence of contamination must remain on the Property (i.e., contained within a soil stockpile or remain in-place and undisturbed) so that soil sampling and chemical analyses can be completed to characterize the waste stream and to ensure proper material handling.

3.4. Recommendations for Equipment Decontamination

The Contractor will be required to decontaminate equipment that has come into contact with Category 2 and 3 soil to prevent cross-contamination between the material management units. Equipment decontamination shall include, at a minimum, removing (by brushing or shaking) residual soil which exhibits odors, staining or sheen from excavation equipment. If free product (i.e., diesel, oil, gasoline, etc.) is encountered during excavation, equipment decontamination shall include pressure-washing with collection

and containment of all washing liquids. Decontamination fluids shall be contained by the Contractor and tested prior to discharge to the sewer or off-site treatment/disposal facility. Decontamination of trucks leaving the Property and proper disposal of decontamination fluids are the responsibility of the Contractor.

3.5. Recommendations for Construction Dewatering Effluent Handling

Discontinuous lenses of perched water were observed in previous environmental explorations at depths ranging from approximately 12 to 20 feet (approximately Elevation 90 to 75 feet NAVD88). Additionally, deep regional groundwater was encountered in previous explorations GEI-1, GEI-11 and GEI-12 at depths greater than 61 feet bgs (approximately Elevation 31 to 34 feet NAVD88; see Table 2). Based on the measured groundwater elevations of the deep regional groundwater unit relative to the planned construction excavation subgrade elevation, this groundwater unit will not be encountered.

If the seepage of groundwater or accumulation of stormwater requires removal during construction, we assume that the Contractor will obtain the necessary discharge permits to the City of Seattle (City) sanitary sewer and that if needed, have a system/equipment on site to store, test, and treat water prior to discharge into the sanitary sewer as required by the discharge permit.

If groundwater and/or stormwater comes into contact with contaminated soil, we recommend that water samples from the influent (upstream) and effluent (discharge) ends of the system be obtained for chemical analytical testing to document analyte/contaminant concentrations in both untreated (upstream) water and settled/treated water prior to the point of discharge to the sewer system. Water quality testing results will need to be compared to the specific discharge limits that will be listed in the discharge authorization for the project. It is the Contractor's responsibility to check and verify that the settled/treated dewatering effluent complies with all limits listed in the discharge authorization.

3.6. Recommendations for Buried Debris

Structures associated with the former service station and garage will be demolished and removed from the Property prior to excavation. However, foundations associated with these structures may still be present. If encountered, these foundations must be broken into manageable-sized pieces, stockpiled and transported from the Property to a recycling facility permitted to receive such material only if the material does not exhibit evidence of contamination (i.e., staining) and is free of excess soil. If evidence of contamination (i.e., staining) is present or the concrete debris cannot be efficiently cleaned of excess soil, the debris must be transported from the Property for permitted disposal in accordance with the protocols established in Section 3.2.

Additionally, wood and/or other debris (i.e., brick, metal, glass, etc.) encountered during construction that is not suitable for recycling must be removed from the Property for permitted disposal.

3.7. Recommendations for Monitoring/Water Resource Well Decommissioning

Monitoring wells GEI-11 and GEI-12 are located in the west adjacent right-of-way (west of the construction excavation area) and must be protected in-place. If these wells cannot be protected in-place, they must be decommissioned by a Washington-licensed driller in accordance with Ecology requirements (WAC 173-160-460) prior to any disturbance. If these wells are decommissioned, replacement wells will be installed at or near the current well locations to facilitate future groundwater monitoring.

3.8. Recommendations for Health and Safety

Occupational and Safety Health Act (OSHA; 29 CFR 1910, 1926) and the Washington Industrial Safety and Health Act (WISHA; RCW 49.17) are applicable to personnel coming into contact with contaminated (i.e., Category 3) soil. These regulations include requirements that workers are to be protected from exposure to contaminants. In addition, personnel working in these areas shall meet requirements for Hazardous Waste Operations and Emergency Response (HAZWOPER) Training in accordance with WAC 296-843.

Based on the nature of the contaminants present at the Site and Property (i.e., volatile organics including gasoline and benzene), an air monitoring plan should be developed by the Contractor for all project phases with shoring, excavation, trenching, and demolition in soils known to contain volatiles to ensure that no employees or surrounding residence are exposed to airborne concentrations above permissible exposure levels. If air monitoring determines that employees or the community are exposed to airborne concentrations at or above the permissible exposure levels, work should be halted, work/safety procedures modified as appropriate, and the activity associated with the exposure re-engineered to lower the threat of exposure.

A site-specific Health and Safety Plan (HASP) describing actions that will be taken to protect the health and safety of GeoEngineers personnel (South Jackson Partners' environmental construction oversight consultant) is presented as Appendix B. A separate HASP should be developed by the Contractor, specifically for, and limited to, the portions of the project in which known contaminated soil is present. The Contractor's HASP should be used consistent with their health and safety program and those of their subcontractors, and as the foundation for training personnel on site. The GeoEngineers and Contractor HASPs should be considered as "living" documents and should be re-evaluated and updated periodically as needed in light of work progression and changing conditions.

4.0 SOIL SAMPLING AND ANALYSIS

4.1. Confirmation Sampling – Category 3 Soil

Soil confirmation samples will be collected by GeoEngineers field personnel from the base and sidewalls of the remedial excavation to verify the removal of Category 3 soil (i.e., soil in which pre-construction data and/or field screening indicate evidence of the presence of one or more contaminants at a concentration greater than the MTCA CUL). Soil samples from the base of the excavation will be collected at a minimum frequency of one sample per approximately 625 square feet. If the area of the base is less than 625 square feet, a minimum of one base sample will be obtained. Sidewall samples will be collected at a minimum frequency of one sample per approximately 40 linear feet of sidewall along the perimeter of the excavation. If the perimeter of the excavation sidewall is less than 40 linear feet, then one confirmation sample will be collected from each sidewall of the excavation. Sidewall samples will be collected at a depth where field screening evidence of contamination is the highest, and/or based on depths of previous soil sample results. Field screening procedures are presented in Section 4.3. If the sidewall does not have field screening evidence of contamination, the sidewall will be collected at the midpoint depth. If a sidewall or base confirmation soil sample within the property boundary contains one or more contaminants at a concentration greater than the MTCA CUL (see Table 1), additional excavation will be performed to remove soil represented by that sample and a new confirmation sidewall or base sample obtained to verify compliance with the cleanup levels. Additional excavation to remove soil containing contaminants at

concentrations greater than the MTCA CUL will not be performed beyond the property boundary (i.e., into portions of the South Jackson Street and 7th Avenue ROWs).

Soil samples will be collected by GeoEngineers' field personnel using a clean pair of nitrile gloves and placed in clean laboratory provided containers for chemical analysis. Reusable sampling equipment (if used) will be decontaminated prior to sample collection at each location (Section 4.4). Each sample container will be securely capped, labeled, and placed in a cooler with ice immediately upon collection. Samples for volatile analyses (NWTPH-Gx and Environmental Protection Agency [EPA] Method 8260) will be collected as discrete samples at a minimum of 6 inches below the surface of the base or sidewall in accordance with EPA 5035A sampling methods. Samples for non-volatile analysis will be collected from a minimum of 6 inches below the surface and homogenized prior to placing into the laboratory container. GeoEngineers' field representative will visually classify the soils in accordance with ASTM International (ASTM) Method D 2488 (Standard Practice for Description and Identification of Soils [Visual Manual Procedure]) and record soil descriptions and other relevant field screening details (e.g., staining, debris, odors, etc.) in the field log. Sample container, labeling, and handling procedures are described in Sections 4.5 and 4.6.

Chemical analysis will be performed at an Ecology accredited laboratory. Chain-of-custody forms will be used to document the transfer of samples during transport and submittal of samples to the laboratory. The following analysis will be performed on confirmation soil samples to verify the removal of petroleum-related contaminants resulting from historical gasoline service station operations:

- Gasoline-range total petroleum hydrocarbons (TPH) by EPA Method NWTPH-Gx
- BTEX by EPA Method 8260
- Naphthalenes by EPA Method 8270

In addition, confirmation soil samples will be collected to verify the removal of lead-containing soil previously identified in fill at location GEI-4 at an approximate depth of 2.5 feet bgs, and to verify the removal of cPAHs previously identified in fill soil at location GEI-6 at an approximate depth of 2.5 feet bgs. Lead will be analyzed by EPA 6000/7000 method series and cPAHs will be analyzed by EPA Method 8270 SIM.

Confirmation soil samples collected to document contaminant conditions that will be left in place within the South Jackson Street and/or 7th Avenue ROW will be analyzed at a standard (7 to 10 days) turn-around-time (TAT) or as determined based on field conditions. Confirmation soil samples collected to verify compliance with MTCA CULs will be analyzed on an expedited 2-day TAT to support decision-making in the field concerning any additional excavation that may be required to achieve compliance with the cleanup levels. Confirmation soil samples will be subject to an EPA defined Stage 2B data validation and submitted to Ecology's Environmental Information Management (EIM) database.

4.2. Additional Soil Characterization

Additional characterization will be conducted during construction to verify the contact with the native soil beneath the base of the fill (i.e., Category 2 Soil) to document the vertical and/or lateral extent of Category 2 soil for proper material management as necessary to support construction, or if areas of previously unidentified suspect contaminant-containing soil are discovered. Characterization will include collection of

soil samples from the base and/or sidewalls of the excavation areas completed to remove these materials. Soil samples will be analyzed for a combination of the following as appropriate:

- Gasoline-range TPH by method NWTPH-Gx
- Diesel- and oil-range TPH by method NWTPH-Dx
- BTEX by EPA method 8260
- Naphthalenes and cPAHs by EPA method 8270
- Metals by EPA 6000/7000 series

To the extent practicable, the samples will be analyzed on a short turnaround (i.e., 2-day or less) basis to allow timely decision-making regarding the need for further excavation to verify the presence and potential removal of the impacted soil.

4.3. Field Screening Procedures

The potential presence of contamination in soil samples will be evaluated using field screening techniques. Field screening results will be recorded on the field logs and the results will be used as a general guideline to delineate areas of possible contamination and/or to segregate soil. In addition, screening results will be used as a basis for selecting soil samples for chemical analysis. The following screening methods will be used: (1) visual screening; (2) water sheen screening; and (3) headspace vapor screening.

4.3.1. Visual Screening

The soil will be observed for unusual color and stains and/or odor indicative of possible contamination.

4.3.2. Water Sheen Screening

This is a qualitative field screening method that can help identify the presence or absence of petroleum hydrocarbons. A portion of the soil sample will be placed in a pan containing distilled water. The water surface will be observed for signs of sheen. The following sheen classifications will be used:

Classification	Identifier	Description
No Sheen	NS	No visible sheen on the water surface
Slight Sheen	SS	Light, colorless, dull sheen; spread is irregular, no rapid; sheen dissipates rapidly
Moderate Sheen	MS	Light to heavy sheen; may have some color/iridescence; spread is irregular to flowing, may be rapid; few remaining areas of no sheen on the water surface
Heavy Sheen	HS	Heavy sheen with color/iridescence; spread is irregular to flowing, may be rapid; few remaining areas of no sheen on the water surface

4.3.3. Headspace Vapor Screening

This is a semi-quantitative field screening method that can help identify the presence or absence of VOCs in soil samples. A portion of the soil sample will be placed in a resealable plastic bag. The bag will then be sealed capturing air in the bag. The bag is then shaken gently to expose the soil to the air trapped in the bag. The bag will remain closed for approximately 5 minutes at ambient temperature before the headspace vapors are measured. Vapors present within the sample bag's headspace will be measured by inserting the

probe of a PID through a small opening in the bag, taking care not to clog the probe with soil. The maximum PID reading (in parts per million [ppm]) and the ambient air temperature will be recorded on the field log for each sample. The PID will be calibrated daily to 100 ppm isobutylene in accordance with the manufacturer's recommendations. No portions of a soil sample used for headspace screening will be submitted to the laboratory for chemical analysis.

4.4. Sample Collection and Decontamination Procedures

Soil samples will be collected using excavation equipment (i.e., backhoe or excavator), and/or hand tools including stainless steel spoons. Reusable sampling equipment that comes in contact with soil will be decontaminated before each use. Decontamination procedures for this equipment will consist of the following:

1. Washing with a brush and non-phosphate detergent solution (e.g., Liqui-Nox and distilled water); and
2. Rinsing with distilled water

Field personnel will limit cross-contamination by changing gloves between sampling locations.

4.5. Sample Containers and Labeling

Soil samples will be placed in appropriate laboratory-prepared containers. Sample containers will be labeled with the following information at the time of sample collection:

- Project name and number;
- Type of sample preservative used (where applicable);
- Sample name, which will include a reference to date and sampling depth (if applicable); and
- Date and time of collection.

4.6. Chain-of-Custody Records

Chain-of custody (COC) forms will be completed for each group of samples being shipped to the laboratory. Information to be included on the COC form includes:

- Project name and number;
- Sample identifications;
- Date and time of sampling;
- Sample matrix (soil and groundwater), preservative and number of containers for each sample;
- Analyses to be performed;
- Names of sampling personnel;
- Project manager name and contact information including phone number; and
- Shipping information including shipping container number, if applicable.

The original COC form will be signed by a member of the field team. Field personnel will retain copies and place the original and remaining copies in a plastic bag. The plastic bag containing the COC form will be placed in the cooler before sealing the cooler for transport to the laboratory.

5.0 DISCOVERY OF PREVIOUSLY UNIDENTIFIED ENVIRONMENTAL CONDITIONS

5.1. Discovery of Potentially Contaminated Soil

Excavated soil encountered at any location on the Property will be considered to be contaminated if it exhibits one or more of the following physical characteristics:

- Staining;
- Petroleum hydrocarbon odors;
- Produces a sheen when coming into contact with water; and/or
- Contains significant concentrations of organic vapors detected using headspace field screening methods.

If soil exhibiting one or more of the above characteristics is discovered in portions of the Property not previously characterized, the Contractor should stop excavation and key personnel identified in Section 5.4 notified so that the nature and extent of the discovery can be evaluated, and the soil characterized for disposal.

5.2. Discovery of a Previously Undocumented UST

If an undocumented UST is encountered at the Property, excavation activities should be halted, and the key personnel identified in Section 5.4 notified so that the contents of the UST can be evaluated, and the surrounding soil evaluated for evidence of a release.

If encountered, UST removal activities will generally consist of the following:

- The Contractor will subcontract a Washington State Certified UST Removal subcontractor to complete the UST testing and removals.
- The subcontracted UST removal contractor will complete and submit the required 30-day Notification and Request for a Waiver paperwork to Ecology. The Request for Waiver paperwork will be completed so the UST can be removed as soon as the construction schedule allows, prior to the 30-day waiting period following discovery required by Ecology.
- A GeoEngineers' environmental representative registered as a Washington State UST Site Assessor will observe and document the removal of the USTs in general accordance with WAC 173-360 and Ecology's "Guidance for Site Checks and Site Assessments for Underground Storage Tanks" dated February 1991 and revised in January 2021.
- GeoEngineers will obtain soil samples for field screening and chemical analysis to evaluate soil conditions, determine if a release has occurred, and characterize the contents of the UST.

5.3. Discovery of Unexpected Construction Wastewater

Based on the limited and discontinuous nature of perched groundwater at the Property, it is assumed that excavation dewatering will not be conducted for construction purposes. However, if perched groundwater seeps into the excavation at volumes that require removal from the excavation for on-site containment before discharge/disposal, the Contractor shall coordinate and obtain the necessary wastewater discharge permits with local agencies as described in Section 3.5.

5.4. Inadvertent Discovery of Cultural Resources

An Inadvertent Discovery Plan (IDP) has been prepared using Ecology's IDP form to outline procedures that will be followed in the event that cultural materials or human remains are discovered during the earthwork activities associated with the Property. The IDP is presented in Appendix C.

5.5. Contact Information for Key Project Personnel

If potentially contaminated soil previously not identified, undocumented USTs, or potentially contaminated construction wastewater is encountered during construction, it is the Contractor's responsibility to notify key project personnel as soon as practicable.

The following table presents contact information for key personnel for the 701 South Jackson Street redevelopment project.

KEY PROJECT CONTACTS

Name	Title	Phone	Email
GeoEngineers, Inc.			
Robert Trahan	Environmental Project Manager – Primary Contact	206.240.2300 (c) 206.239.3253 (o)	rtrahan@geoengineers.com
Tim Syverson	Environmental Associate	206.605.9236 (c) 206.448.4197 (o)	tsyverson@geoengineers.com
South Jackson Partners			
Brad Padden	Founder and CEO	425.209.8774 (o)	brad@housingdiversity.com
Robert Tiscareno	Real Estate Analyst	206.915.9702 (o)	robertt@housingdiversity.com
STS Construction Services			
Craig Haveson	General Contractor	206.439.6343 (o) 206.510.8787 (c)	craigh@stsconst.com
Washington State Department of Ecology			
Jing Song	Site Manager	425.229.2565 (o)	jing.song@ecy.wa.gov
Andrew Imke	UST Inspector	425.457.3142 (o)	andrew.imke@ecy.wa.gov

6.0 LIMITATIONS

This CMMP has been prepared for use by 701 S Jackson Partners, LLC and their authorized agents. Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted environmental science practices in this area at the time this report was prepared. No warranty or other conditions, express or implied, should be understood.

Any electronic form, facsimile or hard copy of the original document (email, text, table and/or figure), if provided, and any attachments are only a copy of the original document. The original document is stored by GeoEngineers, Inc. and will serve as the official document of record.

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

7.0 REFERENCES

GeoEngineers Inc. (GeoEngineers) 2022. Remedial Investigation/Feasibility Study, 701 South Jackson Property, Seattle, Washington. prepared for 701 S Jackson Partners, LLC c/o Housing Diversity Corp. September 19, 2022.

Washington State Department of Ecology (Ecology). 1997. Natural Background Soil Metals Concentrations in Washington State. Publication No. 94-115. October.

Table 1

Summary of Soil Investigation Chemical Analytical Data

701 South Jackson Street

Seattle, Washington

Sample Location[1]	MTCA Cleanup Levels[3]	Natural Background[4]	H-1	H-2	H-3	B-1		B-3		B-4	
Sample Identification			H-1-12.5	H-2-7.5	H-3-7.5	B-1-5	B-1-12.5	B-3-10	B-3-12.5	B-4-9	B-4-14
Sampled By			GeoGroup	GeoGroup	GeoGroup	GeoGroup	GeoGroup	GeoGroup	GeoGroup	GeoGroup	GeoGroup
Sample Date			08/03/92	08/03/92	08/03/92	02/01/06	02/01/06	02/01/06	02/01/06	02/02/06	02/02/06
Sample Depth (feet bgs)			12.5	7.5	7.5	5.0	12.5	10.0	12.5	9.0	14.0
Petroleum Hydrocarbons by NWPTH-Gx/NWTPH-Dx (mg/kg)											
Gasoline-Range	30	NE	**6,000**	**1.6**	**1,400**	**16**	**12,000**	**1,300**	13 U	10 U	**8,300**
Diesel-Range	2,000	NE	--	--	--	28 U	**560**	30 U	27 U	28 U	**280**
Lube Oil-Range	2,000	NE	--	--	--	57 U	62 U	60 U	54 U	55 U	62 U
Volatile Organic Compounds (VOCs) by EPA 8021/8260 (mg/kg)											
Benzene	0.03	NE	**4**	0.05 U	**0.31**	0.020 U	**17**	**1.8**	**0.093**	**0.38**	**15**
Toluene	7	NE	**55**	0.05 U	**1.9**	0.047 U	**7.2**	**4.5**	**0.39**	**0.21**	**35**
Ethylbenzene	6	NE	**66**	0.05 U	**6.2**	0.047 U	**210**	**12**	**0.19**	**0.12**	**100**
Total Xylenes	9	NE	**330**	0.05 U	**16**	**0.061**	**860**	**35.4**	**1.08**	**0.19**	**440**
1,2 Dibromoethane (EDB)	0.005	NE	--	--	--	--	--	--	0.057 U	--	1.1 U
1,2 Dichloroethane (EDC)	1	NE	--	--	--	--	--	--	0.057 U	--	1.1 U
Methyl tertiary-butyl ether (MTBE)	0.1	NE	--	--	--	--	--	--	0.057 U	--	1.1 U
other VOCs[5]	varies	NE	--	--	--	--	--	--	**Detected**	--	**Detected**
Total Metals by EPA 6000 series (mg/kg)											
Arsenic	20	7	--	--	--	--	--	--	--	--	--
Barium	16,000	NE	--	--	--	--	--	--	--	--	--
Cadmium	2	1	--	--	--	--	--	--	--	--	--
Total Chromium	2,000	48	--	--	--	--	--	--	--	--	--
Lead	250	24	1.5	2.2	3.8	--	--	--	--	--	--
Mercury	2	0.07	--	--	--	--	--	--	--	--	--
Selenium	400	NE	--	--	--	--	--	--	--	--	--
Silver	400	NE	--	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (PAHs) by EPA 8270D/SIM (mg/kg)											
Acenaphthene	4,800	NE	--	--	--	--	--	--	--	--	--
Acenaphthylene	NE	NE	--	--	--	--	--	--	--	--	--
Anthracene	24,000	NE	--	--	--	--	--	--	--	--	--
Benzo[a]anthracene	NE	NE	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene	0.1	NE	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	NE	NE	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	NE	NE	--	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	NE	NE	--	--	--	--	--	--	--	--	--
Chrysene	NE	NE	--	--	--	--	--	--	--	--	--
Dibenzo(a,h)anthracene	NE	NE	--	--	--	--	--	--	--	--	--
Fluoranthene	3,200	NE	--	--	--	--	--	--	--	--	--
Fluorene	3,200	NE	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	NE	NE	--	--	--	--	--	--	--	--	--
Naphthalenes	5	NE	--	--	--	--	--	--	--	--	--
Phenanthrene	NE	NE	--	--	--	--	--	--	--	--	--
Pyrene	2,400	NE	--	--	--	--	--	--	--	--	--
cPAHs TEQ[6]	0.1	NE	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls (PCBs) by EPA 8082 (mg/kg)											
Aroclor 1016	NA	NE	--	--	--	--	--	--	--	--	--
Aroclor 1221	NA	NE	--	--	--	--	--	--	--	--	--
Aroclor 1232	NA	NE	--	--	--	--	--	--	--	--	--
Aroclor 1242	NA	NE	--	--	--	--	--	--	--	--	--
Aroclor 1248	NA	NE	--	--	--	--	--	--	--	--	--
Aroclor 1254	NA	NE	--	--	--	--	--	--	--	--	--
Aroclor 1260	NA	NE	--	--	--	--	--	--	--	--	--
Total PCBs	1.0	NE	--	--	--	--	--	--	--	--	--

Notes:

[1] Approximate exploration locations shown on Figure 2.

[2] Boring Advanced at an angle of 25 digress from vertical.

[3] Washington State Model Toxic Control Act Cleanup Regulation (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses. MTCA Method B cleanup level used when Method A cleanup level has not been established.

[4] Natural Background soil concentration per Ecology Publication 94-115 (Ecology 1994).

[5] Refer to Appendix B for a full list of compounds analyzed and their results.

[6] Total carcinogenic PAHs (cPAHs) calculated using the toxicity equivalency (TEQ) methodology in WAC 173-340-708(8). Non-detections were assigned half the reporting limit for these calculations.

bgs = below ground surface

mg/kg = milligram per kilogram

Farallon = Farallon Consulting

Landau = Landau Associates

EAI = Environmental Associates, Inc.

GeoGroup = GEO Group Northwest, Inc.

GEI = GeoEngineers Inc.

NA = Not Applicable

NE = Not Established

"--" = not tested

ND = Not Detected

U = Analyte not detected above the reported sample quantization limit

Bold indicates analyte was detected.

Shading indicates analyte was detected at a concentration greater than the Natural Background but less than MTCA soil cleanup level.

Shading indicates analyte was detected at a concentration greater than the MTCA soil cleanup level.

Table 1

Summary of Soil Investigation Chemical Analytical Data

701 South Jackson Street

Seattle, Washington

Sample Location[1]	MTCA Cleanup Levels[3]	Natural Background[4]	UST-1				UST-2				B-1-11
Sample Identification			UST-1-B-12	UST-1-N-8/W-6	UST-1-S-8/E-8	UST-1-OB	UST-2-B-12	UST-2-OB	UST-2-N-8/W-6	UST-2-S-8/E-8	B-1 S-5
Sampled By			EAI	EAI	EAI	EAI	EAI	EAI	EAI	EAI	Landau
Sample Date			11/02/10	11/02/10	11/02/10	11/02/10	11/02/10	11/02/10	11/02/10	11/02/10	11/11/11
Sample Depth (feet bgs)			12.0	6	8.0	Stockpile	12.0	Stockpile	6	8.0	12.5
Petroleum Hydrocarbons by NWPTH-Gx/NWTPH-Dx (mg/kg)											
Gasoline-Range	30	NE	**110**	2 U	**37**	2 U	2 U	2 U	2 U	2 U	**24,000**
Diesel-Range	2,000	NE	--	--	--	--	--	--	--	--	120 U
Lube Oil-Range	2,000	NE	--	--	--	--	--	--	--	--	50 U
Volatile Organic Compounds (VOCs) by EPA 8021/8260 (mg/kg)											
Benzene	0.03	NE	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	**110**
Toluene	7	NE	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	**1,700**
Ethylbenzene	6	NE	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	**470**
Total Xylenes	9	NE	**0.34**	0.06 U	**1.4**	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	**2,400**
1,2 Dibromoethane (EDB)	0.005	NE	--	--	--	--	--	--	--	--	--
1,2 Dichloroethane (EDC)	1	NE	--	--	--	--	--	--	--	--	--
Methyl tertiary-butyl ether (MTBE)	0.1	NE	--	--	--	--	--	--	--	--	--
other VOCs[5]	varies	NE	--	--	--	--	--	--	--	--	--
Total Metals by EPA 6000 series (mg/kg)											
Arsenic	20	7	--	--	--	--	--	--	--	--	--
Barium	16,000	NE	--	--	--	--	--	--	--	--	--
Cadmium	2	1	--	--	--	--	--	--	--	--	--
Total Chromium	2,000	48	--	--	--	--	--	--	--	--	--
Lead	250	24	--	--	--	--	--	--	--	--	8.9
Mercury	2	0.07	--	--	--	--	--	--	--	--	--
Selenium	400	NE	--	--	--	--	--	--	--	--	--
Silver	400	NE	--	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (PAHs) by EPA 8270D/SIM (mg/kg)											
Acenaphthene	4,800	NE	--	--	--	--	--	--	--	--	--
Acenaphthylene	NE	NE	--	--	--	--	--	--	--	--	--
Anthracene	24,000	NE	--	--	--	--	--	--	--	--	--
Benzo[a]anthracene	NE	NE	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene	0.1	NE	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	NE	NE	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	NE	NE	--	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	NE	NE	--	--	--	--	--	--	--	--	--
Chrysene	NE	NE	--	--	--	--	--	--	--	--	--
Dibenzo(a,h)anthracene	NE	NE	--	--	--	--	--	--	--	--	--
Fluoranthene	3,200	NE	--	--	--	--	--	--	--	--	--
Fluorene	3,200	NE	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	NE	NE	--	--	--	--	--	--	--	--	--
Naphthalenes	5	NE	--	--	--	--	--	--	--	--	--
Phenanthrene	NE	NE	--	--	--	--	--	--	--	--	--
Pyrene	2,400	NE	--	--	--	--	--	--	--	--	--
cPAHs TEQ[6]	0.1	NE	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls (PCBs) by EPA 8082 (mg/kg)											
Aroclor 1016	NA	NE	--	--	--	--	--	--	--	--	--
Aroclor 1221	NA	NE	--	--	--	--	--	--	--	--	--
Aroclor 1232	NA	NE	--	--	--	--	--	--	--	--	--
Aroclor 1242	NA	NE	--	--	--	--	--	--	--	--	--
Aroclor 1248	NA	NE	--	--	--	--	--	--	--	--	--
Aroclor 1254	NA	NE	--	--	--	--	--	--	--	--	--
Aroclor 1260	NA	NE	--	--	--	--	--	--	--	--	--
Total PCBs	1.0	NE	--	--	--	--	--	--	--	--	--

Notes:

[1] Approximate exploration locations shown on Figure 2.

[2] Boring Advanced at an angle of 25 digress from vertical.

[3] Washington State Model Toxic Control Act Cleanup Regulation (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses. MTCA Method B cleanup level used when Method A cleanup level has not been established.

[4] Natural Background soil concentration per Ecology Publication 94-115 (Ecology 1994).

[5] Refer to Appendix B for a full list of compounds analyzed and their results.

[6] Total carcinogenic PAHs (cPAHs) calculated using the toxicity equivalency (TEQ) methodology in WAC 173-340-708(8). Non-detections were assigned half the reporting limit for these calculations.

bgs = below ground surface

mg/kg = milligram per kilogram

Farallon = Farallon Consulting

Landau = Landau Associates

EAI = Environmental Associates, Inc.

GeoGroup = GEO Group Northwest, Inc.

GEI = GeoEngineers Inc.

NA = Not Applicable

NE = Not Established

"--" = not tested

ND = Not Detected

U = Analyte not detected above the reported sample quantization limit

Bold indicates analyte was detected.

Shading indicates analyte was detected at a concentration greater than the Natural Background but less than MTCA soil cleanup level.

Shading indicates analyte was detected at a concentration greater than the MTCA soil cleanup level.

Table 1

Summary of Soil Investigation Chemical Analytical Data

701 South Jackson Street

Seattle, Washington

Sample Location[1]	MTCA Cleanup Levels[3]	Natural Background[4]	B-1-11	B-2-11		B-3-11		B-4-11		B-5-11	B-6-11
Sample Identification			B-1 S-7	B-2 S-4	B-2 S-6	B-3 S-4	B-3 S-6	B-4 S-2	B-4 S-6	B-5 S-8	B-6 S-6
Sampled By			Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau	Landau
Sample Date			11/11/11	11/11/11	11/11/11	11/11/11	11/11/11	11/11/11	11/11/11	11/14/11	11/04/11
Sample Depth (feet bgs)			17.5	12.5	17.5	12.5	17.5	5.0	15.0	20.0	15.0
Petroleum Hydrocarbons by NWPTH-Gx/NWTPH-Dx (mg/kg)											
Gasoline-Range	30	NE	**14**	**14**	**11**	**420**	**6.6**	**10**	**26**	3.0 U	3.0 U
Diesel-Range	2,000	NE	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Lube Oil-Range	2,000	NE	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Volatile Organic Compounds (VOCs) by EPA 8021/8260 (mg/kg)											
Benzene	0.03	NE	**0.12**	0.044 U	**0.051**	0.024 U	**0.06**	**0.14**	**0.38**	0.030 U	0.030 U
Toluene	7	NE	**0.51**	**0.36**	**0.4**	**1.0**	**0.36**	**0.43**	**1.0**	0.050 U	0.050 U
Ethylbenzene	6	NE	**0.3**	**0.078**	**0.08**	**7.3**	**0.076**	**0.12**	**0.38**	0.050 U	0.050 U
Total Xylenes	9	NE	**1.3**	**0.32**	**0.32**	**32**	**0.39**	**0.58**	**2.2**	0.20 U	0.20 U
1,2 Dibromoethane (EDB)	0.005	NE	--	--	--	--	--	--	--	--	--
1,2 Dichloroethane (EDC)	1	NE	--	--	--	--	--	--	--	--	--
Methyl tertiary-butyl ether (MTBE)	0.1	NE	--	--	--	--	--	--	--	--	--
other VOCs[5]	varies	NE	--	--	--	--	--	--	--	--	--
Total Metals by EPA 6000 series (mg/kg)											
Arsenic	20	7	--	--	--	--	--	--	--	--	--
Barium	16,000	NE	--	--	--	--	--	--	--	--	--
Cadmium	2	1	--	--	--	--	--	--	--	--	--
Total Chromium	2,000	48	--	--	--	--	--	--	--	--	--
Lead	250	24	--	--	--	7.4	--	--	--	--	--
Mercury	2	0.07	--	--	--	--	--	--	--	--	--
Selenium	400	NE	--	--	--	--	--	--	--	--	--
Silver	400	NE	--	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (PAHs) by EPA 8270D/SIM (mg/kg)											
Acenaphthene	4,800	NE	--	--	--	--	--	--	--	--	--
Acenaphthylene	NE	NE	--	--	--	--	--	--	--	--	--
Anthracene	24,000	NE	--	--	--	--	--	--	--	--	--
Benzo[a]anthracene	NE	NE	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene	0.1	NE	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	NE	NE	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	NE	NE	--	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	NE	NE	--	--	--	--	--	--	--	--	--
Chrysene	NE	NE	--	--	--	--	--	--	--	--	--
Dibenzo(a,h)anthracene	NE	NE	--	--	--	--	--	--	--	--	--
Fluoranthene	3,200	NE	--	--	--	--	--	--	--	--	--
Fluorene	3,200	NE	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	NE	NE	--	--	--	--	--	--	--	--	--
Naphthalenes	5	NE	--	--	--	--	--	--	--	--	--
Phenanthrene	NE	NE	--	--	--	--	--	--	--	--	--
Pyrene	2,400	NE	--	--	--	--	--	--	--	--	--
cPAHs TEQ[6]	0.1	NE	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls (PCBs) by EPA 8082 (mg/kg)											
Aroclor 1016	NA	NE	--	--	--	--	--	--	--	--	--
Aroclor 1221	NA	NE	--	--	--	--	--	--	--	--	--
Aroclor 1232	NA	NE	--	--	--	--	--	--	--	--	--
Aroclor 1242	NA	NE	--	--	--	--	--	--	--	--	--
Aroclor 1248	NA	NE	--	--	--	--	--	--	--	--	--
Aroclor 1254	NA	NE	--	--	--	--	--	--	--	--	--
Aroclor 1260	NA	NE	--	--	--	--	--	--	--	--	--
Total PCBs	1.0	NE	--	--	--	--	--	--	--	--	--

Notes:

[1] Approximate exploration locations shown on Figure 2.

[2] Boring Advanced at an angle of 25 digress from vertical.

[3] Washington State Model Toxic Control Act Cleanup Regulation (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses. MTCA Method B cleanup level used when Method A cleanup level has not been established.

[4] Natural Background soil concentration per Ecology Publication 94-115 (Ecology 1994).

[5] Refer to Appendix B for a full list of compounds analyzed and their results.

[6] Total carcinogenic PAHs (cPAHs) calculated using the toxicity equivalency (TEQ) methodology in WAC 173-340-708(8). Non-detections were assigned half the reporting limit for these calculations.

bgs = below ground surface

mg/kg = milligram per kilogram

Farallon = Farallon Consulting

Landau = Landau Associates

EAI = Environmental Associates, Inc.

GeoGroup = GEO Group Northwest, Inc.

GEI = GeoEngineers Inc.

NA = Not Applicable

NE = Not Established

"--" = not tested

ND = Not Detected

U = Analyte not detected above the reported sample quantization limit

Bold indicates analyte was detected.

Shading indicates analyte was detected at a concentration greater than the Natural Background but less than MTCA soil cleanup level.

Shading indicates analyte was detected at a concentration greater than the MTCA soil cleanup level.

Table 1

Summary of Soil Investigation Chemical Analytical Data

701 South Jackson Street

Seattle, Washington

Sample Location[1]	MTCA Cleanup Levels[3]	Natural Background[4]	B-6-11	FB-3				FB-4			FB-5[2]
Sample Identification			B-6 S-7	FB-3-10.0	FB-3-15.0	FB-3-20.0	FB-3-40.0	FB-4-6.0	FB-4-10.0	FB-4-15.0	FB-5-11.0
Sampled By			Landau	Farallon	Farallon	Farallon	Farallon	Farallon	Farallon	Farallon	Farallon
Sample Date			11/04/11	10/31/19	10/31/19	10/31/19	10/31/19	11/01/19	11/01/19	11/01/19	11/01/19
Sample Depth (feet bgs)			20.0	10.0	15.0	20.0	40.0	6.0	10.0	15.0	4.6
Petroleum Hydrocarbons by NWPTH-Gx/NWTPH-Dx (mg/kg)											
Gasoline-Range	30	NE	**4.6**	**1,300**	5.2 U	5.6 U	5.0 U	**86**	**450**	**1,700**	**17**
Diesel-Range	2,000	NE	25 U	980 U	--	--	--	--	--	31 U	33 U
Lube Oil-Range	2,000	NE	50 U	**570**	--	--	--	--	--	61 U	66 U
Volatile Organic Compounds (VOCs) by EPA 8021/8260 (mg/kg)											
Benzene	0.03	NE	0.030 U	0.021 U	**0.060**	0.020 U	0.020 U	0.020 U	**0.032**	**1.3**	0.020 U
Toluene	7	NE	0.050 U	**0.17**	0.052 U	0.056 U	0.050 U	0.055 U	0.053 U	**21**	0.071 U
Ethylbenzene	6	NE	**0.078**	**4.6**	**0.29**	0.056 U	0.050 U	**0.12**	**2.2**	**21**	**0.095**
Total Xylenes	9	NE	0.20 U	**11.2**	0.104 U	0.112 U	0.10 U	**0.1**	**2.99**	**129**	**0.087**
1,2 Dibromoethane (EDB)	0.005	NE	--	0.050 U	--	--	--	--	--	--	--
1,2 Dichloroethane (EDC)	1	NE	--	0.050 U	--	--	--	--	--	--	--
Methyl tertiary-butyl ether (MTBE)	0.1	NE	--	0.050 U	--	--	--	--	--	--	--
other VOCs[5]	varies	NE	--	ND	--	--	--	--	--	--	--
Total Metals by EPA 6000 series (mg/kg)											
Arsenic	20	7	--	--	--	--	--	--	--	--	--
Barium	16,000	NE	--	--	--	--	--	--	--	--	--
Cadmium	2	1	--	--	--	--	--	--	--	--	--
Total Chromium	2,000	48	--	--	--	--	--	--	--	--	--
Lead	250	24	--	5.7 U	--	--	--	--	--	--	--
Mercury	2	0.07	--	--	--	--	--	--	--	--	--
Selenium	400	NE	--	--	--	--	--	--	--	--	--
Silver	400	NE	--	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (PAHs) by EPA 8270D/SIM (mg/kg)											
Acenaphthene	4,800	NE	--	**0.022**	--	--	--	--	--	--	--
Acenaphthylene	NE	NE	--	**0.0076**	--	--	--	--	--	--	--
Anthracene	24,000	NE	--	**0.025**	--	--	--	--	--	--	--
Benzo[a]anthracene	NE	NE	--	**0.028**	--	--	--	--	--	--	--
Benzo(a)pyrene	0.1	NE	--	**0.027**	--	--	--	--	--	--	--
Benzo(b)fluoranthene	NE	NE	--	**0.028**	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	NE	NE	--	**0.022**	--	--	--	--	--	--	--
Benzo(k)fluoranthene	NE	NE	--	0.0076 U	--	--	--	--	--	--	--
Chrysene	NE	NE	--	**0.029**	--	--	--	--	--	--	--
Dibenzo(a,h)anthracene	NE	NE	--	0.0076 U	--	--	--	--	--	--	--
Fluoranthene	3,200	NE	--	**0.057**	--	--	--	--	--	--	--
Fluorene	3,200	NE	--	**0.03**	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	NE	NE	--	**0.019**	--	--	--	--	--	--	--
Naphthalenes	5	NE	--	**10.5**	--	--	--	--	--	--	--
Phenanthrene	NE	NE	--	**0.098**	--	--	--	--	--	--	--
Pyrene	2,400	NE	--	**0.063**	--	--	--	--	--	--	--
cPAHs TEQ[6]	0.1	NE	--	**0.039**	--	--	--	--	--	--	--
Polychlorinated Biphenyls (PCBs) by EPA 8082 (mg/kg)											
Aroclor 1016	NA	NE	--	0.057 U	--	--	--	--	--	--	--
Aroclor 1221	NA	NE	--	0.057 U	--	--	--	--	--	--	--
Aroclor 1232	NA	NE	--	0.057 U	--	--	--	--	--	--	--
Aroclor 1242	NA	NE	--	0.057 U	--	--	--	--	--	--	--
Aroclor 1248	NA	NE	--	0.057 U	--	--	--	--	--	--	--
Aroclor 1254	NA	NE	--	0.057 U	--	--	--	--	--	--	--
Aroclor 1260	NA	NE	--	0.057 U	--	--	--	--	--	--	--
Total PCBs	1.0	NE	--	0.399 U	--	--	--	--	--	--	--

Notes:

[1] Approximate exploration locations shown on Figure 2.

[2] Boring Advanced at an angle of 25 digress from vertical.

[3] Washington State Model Toxic Control Act Cleanup Regulation (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses. MTCA Method B cleanup level used when Method A cleanup level has not been established.

[4] Natural Background soil concentration per Ecology Publication 94-115 (Ecology 1994).

[5] Refer to Appendix B for a full list of compounds analyzed and their results.

[6] Total carcinogenic PAHs (cPAHs) calculated using the toxicity equivalency (TEQ) methodology in WAC 173-340-708(8). Non-detections were assigned half the reporting limit for these calculations.

bgs = below ground surface

mg/kg = milligram per kilogram

Farallon = Farallon Consulting

Landau = Landau Associates

EAI = Environmental Associates, Inc.

GeoGroup = GEO Group Northwest, Inc.

GEI = GeoEngineers Inc.

NA = Not Applicable

NE = Not Established

"--" = not tested

ND = Not Detected

U = Analyte not detected above the reported sample quantization limit

Bold indicates analyte was detected.

Shading indicates analyte was detected at a concentration greater than the Natural Background but less than MTCA soil cleanup level.

Shading indicates analyte was detected at a concentration greater than the MTCA soil cleanup level.

Table 1

Summary of Soil Investigation Chemical Analytical Data

701 South Jackson Street

Seattle, Washington

Sample Location[1]	MTCA Cleanup Levels[3]	Natural Background[4]	FB-5[2]		FB-6				FB-7		GEI-1
Sample Identification			FB-5-17.0	FB-5-25.0	FB-6-10.0	FB-6-18.0	FB-6-21.0	FB-6-24.0	FB-7-2.5	FB-7-8.0	GEI-1-5.0
Sampled By			Farallon	Farallon	Farallon	Farallon	Farallon	Farallon	Farallon	Farallon	GEI
Sample Date			11/01/19	11/01/19	11/01/19	11/01/19	11/01/19	11/01/19	10/30/19	10/30/19	05/18/21
Sample Depth (feet bgs)			7.2	10.6	10.0	18.0	21.0	24.0	2.5	8.0	5.0
Petroleum Hydrocarbons by NWPTH-Gx/NWTPH-Dx (mg/kg)											
Gasoline-Range	30	NE	**4,800**	5.9 U	4.7 U	**28**	6.5 U	5.8 U	5.2 U	5.7 U	5.02 U
Diesel-Range	2,000	NE	**590**	32 U	--	30 U	--	31 U	31 U	31 U	54.4 U
Lube Oil-Range	2,000	NE	57 U	63 U	--	61 U	--	63 U	**170**	**78**	109 U
Volatile Organic Compounds (VOCs) by EPA 8021/8260 (mg/kg)											
Benzene	0.03	NE	**1.6**	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.0201 U
Toluene	7	NE	**18**	0.059 U	0.047 U	0.051 U	0.065 U	0.058 U	0.052 U	0.057 U	0.0251 U
Ethylbenzene	6	NE	**89**	0.059 U	0.047 U	**1.2**	0.065 U	0.058 U	0.052 U	0.057 U	0.0301 U
Total Xylenes	9	NE	**420**	0.118 U	0.094 U	**0.55**	0.13 U	**0.068**	0.104 U	0.114 U	0.0502 U
1,2 Dibromoethane (EDB)	0.005	NE	1.1 U	--	--	0.00089 U	--	--	--	--	--
1,2 Dichloroethane (EDC)	1	NE	1.1 U	--	--	0.00089 U	--	--	--	--	--
Methyl tertiary-butyl ether (MTBE)	0.1	NE	--	--	--	--	--	--	--	--	--
other VOCs[5]	varies	NE	ND	--	--	ND	--	--	--	--	--
Total Metals by EPA 6000 series (mg/kg)											
Arsenic	20	7	--	--	--	--	--	--	--	--	1.53
Barium	16,000	NE	--	--	--	--	--	--	--	--	**40.1**
Cadmium	2	1	--	--	--	--	--	--	--	--	0.171 U
Total Chromium	2,000	48	--	--	--	--	--	--	--	--	27.6
Lead	250	24	--	--	--	--	--	--	--	--	1.57
Mercury	2	0.07	--	--	--	--	--	--	--	--	0.264 U
Selenium	400	NE	--	--	--	--	--	--	--	--	**1.01**
Silver	400	NE	--	--	--	--	--	--	--	--	0.129 U
Polycyclic Aromatic Hydrocarbons (PAHs) by EPA 8270D/SIM (mg/kg)											
Acenaphthene	4,800	NE	**0.025**	--	--	0.0081 U	--	--	--	--	0.0209 U
Acenaphthylene	NE	NE	**0.025**	--	--	0.0081 U	--	--	--	--	0.0209 U
Anthracene	24,000	NE	**0.016**	--	--	0.0081 U	--	--	--	--	0.0419 U
Benzo[a]anthracene	NE	NE	**0.0083**	--	--	0.0081 U	--	--	--	--	0.0209 U
Benzo(a)pyrene	0.1	NE	0.0076 U	--	--	0.0081 U	--	--	--	--	0.0209 U
Benzo(b)fluoranthene	NE	NE	0.0076 U	--	--	0.0081 U	--	--	--	--	0.0209 U
Benzo(g,h,i)perylene	NE	NE	0.0076 U	--	--	0.0081 U	--	--	--	--	0.0419 U
Benzo(k)fluoranthene	NE	NE	0.0076 U	--	--	0.0081 U	--	--	--	--	0.0209 U
Chrysene	NE	NE	0.0076 U	--	--	0.0081 U	--	--	--	--	0.0419 U
Dibenzo(a,h)anthracene	NE	NE	0.0076 U	--	--	0.0081 U	--	--	--	--	0.0419 U
Fluoranthene	3,200	NE	**0.012**	--	--	0.0081 U	--	--	--	--	0.0419 U
Fluorene	3,200	NE	**0.053**	--	--	0.0081 U	--	--	--	--	0.0209 U
Indeno(1,2,3-cd)pyrene	NE	NE	0.0076 U	--	--	0.0081 U	--	--	--	--	0.0419 U
Naphthalenes	5	NE	**12.8**	--	--	**0.66**	--	--	--	--	0.0209 U
Phenanthrene	NE	NE	**0.078**	--	--	0.0081 U	--	--	--	--	0.0419 U
Pyrene	2,400	NE	**0.019**	--	--	0.0081 U	--	--	--	--	0.0419 U
cPAHs TEQ[6]	0.1	NE	**0.005**	--	--	0.006 U	--	--	--	--	0.016 U
Polychlorinated Biphenyls (PCBs) by EPA 8082 (mg/kg)											
Aroclor 1016	NA	NE	0.057 U	--	--	0.061 U	--	--	--	--	--
Aroclor 1221	NA	NE	0.057 U	--	--	0.061 U	--	--	--	--	--
Aroclor 1232	NA	NE	0.057 U	--	--	0.061 U	--	--	--	--	--
Aroclor 1242	NA	NE	0.057 U	--	--	0.061 U	--	--	--	--	--
Aroclor 1248	NA	NE	0.057 U	--	--	0.061 U	--	--	--	--	--
Aroclor 1254	NA	NE	0.057 U	--	--	0.061 U	--	--	--	--	--
Aroclor 1260	NA	NE	0.057 U	--	--	0.061 U	--	--	--	--	--
Total PCBs	1.0	NE	0.399 U	--	--	0.427 U	--	--	--	--	--

Notes:

[1] Approximate exploration locations shown on Figure 2.

[2] Boring Advanced at an angle of 25 digress from vertical.

[3] Washington State Model Toxic Control Act Cleanup Regulation (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses. MTCA Method B cleanup level used when Method A cleanup level has not been established.

[4] Natural Background soil concentration per Ecology Publication 94-115 (Ecology 1994).

[5] Refer to Appendix B for a full list of compounds analyzed and their results.

[6] Total carcinogenic PAHs (cPAHs) calculated using the toxicity equivalency (TEQ) methodology in WAC 173-340-708(8). Non-detections were assigned half the reporting limit for these calculations.

bgs = below ground surface

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GeoGroup = GEO Group Northwest, Inc.

GEI = GeoEngineers Inc.

NA = Not Applicable

NE = Not Established

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ND = Not Detected

U = Analyte not detected above the reported sample quantization limit

Bold indicates analyte was detected.

Shading indicates analyte was detected at a concentration greater than the Natural Background but less than MTCA soil cleanup level.

Shading indicates analyte was detected at a concentration greater than the MTCA soil cleanup level.

Table 1

Summary of Soil Investigation Chemical Analytical Data

701 South Jackson Street

Seattle, Washington

Sample Location[1]	MTCA Cleanup Levels[3]	Natural Background[4]	GEI-1		GEI-2			GEI-3			GEI-4
Sample Identification			GEI-1-12.5	GEI-1-17.5	GEI-2-10.0	GEI-2-15.0	GEI-2-17.5	GEI-3-5.0	GEI-3-15.0	GEI-3-17.5	GEI-4-2.5
Sampled By			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Sample Date			05/18/21	05/18/21	05/19/21	05/19/21	05/19/21	05/19/21	05/19/21	05/19/21	12/29/21
Sample Depth (feet bgs)			12.5	17.5	10.0	15.0	17.5	5.0	15.0	17.5	2.5
Petroleum Hydrocarbons by NWPTH-Gx/NWTPH-Dx (mg/kg)											
Gasoline-Range	30	NE	**57.9**	4.94 U	**1,970**	**361**	5.59 U	4.37 U	**10,500**	5.80 U	5.17 U
Diesel-Range	2,000	NE	51.8 U	53.6 U	--	--	--	--	--	--	58.1 U
Lube Oil-Range	2,000	NE	104 U	107 U	--	--	--	--	--	--	116 U
Volatile Organic Compounds (VOCs) by EPA 8021/8260 (mg/kg)											
Benzene	0.03	NE	0.0197 U	0.0198 U	0.0207 U	**0.129**	0.0224 U	0.0175 U	**13.2**	0.232 U	0.0207 U
Toluene	7	NE	**0.92**	0.0247 U	**0.347**	**2.21**	0.0279 U	0.0219 U	**97.2**	0.0290 U	0.0310 U
Ethylbenzene	6	NE	**0.124**	0.0297 U	0.0311 U	**0.104**	0.0335 U	0.0262 U	**87.8**	0.0348 U	0.0258 U
Total Xylenes	9	NE	**3.252**	0.0494 U	**0.686**	**1.315**	0.0559 U	0.0437 U	**554**	0.0580 U	0.0517 U
1,2 Dibromoethane (EDB)	0.005	NE	--	--	--	--	--	--	--	--	--
1,2 Dichloroethane (EDC)	1	NE	--	--	--	--	--	--	--	--	--
Methyl tertiary-butyl ether (MTBE)	0.1	NE	--	--	--	--	--	--	--	--	--
other VOCs[5]	varies	NE	--	--	--	--	--	--	--	--	--
Total Metals by EPA 6000 series (mg/kg)											
Arsenic	20	7	1.60	3.58	--	--	--	--	--	--	**8.35**
Barium	16,000	NE	**32.0**	**36.1**	--	--	--	--	--	--	**0.614**
Cadmium	2	1	0.177 U	0.185 U	--	--	--	--	--	--	0.451
Total Chromium	2,000	48	26.6	27.2	--	--	--	--	--	--	**53.6**
Lead	250	24	1.62	1.64	--	--	--	--	--	--	**340**
Mercury	2	0.07	0.279 U	0.284 U	--	--	--	--	--	--	0.288 U
Selenium	400	NE	**1.07**	**0.805**	--	--	--	--	--	--	**1.33**
Silver	400	NE	0.132 U	0.139 U	--	--	--	--	--	--	**0.165**
Polycyclic Aromatic Hydrocarbons (PAHs) by EPA 8270D/SIM (mg/kg)											
Acenaphthene	4,800	NE	0.0194 U	0.0202 U	--	--	--	--	--	--	0.0234 U
Acenaphthylene	NE	NE	0.0194 U	0.0202 U	--	--	--	--	--	--	0.0234 U
Anthracene	24,000	NE	0.0389 U	0.0404 U	--	--	--	--	--	--	0.0234 U
Benzo[a]anthracene	NE	NE	0.0194 U	0.0202 U	--	--	--	--	--	--	**0.0458**
Benzo(a)pyrene	0.1	NE	0.0194 U	0.0202 U	--	--	--	--	--	--	**0.044**
Benzo(b)fluoranthene	NE	NE	0.0194 U	0.0202 U	--	--	--	--	--	--	**0.0453**
Benzo(g,h,i)perylene	NE	NE	0.0389 U	0.0202 U	--	--	--	--	--	--	**0.0538**
Benzo(k)fluoranthene	NE	NE	0.0194 U	0.0202 U	--	--	--	--	--	--	**0.0403**
Chrysene	NE	NE	0.0389 U	0.0404 U	--	--	--	--	--	--	**0.0476**
Dibenzo(a,h)anthracene	NE	NE	0.0389 U	0.0404 U	--	--	--	--	--	--	0.0469 U
Fluoranthene	3,200	NE	0.0389 U	0.0404 U	--	--	--	--	--	--	**0.0458**
Fluorene	3,200	NE	0.0194 U	0.0202 U	--	--	--	--	--	--	0.0234 U
Indeno(1,2,3-cd)pyrene	NE	NE	0.0389 U	0.0404 U	--	--	--	--	--	--	0.0469 U
Naphthalenes	5	NE	**0.0596**	0.0202 U	--	--	--	--	--	--	0.0234 U
Phenanthrene	NE	NE	0.0389 U	0.0404 U	--	--	--	--	--	--	0.0234 U
Pyrene	2,400	NE	0.0389 U	0.0404 U	--	--	--	--	--	--	**0.0792**
cPAHs TEQ[6]	0.1	NE	0.015 U	0.015 U	--	--	--	--	--	--	0.059 U
Polychlorinated Biphenyls (PCBs) by EPA 8082 (mg/kg)											
Aroclor 1016	NA	NE	--	--	--	--	--	--	--	--	--
Aroclor 1221	NA	NE	--	--	--	--	--	--	--	--	--
Aroclor 1232	NA	NE	--	--	--	--	--	--	--	--	--
Aroclor 1242	NA	NE	--	--	--	--	--	--	--	--	--
Aroclor 1248	NA	NE	--	--	--	--	--	--	--	--	--
Aroclor 1254	NA	NE	--	--	--	--	--	--	--	--	--
Aroclor 1260	NA	NE	--	--	--	--	--	--	--	--	--
Total PCBs	1.0	NE	--	--	--	--	--	--	--	--	--

Notes:

[1] Approximate exploration locations shown on Figure 2.

[2] Boring Advanced at an angle of 25 digress from vertical.

[3] Washington State Model Toxic Control Act Cleanup Regulation (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses. MTCA Method B cleanup level used when Method A cleanup level has not been established.

[4] Natural Background soil concentration per Ecology Publication 94-115 (Ecology 1994).

[5] Refer to Appendix B for a full list of compounds analyzed and their results.

[6] Total carcinogenic PAHs (cPAHs) calculated using the toxicity equivalency (TEQ) methodology in WAC 173-340-708(8). Non-detections were assigned half the reporting limit for these calculations.

bgs = below ground surface

mg/kg = milligram per kilogram

Farallon = Farallon Consulting

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EAI = Environmental Associates, Inc.

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NA = Not Applicable

NE = Not Established

"--" = not tested

ND = Not Detected

U = Analyte not detected above the reported sample quantization limit

Bold indicates analyte was detected.

Shading indicates analyte was detected at a concentration greater than the Natural Background but less than MTCA soil cleanup level.

Shading indicates analyte was detected at a concentration greater than the MTCA soil cleanup level.

Table 1

Summary of Soil Investigation Chemical Analytical Data

701 South Jackson Street

Seattle, Washington

Sample Location[1]	MTCA Cleanup Levels[3]	Natural Background[4]	GEI-4	GEI-5		GEI-6		GEI-7	GEI-7		GEI-8
Sample Identification			GEI-4-12.5	GEI-5-2.5	GEI-5-10.0	GEI-6-2.5	GEI-6-10.0	GEI-7-2.5	GEI-7-7.5	GEI-7-14.0	GEI-8-12.5
Sampled By			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Sample Date			12/29/21	12/29/21	05/19/21	12/29/21	05/19/21	12/29/21	05/19/21	05/19/21	04/04/22
Sample Depth (feet bgs)			12.5	2.5	10.0	2.5	10.0	2.5	7.5	14.0	12.5
Petroleum Hydrocarbons by NWPTH-Gx/NWTPH-Dx (mg/kg)											
Gasoline-Range	30	NE	5.27 U	4.93 U	4.86 U	5.35 U	5.57 U	4.86 U	5.46 U	**1,370**	9.14 U
Diesel-Range	2,000	NE	56.8 U	50.1 U	60.2 U	54.4 U	61 U	57 U	64.7 U	58.5 U	--
Lube Oil-Range	2,000	NE	114 U	100 U	120 U	**689**	122 U	**448**	129 U	117 U	--
Volatile Organic Compounds (VOCs) by EPA 8021/8260 (mg/kg)											
Benzene	0.03	NE	0.0211 U	0.0197 U	0.0195 U	0.0214 U	0.0223 U	0.0194 U	0.0218 U	**0.15**	0.0365 U
Toluene	7	NE	0.0316 U	0.0296 U	0.0292 U	0.0321 U	0.0334 U	0.0291 U	0.0327 U	**0.177**	0.0548 U
Ethylbenzene	6	NE	0.0263 U	0.0247 U	0.0243 U	0.0267 U	0.0278 U	0.0243 U	0.0273 U	**17.1**	0.0457 U
Total Xylenes	9	NE	0.0527 U	0.0493 U	0.0486 U	0.0535 U	0.0557 U	0.0486 U	0.0546 U	**39.08**	0.0914 U
1,2 Dibromoethane (EDB)	0.005	NE	--	--	--	--	--	--	0.0109 U	0.0106 U	--
1,2 Dichloroethane (EDC)	1	NE	--	--	--	--	--	--	0.0251 U	0.0244 U	--
Methyl tertiary-butyl ether (MTBE)	0.1	NE	--	--	--	--	--	--	0.0327 U	0.0318 U	--
other VOCs[5]	varies	NE	--	--	--	--	--	--	ND	**Detected**	--
Total Metals by EPA 6000 series (mg/kg)											
Arsenic	20	7	3.01	**7.52**	1.77	**8.21**	5.7	4.34	5.85	**7.07**	--
Barium	16,000	NE	**86.1**	**185**	**43.7**	**195**	**130**	**160**	**134**	**125**	--
Cadmium	2	1	0.184 U	0.355	0.199 U	0.635	0.21 U	0.255	0.203 U	0.189	--
Total Chromium	2,000	48	39.3	27.4	25.9	38.2	**59.2**	34.5	**64.1**	**52.2**	--
Lead	250	24	3.28	**93.8**	2.04	**243**	4.79	**59.5**	4.82	6.06	--
Mercury	2	0.07	0.286 U	0.267 U	0.281 U	0.295 U	0.32 U	0.287 U	**0.309**	0.294 U	--
Selenium	400	NE	**1.05**	**0.861**	**0.691**	**1.16**	**1.45**	**1**	**1.62**	**1.42**	--
Silver	400	NE	0.138 U	0.130 U	0.149 U	**0.25**	0.158 U	0.14 U	0.152 U	0.141 U	--
Polycyclic Aromatic Hydrocarbons (PAHs) by EPA 8270D/SIM (mg/kg)											
Acenaphthene	4,800	NE	0.0232 U	0.0226 U	0.0229 U	**0.0327**	0.0256 U	0.0221 U	0.0241 U	0.0249 U	--
Acenaphthylene	NE	NE	0.0232 U	0.0226 U	0.0229 U	**0.289**	0.0256 U	0.0221 U	0.0241 U	0.0249 U	--
Anthracene	24,000	NE	0.0464 U	0.0451 U	0.0458 U	**0.767**	0.0512 U	0.0442 U	0.0482 U	0.0498 U	--
Benzo[a]anthracene	NE	NE	0.0232 U	0.0226 U	0.0229 U	**1.32**	0.0256 U	0.0221 U	0.0241 U	0.0249 U	--
Benzo(a)pyrene	0.1	NE	0.0232 U	0.0226 U	0.0229 U	**1.12**	0.0256 U	0.0221 U	0.0241 U	0.0249 U	--
Benzo(b)fluoranthene	NE	NE	0.0232 U	0.0226 U	0.0229 U	**0.825**	0.0256 U	0.0221 U	0.0241 U	0.0249 U	--
Benzo(g,h,i)perylene	NE	NE	0.0232 U	0.0226 U	0.0229 U	**0.483**	0.0256 U	0.0221 U	0.0241 U	0.0249 U	--
Benzo(k)fluoranthene	NE	NE	0.0232 U	0.0226 U	0.0229 U	**0.856**	0.0256 U	0.0221 U	0.0241 U	0.0249 U	--
Chrysene	NE	NE	0.0464 U	0.0451 U	0.0458 U	**1.15**	0.0512 U	0.0442 U	0.0482 U	0.0498 U	--
Dibenzo(a,h)anthracene	NE	NE	0.0464 U	0.0451 U	0.0458 U	**0.231**	0.0512 U	0.0442 U	0.0482 U	0.0498 U	--
Fluoranthene	3,200	NE	0.0464 U	0.0451 U	0.0458 U	**2.84**	0.0512 U	0.0442 U	0.0482 U	0.0498 U	--
Fluorene	3,200	NE	0.0232 U	0.0226 U	0.0229 U	**0.251**	0.0256 U	0.0221 U	0.0241 U	0.0249 U	--
Indeno(1,2,3-cd)pyrene	NE	NE	0.0464 U	0.0451 U	0.0458 U	**0.473**	0.0512 U	0.0442 U	0.0482 U	0.0498 U	--
Naphthalenes	5	NE	0.0232 U	0.0226 U	0.0229 U	**0.2537**	0.0256 U	0.0221 U	0.0241 U	**0.556**	22.1 U
Phenanthrene	NE	NE	0.0464 U	0.0451 U	0.0458 U	**2.02**	0.0512 U	0.0442 U	0.0482 U	0.0498 U	--
Pyrene	2,400	NE	0.0464 U	0.0451 U	0.0458 U	**2.65**	0.0512 U	0.0442 U	0.0482 U	0.0498 U	--
cPAHs TEQ[6]	0.1	NE	0.018 U	0.017 U	0.017 U	**0.74**	0.018 U	0.017 U	0.017 U	0.017 U	--
Polychlorinated Biphenyls (PCBs) by EPA 8082 (mg/kg)											
Aroclor 1016	NA	NE	--	--	--	--	--	--	0.0596 U	0.061 U	--
Aroclor 1221	NA	NE	--	--	--	--	--	--	0.0596 U	0.061 U	--
Aroclor 1232	NA	NE	--	--	--	--	--	--	0.0596 U	0.061 U	--
Aroclor 1242	NA	NE	--	--	--	--	--	--	0.0596 U	0.061 U	--
Aroclor 1248	NA	NE	--	--	--	--	--	--	0.0596 U	0.061 U	--
Aroclor 1254	NA	NE	--	--	--	--	--	--	0.0596 U	0.061 U	--
Aroclor 1260	NA	NE	--	--	--	--	--	--	0.0596 U	0.061 U	--
Total PCBs	1.0	NE	--	--	--	--	--	--	0.0596 U	0.061 U	--

Notes:

[1] Approximate exploration locations shown on Figure 2.

[2] Boring Advanced at an angle of 25 digress from vertical.

[3] Washington State Model Toxic Control Act Cleanup Regulation (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses. MTCA Method B cleanup level used when Method A cleanup level has not been established.

[4] Natural Background soil concentration per Ecology Publication 94-115 (Ecology 1994).

[5] Refer to Appendix B for a full list of compounds analyzed and their results.

[6] Total carcinogenic PAHs (cPAHs) calculated using the toxicity equivalency (TEQ) methodology in WAC 173-340-708(8). Non-detections were assigned half the reporting limit for these calculations.

bgs = below ground surface

mg/kg = milligram per kilogram

Farallon = Farallon Consulting

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EAI = Environmental Associates, Inc.

GeoGroup = GEO Group Northwest, Inc.

GEI = GeoEngineers Inc.

NA = Not Applicable

NE = Not Established

"--" = not tested

ND = Not Detected

U = Analyte not detected above the reported sample quantization limit

Bold indicates analyte was detected.

Shading indicates analyte was detected at a concentration greater than the Natural Background but less than MTCA soil cleanup level.

Shading indicates analyte was detected at a concentration greater than the MTCA soil cleanup level.

Table 1

Summary of Soil Investigation Chemical Analytical Data

701 South Jackson Street

Seattle, Washington

Sample Location[1]	MTCA Cleanup Levels[3]	Natural Background[4]	GEI-8	GEI-9		GEI-10		GEI-11		GEI-12	
Sample Identification			GEI-8-17.0	GEI-9-12.5	GEI-9-17.5	GEI-10-12.5	GEI-10-17.0	GEI-11-15.0	GEI-11-35.0	GEI-12-15.0	GEI-11-40.0
Sampled By			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Sample Date			04/04/22	04/04/22	04/04/22	04/04/22	04/04/22	04/04/22	04/04/22	04/04/22	04/04/22
Sample Depth (feet bgs)			17.0	12.5	17.5	12.5	17.0	15.0	35.0	15.0	40.0
Petroleum Hydrocarbons by NWPTH-Gx/NWTPH-Dx (mg/kg)											
Gasoline-Range	30	NE	5.74 U	6.5 U	6.25 U	5.64 U	5.76 U	**41.1**	5.88 U	**3,220**	6.05 U
Diesel-Range	2,000	NE	--	--	--	--	--	--	--	--	--
Lube Oil-Range	2,000	NE	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds (VOCs) by EPA 8021/8260 (mg/kg)											
Benzene	0.03	NE	0.0230 U	0.0260 U	0.0250 U	0.0228 U	0.0230 U	**1.42**	0.0235 U	**0.739**	0.0242 U
Toluene	7	NE	0.0348 U	0.0390 U	0.0375 U	0.0328 U	0.0346 U	**0.418**	0.0353 U	0.0403 U	0.0363 U
Ethylbenzene	6	NE	0.0287 U	0.0325 U	0.0312 U	0.0282 U	0.0288 U	**1.03**	0.0294 U	**13**	0.0303 U
Total Xylenes	9	NE	0.0574 U	0.0650 U	0.0625 U	0.0564 U	0.0576 U	**3.482**	0.0588 U	**2.39**	0.0605 U
1,2 Dibromoethane (EDB)	0.005	NE	--	--	--	--	--	--	--	--	--
1,2 Dichloroethane (EDC)	1	NE	--	--	--	--	--	--	--	--	--
Methyl tertiary-butyl ether (MTBE)	0.1	NE	--	--	--	--	--	--	--	--	--
other VOCs[5]	varies	NE	--	--	--	--	--	--	--	--	--
Total Metals by EPA 6000 series (mg/kg)											
Arsenic	20	7	--	--	--	--	--	--	--	--	--
Barium	16,000	NE	--	--	--	--	--	--	--	--	--
Cadmium	2	1	--	--	--	--	--	--	--	--	--
Total Chromium	2,000	48	--	--	--	--	--	--	--	--	--
Lead	250	24	--	--	--	--	--	--	--	--	--
Mercury	2	0.07	--	--	--	--	--	--	--	--	--
Selenium	400	NE	--	--	--	--	--	--	--	--	--
Silver	400	NE	--	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (PAHs) by EPA 8270D/SIM (mg/kg)											
Acenaphthene	4,800	NE	--	--	--	--	--	--	--	--	--
Acenaphthylene	NE	NE	--	--	--	--	--	--	--	--	--
Anthracene	24,000	NE	--	--	--	--	--	--	--	--	--
Benzo[a]anthracene	NE	NE	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene	0.1	NE	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	NE	NE	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	NE	NE	--	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	NE	NE	--	--	--	--	--	--	--	--	--
Chrysene	NE	NE	--	--	--	--	--	--	--	--	--
Dibenzo(a,h)anthracene	NE	NE	--	--	--	--	--	--	--	--	--
Fluoranthene	3,200	NE	--	--	--	--	--	--	--	--	--
Fluorene	3,200	NE	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	NE	NE	--	--	--	--	--	--	--	--	--
Naphthalenes	5	NE	24.5 U	21.2 U	24.8 U	22.3 U	24.1 U	**571.6**	20.1 U	**4,375**	18.9 U
Phenanthrene	NE	NE	--	--	--	--	--	--	--	--	--
Pyrene	2,400	NE	--	--	--	--	--	--	--	--	--
cPAHs TEQ[6]	0.1	NE	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls (PCBs) by EPA 8082 (mg/kg)											
Aroclor 1016	NA	NE	--	--	--	--	--	--	--	--	--
Aroclor 1221	NA	NE	--	--	--	--	--	--	--	--	--
Aroclor 1232	NA	NE	--	--	--	--	--	--	--	--	--
Aroclor 1242	NA	NE	--	--	--	--	--	--	--	--	--
Aroclor 1248	NA	NE	--	--	--	--	--	--	--	--	--
Aroclor 1254	NA	NE	--	--	--	--	--	--	--	--	--
Aroclor 1260	NA	NE	--	--	--	--	--	--	--	--	--
Total PCBs	1.0	NE	--	--	--	--	--	--	--	--	--

Notes:

[1] Approximate exploration locations shown on Figure 2.

[2] Boring Advanced at an angle of 25 digress from vertical.

[3] Washington State Model Toxic Control Act Cleanup Regulation (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses. MTCA Method B cleanup level used when Method A cleanup level has not been established.

[4] Natural Background soil concentration per Ecology Publication 94-115 (Ecology 1994).

[5] Refer to Appendix B for a full list of compounds analyzed and their results.

[6] Total carcinogenic PAHs (cPAHs) calculated using the toxicity equivalency (TEQ) methodology in WAC 173-340-708(8). Non-detections were assigned half the reporting limit for these calculations.

bgs = below ground surface

mg/kg = milligram per kilogram

Farallon = Farallon Consulting

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NA = Not Applicable

NE = Not Established

"--" = not tested

ND = Not Detected

U = Analyte not detected above the reported sample quantization limit

Bold indicates analyte was detected.

Shading indicates analyte was detected at a concentration greater than the Natural Background but less than MTCA soil cleanup level.

Shading indicates analyte was detected at a concentration greater than the MTCA soil cleanup level.

Table 2

Summary of Groundwater Investigation Chemical Analytical Data

701 South Jackson Street

Seattle, Washington

Sample Location[1]	GEI-1	GEI-11	GEI-12	MTCA Cleanup Level[3]
Sample Identification	GEI-1-20210518	GEI-11-W-041122	GEI-12-W-041122	
Sample Date	05/18/21	04/11/22	04/11/22	
Depth To Groundwater (feet bgs)	64.1	61.3	68.8	
Groundwater Elevation[2] (feet NAVD88)	33.9	32.7	31.2	
Petroleum Hydrocarbons by NWTPH-G/Dx (µg/L)				
Gasoline-Range Petroleum Hydrocarbons	**54.6**	**694**	**142**	800/1,000[4]
Diesel-Range Petroleum Hydrocarbons	**176**	117 U	117 U	500
Heavy Oil-Range Petroleum Hydrocarbons	98.2 U	117 U	117 U	500
Volatile Organic Compounds (VOCs) by EPA 8260D (µg/L)				
Benzene	0.440 U	**2.06**	0.440 U	5
Toluene	**0.750**	**9.89**	0.750 U	100
Ethylbenzene	**0.980**	**8.28**	**1.06**	700
Total Xylenes	**3.274**	**48.9**	**1.2**	1,000
Total Metals by EPA 200.8/245.1 (µg/L)				
Arsenic	**6.75**	**2.94**	**2.85**	8[5]
Cadmium	**0.247**	0.200 U	0.200 U	5
Total Chromium	**8.39**	1.00 U	**1.10**	50
Lead	**4.61**	0.500 U	0.500 U	15
Mercury	**0.304**	0.100 U	0.100 U	2
Dissolved Metals by EPA 200.8/245.1 (µg/L)				
Arsenic	**1.23**	**2.95**	**2.91**	5
Cadmium	0.125 U	0.125 U	0.125 U	5
Total Chromium	0.750 U	0.750 U	**0.752**	50
Lead	0.500 U	0.500 U	0.500 U	15
Mercury	0.100 U	0.100 U	0.100 U	2
Polycyclic Aromatic Hydrocarbons (PAHs) by EPA 8270 (µg/L)				
1-Methylnaphthalene	**0.105**	**0.156**	**0.620**	1.5
2-Methylnaphthalene	**0.170**	**0.259**	**0.799**	32
Acenaphthene	0.0994 U	0.099 U	0.0997 U	960
Acenaphthylene	0.0994 U	0.099 U	0.0997 U	NE
Anthracene	0.0994 U	0.099 U	0.0997 U	4,800
Benzo[a]anthracene	0.0994 U	0.099 U	0.0997 U	NE
Benzo(a)pyrene	0.0994 U	0.099 U	0.0997 U	NE
Benzo(b)fluoranthene	0.0994 U	0.099 U	0.0997 U	NE
Benzo(g,h,i)perylene	0.0994 U	0.099 U	0.0997 U	NE
Benzo(k)fluoranthene	0.0994 U	0.099 U	0.0997 U	0.1
Chrysene	0.0994 U	0.099 U	0.0997 U	NE
Dibenzo(a,h)anthracene	0.0994 U	0.099 U	0.0997 U	NE
Fluoranthene	0.0994 U	0.099 U	0.0997 U	640
Fluorene	0.0994 U	0.099 U	0.0997 U	640
Indeno(1,2,3-cd)pyrene	0.0994 U	0.099 U	0.0997 U	NE
Naphthalene	**0.263**	**0.759**	**0.521**	160
Phenanthrene	0.0994 U	0.099 U	0.0997 U	NE
Pyrene	0.0994 U	0.099 U	0.0997 U	480
Total cPAHs TEQ[6]	0.0994 U	0.099 U	0.0997 U	0.1

Notes:

[1] Approximate sample locations are shown on Figures 1 through 3.

[2] Groundwater elevation referenced to the approximate ground surface elevation (North American Vertical Datum 1988 [NAVD88]).

[3] Washington State Model Toxic Control Act Cleanup Regulation (MTCA) Method A Groundwater Cleanup Levels. MTCA Method B cleanup level used when Method A cleanup level has not been established.

[4] When benzene is present, the gasoline range cleanup level is 800 µg/L. When benzene is not present the gasoline range cleanup level is 1,000 µg/L.

[5] Natural background concentration for Puget Sound groundwater (Ecology 2021).

[6] Total carcinogenic PAHs (cPAHs) calculated using the toxicity equivalency (TEQ) methodology in WAC 173-340-708(8). Non-detections were assigned half the reporting limit for these calculations.

bgs = below ground surface

µg/L = micrograms per liter

MTCA = Model Toxics Cleanup Act

EPA = United States Environmental Protection Agency

U = chemical of concern not detected greater than the laboratory reporting limit shown

-- = not analyzed

NE = not established

- = not analyzed

NE = not established

NA = not applicable

Bold font type indicates the chemical of concern was detected.

Yellow shading indicates analyte was detected at a concentration greater than the MTCA cleanup level.

Chemical analytical testing by Fremont Analytical of Seattle, Washington.

Table 3

Summary of Sub-Slab Soil Vapor Investigation Chemical Analytical Data

701 South Jackson Street

Seattle, Washington

Sample Location[1]	SSV-1		SSV-2		SSV-3			
Sample Identification	SSV-1-S	SSV-1-D	SSV-2-S	SSV-2-D	SSV-3-S	SSV-3-D	Shallow Sub-Slab Soil Gas Screening Level[2]	Deep Sub-Slab Soil Gas Screening Level[3]
Sampled By	GEI	GEI	GEI	GEI	GEI	GEI		
Sample Date	12/28/21	12/28/21	12/28/21	12/28/21	12/28/21	12/28/21		
Sample Depth (feet bgs)	5 - 10	20 - 25	5 - 10	20 - 25	5 - 10	20 - 25		
Helium by Modified ASTM D-1496								
Helium (percent)	0.4 U	--	0.4 U	**2.04**	0.4 U	0.6 U	NE	NE
Petroleum Hydrocarbons by Modified TO-15 (µg/m^3)								
Aliphatic Hydrocarbons (EC5-8)	**112,000**	--	**18,500**	**>28,600**	**608**	1,180 U	NE	NE
Aliphatic Hydrocarbons (EC9-12)	**7,970**	--	**1,090**	**2,410**	294 U	252 U	NE	NE
Aromatic Hydrocarbons (EC9-10)	**3,590**	--	**409,000**	**>13,200,000**	62.9 U	**2,280,000**	NE	NE
Total Petroleum Hydrocarbons (TPH)	**123,560**	--	**428,590**	**>13,231,010**	**608**	**2,280,000**	4,700	14,000
Volatile Organic Compounds (VOCs) by TO-15 (µg/m^3)								
Benzene	**153**	--	67.8 U	1,360 U	**8.19**	203 U	11	32
Toluene	**957**	--	1,640 U	32,800 U	16.4 U	4,910 U	76,000	230,000
Ethylbenzene	695 U	--	25.6 U	511 U	0.256 U	76.7 U	15,000	46,000
Xylenes	1,232		231 U	4,620 U	2.31 U	693 U	1,500	4,600
(MEK) 2-Butanone	472 U	--	1,740 U	34,700 U	17.4 U	5,210 U	76,000	230,000
1,2-Dibromoethane (EDB)	**17.7**	--	2.29 U	45.9 U	0.0229 U	6.88 U	0.14	0.42
1,2-Dichloroethane (EDC)	16.2 U	--	1,410 U	28,200 U	14.1 U	4,230 U	3.2	9.6
Methyl tert-butyl ether (MTBE)	72.1 U	--	39.7 U	793 U	0.397 U	119 U	320	960
Naphthalene	**99.9**	--	247 U	4,950 U	**2.97**	742 U	2.5	7.4
n-Hexane	**3,120**	--	383 U	7,660 U	3.83 U	1,150 U	11,000	32,000

Notes:

[1] Approximate exploration locations shown on Figure 3.

[2] Washington State Model Toxic Control Act Cleanup Regulation (MTCA) Method B soil gas screening level (lowest of carcinogenic and non-carcinogenic).

[3] Washington State MTCA Method B deep soil gas screening level (lowest of carcinogenic and non-carcinogenic).

bgs = below ground surface

µg/m^3 = micrograms per cubic meter

GEI = GeoEngineers Inc.

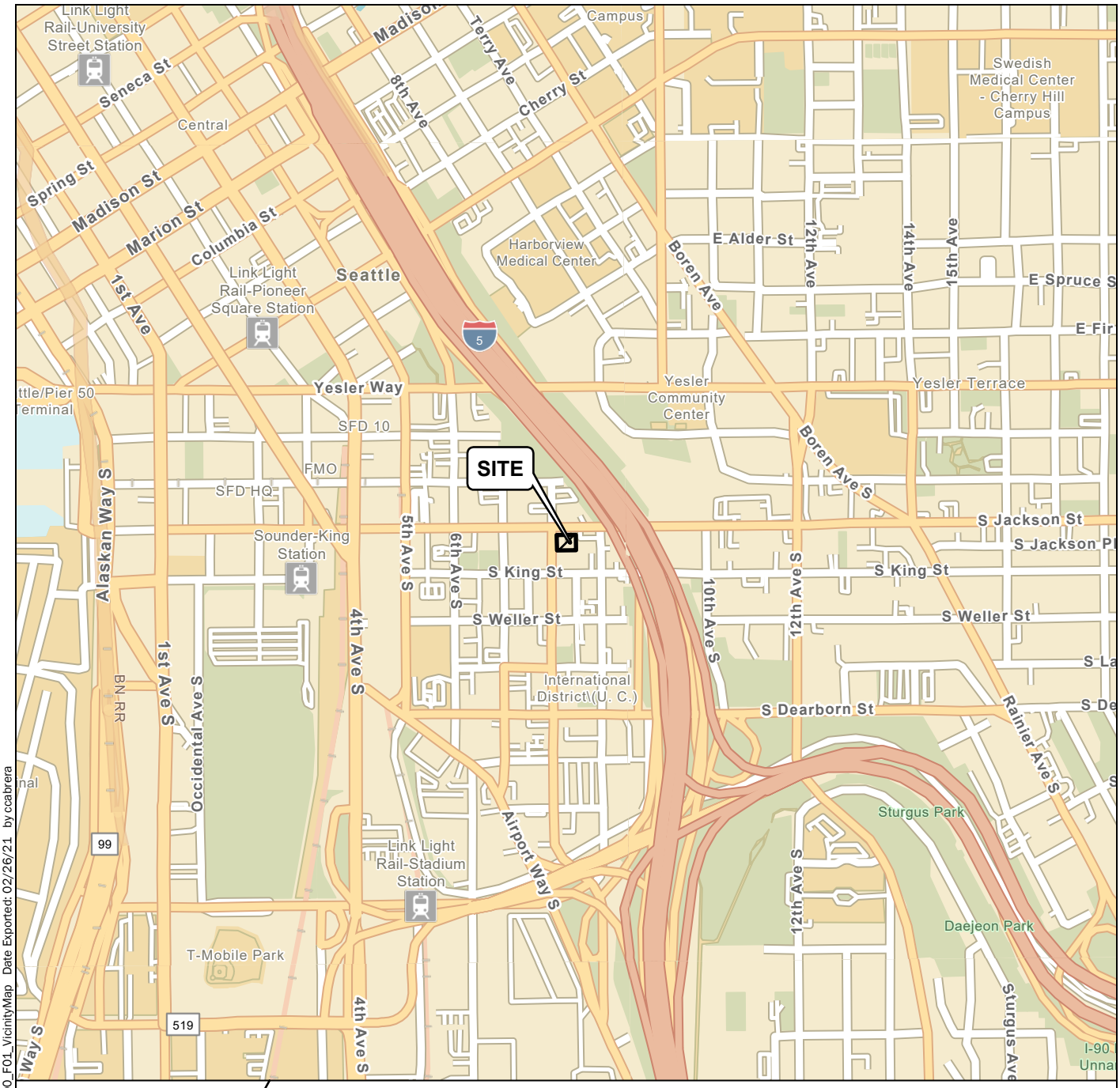
NE = Not Established

"--" = not tested

U = Analyte not detected above the reported sample quantization limit

Bold indicates analyte was detected.

Shading indicates analyte was detected at a concentration greater than the MTCA screening level.



1,000 0 1,000

Feet

Notes:

1. The locations of all features shown are approximate.
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Data Source: ESRI

Projection: NAD 1983 UTM Zone 10N

Vicinity Map

701 South Jackson Street
Seattle, Washington

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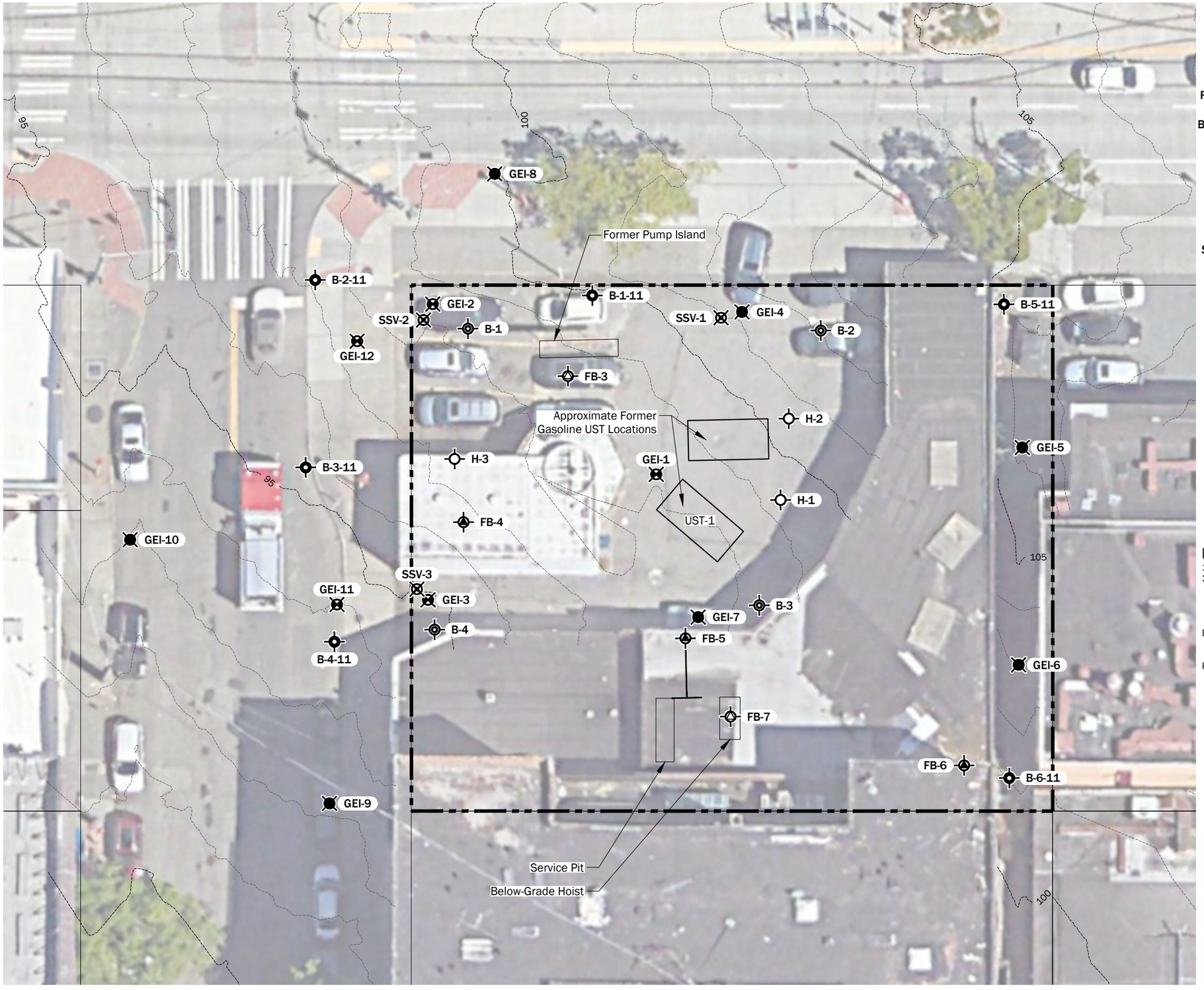
Figure 1

P:\24\24504001\GIS\24504001_Project\24504001_Project.aprx\2450400100_F01_VicinityMap Date Exported: 02/26/21 by ccabrera



Legend

- FB-3 — Hollow Stem Auger Boring by Farallon Consulting, 2019
- FB-4 — Direct Push Boring by Farallon Consulting, 2019
- FB-5 — Direct Push Boring by Farallon Consulting, 2019 Completed at 25 degrees to horizontal
- B-1-11 — Hollow Stem Auger Boring by Landau Associates, 2011
- B-1 — Hollow Stem Auger Boring by GEO Group Northwest, 2006
- H-1 — Hollow Stem Auger Boring by GEO Group Northwest, 1992
- GEI-1 — Hollow Stem Auger Boring by GeoEngineers, 2021/2022
- GEI-4 — Direct Push Boring by GeoEngineers, 2021/2022
- SSV-1 — Soil Vapor Boring by GeoEngineers, 2021

Notes:

1. The locations of all features shown are approximate.
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Data Source: Aerial from Google Earth Pro dated 5/26/2018.
Lidar from Puget Sound Lidar Consortium dated 2016.

Projection: NAD83 Washington State Planes, North Zone, US Foot

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Environmental Investigation Sampling Locations

701 South Jackson Street
Seattle, Washington

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Figure 2

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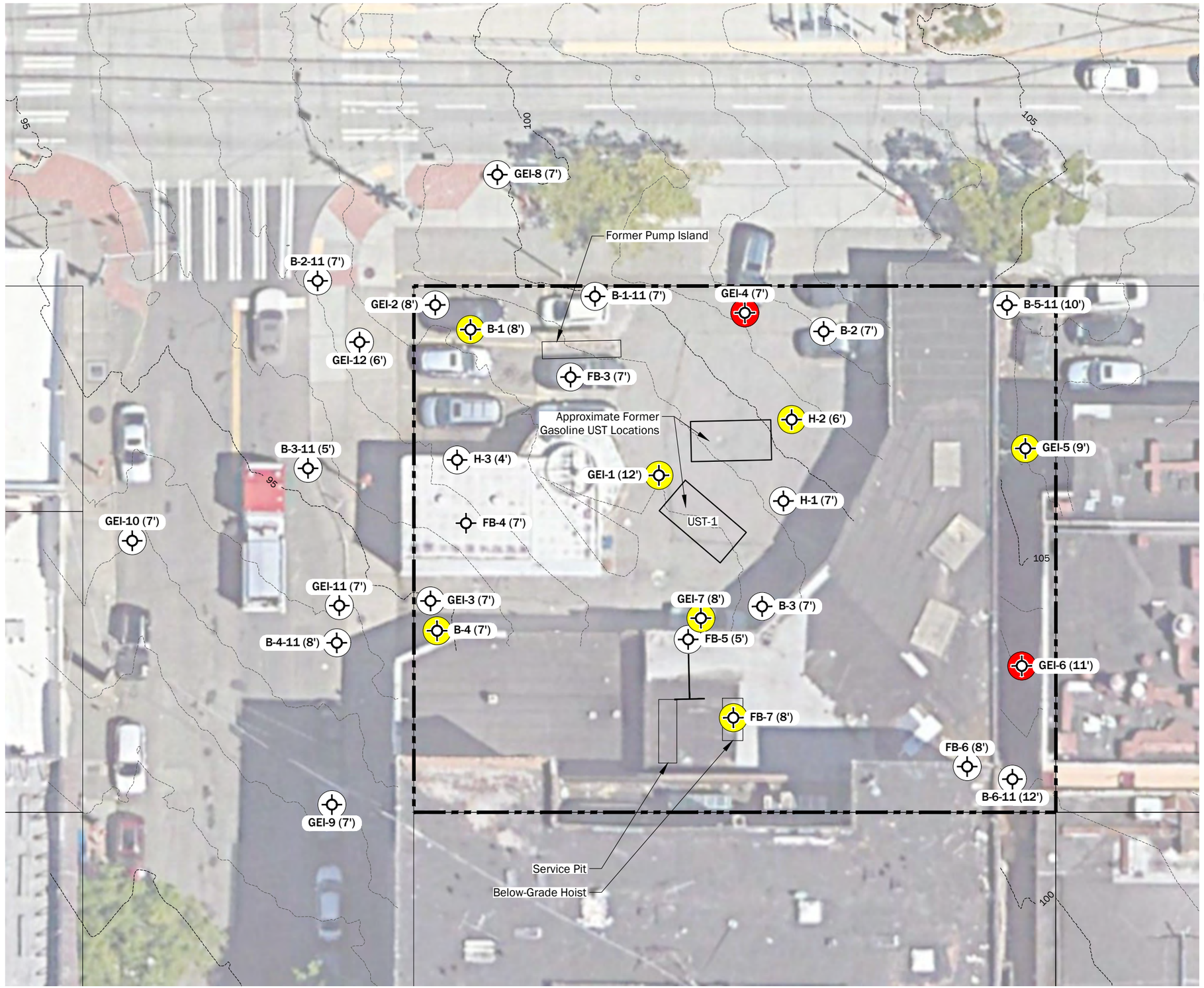
P:\24\24504001\CAD\01\Contaminated Media Management Plan\24504001_F02_Environmental Investigation Sampling Locations.dwg TAB:F02 Date Exported: 05/24/22 12:46 by mwoods



Legend

- FB-4 — Investigation Sampling Location
- FB-5 — Investigation sampling location completed at 25 degrees to horizontal
- One or More Contaminants Detected at a Concentration Greater Than the MTCA CUL
- One or More Contaminants Detected at a Concentration Greater than Natural Background but Less than the MTCA CUL
- Contaminants Not Detected or Detected Less than Natural Background
- Not Analyzed
- (7') — Depth below ground surface to Fill/Native Soil Contact (Approximate)

Natural Background = Natural Background soil metals for Puget Sound (Ecology Publication 94-115)
MTCA = Model Toxics Control Act
CUL = Cleanup Level (see Table 1)

Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: Aerial from Google Earth Pro dated 5/26/2018.
Lidar from Puget Sound Lidar Consortium dated 2016.

Projection: NAD83 Washington State Planes, North Zone, US Foot

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Feet

Fill Soil Conditions

701 South Jackson Street
Seattle, Washington

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Figure 3

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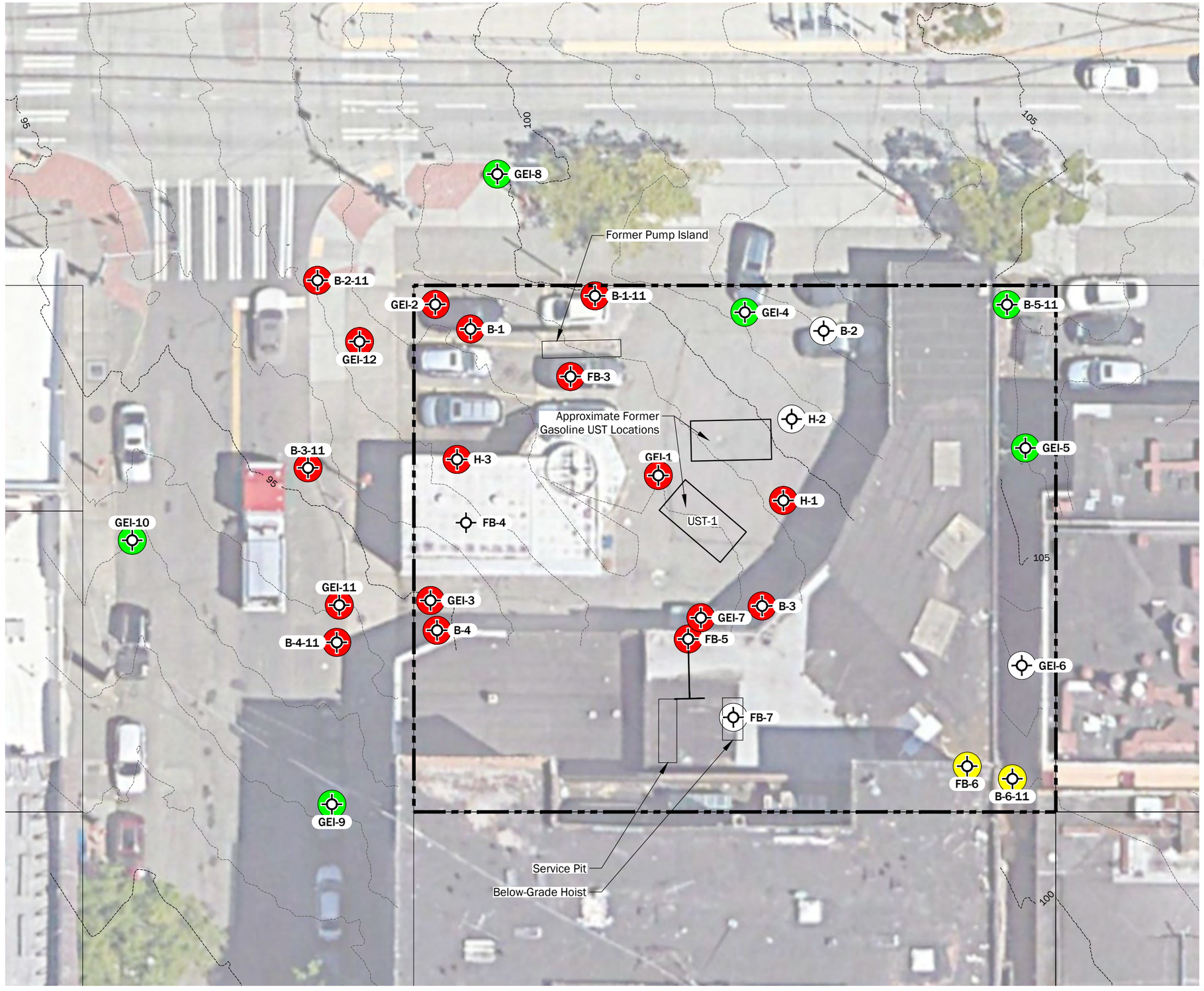
P:\24\24504001\CAD\01\Contaminated Media Management Plan\24504001_F03_Fill Soil Conditions.dwg TAB:F03 Date Exported: 05/24/22 - 12:46 by mwoods



Legend

- FB-4 — Investigation Sampling Location
- FB-5 — Investigation sampling location completed at 25 degrees to horizontal
- One or More Contaminants Detected at a Concentration Greater Than the MTCA CUL
- One or More Contaminants Detected at a Concentration Greater than Natural Background but Less than the MTCA CUL
- Contaminants Not Detected or Detected Less than Natural Background
- Not Analyzed

Natural Background = Natural Background soil metals for Puget Sound (Ecology Publication 94-115)
MTCA = Model Toxics Control Act
CUL = Cleanup Level (see Table 1)

Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: Aerial from Google Earth Pro dated 5/26/2018.
Lidar from Puget Sound Lidar Consortium dated 2016.

Projection: NAD83 Washington State Planes, North Zone, US Foot

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Feet

Native Soil Conditions

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Seattle, Washington

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Figure 4

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P:\24\24504001\CAD\01\Contaminated Media Management Plan\24504001_F04_Native Soil Conditions.dwg TAB:F04 Date Exported: 05/24/22 - 12:46 by mwoods

Legend

GEI-1 — Monitoring Well / Grab Groundwater Sampling Location

One or More Contaminants Detected at a Concentration Greater Than the MTCA CUL

Contaminants Not Detected or Detected Less than Natural Background

Not Analyzed

(7') — Measured Groundwater Elevation (NAVD 88)

Inferred Groundwater Flow Direction

Natural Background = Natural Background soil metals for Puget Sound (Ecology Publication 94-115)
MTCA = Model Toxics Control Act
CUL = Cleanup Level (see Table 1)

Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: Aerial from Google Earth Pro dated 5/26/2018.
Lidar from Puget Sound Lidar Consortium dated 2016.

Projection: NAD83 Washington State Planes, North Zone, US Foot

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Groundwater Conditions

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Figure 5

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P:\24\24504001\CAD\01\Contaminated Media Management Plan\2450400101_F05_Groundwater Conditions.dwg TAB:F05 Date Exported: 05/24/22 - 12:46 by mwoods

Legend

SSV-1 Soil Vapor Sampling Location

One or More Contaminants Detected at a Concentration Greater Than the MTCA Sub-Slab Soil Gas Screening Level

Contaminants Not Detected or Detected Less than the MTCA Sub-Slab Soil Gas Screening Level

Not Analyzed

MTCA = Model Toxics Control Act

Notes:

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Data Source: Aerial from Google Earth Pro dated 5/26/2018.
Lidar from Puget Sound Lidar Consortium dated 2016.

Projection: NAD83 Washington State Planes, North Zone, US Foot

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Feet

Soil Vapor Conditions

701 South Jackson Street
Seattle, Washington

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Figure 6

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P:\24\24504001\CAD\01\Contaminated Media Management Plan\24504001_F06_Soil Vapor Conditions.dwg TAB:F05 Date Exported: 05/24/22 - 12:46 by mwoods

P:\24\24504001\CAD\01\Contaminated Media Management Plan\24504001_F07_EL 105-100.dwg TAB:F07 Date Exported: 05/24/22 - 12:47 by mwoods

Legend

FB-4 — Investigation Sampling Location

FB-5 — Investigation sampling location completed at 25 degrees to horizontal

Soil Management Units

Category 1 Soil - COCs either not detected or detected at a concentrations less than Natural Background. Category 1 Soil does not require special handling and is suitible for transport and disposal to an owner approved fill site.

Category 2 Soil - One or more COCs detected at a concentration greater than Natural Background but less than the MTCA CUL. Category 2 Soil is suitable for transport and disposal to an owner approved facility permitted to receive such material.

Category 3 Soil - One or more COCs detected at a concentration greater than the MTCA CUL. Category 3 Soil is suitable for transport and disposal to an owner approved landfill.

Natural Background = Natural Background soil metals for Puget Sound (Ecology Publication 94-115)
MTCA = Model Toxics Control Act
CUL = Cleanup Level (see Table 1)
COC = Contaminant of Concern

Notes:

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Data Source: Aerial from Google Earth Pro dated 5/26/2018.
Lidar from Puget Sound Lidar Consortium dated 2016.

Projection: NAD83 Washington State Planes, North Zone, US Foot

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Soil Management - Elevation 105' to 100'

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Figure 7

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Legend

FB-4 — Investigation Sampling Location

FB-5 — Investigation sampling location completed at 25 degrees to horizontal

Soil Management Units

Category 1 Soil - COCs either not detected or detected at a concentrations less than Natural Background. Category 1 Soil does not require special handling and is suitible for transport and disposal to an owner approved fill site.

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Category 3 Soil - One or more COCs detected at a concentration greater than the MTCA CUL. Category 3 Soil is suitable for transport and disposal to an owner approved landfill.

Natural Background = Natural Background soil metals for Puget Sound (Ecology Publication 94-115)
MTCA = Model Toxics Control Act
CUL = Cleanup Level (see Table 1)
COC = Contaminant of Concern

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Data Source: Aerial from Google Earth Pro dated 5/26/2018.
Lidar from Puget Sound Lidar Consortium dated 2016.

Projection: NAD83 Washington State Planes, North Zone, US Foot

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Soil Management - Elevation 100' to 95'

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Figure 8

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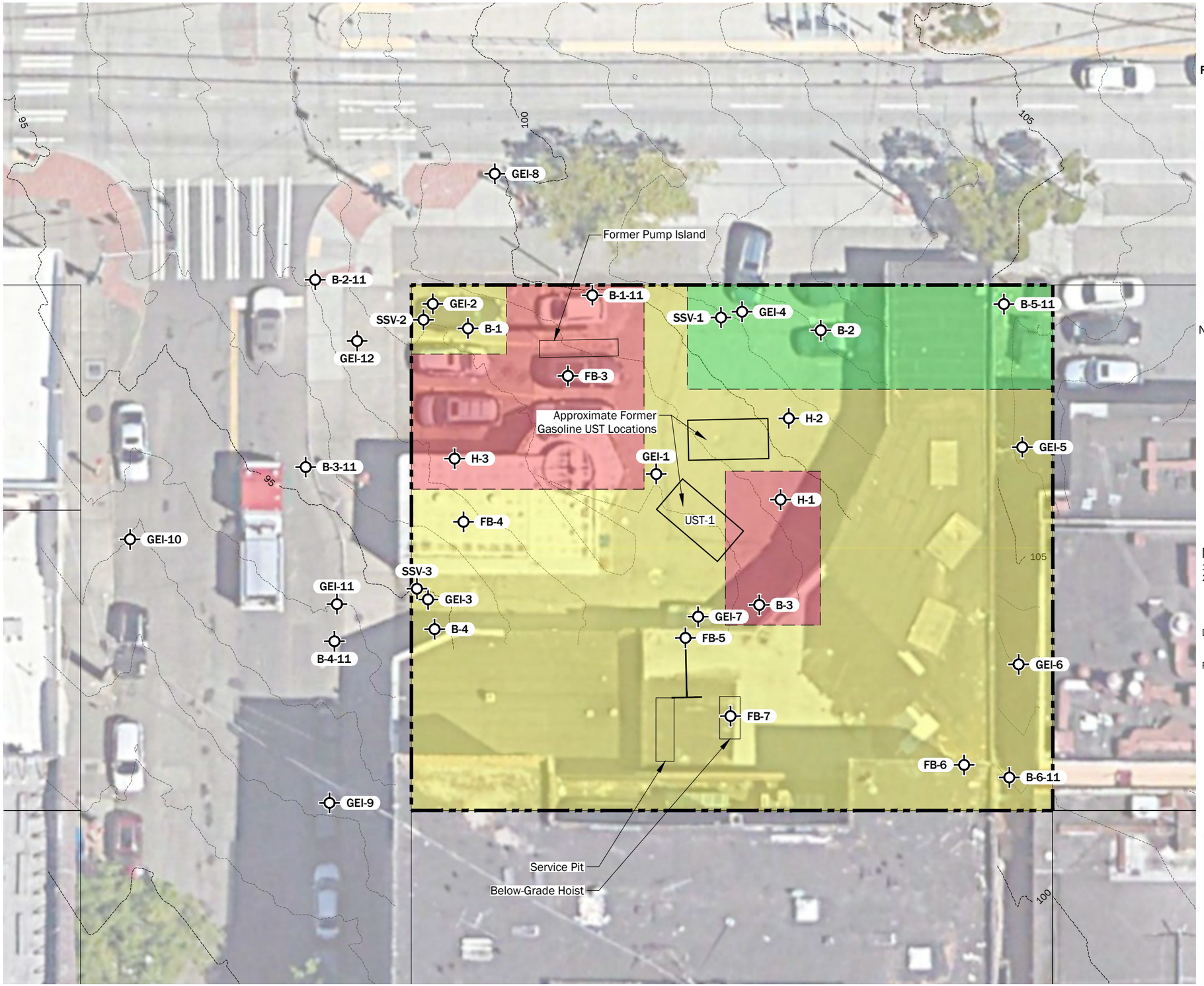

Legend

FB-4 — Investigation Sampling Location

FB-5 — Investigation sampling location completed at 25 degrees to horizontal

Soil Management Units

Category 1 Soil - COCs either not detected or detected at a concentrations less than Natural Background. Category 1 Soil does not require special handling and is suitible for transport and disposal to an owner approved fill site.

Category 2 Soil - One or more COCs detected at a concentration greater than Natural Background but less than the MTCA CUL. Category 2 Soil is suitable for transport and disposal to an owner approved facility permitted to receive such material.

Category 3 Soil - One or more COCs detected at a concentration greater than the MTCA CUL. Category 3 Soil is suitable for transport and disposal to an owner approved landfill.

Natural Background = Natural Background soil metals for Puget Sound (Ecology Publication 94-115)
MTCA = Model Toxics Control Act
CUL = Cleanup Level (see Table 1)
COC = Contaminant of Concern

Notes:

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Lidar from Puget Sound Lidar Consortium dated 2016.

Projection: NAD83 Washington State Planes, North Zone, US Foot

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Soil Management - Elevation 95' to 90'

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Figure 9

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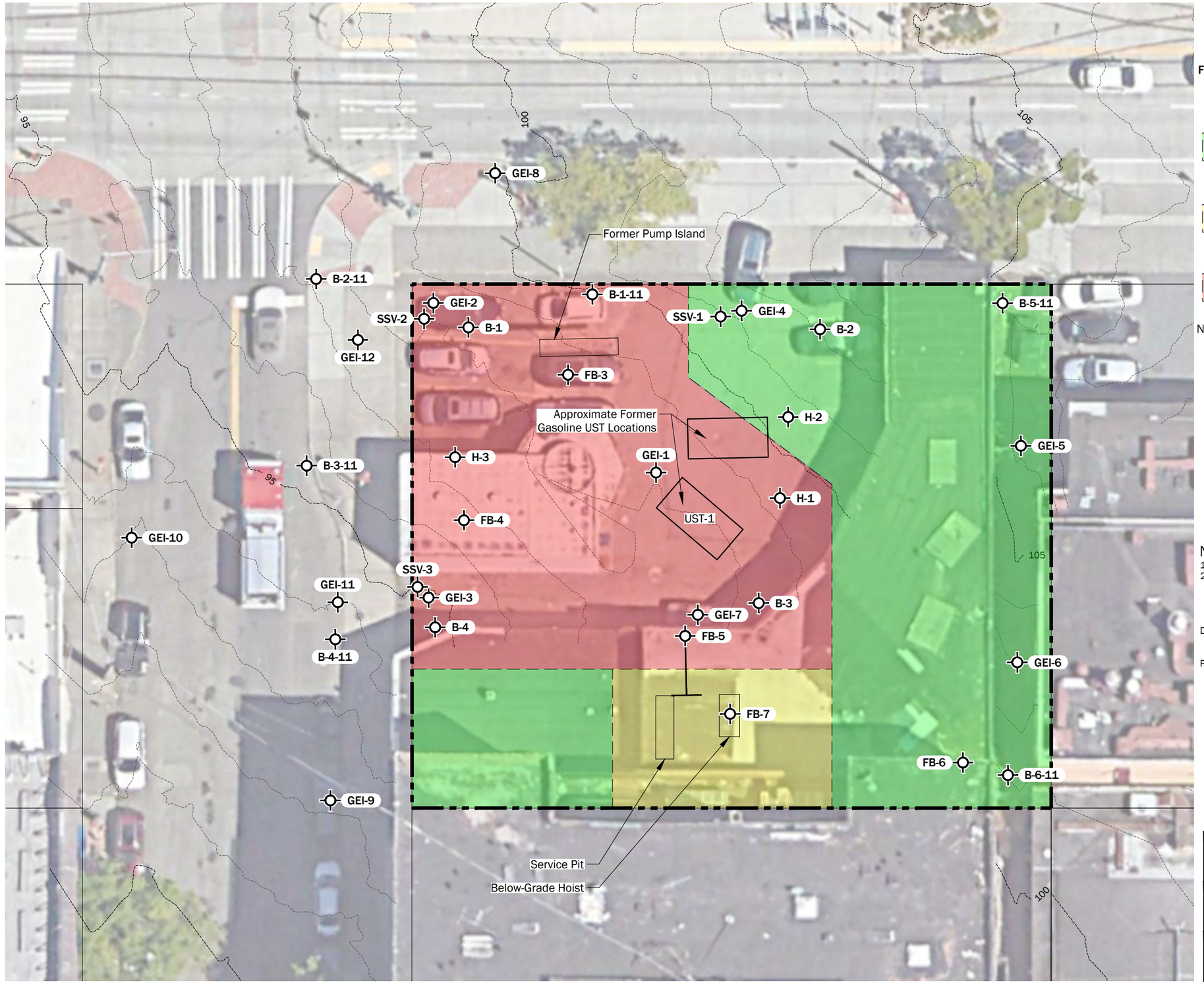

Legend

FB-4 — Investigation Sampling Location

FB-5 — Investigation sampling location completed at 25 degrees to horizontal

Soil Management Units

Category 1 Soil - COCs either not detected or detected at a concentrations less than Natural Background. Category 1 Soil does not require special handling and is suitible for transport and disposal to an owner approved fill site.

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Category 3 Soil - One or more COCs detected at a concentration greater than the MTCA CUL. Category 3 Soil is suitable for transport and disposal to an owner approved landfill.

Natural Background = Natural Background soil metals for Puget Sound (Ecology Publication 94-115)
MTCA = Model Toxics Control Act
CUL = Cleanup Level (see Table 1)
COC = Contaminant of Concern

Notes:

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Lidar from Puget Sound Lidar Consortium dated 2016.

Projection: NAD83 Washington State Planes, North Zone, US Foot

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Soil Management - Elevation 90' to 85'

701 South Jackson Street
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Figure 10

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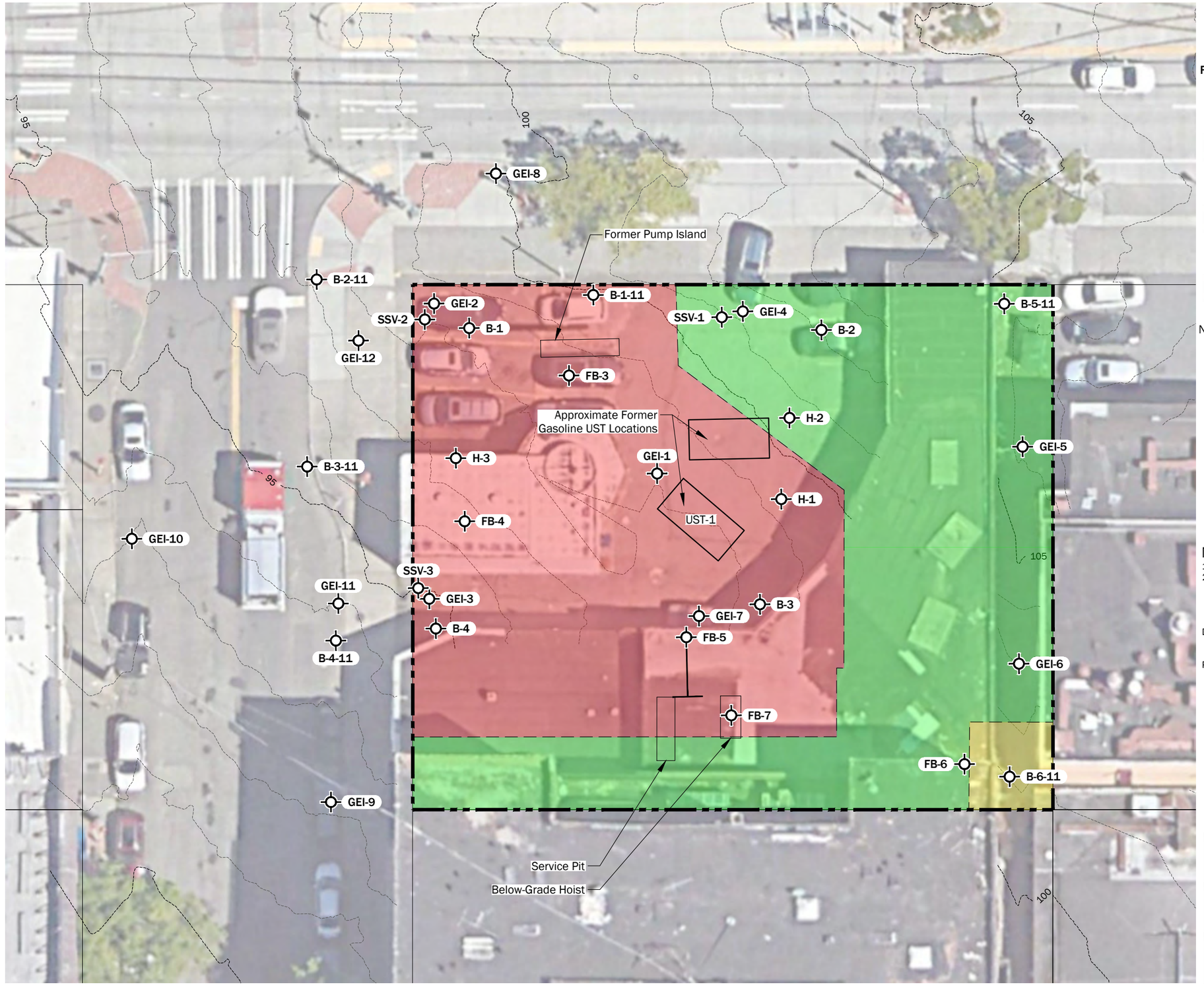

Legend

FB-4 — Investigation Sampling Location

FB-5 — Investigation sampling location completed at 25 degrees to horizontal

Soil Management Units

Category 1 Soil - COCs either not detected or detected at a concentrations less than Natural Background. Category 1 Soil does not require special handling and is suitible for transport and disposal to an owner approved fill site.

Category 2 Soil - One or more COCs detected at a concentration greater than Natural Background but less than the MTCA CUL. Category 2 Soil is suitable for transport and disposal to an owner approved facility permitted to receive such material.

Category 3 Soil - One or more COCs detected at a concentration greater than the MTCA CUL. Category 3 Soil is suitable for transport and disposal to an owner approved landfill.

Natural Background = Natural Background soil metals for Puget Sound (Ecology Publication 94-115)
MTCA = Model Toxics Control Act
CUL = Cleanup Level (see Table 1)
COC = Contaminant of Concern

Notes:

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Data Source: Aerial from Google Earth Pro dated 5/26/2018.
Lidar from Puget Sound Lidar Consortium dated 2016.

Projection: NAD83 Washington State Planes, North Zone, US Foot

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Feet

Soil Management - Elevation 85' to 80'

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Figure 11

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Legend

FB-4 — Investigation Sampling Location

FB-5 — Investigation sampling location completed at 25 degrees to horizontal

Soil Management Units

Category 1 Soil - COCs either not detected or detected at a concentrations less than Natural Background. Category 1 Soil does not require special handling and is suitible for transport and disposal to an owner approved fill site.

Category 2 Soil - One or more COCs detected at a concentration greater than Natural Background but less than the MTCA CUL. Category 2 Soil is suitable for transport and disposal to an owner approved facility permitted to receive such material.

Category 3 Soil - One or more COCs detected at a concentration greater than the MTCA CUL. Category 3 Soil is suitable for transport and disposal to an owner approved landfill.

Natural Background = Natural Background soil metals for Puget Sound (Ecology Publication 94-115)
MTCA = Model Toxics Control Act
CUL = Cleanup Level (see Table 1)
COC = Contaminant of Concern

Notes:

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Data Source: Aerial from Google Earth Pro dated 5/26/2018.
Lidar from Puget Sound Lidar Consortium dated 2016.

Projection: NAD83 Washington State Planes, North Zone, US Foot

N W E S

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Feet

Soil Management - Elevation 80' to 75'

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Figure 12

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APPENDIX A
Exploration Logs

BORING NO. 1

Logged By: DH Date Drilled: 8/3/92 Surface Elev. N/A

Depth ft.	USCS	Soil Description	Sample Type	Sample No.	SPT(N) Blows per ft.	Water Content %	Other Test
		Asphalt and gravel base					
	CL	Gray CLAY, very stiff, moist (FILL)	I	1	21		
5							
	SM	Gray silty fine SAND, dense, gasoline odor (FILL)	I	2	41		CA
10		Interlayered with clay Gasoline odor	I	3	46		CA
15							
	CL	Gray silty CLAY, very stiff, no gasoline odor.	I	4	34		
20		End of Boring @ 17.5 feet					
25		NOTES: USCS = Unified Soil Classification System, See Plate 6 CA = Chemical Analysis Test Results:					
30							
35							
40							

	Sample @ 8.5 Ft	Sample @12.5 Ft
WTPH-G (ppm)	2.2	6,000
Benzene (ppm)	ND	4
Toluene (ppm)	ND	55
Ethyl-Benzene (ppm)	ND	66
Xylene (ppm)	0.1	330
Lead (ppm)	ND	1.5

ND=Not Detectable

LEGEND: I 2" O.D. Split-Spoon Sample; II C 3" O.D. California-Sampler Sample; 3" O.D. Shelby-Tube Sample

GROUNDWATER OBSERVATION WELL: seal; measured water level on date indicated; well tip (screen)

Geo Group Northwest, Inc.

Geotechnical Engineers, Geologists & Environmental Scientists

13240 NE 20th Street, Suite 12 Bellevue, WA 98005

Phone (206) 649-8757 Fax (206) 649-8758

BORING LOG

701 SOUTH JACKSON STREET

SEATTLE, WASHINGTON

JOB NO. E-0260 | DATE 9/16/92 | PLATE 3

BORING NO. 2

Logged By: DH Date Drilled: 8/3/92 Surface Elev. N/A

Depth ft.	USCS	Soil Description	Sample Type	Sample No.	SPT(N) Blows per ft.	Water Content %	Other Test
		Asphalt and gravel base					
	CL	Gray CLAY, stiff, moist, no gasoline odor (FILL)	I	1	12		
5	CL	Gray CLAY with red brick debris and gravel, no gasoline odor (FILL)					
	SM	Gray silty fine SAND, very dense, no gasoline odor (FILL)	I	2	51		CA
10		GRAVEL with fine sand, no gasoline odor (FILL)	I	3	75 per 3"		
		End of Boring @ 10 feet					
15							
20							
25							
30							
35							
40							

NOTES:
No hydrocarbon odor or evidence of hydrocarbon contamination found in Boring
USCS = Unified Soil Classification System, See Plate 6
CA = Chemical Analysis
Test Results:

	Sample @ 7.5 Ft
WTPH-G (ppm)	1.6
Benzene (ppm)	ND
Toluene (ppm)	ND
Ethyl-Benzene (ppm)	ND
Xylene (ppm)	ND
Lead (ppm)	2.2

ND=Not Detectable

LEGEND: I 2" O.D. Split-Spoon Sample; II 3" O.D. Shelby-Tube Sample; C 3" O.D. California-Sampler Sample

GROUNDWATER OBSERVATION WELL: seal; measured water level on date indicated; well tip (screen)

Geo Group Northwest, Inc.
Geotechnical Engineers, Geologists & Environmental Scientists
13240 NE 20th Street, Suite 12 Bellevue, WA 98005
Phone (206) 649-8757 Fax (206) 649-8758

BORING LOG
701 SOUTH JACKSON STREET
SEATTLE, WASHINGTON

JOB NO. E-0260 DATE 8/3/92 PLATE 4

BORING NO. 3

Logged By: DH Date Drilled: 8/3/92 Surface Elev. N/A

Depth ft.	USCS	Soil Description	Sample Type	Sample No.	SPT(N) Blows per ft.	Water Content %	Other Test
		Asphalt and gravel base					
	CL	Gray CLAY with gravel, medium soft, moist, unknown odor (FILL)	I	1	5		
5	SM	Gray silty fine SAND, dense, stinks	I	2	33		CA
10		unkown odor	I	3	34		
			I	4	50		
15		End of Boring @ 12.5 feet					
20							
25							
30							
35							
40							

NOTES:
USCS = Unified Soil Classification System, See Plate 6
CA = Chemical Analysis
Test Results:

	Sample @ 7.5 Ft
WTPH-G (ppm)	1,400
Benzene (ppm)	0.31
Toluene (ppm)	1.9
Ethyl-Benzene (ppm)	6.2
Xylene (ppm)	16
Lead (ppm)	3.8
Heavier Oil (ppm)	1,800

ND=Not Detectable

LEGEND: I 2" O.D. Split-Spoon Sample; II C 3" O.D. California-Sampler Sample; 3" O.D. Shelby-Tube Sample

GROUNDWATER OBSERVATION WELL: seal; measured water level on date indicated; well tip (screen)

Geo Group Northwest, Inc.
Geotechnical Engineers, Geologists & Environmental Scientists
13240 NE 20th Street, Suite 12 Bellevue, WA 98005
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701 SOUTH JACKSON STREET
SEATTLE, WASHINGTON

JOB NO. E-0260 | DATE 8/3/92 | PLATE 5

MODIFIED UNIFIED CLASSIFICATION SYSTEM FOR SOILS

MAJOR DIVISION			GROUP SYMBOL	GRAPH SYMBOL	COLOR CODE	TYPICAL DESCRIPTION	LABORATORY CLASSIFICATION CRITERIA
COARSE-GRAINED SOILS (MORE THAN HALF BY WEIGHT LARGER THAN 200 SIEVE)	GRAVELS (MORE THAN HALF COARSE GRAINS LARGER THAN NO 4 SIEVE)	CLEAN GRAVELS (LITTLE OR NO FINES)	GW		RED	WELL GRADED GRAVELS, LITTLE OR NO FINES	$C_U = \frac{D_{60}}{D_{10}} > 4$ $C_C = \frac{(D_{30})^2}{D_{10} \times D_{60}} = 1$ to 3
			GP		RED	POORLY GRADED GRAVELS, AND GRAVEL-SAND MIXTURES, LITTLE OR NO FINES	NOT MEETING ABOVE REQUIREMENTS
		DIRTY GRAVELS (WITH SOME FINES)	GM		YELLOW	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES	CONTENT OF FINES EXCEEDS 12% — ATTERBERG LIMITS BELOW "A" LINE OR P.I. LESS THAN 4
			GC		YELLOW	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES	CONTENT OF FINES EXCEEDS 12% — ATTERBERG LIMITS ABOVE "A" LINE P.I. MORE THAN 7
	SANDS (MORE THAN HALF FINE GRAINS SMALLER THAN NO 4 SIEVE)	CLEAN SANDS (LITTLE OR NO FINES)	SW		RED	WELL GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES	$C_U = \frac{D_{60}}{D_{10}} > 6$ $C_C = \frac{(D_{30})^2}{D_{10} \times D_{60}} = 1$ to 3
			SP		RED	POORLY GRADED SANDS, LITTLE OR NO FINES	NOT MEETING ABOVE REQUIREMENTS
		DIRTY SANDS (WITH SOME FINES)	SM		YELLOW	SILTY SANDS, SAND-SILT MIXTURES	CONTENT OF FINES EXCEEDS 12% — ATTERBERG LIMITS BELOW "A" LINE P.I. LESS THAN 4
			SC		YELLOW	CLAYEY SANDS, SAND-CLAY MIXTURES	CONTENT OF FINES EXCEEDS 12% — ATTERBERG LIMITS ABOVE "A" LINE P.I. MORE THAN 7
FINE-GRAINED SOILS (MORE THAN HALF BY WEIGHT PASSES 200 SIEVE)	SILTS (BELOW A LINE NEGLIGIBLE ORGANIC CONTENT)	$W_L < 50\%$	ML		GREEN	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY SANDS OF SLIGHT PLASTICITY	CLASSIFICATION IS BASED UPON PLASTICITY CHART (see below)
		$W_L > 50\%$	MH		BLUE	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS, FINE SANDY OR SILTY SOILS	
	CLAYS (ABOVE A LINE ON PLASTICITY CHART NEGLIGIBLE ORGANIC CONTENT)	$W_L < 30\%$	CL		GREEN	INORGANIC CLAYS OF LOW PLASTICITY, GRAVELLY, SANDY, OR SILTY CLAYS, LEAN CLAYS	
		$30\% < W_L < 50\%$	CI		GREEN-BLUE	INORGANIC CLAYS OF MEDIUM PLASTICITY, SILTY CLAYS	
		$W_L > 50\%$	CH		BLUE	INORGANIC CLAYS OF HIGH PLASTICITY FAT CLAYS	
	ORGANIC SILTS & CLAYS (BELOW A LINE ON CHART)	$W_L < 50\%$	OL		GREEN	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY	WHENEVER THE NATURE OF THE FINE CONTENT HAS NOT BEEN DETERMINED IT IS DESIGNATED BY THE LETTER "F", E.G. SF IS A MIXTURE OF SAND WITH SILT OR CLAY
		$W_L > 50\%$	OH		BLUE	ORGANIC CLAYS OF HIGH PLASTICITY	
HIGHLY ORGANIC SOILS			PI		ORANGE	PEAT AND OTHER HIGHLY ORGANIC SOILS	STRONG COLOR OR ODOR AND OFTEN FIBROUS TEXTURE

SPECIAL SYMBOLS

BEDROCK (Undifferentiated)

VOLCANIC ASH

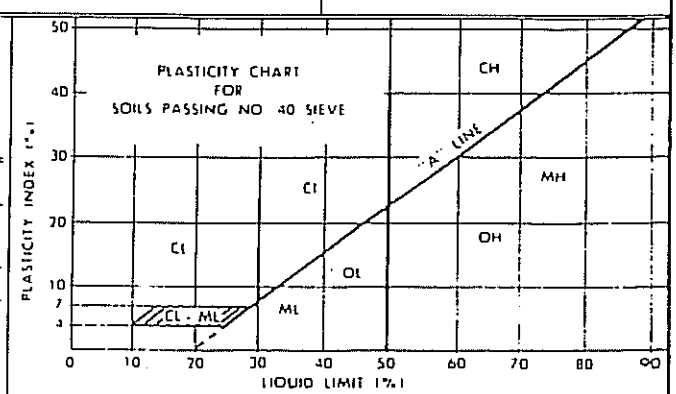
SOIL COMPONENTS

FRACTION	U S STANDARD SIEVE SIZE		DEFINING RANGES OF PERCENTAGE BY WEIGHT OF MINOR COMPONENTS	
	PASSING	RETAINED	PERCENT	DESCRIPTOR
GRAVEL			50 - 35	and
coarse	76 mm	19 mm		
fine	19 mm	No 4	35 - 20	some
SAND			20 - 10	little
coarse	4.75 mm	2.00 mm		
medium	2.00 mm	425 µm	10 - 1	trace
fine	425 µm	75 µm		
SILT (non plastic) or CLAY (plastic)	75 µm			

OVERSIZE MATERIAL

Rounded or subrounded
COBBLES 76 mm to 203 mm
BOULDERS > 203 mm

Not rounded
ROCK FRAGMENTS > 76 mm
ROCKS > 0.76 cubic metre in volume



1 ALL SIEVE SIZES MENTIONED ON THIS CHART ARE U.S. STANDARD, A S T M E 11

2 BOUNDARY CLASSIFICATIONS POSSESSING CHARACTERISTICS OF TWO GROUPS ARE GIVEN COMBINED GROUP SYMBOLS, E.G. GW-GC IS A WELL GRADED GRAVEL SAND MIXTURE WITH CLAY BINDER BETWEEN 5% AND 12%

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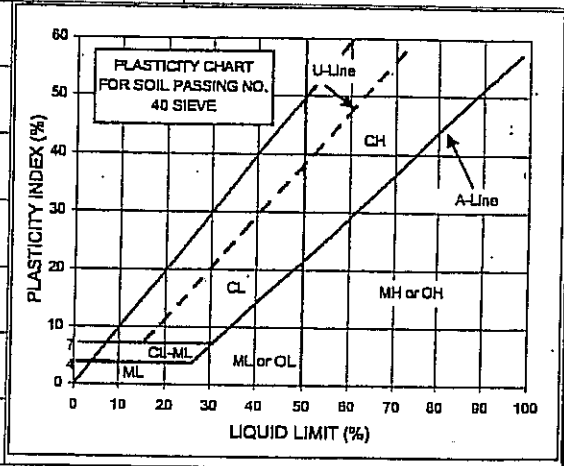
PLATE 6

LEGEND FOR SOIL CLASSIFICATION AND PENETRATION TEST DATA

UNIFIED SOIL CLASSIFICATION SYSTEM (USCS)

MAJOR DIVISION			GROUP SYMBOL	TYPICAL DESCRIPTION	LABORATORY CLASSIFICATION CRITERIA	
COARSE-GRAINED SOILS More Than Half by Weight Larger Than No. 200 Sieve	GRAVELS (More Than Half Coarse Fraction is Larger Than No. 4 Sieve)	CLEAN GRAVELS (little or no fines)	GW	WELL GRADED GRAVELS, GRAVEL-SAND MIXTURE, LITTLE OR NO FINES	CONTENT OF FINES BELOW 5%	Cu = (D60 / D10) greater than 4 Cc = $(D30)^2$ / (D10 * D60) between 1 and 3
			GP	POORLY GRADED GRAVELS, AND GRAVEL-SAND MIXTURES LITTLE OR NO FINES		CLEAN GRAVELS NOT MEETING ABOVE REQUIREMENTS
		DIRTY GRAVELS (with some fines)	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES	CONTENT OF FINES EXCEEDS 12%	GM: ATTERBERG LIMITS BELOW "A" LINE or P.I. LESS THAN 4
			GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES		GC: ATTERBERG LIMITS ABOVE "A" LINE or P.I. MORE THAN 7
	SANDS (More Than Half Coarse Fraction is Smaller Than No. 4 Sieve)	CLEAN SANDS (little or no fines)	SW	WELL GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES	CONTENT OF FINES BELOW 5%	Cu = (D60 / D10) greater than 6 Cc = $(D30)^2$ / (D10 * D60) between 1 and 3
			SP	POORLY GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES		CLEAN SANDS NOT MEETING ABOVE REQUIREMENTS
		DIRTY SANDS (with some fines)	SM	SILTY SANDS, SAND-SILT MIXTURES	CONTENT OF FINES EXCEEDS 12%	ATTERBERG LIMITS BELOW "A" LINE with P.I. LESS THAN 4
			SC	CLAYEY SANDS, SAND-CLAY MIXTURES		ATTERBERG LIMITS ABOVE "A" LINE with P.I. MORE THAN 7
FINE-GRAINED SOILS Less Than Half by Weight Larger Than No. 200 Sieve	SILTS (Below A-Line on Plasticity Chart, Negligible Organics)	Liquid Limit < 50%	ML	INORGANIC SILTS, ROCK FLOUR, SANDY SILTS OF SLIGHT PLASTICITY		
		Liquid Limit > 50%	MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS, FINE SANDY OR SILTY SOIL		
	CLAYS (Above A-Line on Plasticity Chart, Negligible Organics)	Liquid Limit < 50%	CL	INORGANIC CLAYS OF LOW PLASTICITY, GRAVELLY, SANDY, OR SILTY CLAYS, CLEAN CLAYS		
		Liquid Limit > 50%	CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS		
	ORGANIC SILTS & CLAYS (Below A-Line on Plasticity Chart)	Liquid Limit < 50%	OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY		
		Liquid Limit > 50%	OH	ORGANIC CLAYS OF HIGH PLASTICITY		
HIGHLY ORGANIC SOILS			Pt	PEAT AND OTHER HIGHLY ORGANIC SOILS		



SOIL PARTICLE SIZE

FRACTION	U.S. STANDARD SIEVE			
	Passing		Retained	
	Sieve	Size (mm)	Sieve	Size (mm)
SILT / CLAY	#200	0.075		
SAND				
FINE	#40	0.425	#200	0.075
MEDIUM	#10	2.00	#40	0.425
COARSE	#4	4.75	#10	2.00
GRAVEL				
FINE	0.75"	19	#4	4.75
COARSE	3"	76	0.75"	19
COBBLES	76 mm to 203 mm			
BOULDERS	> 203 mm			
ROCK FRAGMENTS	> 76 mm			
ROCK	>0.76 cubic meter in volume			

GENERAL GUIDANCE FOR ENGINEERING PROPERTIES OF SOILS, BASED ON STANDARD PENETRATION TEST (SPT) DATA

SANDY SOILS				SILTY & CLAYEY SOILS		
Blow Counts N	Relative Density, %	Friction Angle ϕ, degrees	Description	Blow Counts N	Unconfined Strength Qu, tsf	Description
0 - 4	0 - 15		Very Loose	< 2	< 0.25	Very soft
4 - 10	15 - 35	28 - 30	Loose	2 - 4	0.25 - 0.50	Soft
10 - 30	35 - 65	28 - 36	Medium Dense	4 - 8	0.50 - 1.00	Medium Stiff
30 - 50	65 - 85	35 - 42	Dense	8 - 15	1.00 - 2.00	Stiff
> 50	85 - 100	38 - 48	Very Dense	15 - 30	2.00 - 4.00	Very Stiff
				> 30	> 4.00	Hard

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PLATE A1

BORING NO. B-1

Logged By: KJ Date Drilled: 2/1/06 Surface Elev. 89 feet

Depth ft.	El. ft.	USCS Code	Description	Sample Type	Sample No.	Blow Counts per 6"	Water Content %	Comments
			Asphalt (2" thick) over concrete (5" to 6" thick).					
5		ML	Olive gray SILT, damp, medium dense, rare fine sand laminae, some oxidation stain (NATIVE SOIL).		S1	2,7,9 N=16	28.2	
		ML	Gray SILT, damp, medium dense, moist sand lens in middle part of sample, hydrocarbon odor.		S2	5,14,10 N=24	28.4	
	80							
10		ML/ SP	Olive gray SILT and SAND, interbedded, damp, medium dense, trace oxidation stain in sand, thickly interbedded, hydrocarbon odor.		S3	5,15,13 N=28	4.7	
		SP	Gray SAND, damp to moist, dense, occasional silt lenses, no oxidation stain, hydrocarbon odor.		S4	7,16,19 N=35	17.2	
15		ML/ SP	Olive gray SILT and gray SAND, interbedded, damp to moist, dense, weak hydrocarbon odor.		S5	5,11,22 N=33	28.6	
	70							
20		ML	Olive SILT, damp to moist, medium dense, some very fine sandy zones, occasional thin silty sand layers, no hydrocarbon odor.		S6	4,8,13 N=21	27.8	
25		ML/ SM	As above but interbedded with olive gray SILTY SAND and SAND, damp, medium dense, sand is mostly very fine grained, some silt layers contain lesser sand.		S7	4,10,14 N=24	19.8	
	60							
30		SM	Olive gray SILTY SAND, damp, medium dense, sand is very fine and fine grained, light oxidation stain, occasional clean sand laminae.		S8	8,11,13 N=24	24.1	
35		SP-SM	Olive to brownish gray SAND to SILTY SAND, damp, very dense, thinly bedded, sand is very fine and fine grained, occasional silty sand lenses, minor oxidation stain.		S9	8,22,31 N=53	17.1	
	50							
40		SP	Light brown gray SAND, damp, dense, very fine and fine grained, trace oxidation stain.		S10	9,20,21 N=41	7.5	

LEGEND:
- 2" O.D. Split-Spoon Sampler
- 3" O.D. Dames & Moore Sampler
- 3.25" O.D. Dames & Moore Sampler

SPT = Standard Penetration Test

▽ water level during drilling

GEO Group Northwest, Inc.
Geotechnical Engineers, Geologists, & Environmental Scientists

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701 S. JACKSON STREET
SEATTLE, WASHINGTON

JOB NO. G-0260 DATE 2/13/06 PLATE A2

BORING NO. B-1

Logged By: KJ Date Drilled: 2/1/06 Surface Elev. 89 feet

Depth ft.	El. ft.	USCS Code	Description	Sample Type	Sample No.	Blow Counts per 6"	Water Content %	Comments
45			Bottom of boring: 40.5 feet. Drilling Method: Hollow-stem auger. Sampling Method: 2-inch-O.D. SPT sampler driven using a 140 lb. hammer with a 30-inch drop. Groundwater not encountered during drilling. No fill encountered.					
50								
55								
60								
65								
70								
75								
80								

LEGEND:
- 2" O.D. Split-Spoon Sampler
- 3" O.D. Dames & Moore Sampler
- 3.25" O.D. Dames & Moore Sampler

SPT = Standard Penetration Test

▽ water level during drilling

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JOB NO. G-0260 DATE 2/13/06 PLATE A3

BORING NO. B-2

Logged By: KJ Date Drilled: 2/1/06 Surface Elev. 93 feet

Depth ft.	El. ft.	USCS Code	Description	Sample Type	Sample No.	Blow Counts per 6"	Water Content %	Comments
			Asphalt (2" thick) over concrete (5" to 6" thick).					
	90	ML	Olive gray SILT with little sand and gravel, damp, loose, crumbly, some oxidation stain (DISTURBED NATIVE SOIL).		S1	2,3,4 N=7	22.6	
5		ML	Gray SILT, damp, medium dense, contains an olive gray fine and medium grained sand lens 2" thick, (NATIVE SOIL).		S2	4,9,12 N=21	30.1	
		SM/ SP	Olive brown SILTY SAND and SAND, interbedded, damp, dense, trace oxidation stain in sand, sand is fine and medium grained.		S3	7,12,18 N=30	8.6	
10		SM/ SP	As above, thickly interbedded.		S4	9,16,18 N=34	12.8	
	80	SP	Olive gray SAND, damp, dense, medium and fine grained, no fines.		S5	8,16,19 N=35	8.6	
15		SP	As above.		S6	7,16,23 N=39	9.3	
20		ML/ SP	Gray SILT and olive gray SAND, interbedded, damp, medium dense, sand is fine and medium grained, some sand layers grade to silty sand.		S7	8,10,20 N=30	30.0	
	70							
25		ML/ SM	As above but also interbedded with olive gray SILTY SAND, damp to moist, dense, moist to wet sand lens 3" thick, sand is fine grained.		S8	6,14,22 N=36	26.5	
30		SM	Gray SILTY SAND, damp to moist, dense, sand is very fine and fine grained.		S9	8,17,26 N=43	24.9	
	60							
35		SM	Olive SILTY SAND, as above.		S10	6,11,20 N=31	25.2	
40								

LEGEND:
- 2" O.D. Split-Spoon Sampler
- 3" O.D. Dames & Moore Sampler
- 3.25" O.D. Dames & Moore Sampler

SPT = Standard Penetration Test

▽ water level during drilling

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SEATTLE, WASHINGTON

JOB NO. G-0260 DATE 2/13/06 PLATE A4

BORING NO. B-2

Logged By: KJ Date Drilled: 2/1/06 Surface Elev. 93 feet

Depth ft.	El. ft.	USCS Code	Description	Sample Type	Sample No.	Blow Counts per 6"	Water Content %	Comments
		SM/ SP	SILTY SAND and SAND, interbedded, damp, dense, silty sand predominates, sand is very fine and fine grained, occasional silt lenses, minor oxidation stain.		S11	9,20,25 N=45	17.7	
45			Bottom of boring: 41.5 feet. Drilling Method: Hollow-stem auger. Sampling Method: 2-inch-O.D. SPT sampler driven using a 140 lb. hammer with a 30-inch drop. Groundwater not encountered during drilling. No fill encountered.					
50								
55								
60								
65								
70								
75								
80								

LEGEND:
- 2" O.D. Split-Spoon Sampler
- 3" O.D. Dames & Moore Sampler
- 3.25" O.D. Dames & Moore Sampler

SPT = Standard Penetration Test

▽ water level during drilling

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JOB NO. G-0260 DATE 2/13/06 PLATE A5

BORING NO. B-3

Logged By: KJ Date Drilled: 2/1/06 Surface Elev. 89 feet

Depth ft.	El. ft.	USCS Code	Description	Sample Type	Sample No.	Blow Counts per 6"	Water Content %	Comments
			Asphalt (2" thick) over broken concrete (3" to 4" thick).					
5		ML	Olive SILT, damp, medium dense, some minor very fine to fine sand, occasional brown clean sand lens (NATIVE SOIL).		S1	3,8,9 N=17	32.9	
		SM-SP	Olive brown SAND to SILTY SAND, damp, medium dense, sand is fine and medium grained, occasional thin gray silt lens.		S2	7,13,16 N=29	14.0	
	80	ML/SP	Olive gray to gray SILT and SAND, interbedded, damp, dense, trace oxidation stain, sand is very fine and fine grained.		S3	6,16,19 N=35	22.1	
10		ML/SP	As above, medium dense, weak hydrocarbon odor.		S4	6,10,18 N=28	28.1	
		ML/SP	As above, but predominantly sand, fine and medium grained, hydrocarbon odor.		S5	9,16,28 N=44	9.0	
15		ML/SP	As above, dense, frequent olive to olive gray silt layers, hydrocarbon odor.		S6	8,17,25 N=42	17.5	
	70							
20		ML/SM	Olive to olive gray SILT and SILTY SAND, interbedded, damp to moist, dense, sand is fine and medium grained, some sand layers do not contain fines, light oxidation stain, no hydrocarbon odor.		S7	5,14,22 N=36	19.4	
25		ML/SM	As above, sand is fine grained, wet lens of clean sand 2" thick.		S8	10,16,22 N=38	30.2	
	60							
30		SM	Olive to olive brown SILTY SAND, damp, dense, trace oxidation stain, sand is very fine grained.		S9	6,13,19 N=32	26.6	
35		ML/SM	Olive brown and olive gray SILT and SILTY SAND, damp, dense, sand is fine grained, light oxidation stain, occasional clean grained sand lenses 1" thick.		S10	8,22,25 N=47	19.9	
	50							
40								

LEGEND:
- 2" O.D. Split-Spoon Sampler
- 3" O.D. Dames & Moore Sampler
- 3.25" O.D. Dames & Moore Sampler

SPT = Standard Penetration Test

▽ water level during drilling

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JOB NO. G-0260 DATE 2/13/06 PLATE A6

BORING NO. B-3

Logged By: KJ Date Drilled: 2/1/06 Surface Elev. 89 feet

Depth ft.	El. ft.	USCS Code	Description	Sample Type	Sample No.	Blow Counts per 6"	Water Content %	Comments
		SM	Olive SILTY SAND, damp, very dense, sand is very fine and fine grained.		S11	11,26,32 N=58	19.2	
45			Bottom of boring: 41 feet. Drilling Method: Hollow-stem auger. Sampling Method: 2-inch-O.D. SPT sampler driven using a 140 lb. hammer with a 30-inch drop. Groundwater not encountered during drilling. No fill encountered.					
50								
55								
60								
65								
70								
75								
80								

LEGEND:
- 2" O.D. Split-Spoon Sampler
- 3" O.D. Dames & Moore Sampler
- 3.25" O.D. Dames & Moore Sampler

SPT = Standard Penetration Test

▽ water level during drilling

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JOB NO. G-0260 DATE 2/13/06 PLATE A7

BORING NO. B-4

Logged By: KJ Date Drilled: 2/2/06 Surface Elev. 85 feet

Depth ft.	El. ft.	USCS Code	Description	Sample Type	Sample No.	Blow Counts per 6"	Water Content %	Comments
			Asphalt (3" to 4" thick), concrete slab exposed in borehole side.					
		ML/SM	Olive brown SILT and SILTY SAND, damp to moist, loose, occas. gravel in sample (DISTURBED NATIVE SOIL).		S1	1,2,1 N=3	26.8	
5	80	ML/SM	As above, damp, medium dense, mostly silty sand layers, sand is fine and medium grained, occasional clean sand lenses (NATIVE SOIL).		S2	2,5,8 N=13	14.1	
		SM/SP	Olive brown SILTY SAND and gray SAND, interbedded, damp to moist, medium dense, trace oxidation stain, sand is fine and medium grained, hydrocarbon odor.		S3	4,11,18 N=29	13.3	
10		ML/SP	Gray SILT and SAND, interbedded, damp, dense, sand is fine and medium grained, hydrocarbon odor.		S4	4,12,19 N=31	--	
		ML	Gray SILT, damp dense, occasional fine sand laminae and thin lenses, weak hydrocarbon odor.		S5	5,10,18 N=28	29.6	
15	70	ML/SM	Gray SILT and SILTY SAND, interbedded, damp, dense, lesser sand layers, sand is fine grained, weak hydrocarbon odor.		S6	5,10,11 N=21	22.5	
20		ML	Gray SILT, damp, medium dense, occasional fine sand laminae and thin lenses, no hydrocarbon odor.		S7	5,10,15 N=25	24.6	
25	60	ML/SM	Olive gray SANDY SILT and SILTY SAND, thinly interbedded, damp, medium dense, sand is very fine and fine grained, trace oxidation stain, rare clean sand lenses 2" thick, no hydrocarbon odor.		S8	8,12,17 N=29	22.3	
30		SM/SP	Olive SILTY SAND and SAND, interbedded, damp, very dense, sand is very fine and fine grained.		S9	5,22,33 N=55	16.8	
35	50	SP	Olive gray SAND, dry to damp, dense, fine grained, massive.		S10	8,19,21 N=40	3.5	
40		SP	As above, but with some very fine grained sand.		S11	7,17,17 N=34	3.6	

LEGEND:
- 2" O.D. Split-Spoon Sampler
- 3" O.D. Dames & Moore Sampler
- 3.25" O.D. Dames & Moore Sampler

SPT = Standard Penetration Test

▽ water level during drilling

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JOB NO. G-0260 DATE 2/13/06 PLATE A8

BORING NO. B-4

Logged By: KJ Date Drilled: 2/2/06 Surface Elev. 85 feet

Depth ft.	El. ft.	USCS Code	Description	Sample Type	Sample No.	Blow Counts per 6"	Water Content %	Comments
45			Bottom of boring: 39.5 feet. Drilling Method: Hollow-stem auger. Sampling Method: 2-inch-O.D. SPT sampler driven using a 140 lb. hammer with a 30-inch drop. Groundwater not encountered during drilling. No fill encountered.					
50								
55								
60								
65								
70								
75								
80								

LEGEND:
- 2" O.D. Split-Spoon Sampler
- 3" O.D. Dames & Moore Sampler
- 3.25" O.D. Dames & Moore Sampler

SPT = Standard Penetration Test

▽ water level during drilling

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701 S. JACKSON STREET
SEATTLE, WASHINGTON

JOB NO. G-0260 DATE 2/13/06 PLATE A9

Soil Classification System

MAJOR DIVISIONS			GRAPHIC SYMBOL	USCS LETTER SYMBOL[1]	TYPICAL DESCRIPTIONS [2][3]
COARSE-GRAINED SOIL (More than 50% of material is larger than No. 200 sieve size)	GRAVEL AND GRAVELLY SOIL (More than 50% of coarse fraction retained on No. 4 sieve)	CLEAN GRAVEL (Little or no fines)		GW	Well-graded gravel; gravel/sand mixture(s); little or no fines
				GP	Poorly graded gravel; gravel/sand mixture(s); little or no fines
		GRAVEL WITH FINES (Appreciable amount of fines)		GM	Silty gravel; gravel/sand/silt mixture(s)
				GC	Clayey gravel; gravel/sand/clay mixture(s)
	SAND AND SANDY SOIL (More than 50% of coarse fraction passed through No. 4 sieve)	CLEAN SAND (Little or no fines)		SW	Well-graded sand; gravelly sand; little or no fines
				SP	Poorly graded sand; gravelly sand; little or no fines
		SAND WITH FINES (Appreciable amount of fines)		SM	Silty sand; sand/silt mixture(s)
				SC	Clayey sand; sand/clay mixture(s)
FINE-GRAINED SOIL (More than 50% of material is smaller than No. 200 sieve size)	SILT AND CLAY (Liquid limit less than 50)			ML	Inorganic silt and very fine sand; rock flour; silty or clayey fine sand or clayey silt with slight plasticity
				CL	Inorganic clay of low to medium plasticity; gravelly clay; sandy clay; silty clay; lean clay
				OL	Organic silt; organic, silty clay of low plasticity
	SILT AND CLAY (Liquid limit greater than 50)			MH	Inorganic silt; micaceous or diatomaceous fine sand
				CH	Inorganic clay of high plasticity; fat clay
				OH	Organic clay of medium to high plasticity; organic silt
	HIGHLY ORGANIC SOIL			PT	Peat; humus; swamp soil with high organic content

OTHER MATERIALS	GRAPHIC SYMBOL	LETTER SYMBOL	TYPICAL DESCRIPTIONS
PAVEMENT		AC or PC	Asphalt concrete pavement or Portland cement pavement
ROCK		RK	Rock (See Rock Classification)
WOOD		WD	Wood, lumber, wood chips
DEBRIS		DB	Construction debris, garbage

Notes:
1. USCS letter symbols correspond to symbols used by the Unified Soil Classification System and ASTM classification methods. Dual letter symbols (e.g., SP-SM for sand or gravel) indicate soil with an estimated 5-15% fines. Multiple letter symbols (e.g., ML/CL) indicate borderline or multiple soil classifications.
2. Soil descriptions are based on the general approach presented in the Standard Practice for Description and Identification of Soils (Visual-Manual Procedure), outlined in ASTM D 2488. Where laboratory index testing has been conducted, soil classifications are based on the Standard Test Method for Classification of Soils for Engineering Purposes, as outlined in ASTM D 2487.
3. Soil description terminology is based on visual estimates (in the absence of laboratory test data) of the percentages of each soil type and is defined as follows:

Primary Constituent:	> 50% - "GRAVEL," "SAND," "SILT," "CLAY," etc.
Secondary Constituents:	> 30% and ≤ 50% - "very gravelly," "very sandy," "very silty," etc.
	> 15% and ≤ 30% - "gravelly," "sandy," "silty," etc.
Additional Constituents:	> 5% and ≤ 15% - "with gravel," "with sand," "with silt," etc.
	≤ 5% - "with trace gravel," "with trace sand," "with trace silt," etc., or not noted.

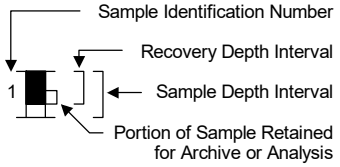
4. Soil density or consistency descriptions are based on judgement using a combination of sampler penetration blow counts, drilling or excavating conditions, field tests, and laboratory tests, as appropriate.

Drilling and Sampling Key

SAMPLER TYPE

Code	Description
a	3.25-inch O.D., 2.42-inch I.D. Split Spoon
b	2.00-inch O.D., 1.50-inch I.D. Split Spoon
c	Shelby Tube
d	Grab Sample
e	Single-Tube Core Barrel
f	Double-Tube Core Barrel
g	2.50-inch O.D., 2.00-inch I.D. WSDOT
h	3.00-inch O.D., 2.375-inch I.D. Mod. California
i	Other - See text if applicable
1	300-lb Hammer, 30-inch Drop
2	140-lb Hammer, 30-inch Drop
3	Pushed
4	Vibrocore (Rotosonic/Geoprobe)
5	Other - See text if applicable

SAMPLE NUMBER & INTERVAL



Field and Lab Test Data

Code	Description
PP = 1.0	Pocket Penetrometer, tsf
TV = 0.5	Torvane, tsf
PID = 100	Photoionization Detector VOC screening, ppm
W = 10	Moisture Content, %
D = 120	Dry Density, pcf
-200 = 60	Material smaller than No. 200 sieve, %
GS	Grain Size - See separate figure for data
AL	Atterberg Limits - See separate figure for data
GT	Other Geotechnical Testing
CA	Chemical Analysis

Groundwater

▽	Approximate water level at time of drilling (ATD)
▼	Approximate water level at time after drilling/excavation/well

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7th & Jackson Street Property

Soil Classification System and Key

Figure A-1

B-1-11

SAMPLE DATA					SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Hollow-Stem Auger Ground Elevation (ft): 90	
0	90						PC	Concrete (0.3 feet thickness)	
							SP/ ML	Gray and brown, clayey SILT, thinly laminated, with thin interbedded fine SAND to fine SAND with silt, with petroleum odor (very stiff and medium dense, moist to wet)	Groundwater not encountered.
		S1	b2	17	PID=25.8				
5	85	S2	b2	26	PID=55.8				
		S3	b2	19	PID=388		SM/ ML	Light gray brown, fine SAND with silt grading to fine to medium SAND with silt and light brown, clayey SILT, with petroleum odor (medium dense and very stiff, damp)	
10	80	S4	b2	29	PID=48				
		S5	b2	32	CA PID=395		SP/ ML	Light brown, fine to medium SAND with interbedded fine sandy SILT, with petroleum odor (dense and hard, moist to wet)	
15	75	S6	b2	33	PID=312		ML	Light brown and gray brown, clayey SILT, thinly laminated, with thin interbedded fine SAND with silt, with petroleum odor (hard, moist)	
		S7	b2	22	CA PID=14.1		SP/ ML	Light brown to brown, fine SAND with trace silt, with iron staining, and interbedded clayey SILT (medium dense and very stiff, moist)	
20	70	S8	b2	23	PID=2.8				
25	65	S9	b2	38	PID=1.9		ML	Gray and light brown, clayey SILT and thin interbedded silty, fine SAND (hard, moist)	
							SM/ ML	Light brown, silty, fine SAND and interbedded very fine sandy SILT (dense and hard, moist to wet)	
30	60	S10	b2	35	PID=1.0				
35									
40									
45									

Boring Completed 11/11/11
Total Depth of Boring = 31.5 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

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Log of B-1-11

Figure A-2

B-2-11

Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	SOIL PROFILE	GROUNDWATER
								Drilling Method: Hollow-Stem Auger Ground Elevation (ft): 88	
0							AC	Pavement Section: Asphalt (thickness 0.05 feet); Brick (thickness 0.35 feet); Sand (thickness 0.1 feet); and Concrete (thickness 0.5 feet)	Groundwater not encountered.
	85						ML	Gray brown, clayey SILT, with thin laminations and some iron staining along laminations, and occasional interbedded fine to medium SAND with silt (stiff to very stiff, moist)	
5		S1	b2	15	PID=0				
	80	S2	b2	28	PID=0		SP	- soil vacuumed to 4 feet to clear for utilities, no samples collected	
10		S3	b2	29	PID=0			Light brown, fine to medium SAND with trace silt, and occasional interbedded clayey SILT, with petroleum odor (medium dense, damp to moist)	
	75	S4	b2	26	CA PID=444			- petroleum odor	
15		S5	b2	26	PID=20.5		SM/ ML	Gray, clayey SILT, thinly laminated, with interbedded silty, fine SAND, with slight petroleum odor (very stiff and medium dense, moist)	
	70	S6	b2	20	CA PID=1.4		SM/ ML	Gray brown, fine sandy SILT, with thin interbedded silty, fine SAND, thinly laminated, with slight petroleum odor (very stiff and medium dense, wet)	
20		S7	b2	29	PID=2.1				

Boring Completed 11/11/11
Total Depth of Boring = 21.5 ft.

Notes:
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Log of B-2-11

Figure A-3

B-3-11

SAMPLE DATA						SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Hollow-Stem Auger Ground Elevation (ft): 86.5	
0	86.5						AC	Pavement Section: Asphalt (thickness 0.15 feet); Brick (thickness 0.35 feet); Sand (thickness 0.05 feet); and Concrete (thickness 0.4 feet)	Groundwater not encountered.
	85						ML	Light brown to gray, clayey SILT, with thin laminations (very stiff, damp)	
5		S1B S1A	b2	26	PID=0		SP-SM	- soil vacuumed to 4 feet to clear for utilities, no samples collected	
	80	S2	b2	24	PID=0			Light brown, fine to medium SAND with trace silt to with silt and occasional thin interbedded clayey SILT, with petroleum odor (medium dense to dense, moist)	
10		S3	b2	37	PID=453			- becoming gray	
	75							- petroleum odors 10 feet to 16 feet	
		S4	b2	22	CA PID=1032		SM/ML	Light brown, silty, fine SAND and interbedded clayey SILT, thinly laminated and fine sandy SILT (medium dense and very stiff, moist to wet)	
15		S5	b2	23	PID=981			- wet at 15 feet	
	70								
		S6	b2	31	CA PID=10.5		ML	Gray brown, clayey SILT, thinly laminated, and thin interbedded silty, fine SAND, with slight petroleum odor (hard, moist to wet)	
20		S7	b2	32	PID=1.0				
	65								

Boring Completed 11/11/11
Total Depth of Boring = 21.5 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
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Log of B-3-11

Figure A-4

B-4-11

Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	SOIL PROFILE	GROUNDWATER
								Drilling Method: Hollow-Stem Auger Ground Elevation (ft): 84	
0							AC	Pavement Section: Asphalt (thickness 0.1 feet); Brick (thickness 0.35 feet); Sand (thickness 0.05 feet); and Concrete (thickness 0.45 feet)	Groundwater not encountered.
							SM		
	80	S1	b2	19	PID=0			Light brown, silty, fine SAND grading to fine SAND with silt, with petroleum odor (medium dense, moist) (FILL)	
5		S2	b2	28	CA PID=507		ML	- petroluem odor	
		S3	b2	32	PID=96.7		SP/ ML	Gray brown, clayey SILT with thin interbedded silty, fine SAND, with thin laminations and iron staining, with petroleum odor (very stiff, moist)	
	75								
10		S4	b2	26	PID=36.1			Gray, fine to medium SAND and light brown, clayey SILT with interbedded fine SAND with trace silt and with silt, with petroleum odor (dense to medium dense and hard to very stiff, moist to wet)	
		S5	b2	22	PID=473		SM/ ML		
	70								
15		S6	b2	24	CA PID=14.1			Gray and brown, silty, fine SAND and fine sandy SILT with thin interbedded SILT, with petroleum odor (medium dense and very stiff, moist to wet)	
		S7	b2	25	PID=7.9		SM/ ML	- becoming wet at 12.5 feet	
	65								
20		S8	b2	30	PID=3.1		SM/ ML	Light brown and gray, clayey SILT, with thin laminations and iron staining, with occasional interbedded fine SAND with silt (very stiff and medium dense, moist to wet)	
								Light brown, fine sandy SILT to very silty, fine SAND, with slight petroleum odor (very stiff to hard and medium dense to dense, wet)	

Boring Completed 11/11/11
Total Depth of Boring = 21.5 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
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Log of B-4-11

Figure A-5

B-5-11

SAMPLE DATA						SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Hollow-Stem Auger Ground Elevation (ft): 96	
0	95						AC	Asphalt Pavement (thickness 0.1 feet)	Groundwater not encountered.
		S1	b2	13	PID=0		ML	Light brown grading to gray, clayey SILT, with thin silt partings and occasional laminations (stiff to very stiff, damp to moist)	
5	90	S2	b2	14	PID=0				
		S3	b2	12	PID=0				
10	85	S4	b2	22	PID=0				
		S5	b2	28	PID=0		SP/ ML	Gray and light brown, clayey SILT, with thin laminations, and interbedded fine to fine to medium SAND with trace silt (very stiff and medium dense, damp to moist)	
15	80	S6	b2	27	PID=0				
		S7	b2	35	PID=0		SP	Light brown, fine SAND with trace silt (dense, moist)	
20	75	S8	b2	45	CA PID=0		SM/ ML	Light brown, clayey SILT, with thin laminations, and interbedded fine SAND with silt (hard and dense, moist to wet)	
25	70	S9	b2	36	PID=0			- becoming wet at 26 feet, with iron staining and interbedded silty, fine SAND	
30	65	S10	b2	47	PID=0		SM/ ML	Gray, SILT, with trace lamination and thin black organic layers and interbedded silty, fine SAND (hard and dense, moist to wet)	
35	60	S11	b2	44	PID=0		SM	Light brown, silty, fine SAND to fine SAND with silt, some iron staining (dense to very dense, moist to wet)	
40	55	S12	b2	50	PID=0				
45									

Boring Completed 11/14/11
Total Depth of Boring = 41.5 ft.

Notes:
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2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

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Log of B-5-11

Figure A-6

B-6-11

Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	SOIL PROFILE	GROUNDWATER
								Drilling Method: Hollow-Stem Auger Ground Elevation (ft): 91.5	
0	90						AC	Asphalt Pavement (thickness 0.15 feet)	Groundwater not encountered.
							SM	Black, very silty, fine to medium SAND with brick, plastic, and metal debris (medium dense, moist)(FILL)	
		S1	b2	12	PID=0		ML	Light brown, clayey SILT with iron stained fractures (stiff to hard, moist)	
5	85	S2	b2	24	PID=0				
		S3	b2	33	PID=0			- becoming hard and thin lamination and silt partings	
10	80	S4	b2	52	PID=0			- high angle interbed of reddish brown, fine SAND	
		S5	b2	49	PID=0		SM/ ML	Light brown, fine SAND with silt and interbedded clayey SILT and very thin laminations of fine sand with silt, iron staining (dense to very dense and hard, moist to wet)	
15	75	S6	b2	54	CA PID=0.3		SM	Light brown, silty, fine SAND with SILT interbeds, thin laminations (dense and hard, moist to wet)	
20	70	S7	b2	34	CA PID=1.9			- strong petroleum odor and staining in soil at approximately 18 feet - becoming wet	
25	65	S8	b2	50	PID=1.3		ML	Gray, SILT with thin interbedded silty, fine SAND (hard, wet)	
30	60	S9	b2	45	PID=0.3		SM/ ML	Light brown, thin interbedded very fine sandy SILT to silty, fine SAND with some iron staining layers (hard and very dense, moist to wet)	
35	55	S10	b2	51	PID=0		SM	Light brown and reddish brown, very silty, fine SAND (very dense, wet)	
40		S11	b2	95/ 10""	PID=0				
45									

Boring Completed 11/04/11
Total Depth of Boring = 41.4 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

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7th & Jackson Street Property

Log of B-6-11

Figure A-7

FARALLON CONSULTING

Log of Boring: FB-3

Client: PortLiving Development Corp.
Project: 701 South Jackson Street
Location: Seattle, Washington

Farallon PN: 2194-001

Logged By: Ryan Ostrom

Date/Time Started: 10/31/19 @ 0910
Date/Time Completed: 10/31/19 @ 1035
Equipment: D50
Drilling Company: Holocene
Drilling Foreman: RJ Ortega
Drilling Method: Hollow Stem Auger

Sampler Type: 1.5' D&M
Drive Hammer (lbs.): 140
Depth of Water ATD (ft bgs): NE
Total Boring Depth (ft bgs): 41.5
Total Well Depth (ft bgs): NA

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-0.8': Concrete - cored. Vac cleared to 5.0' for utilities.	AC							Concrete
		0.8-5.0': SILT with sand (80% silt, 10% sand, 10% gravel), fine sand, fine and coarse gravel, gray, moist, petroleum-like odor, sheen present.	ML				534	FB-3-2.5		
5							74.5	FB-3-5.0		
10		10.0-10.3': SILT with sand (80% silt, 10% sand, 10% gravel), fine sand, fine and coarse gravel, gray, moist, petroleum-like odor, sheen present.	ML		93	7, 14, 24	1,420	FB-3-10.0		Bentonite
		10.3-11.4': Poorly graded SAND (95% sand, 5% silt), fine sand, gray, medium dense, moist, petroleum-like odor.	SP							
		11.4-11.5': No recovery.								
15										

Well Construction Information

Monument Type: NA
Casing Diameter (inches): NA
Screen Slot Size (inches): NA
Screened Interval (ft bgs): NA
Filter Pack: NA
Surface Seal: Concrete
Annular Seal: NA
Boring Abandonment: Bentonite
Ground Surface Elevation (ft): NA
Top of Casing Elevation (ft): NA
Surveyed Location: X: NA Y: NA
Unique Well ID:

FARALLON CONSULTING

Log of Boring: FB-3

Client: PortLiving Development Corp.
Project: 701 South Jackson Street
Location: Seattle, Washington

Farallon PN: 2194-001

Logged By: Ryan Ostrom

Date/Time Started: 10/31/19 @ 0910
Date/Time Completed: 10/31/19 @ 1035
Equipment: D50
Drilling Company: Holocene
Drilling Foreman: RJ Ortega
Drilling Method: Hollow Stem Auger

Sampler Type: 1.5' D&M
Drive Hammer (lbs.): 140
Depth of Water ATD (ft bgs): NE
Total Boring Depth (ft bgs): 41.5
Total Well Depth (ft bgs): NA

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
		15.0-16.1': Silty SAND (85% sand, 15% silt), fine sand, gray, dense, moist, petroleum-like odor, no sheen.	SM		73	10, 16, 18	28.0	FB-3-15.0		
		16.1-16.5': No recovery.								
20		20.0-21.5': SIlty SAND (70% sand, 30% silt), fine sand, gray, medium dense, moist, no odor, no sheen.	SM		100	5, 12, 22	0.1	FB-3-20.0		Bentonite
25		25.0-26.5': SIlty SAND (70% sand, 30% silt), fine sand, gray, medium dense, moist, no odor, no sheen.	SM		100	10, 15, 25	0.2	FB-3-25.0		
30										

Well Construction Information

Monument Type: NA
Casing Diameter (inches): NA
Screen Slot Size (inches): NA
Screened Interval (ft bgs): NA

Filter Pack: NA
Surface Seal: Concrete
Annular Seal: NA
Boring Abandonment: Bentonite

Ground Surface Elevation (ft): NA
Top of Casing Elevation (ft): NA
Surveyed Location: X: NA Y: NA
Unique Well ID:

FARALLON CONSULTING

Log of Boring: FB-3

Client: PortLiving Development Corp.
Project: 701 South Jackson Street
Location: Seattle, Washington

Farallon PN: 2194-001

Logged By: Ryan Ostrom

Date/Time Started: 10/31/19 @ 0910
Date/Time Completed: 10/31/19 @ 1035
Equipment: D50
Drilling Company: Holocene
Drilling Foreman: RJ Ortega
Drilling Method: Hollow Stem Auger

Sampler Type: 1.5' D&M
Drive Hammer (lbs.): 140
Depth of Water ATD (ft bgs): NE
Total Boring Depth (ft bgs): 41.5
Total Well Depth (ft bgs): NA

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
		30.0-31.5': Poorly graded SAND with silt (90% sand, 10% silt), fine sand, light brown, medium dense, moist, no odor, no sheen.	SP-SM		100	9, 15, 23	0.2	FB-3-30.0		
35		35.0-36.4': Poorly graded SAND with silt (90% sand, 10% silt), fine sand, light brown, medium dense, moist, no odor, no sheen.	SP-SM		93	12, 20 24	0.3	FB-3-35.0		Bentonite
		36.4-36.5': No recovery.								
40		40.0-41.5': Poorly graded SAND (95% sand, 5% silt), fine sand, gray, medium dense, moist, no oodr, no sheen.	SP		100	10, 15, 18	0.8	FB-3-40.0		
45										

Well Construction Information

Monument Type: NA
Casing Diameter (inches): NA
Screen Slot Size (inches): NA
Screened Interval (ft bgs): NA
Filter Pack: NA
Surface Seal: Concrete
Annular Seal: NA
Boring Abandonment: Bentonite
Ground Surface Elevation (ft): NA
Top of Casing Elevation (ft): NA
Surveyed Location: X: NA Y: NA
Unique Well ID:

FARALLON CONSULTING

Log of Boring: FB-4

Client: PortLiving Development Corp.
Project: 701 South Jackson Street
Location: Seattle, Washington

Farallon PN: 2194-001

Logged By: Ryan Ostrom

Date/Time Started: 11/1/19 @ 1215
Date/Time Completed: 11/1/19 @ 1320
Equipment: Geoprobe 7822 DT
Drilling Company: Holocene
Drilling Foreman: Chris Perva
Drilling Method: Direct Push

Sampler Type: 3' Macrocore
Drive Hammer (lbs.): Auto
Depth of Water ATD (ft bgs): NE
Total Boring Depth (ft bgs): 15.0
Total Well Depth (ft bgs): NA

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-0.5': Concrete - cored. Vac CLeared for utilities to 3.0'.	CO							Concrete
		0.5-3.0': Gravely SILT (70% silt, 20% gravel, 10% silt), fine sand, fine and coarse gravel, gray, moist, no odor, no sheen, concrete cobbles through out.	ML				1.2	FB-4-2.5		
		3.0-3.8': SILT (100% silt), gray-brown, moist, petroleum-like odor, no sheen.	ML		27		18.5	Soil Screen @ 3.0'		
		3.8-6.0': No recovery.								
5		6.0-7.4': SILT (100% silt), gray-brown, moist, no odor, no sheen.	ML		47		6.0	FB-4-6.0		
		7.4-9.0': No recovery.								
		9.0-10.2': Poorly graded SAND (100% sand), fine to medium sand, gray, moist, petroleum-like odor, no sheen.	SP		100					
10		10.2-12.0': Sandy SILT (60% silt, 40% sand), fine to medium sand, gray, moist, petroleum-like odor, no sheen.	ML				1,227	FB-4-10.0		Bentonite
		12.0-14.1': Poorly graded SAND (100% sand), fine to medium sand, gray, moist, petroleum-like odor, no sheen.	SP		100					
		14.1-14.6': SILT (100% silt), gray-brown, moist, petroleum-like odor, no sheen.	ML							
15		14.6-15.0': Poorly graded SAND (100% sand), fine to medium sand, gray, moist, petroleum-like odor, no sheen.	SP				1,914	FB-4-15.0		

Well Construction Information

Monument Type: NA
Casing Diameter (inches): NA
Screen Slot Size (inches): NA
Screened Interval (ft bgs): NA

Filter Pack: NA
Surface Seal: Concrete
Annular Seal: NA
Boring Abandonment: Bentonite

Ground Surface Elevation (ft): NA
Top of Casing Elevation (ft): NA
Surveyed Location: X: NA Y: NA
Unique Well ID:

FARALLON CONSULTING

Log of Boring: FB-5

Client: PortLiving Development Corp.
Project: 701 South Jackson Street
Location: Seattle, Washington

Farallon PN: 2194-001

Logged By: Ryan Ostrom

Date/Time Started:	11/1/19 @ 1330	**Sampler Type:**	5' Macrocore
Date/Time Completed:	11/1/19 @ 1445	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 7822 DT	**Depth of Water ATD (ft bgs):**	16.9
Drilling Company:	Holocene	**Total Boring Depth (ft bgs):**	30.0
Drilling Foreman:	Chris Perva	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Direct Push	**Boring Drilled at 25° to Vertical**	

Linear feet Logged	Vertical Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0	0		0.0-0.4': Asphalt. Vac Cleared for utilities to 5.0'.	AC						Concrete
			0.4-5.0': SILT (90% silt, 10% sand), fine sand, gray, moist, no odor, no sheen.	ML			0.1	FB-5-2.5		
5	5		5.0-5.8': SILT (100% silt), brown, moist, petroleum-like odor, no sheen, brick debris at 5.8'.	ML		66	0.0	FB-5-5.0		
			5.8-8.3': Poorly graded SAND (100% sand), fine to medium sand, brown, moist, no odor, no sheen.	SP			1.4	FB-5-6.0		
			8.3-10.0': No recovery.							
10	10		10.0-11.5': Poorly graded SAND (100% sand), fine to medium sand, brown, moist, no odor, no sheen.	SP		100	680	FB-5-11.0		Bentonite
			11.5-12.3': SILT (100% silt), gray, moist, petroleum-like odor, no sheen.	ML			0.8	Soil Screen @ 12'		
			12.3-15.0': Poorly graded SAND (100% sand), fine to medium sand, gray, moist, petroleum-like odor, no sheen.	SP						
15			15.0-16.1': Poorly graded SAND (100% sand), fine to medium sand, gray, moist, petroleum-like odor, no sheen.	SP		100	431	FB-5-15.0		

Well Construction Information

Monument Type:	NA	**Filter Pack:**	NA	**Ground Surface Elevation (ft):**	NA
Casing Diameter (inches):	NA	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	NA
Screen Slot Size (inches):	NA	**Annular Seal:**	NA	**Surveyed Location:** X: NA	Y: NA
Screened Interval (ft bgs):	NA	**Boring Abandonment:**	Bentonite	**Heading:** 177°	

FARALLON CONSULTING

Log of Boring: FB-5

Client: PortLiving Development Corp.
Project: 701 South Jackson Street
Location: Seattle, Washington

Farallon PN: 2194-001

Logged By: Ryan Ostrom

Date/Time Started:	11/1/19 @ 1330	**Sampler Type:**	5' Macrocore
Date/Time Completed:	11/1/19 @ 1445	**Drive Hammer (lbs.):**	Auto
Equipment:	Geoprobe 7822 DT	**Depth of Water ATD (ft bgs):**	16.9
Drilling Company:	Holocene	**Total Boring Depth (ft bgs):**	30.0
Drilling Foreman:	Chris Perva	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Direct Push	**Boring Drilled at 25° to Vertical**	

Linear feet Logged	Vertical Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
	15		16.1-16.9': SILT (100% silt), gray-brown, moist, strong petroleum-like odor, no sheen.	ML						
			16.9-18.0': Poorly graded SAND (100% sand), fine to medium sand, brown, moist to wet, strong petroleum-like odor, no sheen.	SP			1,134	FB-5-17.0		Water Level
			18.0-20.0': SILT (95% silt, 5% sand), fine sand, gray, moist, petroleum-like odor, no sheen.	ML						
	20		20.0-21.0': Sandy SILT (60% silt, 40% sand), fine sand, gray, moist, petroleum-like odor, no sheen.	ML		100	154	FB-5-20.0		
			21.0-21.8': SILT (90% silt, 10% sand), fine sand, gray, moist, no odor, no sheen.	ML						
	20		21.8-22.5': Poorly graded SAND (100% sand), fine to medium sand, gray, moist, petroleum-like odor, no sheen.	SP						
			22.5-25.0': SILT (100% silt), gray-brown, moist, no odor, no sheen.	ML						
	25		25.0-25.5': Poorly graded SAND (100% sand), fine to medium sand, gray, wet to moist, no odor, no sheen.	SP		100	2.2	FB-5-25.0		Bentonite
			25.5-30.0': SILT (100% silt), gray, moist to wet, no odor, no sheen.	ML						
	25									
	30					100	1.5	FB-5-30.0		

Well Construction Information

Monument Type:	NA	**Filter Pack:**	NA	**Ground Surface Elevation (ft):**	NA
Casing Diameter (inches):	NA	**Surface Seal:**	Concrete	**Top of Casing Elevation (ft):**	NA
Screen Slot Size (inches):	NA	**Annular Seal:**	NA	**Surveyed Location:** X: NA	Y: NA
Screened Interval (ft bgs):	NA	**Boring Abandonment:**	Bentonite	**Heading:** 177°	

FARALLON CONSULTING

Log of Boring: FB-6

Client: PortLiving Development Corp.
Project: 701 South Jackson Street
Location: Seattle, Washington

Farallon PN: 2194-001

Logged By: Ryan Ostrom

Date/Time Started: 11/1/19 @ 0910
Date/Time Completed: 11/1/19 @ 1110
Equipment: Geoprobe 7822 DT
Drilling Company: Holocene
Drilling Foreman: Chris Perva
Drilling Method: Direct Push

Sampler Type: 3' Macrocore
Drive Hammer (lbs.): Auto
Depth of Water ATD (ft bgs): NE
Total Boring Depth (ft bgs): 15.0
Total Well Depth (ft bgs): NA

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-0.8': Concrete - cored. Vac Cleared for utilities to 5.0'.	CO							Concrete
		0.8-5.0': SILT (90% silt, 10% sand), fine sand, gray, moist, no odor, no sheen.	ML				0.0	FB-6-2.5		
5		5.0-5.4': SILT (90% silt, 10% sand), fine sand, gray, moist, petroleum-like odor, no sheen.	ML		40		0.0	FB-6-5.0		
		5.4-6.0': No recovery.								
		6.0-8.4': SILT (100% silt), gray to brown at 8.2', moist, no odor, no sheen.	ML		100		0.0	FB-6-6.0		Bentonite
		8.4-9.0': Poorly graded SAND (100% sand), fine to medium sand, brown, moist, no odor, no sheen.	SP							
		9.0-10.0': SILT (100% silt), gray, moist, wet from 9.3' to 9.6', no odor, no sheen.	ML		100					Water Level
10		10.0-12.0': Poorly graded SAND (100% sand), fine to medium sand, gray-brown, moist, no odor, no sheen.	SP				0.0	FB-6-10.0		
		12.0-12.2': SILT (100% silt), gray, moist, no odor, no sheen.	ML		100					
		12.2-13.4': Poorly graded SAND (100% sand), fine to medium sand, gray-brown, moist, no odor, no sheen.	SP							
		13.4-13.9': SILT (100%), gray, moist, no odor, no sheen.	ML							
15		13.9-15.0': Poorly graded SAND (100% sand), fine to medium sand, gray-brown, moist, no odor, no sheen.	SP							

Well Construction Information

Monument Type: NA
Casing Diameter (inches): NA
Screen Slot Size (inches): NA
Screened Interval (ft bgs): NA

Filter Pack: NA
Surface Seal: Concrete
Annular Seal: NA
Boring Abandonment: Bentonite

Ground Surface Elevation (ft): NA
Top of Casing Elevation (ft): NA
Surveyed Location: X: NA Y: NA
Unique Well ID:

FARALLON CONSULTING

Log of Boring: FB-6

Client: PortLiving Development Corp.
Project: 701 South Jackson Street
Location: Seattle, Washington

Farallon PN: 2194-001

Logged By: Ryan Ostrom

Date/Time Started: 11/1/19 @ 0910
Date/Time Completed: 11/1/19 @ 1110
Equipment: Geoprobe 7822 DT
Drilling Company: Holocene
Drilling Foreman: Chris Perva
Drilling Method: Direct Push

Sampler Type: 3' Macrocore
Drive Hammer (lbs.): Auto
Depth of Water ATD (ft bgs): NE
Total Boring Depth (ft bgs): 15.0
Total Well Depth (ft bgs): NA

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
		15.0-15.3': Sandy SILT (60% silt, 40% sand), fine to medium sand, gray-brown, moist, no odor, no sheen.	ML		100		0.0	FB-6-15.0		
		15.3-17.5': Poorly graded SAND (100% sand), fine to medium sand, gray-brown, moist, no odor, no sheen, 2" silt lense at 16.4'.	SP							
		17.5-18.0': SILT (100% silt), gray, moist, no odor, no sheen, fine sand lense at 18.0'.	ML							
		18.0-20.4': Silty SAND (60% sand, 40% silt), fine to medium sand, wet, strong petroleum-like odor, no sheen.	SM		100		583	FB-6-18.0		Bentonite
20		20.4-21.0': SILT (100%), gray, moist, strong petroleum-like odor, no sheen.	ML							
		21.0-24.0': Silty SAND (60% sand, 40% silt), fine to medium sand, wet, strong petroleum-like odor, no sheen.	SM		100		30.1	FB-6-21.0		
					100		83.0	Soil Screen @ 22'		
							16.5	FB-6-24.0		
25										
30										

Well Construction Information

Monument Type: NA
Casing Diameter (inches): NA
Screen Slot Size (inches): NA
Screened Interval (ft bgs): NA

Filter Pack: NA
Surface Seal: Concrete
Annular Seal: NA
Boring Abandonment: Bentonite

Ground Surface Elevation (ft): NA
Top of Casing Elevation (ft): NA
Surveyed Location: X: NA Y: NA
Unique Well ID:

FARALLON CONSULTING

Log of Boring: FB-7

Client: PortLiving Development Corp.
Project: 701 South Jackson Street
Location: Seattle, Washington

Farallon PN: 2194-001

Logged By: Ryan Ostrom

Date/Time Started: 10/30/19 @ 1350
Date/Time Completed: 10/30/19 @ 1420
Equipment: Hand Auger
Drilling Company: Holocene
Drilling Foreman: Chris Perva
Drilling Method: Hand Auger

Sampler Type: Grab
Drive Hammer (lbs.): NA
Depth of Water ATD (ft bgs): NE
Total Boring Depth (ft bgs): 8.0
Total Well Depth (ft bgs): NA

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-0.8': Concrete - cored.	CO							Concrete
		0.8-8.0': SILT with sand (80% silt, 20% sand), fine sand, gray, moist, no odor, no sheen, brick and concrete debris through out.	ML				0.3	FB-7-2.5		
5							0.1	FB-7-5.0		Bentonite
							0.1	FB-7-8.0		
10										

Well Construction Information

Monument Type: NA
Casing Diameter (inches): NA
Screen Slot Size (inches): NA
Screened Interval (ft bgs): NA

Filter Pack: NA
Surface Seal: Concrete
Annular Seal: NA
Boring Abandonment: Bentonite

Ground Surface Elevation (ft): NA
Top of Casing Elevation (ft): NA
Surveyed Location: X: NA Y: NA
Unique Well ID:

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
MORE THAN 50% RETAINED ON NO. 200 SIEVE	SAND AND SANDY SOILS	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS
				SP	POORLY-GRADED SANDS, GRAVELLY SAND
	MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS, ROCK FLOUR, CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MORE THAN 50% PASSING NO. 200 SIEVE	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS AND SILTS OF MEDIUM TO HIGH PLASTICITY
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: Multiple symbols are used to indicate borderline or dual soil classifications

ADDITIONAL MATERIAL SYMBOLS

SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
	AC	Asphalt Concrete
	CC	Cement Concrete
	CR	Crushed Rock/ Quarry Spalls
	SOD	Sod/Forest Duff
	TS	Topsoil

Groundwater Contact

Measured groundwater level in exploration, well, or piezometer

Measured free product in well or piezometer

Graphic Log Contact

Distinct contact between soil strata

Approximate contact between soil strata

Material Description Contact

Contact between geologic units

Contact between soil of the same geologic unit

Sampler Symbol Descriptions

2.4-inch I.D. split barrel / Dames & Moore (D&M)

Standard Penetration Test (SPT)

Shelby tube

Piston

Direct-Push

Bulk or grab

Continuous Coring

Blowcount is recorded for driven samplers as the number of blows required to advance sampler 12 inches (or distance noted). See exploration log for hammer weight and drop.

"P" indicates sampler pushed using the weight of the drill rig.

"WOH" indicates sampler pushed using the weight of the hammer.

Laboratory / Field Tests

%F	Percent fines
%G	Percent gravel
AL	Atterberg limits
CA	Chemical analysis
CP	Laboratory compaction test
CS	Consolidation test
DD	Dry density
DS	Direct shear
HA	Hydrometer analysis
MC	Moisture content
MD	Moisture content and dry density
Mohs	Mohs hardness scale
OC	Organic content
PM	Permeability or hydraulic conductivity
PI	Plasticity index
PL	Point lead test
PP	Pocket penetrometer
SA	Sieve analysis
TX	Triaxial compression
UC	Unconfined compression
UU	Unconsolidated undrained triaxial compression
VS	Vane shear

Sheen Classification

NS	No Visible Sheen
SS	Slight Sheen
MS	Moderate Sheen
HS	Heavy Sheen

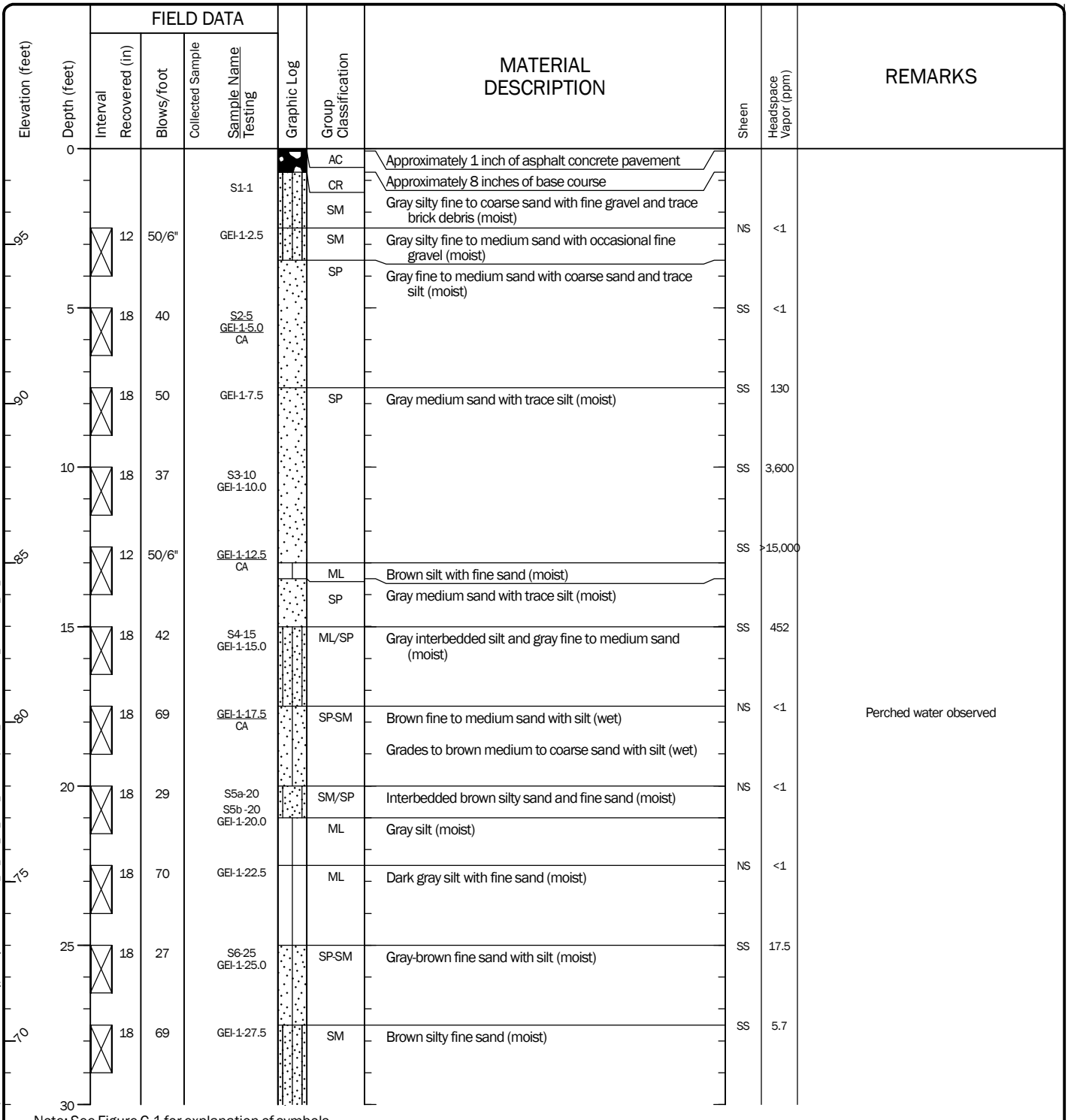
NOTE: The reader must refer to the discussion in the report text and the logs of explorations for a proper understanding of subsurface conditions. Descriptions on the logs apply only at the specific exploration locations and at the time the explorations were made; they are not warranted to be representative of subsurface conditions at other locations or times.

Key to Exploration Logs

GeoEngineers

Figure C-1

Drilled Start 5/18/2021 End 5/18/2021	Total Depth (ft) 76.5	Logged By CJG Checked By RST	Driller Cascade Drilling LP	Drilling Method Hollow-stem Auger	
Surface Elevation (ft) 98 Vertical Datum NAVD88		Hammer Data Autohammer 140 (lbs) / 30 (in) Drop		Drilling Equipment Truck Mounted Rig	
Latitude 47.598941 Longitude -122.323416		System Datum Decimal Degrees WGS84		See "Remarks" section for groundwater observed	
Notes:					



Note: See Figure C-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on North American Datum 1983 (NAD83). Vertical approximated based on LiDAR from Puget Sound LiDAR Consortium dated 2016.

Log of Boring GEI-1

GeoEngineers

Project: 701 South Jackson Street
Project Location: Seattle, Washington
Project Number: 24504-001-01

Figure C-2
Sheet 1 of 3

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	30	18	48		S7a-30		SM	Brown silty fine sand (moist)	NS	<1	
65							SP-SM	Brown fine sand with silt (moist)			
	35	18	38		S8-35 GEI-1-35.0		SP	Gray fine sand with trace silt (moist)	NS	<1	
60											
	40	18	33		S9-40 GEI-1-40.0				NS	<1	
55											
	45										
50											
	50	18	32		S10-50 GEI-1-50.0		SP	Gray fine sand (moist)	NS	<1	
45											
	55										
40											
	60	18	47		S11a-60 S11b-60 GEI-1-60.0				NS	<1	
							SP-SM	Brown fine sand with silt (moist)			
							ML	Gray silt (moist)			
35											
	65										Groundwater observed at approximately 64½ feet below ground surface during drilling

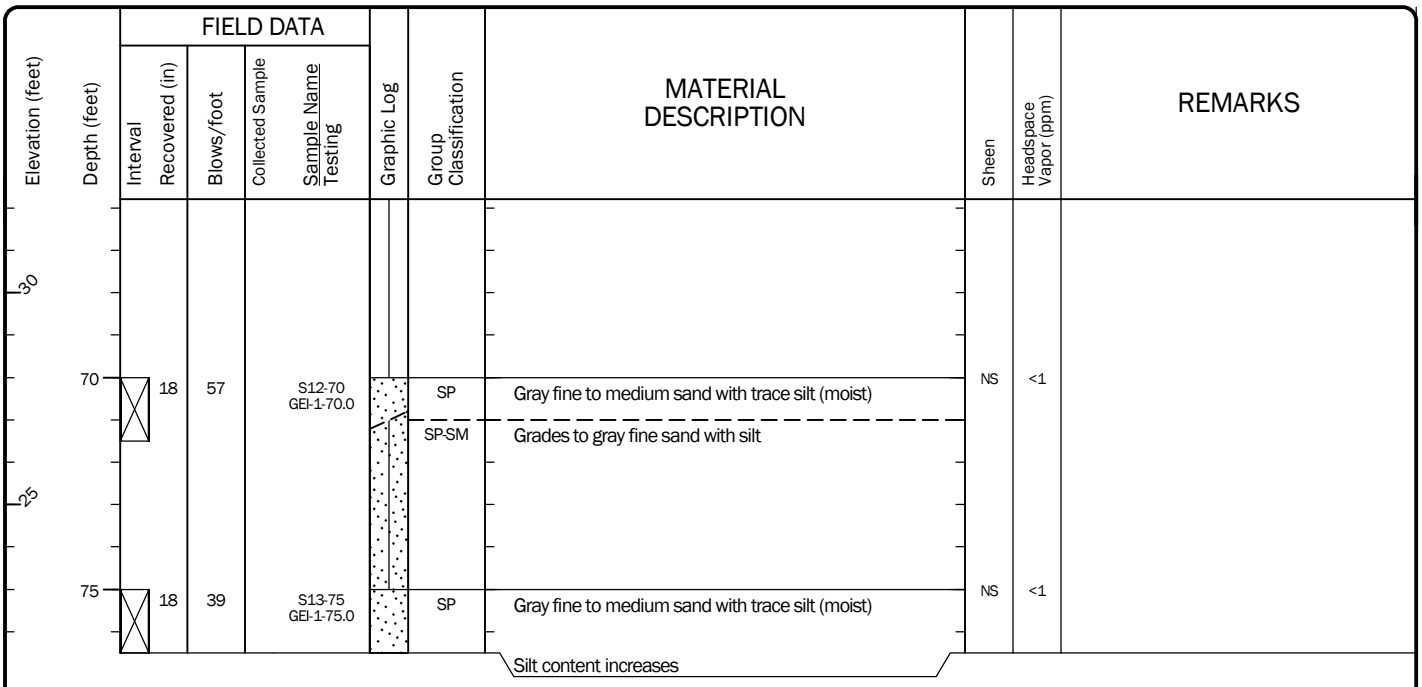
Date:1/11/22 Path:P:\24\24504001\GINT\24504001-01.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_US_JUNE_2017.GLB/GEI8_ENVIRONMENTAL_STANDARD_NO_GW

Log of Boring GEI-1 (continued)

GeoEngineers

Project: 701 South Jackson Street
Project Location: Seattle, Washington
Project Number: 24504-001-01

Figure C-2
Sheet 2 of 3



Log of Boring GEI-1 (continued)

GeoEngineers

Project: 701 South Jackson Street
Project Location: Seattle, Washington
Project Number: 24504-001-01

Figure C-2
Sheet 3 of 3

Drilled Start 5/19/2021 End 5/19/2021	Total Depth (ft) 56.5	Logged By CJG Checked By RST	Driller Cascade Drilling LP	Drilling Method Hollow-stem Auger	
Surface Elevation (ft) 98.5 Vertical Datum NAVD88		Hammer Data Autohammer 140 (lbs) / 30 (in) Drop		Drilling Equipment Truck Mounted Rig	
Latitude 47.599053 Longitude -122.323614		System Datum Decimal Degrees WGS84		Groundwater not observed at time of exploration	
Notes:					

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0						AC	Approximately ¾ inch of asphalt concrete pavement			
							CC	Approximately 6 inches of portland concrete cement			
							SP-SM	Brown fine to coarse sand with silt and fine gravel (moist)			
95		18	14		GEI-2-2.5		ML	Brown silt with fine sand lenses (moist)	NS	<1	
	5	18	27		GEI-2-5.0		SP	Brown fine to medium sand with trace silt (moist)	SS	<1	
							ML	Gray silt (moist)			
90		18	48		GEI-2-7.5		SP	Brown fine to medium sand with trace silt (moist)	NS	<1	
	10	18	26		GEI-2-10 CA		SP	Gray fine sand (moist)	HS	>15,000	
					GEI-2-10.5		ML	Silt and sand (moist)			
							SP	Brown fine sand			
85		18	26		GEI-2-12.5		SP	Gray fine to medium sand with trace silt (moist)	HS	>15,000	Strong petroleum like odor
							SP	Approximate 3-inch silt lens			
	15	18	57		GEI-2-15.0 CA			Gray fine to medium sand with trace silt (moist)	HS	>15,000	Strong petroleum like odor
		18	42				SM	Gray fine sand with silt (moist)	SS	42.5	
80					GEI-2-19.0 CA		SM/ML	Gray fine sand with interbedded silt lenses (moist)			
							SP	Brown fine to medium sand with trace silt (moist)			
	20	18	24		GEI-2-20.0		SM/ML	Gray/brown interbedded silty sand and silt (moist)	SS	33.7	
75		18	33		GEI-2-22.5		ML	Gray sandy silt (moist)	NS	13.8	
							ML	Grades to finer gray silt (moist)			
	25	18	30		GEI-2-25.0		SM	Brown silty fine sand (moist)	NS	47.1	
70		18	41		GEI-2-27.5		SP-SM	Brown fine sand with silt (moist)	NS	1.2	
								With interbedded silt			
	30										

Note: See Figure C-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on North American Datum 1983 (NAD83). Vertical approximated based on LiDAR from Puget Sound LiDAR Consortium dated 2016.

Date:1/11/22 Path:P:\24\24504001\GINT\24504001.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_US_JUNE_2017.GLB/GEI8_ENVIRONMENTAL_STANDARD_NO_GW

Log of Boring GEI-2

GeoEngineers

Project: 701 South Jackson Street
Project Location: Seattle, Washington
Project Number: 24504-001-01

Figure C-3
Sheet 1 of 2

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	FIELD DATA: Blows/foot	FIELD DATA: Collected Sample	FIELD DATA: Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	30	12	50/6"		GEI-2-30.0		SM	Brown fine sand with silt (moist) With silt lenses	NS	13.5	
							SP	Brown fine to medium sand with trace silt (moist)			
65		18	29		GEI-2-32.5		SM	Brown silty fine to medium sand (moist)	NS	4.7	
	35	12	50/6"		GEI-2-35.0				NS	46.2	
							SP-SM	Brown fine sand with silt (moist)			
60	40	18	61		GEI-2-40.0		SP-SM	Gray fine sand with silt (moist) Silt content increases	NS	277	
55	45	18	45		GEI-2-45.0				NS	60.3	
50	50	12	50/6"		GEI-2-50.0				NS	36.7	
45									NS	<1	
	55	18	41		GEI-2-55.0		SP	Gray fine sand with trace silt (moist)			

Date:1/11/22 Path:P:\24\24504001\GINT\24504001101.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_US_JUNE_2017.GLB/GEI8_ENVIRONMENTAL_STANDARD_NO_GW

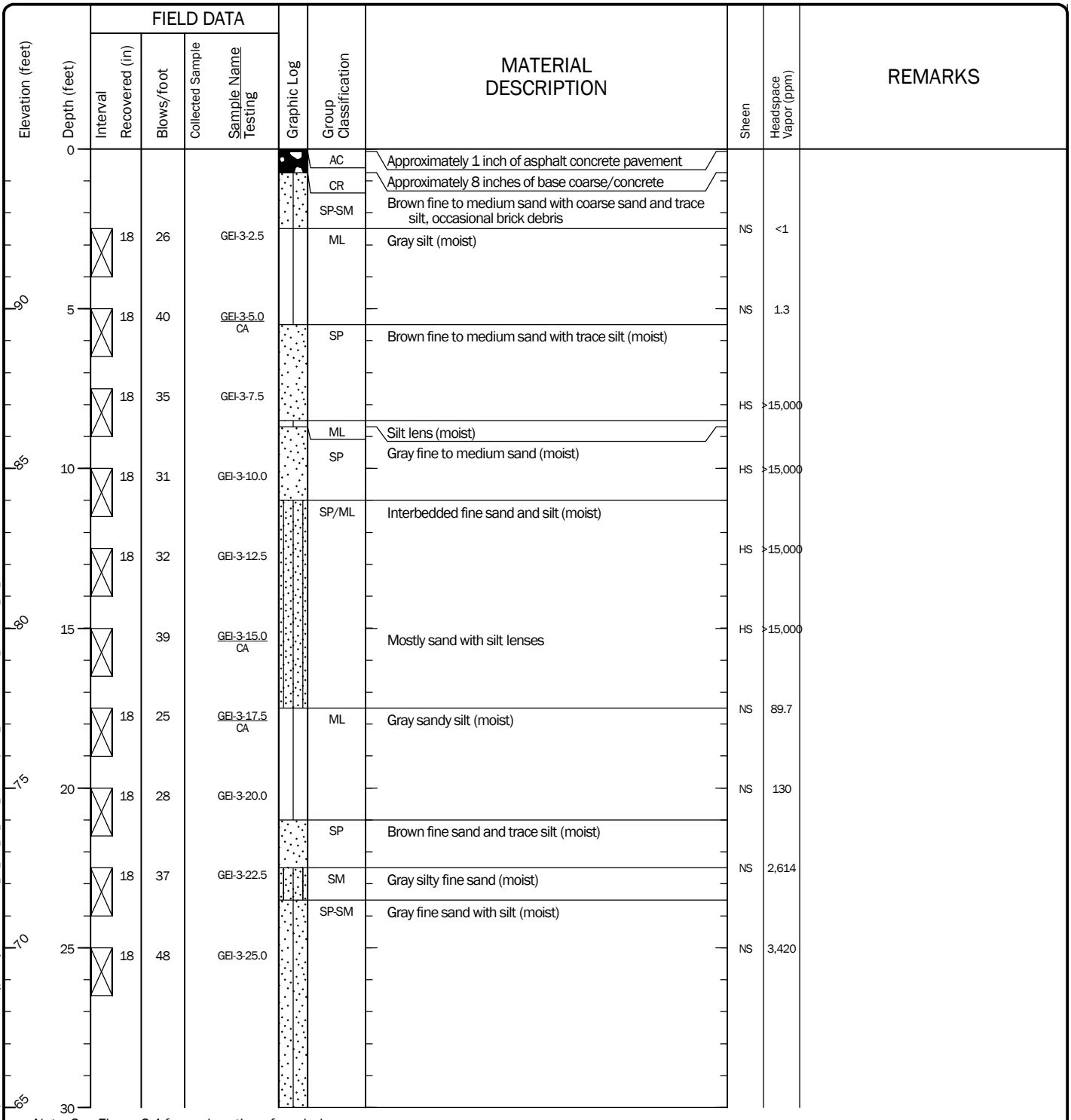
Log of Boring GEI-2 (continued)

GeoEngineers

Project: 701 South Jackson Street
Project Location: Seattle, Washington
Project Number: 24504-001-01

Figure C-3
Sheet 2 of 2

Drilled Start 5/19/2021 End 5/19/2021	Total Depth (ft) 51.5	Logged By CJG Checked By RST	Driller Cascade Drilling LP	Drilling Method Hollow-stem Auger	
Surface Elevation (ft) 95 Vertical Datum NAVD88		Hammer Data Autohammer 140 (lbs) / 30 (in) Drop		Drilling Equipment Truck Mounted Rig	
Latitude 47.598877 Longitude -122.323613		System Datum Decimal Degrees WGS84		Groundwater not observed at time of exploration	
Notes:					



Note: See Figure C-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on North American Datum 1983 (NAD83). Vertical approximated based on LiDAR from Puget Sound LiDAR Consortium dated 2016.

Log of Boring GEI-3

GeoEngineers

Project: 701 South Jackson Street
Project Location: Seattle, Washington
Project Number: 24504-001-01

Figure C-4
Sheet 1 of 2

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	FIELD DATA: Blows/foot	FIELD DATA: Collected Sample / Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	30	18	40	GEI-3-30.0		SP	Gray fine sand with trace silt (moist)	SS	2,750	
60	35	18	30	GEI-3-35.0				SS	3,200	
55	40	18	40	GEI-3-40.0				NS	220	
50	45	18	59	GEI-3-45.0				NS	79.2	
45	50	18	44	S15-50				NS	<1	

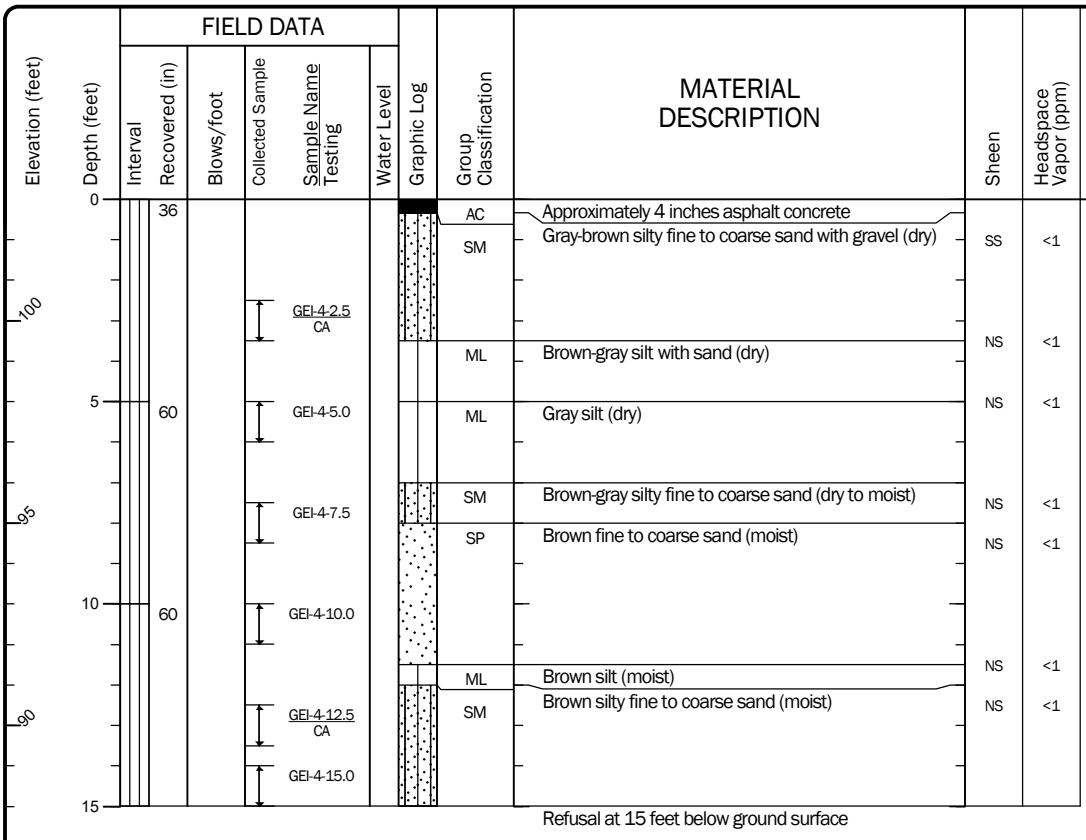
Log of Boring GEI-3 (continued)

GeoEngineers

Project: 701 South Jackson Street
Project Location: Seattle, Washington
Project Number: 24504-001-01

Figure C-4
Sheet 2 of 2

Drilled Start 12/29/2021 End 12/29/2021	Total Depth (ft) 15	Logged By NRS Checked By RST	Driller Cascade Drilling LP	Drilling Method Direct Push	
Surface Elevation (ft) 95 Vertical Datum NAVD88		Hammer Data Pneumatic		Drilling Equipment Truck Mounted Rig	
Latitude 47.59902 Longitude -122.3234		System Datum Decimal Degrees WGS84		Groundwater not observed at time of exploration	
Notes:					



Note: See Figure C-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on North American Datum 1983 (NAD83). Vertical approximated based on LiDAR from Puget Sound LiDAR Consortium dated 2016.

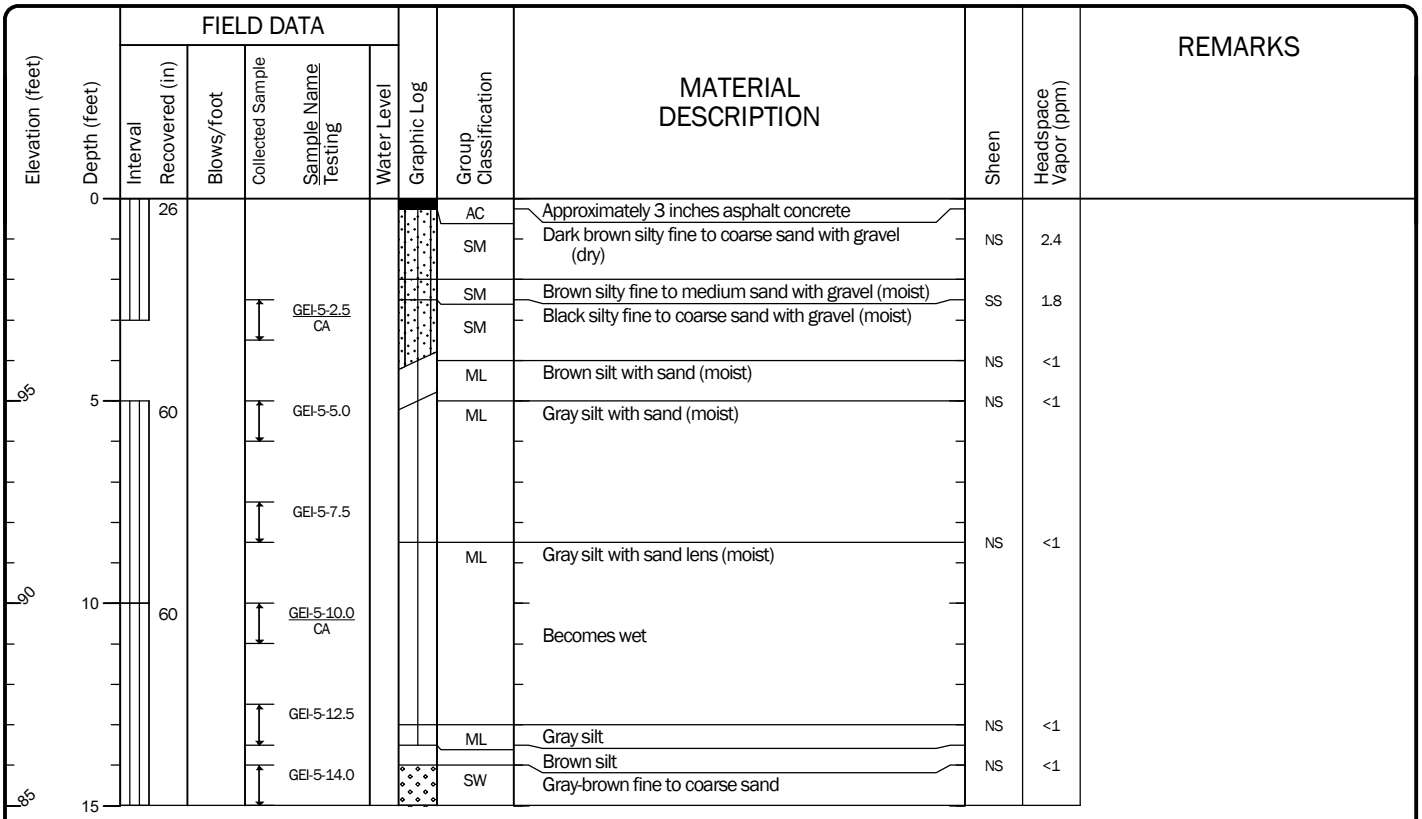
Log of Monitoring Well GEI-4

GeoEngineers

Project: 701 South Jackson Street
Project Location: Seattle, Washington
Project Number: 24504-001-01

Figure C-5
Sheet 1 of 1

Drilled Start 12/29/2021 End 12/29/2021	Total Depth (ft) 15	Logged By NRS Checked By RST	Driller Cascade Drilling LP	Drilling Method Direct Push	
Surface Elevation (ft) 95 Vertical Datum NAVD88		Hammer Data Pneumatic		Drilling Equipment Truck Mounted Rig	
Latitude 47.598967 Longitude -122.32313		System Datum Decimal Degrees WGS84		Groundwater not observed at time of exploration	
Notes:					



Note: See Figure C-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on North American Datum 1983 (NAD83). Vertical approximated based on LiDAR from Puget Sound LiDAR Consortium dated 2016.

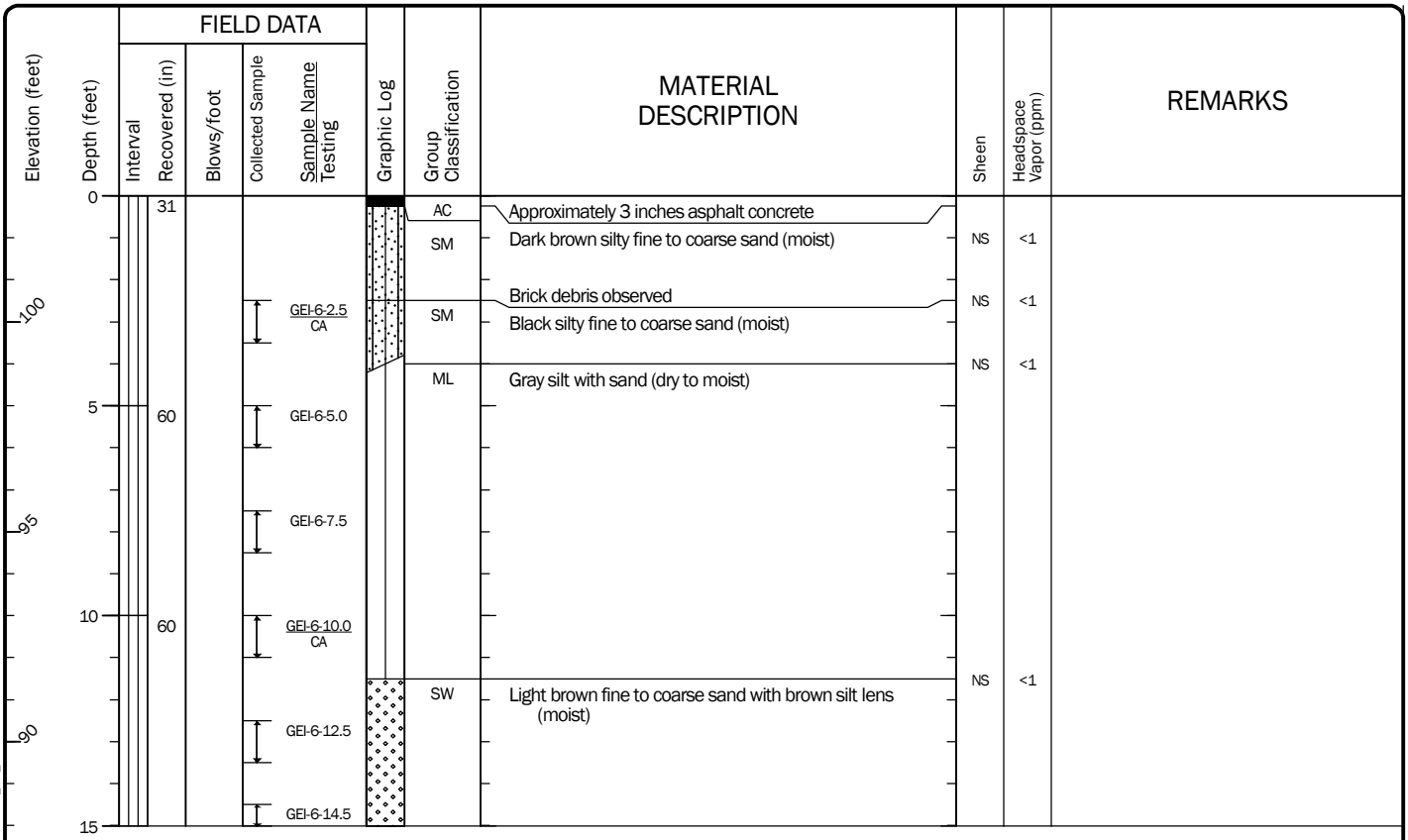
Log of Monitoring Well GEI-5

GeoEngineers

Project: 701 South Jackson Street
Project Location: Seattle, Washington
Project Number: 24504-001-01

Figure C-6
Sheet 1 of 1

Drilled	Start 12/29/2021	End 12/29/2021	Total Depth (ft)	15	Logged By / Checked By	NRS / RST	Driller	Cascade Drilling LP	Drilling Method	Direct Push
Surface Elevation (ft) / Vertical Datum	103 / NAVD88		Hammer Data	Pneumatic	Drilling Equipment	Tracked Rig				
Latitude / Longitude	47.598853 / -122.323131		System Datum	Decimal Degrees / WGS84	Groundwater not observed at time of exploration					
Notes:										



Note: See Figure C-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on North American Datum 1983 (NAD83). Vertical approximated based on LiDAR from Puget Sound LiDAR Consortium dated 2016.

Date:1/11/22 Path:P:\24\24504001\GINT\24504001.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_US_JUNE_2017.GLB/GEI8_ENVIRONMENTAL_STANDARD_NO_GW

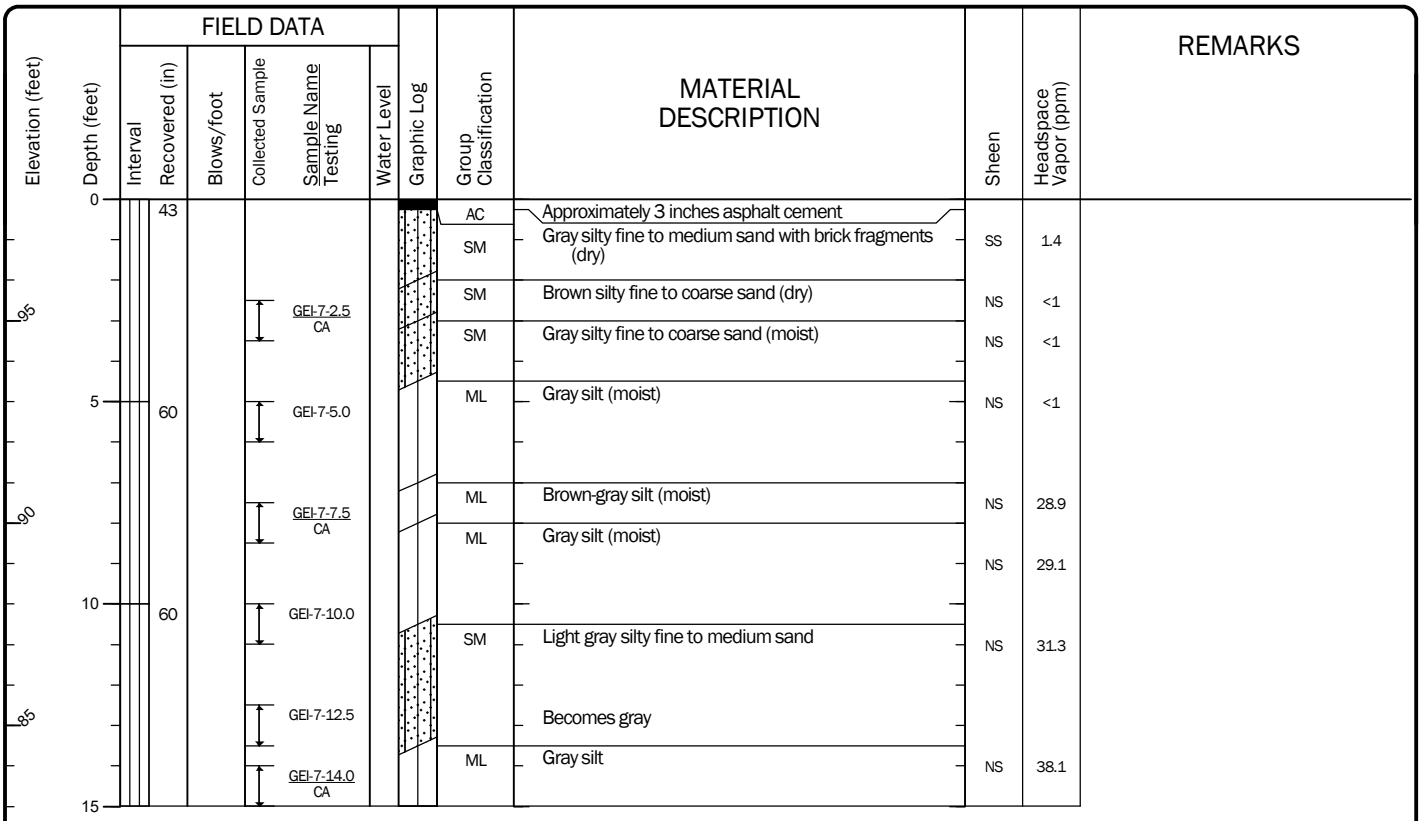
Log of Boring GEI-6

GeoEngineers

Project: 701 South Jackson Street
Project Location: Seattle, Washington
Project Number: 24504-001-01

Figure C-7
Sheet 1 of 1

Drilled Start 12/29/2021 End 12/29/2021	Total Depth (ft) 15	Logged By NRS Checked By RST	Driller Cascade Drilling LP	Drilling Method Direct Push	
Surface Elevation (ft) 103 Vertical Datum NAVD88		Hammer Data Pneumatic		Drilling Equipment Tracked Rig	
Latitude 47.598852 Longitude -122.323388		System Datum Decimal Degrees WGS84		Groundwater not observed at time of exploration	
Notes:					



Note: See Figure C-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on North American Datum 1983 (NAD83). Vertical approximated based on LiDAR from Puget Sound LiDAR Consortium dated 2016.

Log of Monitoring Well GEI-7

GeoEngineers

Project: 701 South Jackson Street
Project Location: Seattle, Washington
Project Number: 24504-001-01

Figure C-8
Sheet 1 of 1

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
MORE THAN 50% RETAINED ON NO. 200 SIEVE	SAND AND SANDY SOILS	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS
				SP	POORLY-GRADED SANDS, GRAVELLY SAND
	MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS, ROCK FLOUR, CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MORE THAN 50% PASSING NO. 200 SIEVE	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS AND SILTS OF MEDIUM TO HIGH PLASTICITY
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: Multiple symbols are used to indicate borderline or dual soil classifications

ADDITIONAL MATERIAL SYMBOLS

SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
	AC	Asphalt Concrete
	CC	Cement Concrete
	CR	Crushed Rock/ Quarry Spalls
	SOD	Sod/Forest Duff
	TS	Topsoil

Groundwater Contact

Measured groundwater level in exploration, well, or piezometer

Measured free product in well or piezometer

Graphic Log Contact

Distinct contact between soil strata

Approximate contact between soil strata

Material Description Contact

Contact between geologic units

Contact between soil of the same geologic unit

Sampler Symbol Descriptions

2.4-inch I.D. split barrel / Dames & Moore (D&M)

Standard Penetration Test (SPT)

Shelby tube

Piston

Direct-Push

Bulk or grab

Continuous Coring

Blowcount is recorded for driven samplers as the number of blows required to advance sampler 12 inches (or distance noted). See exploration log for hammer weight and drop.

"P" indicates sampler pushed using the weight of the drill rig.

"WOH" indicates sampler pushed using the weight of the hammer.

Laboratory / Field Tests

%F	Percent fines
%G	Percent gravel
AL	Atterberg limits
CA	Chemical analysis
CP	Laboratory compaction test
CS	Consolidation test
DD	Dry density
DS	Direct shear
HA	Hydrometer analysis
MC	Moisture content
MD	Moisture content and dry density
Mohs	Mohs hardness scale
OC	Organic content
PM	Permeability or hydraulic conductivity
PI	Plasticity index
PL	Point lead test
PP	Pocket penetrometer
SA	Sieve analysis
TX	Triaxial compression
UC	Unconfined compression
UU	Unconsolidated undrained triaxial compression
VS	Vane shear

Sheen Classification

NS	No Visible Sheen
SS	Slight Sheen
MS	Moderate Sheen
HS	Heavy Sheen

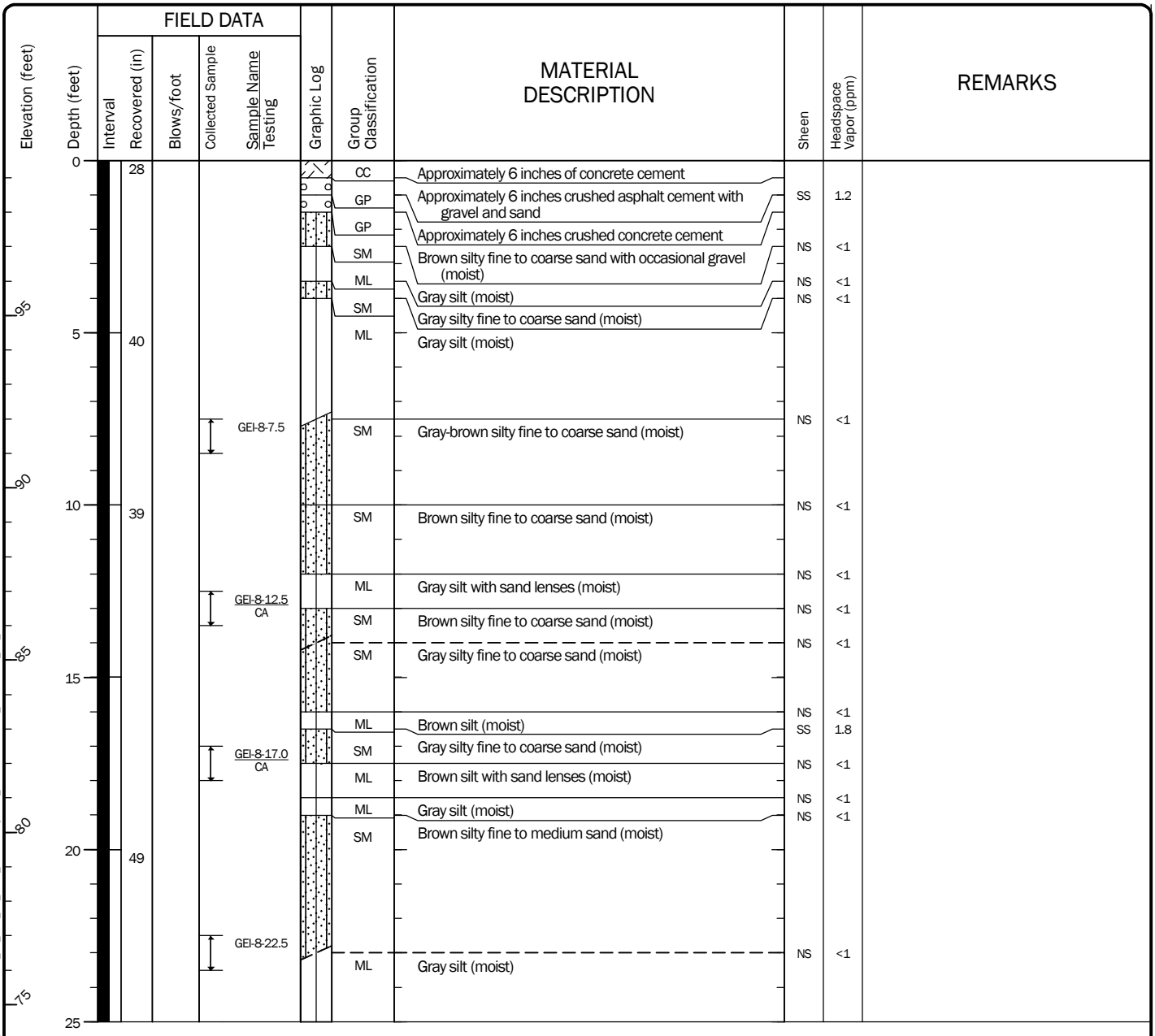
NOTE: The reader must refer to the discussion in the report text and the logs of explorations for a proper understanding of subsurface conditions. Descriptions on the logs apply only at the specific exploration locations and at the time the explorations were made; they are not warranted to be representative of subsurface conditions at other locations or times.

Key to Exploration Logs

GeoEngineers

Figure A-1

Drilled Start 4/4/2022 End 4/4/2022	Total Depth (ft) 25	Logged By NRS Checked By RST	Driller Cascade Drilling LP	Drilling Method Direct Push	
Surface Elevation (ft) 99.5 Vertical Datum NAVD88		Hammer Data Pneumatic		Drilling Equipment Track-mounted probe	
Latitude 47.59912 Longitude -122.323548		System Datum Decimal Degrees WGS84		Groundwater not observed at time of exploration	
Notes:					



Note: See Figure C-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on North American Datum 1983 (NAD83). Vertical approximated based on LiDAR from Puget Sound LiDAR Consortium dated 2016.

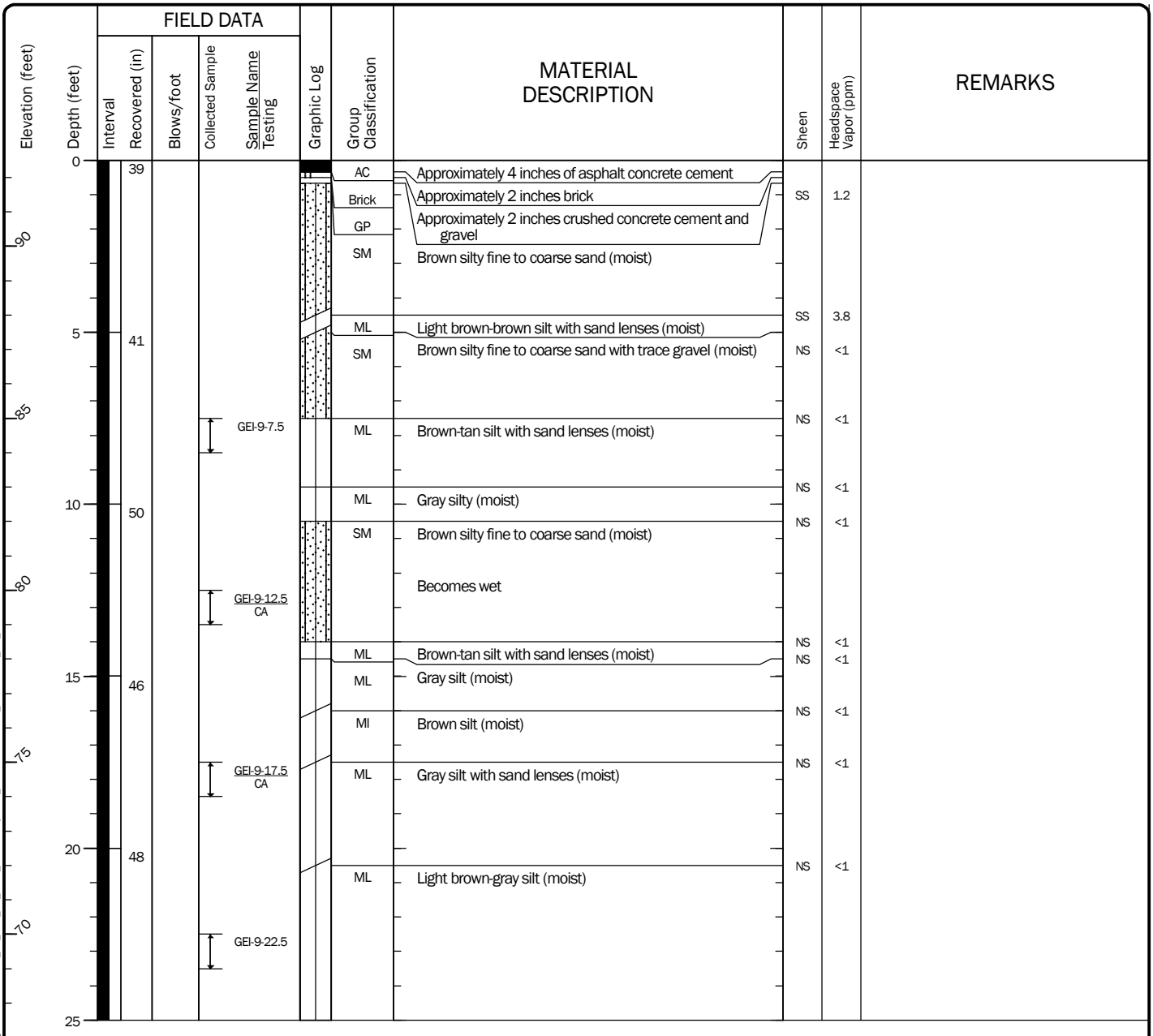
Log of Boring GEI-8

GeoEngineers

Project: 701 South Jackson Street
Project Location: Seattle, Washington
Project Number: 24504-001-01

Figure A-2
Sheet 1 of 1

Drilled Start 4/4/2022 End 4/4/2022	Total Depth (ft) 25	Logged By NRS Checked By RST	Driller Cascade Drilling LP	Drilling Method Direct Push	
Surface Elevation (ft) 92.5 Vertical Datum NAVD88		Hammer Data Pneumatic		Drilling Equipment Track-mounted probe	
Latitude 47.598778 Longitude -122.322714		System Datum Decimal Degrees WGS84		Groundwater not observed at time of exploration	
Notes:					



Note: See Figure C-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on North American Datum 1983 (NAD83). Vertical approximated based on LiDAR from Puget Sound LiDAR Consortium dated 2016.

Log of Boring GEI-9

GeoEngineers

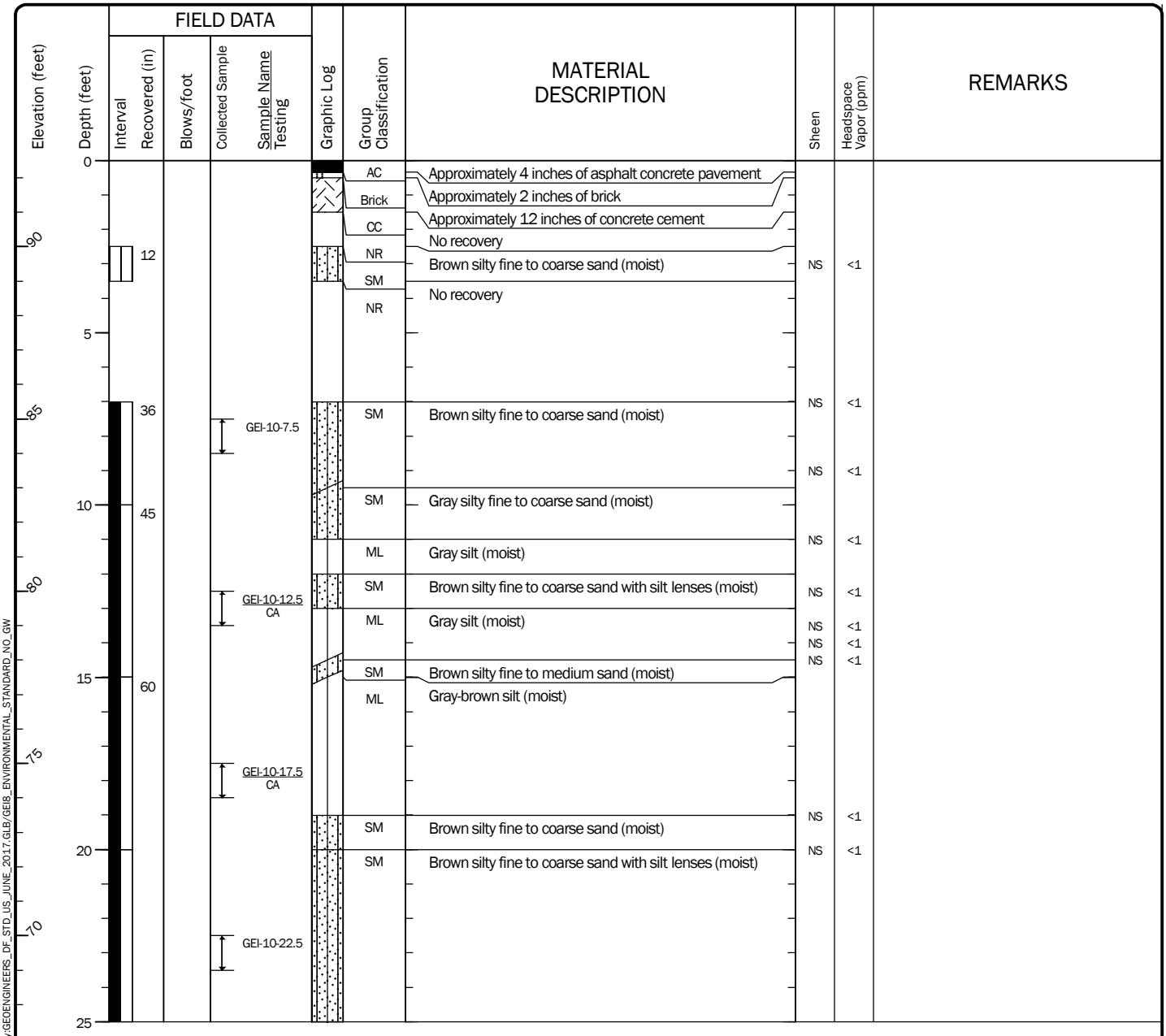
Project: 701 South Jackson Street
Project Location: Seattle, Washington
Project Number: 24504-001-01

Figure A-3
Sheet 1 of 1

Drilled	Start 4/4/2022	End 4/4/2022	Total Depth (ft)	25	Logged By	NRS	Driller	Cascade Drilling LP	Drilling Method	Direct Push
Checked By					RST					

Surface Elevation (ft) Vertical Datum	92.5 NAVD88	Hammer Data	Pneumatic	Drilling Equipment	Track-mounted probe
Latitude Longitude	47.598907 -122.323848	System Datum	Decimal Degrees WGS84	Groundwater not observed at time of exploration	

Notes: Boring cleared from the ground surface to approximately 7 feet below ground surface (bgs) using an air knife.



Note: See Figure C-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on North American Datum 1983 (NAD83). Vertical approximated based on LiDAR from Puget Sound LiDAR Consortium dated 2016.

Log of Boring GEI-10

GeoEngineers

Project: 701 South Jackson Street
Project Location: Seattle, Washington
Project Number: 24504-001-01

Figure A-4
Sheet 1 of 1

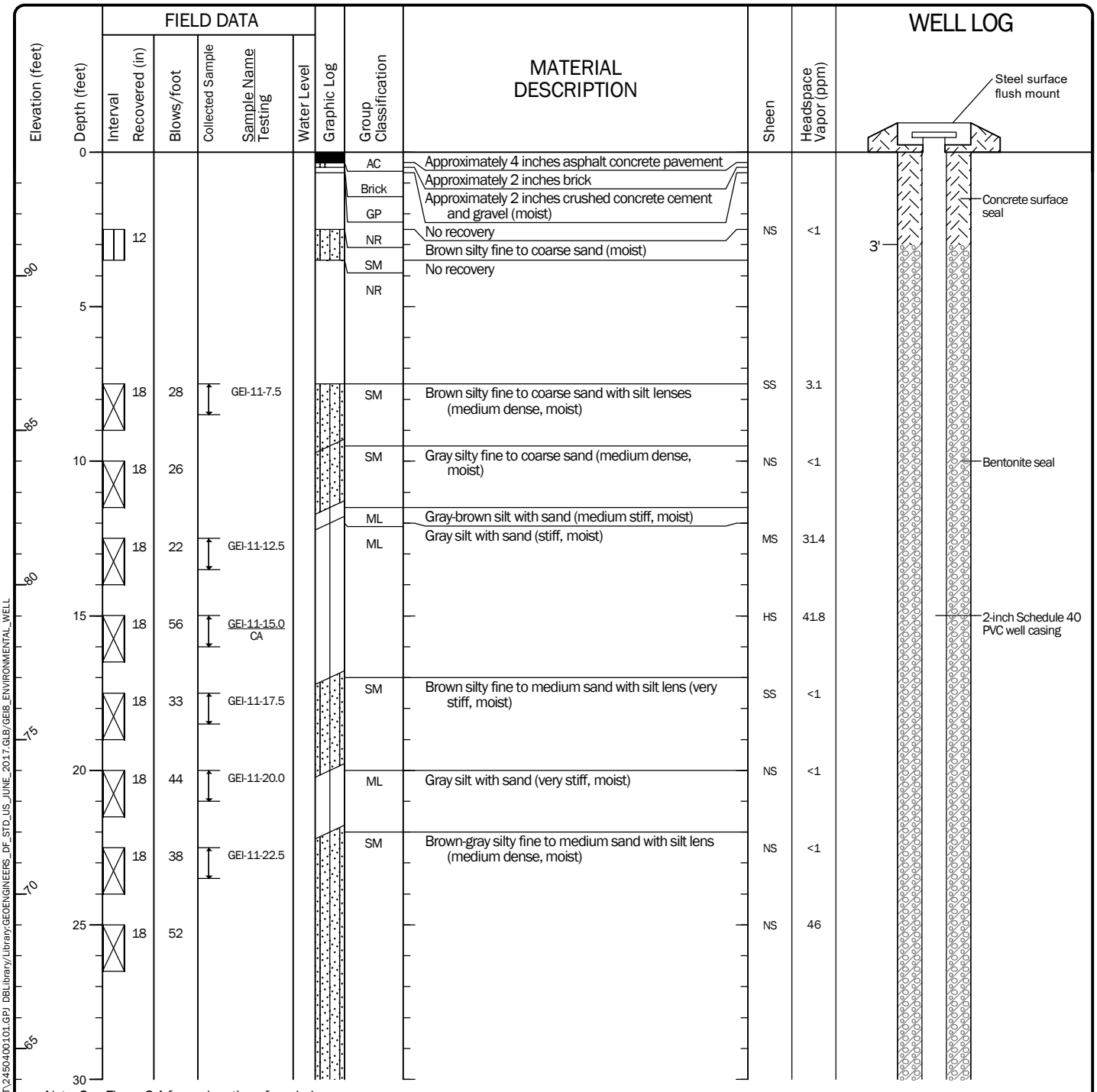
Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	4/5/2022	4/5/2022	71.5	NRS	RST	Cascade Drilling LP	Hollow-stem Auger

Hammer Data	Autohammer 140 (lbs) / 30 (in) Drop	Drilling Equipment	Truck-mounted drill rig
Surface Elevation (ft) Vertical Datum	94 NAVD88	Top of Casing Elevation (ft)	
Latitude Longitude	47.598851 -122.323695	Horizontal Datum	Decimal Degrees WGS84

DOE Well I.D.: BNC 885
A 2-in well was installed on 4/5/2022 to a depth of 70 ft.

Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
4/5/2022	61.34	32.66

Notes: Boring cleared from the ground surface to approximately 7 feet below ground surface (bgs) using an air knife.



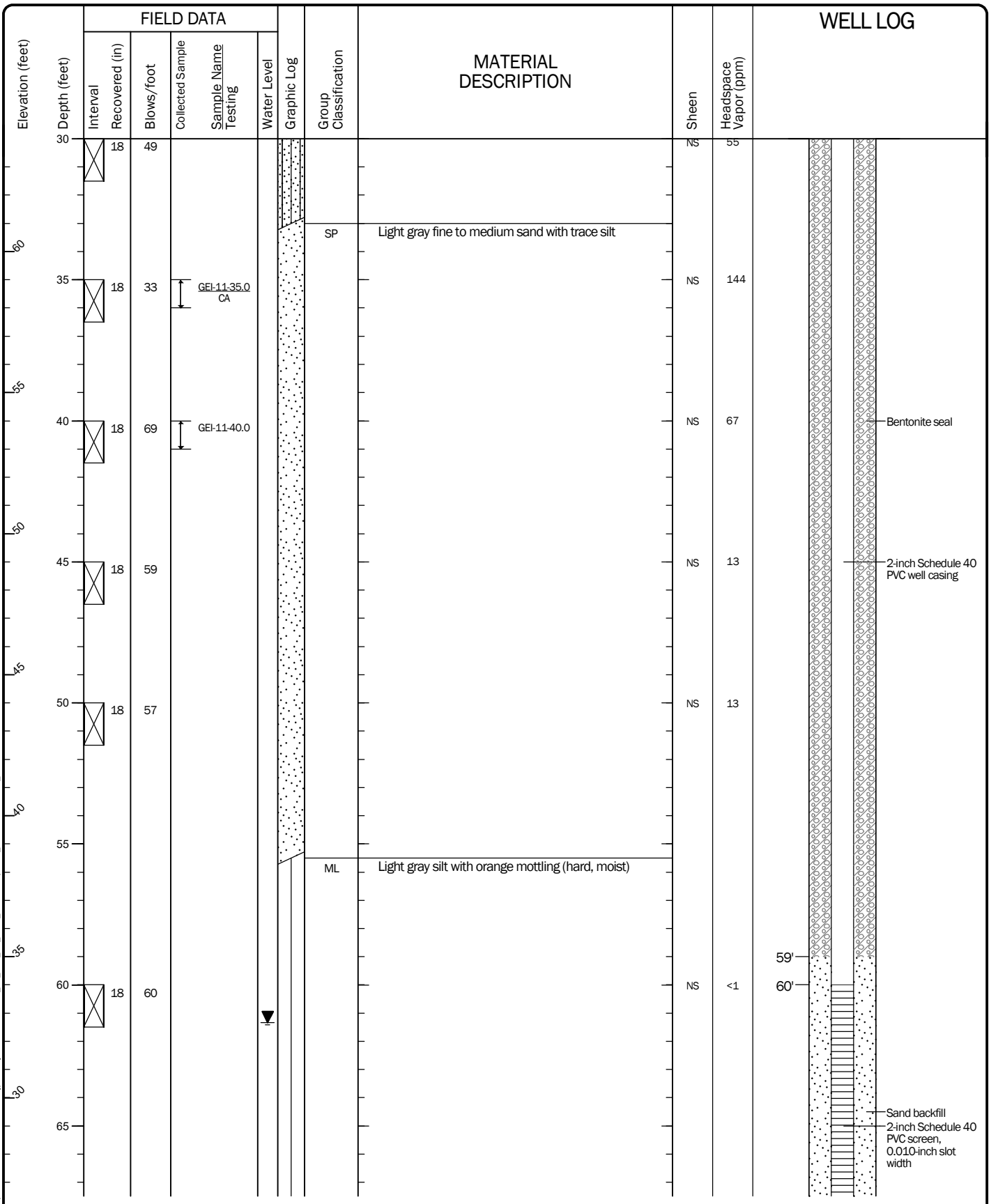
Note: See Figure C-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on North American Datum 1983 (NAD83). Vertical approximated based on LiDAR from Puget Sound LiDAR Consortium dated 2016.

Log of Boring with Monitoring Well GEI-11

GeoEngineers

Project: 701 South Jackson Street
Project Location: Seattle, Washington
Project Number: 24504-001-01

Figure A-5
Sheet 1 of 3



Date:5/5/22 Path:P:\24\24504001\GINT\24504001-01.GPJ DBLibrary/Library:GEOENGINEERS_DF_STD_US_JUNE_2017.GLB/GEI8_ENVIRONMENTAL_WELL

Log of Boring with Monitoring Well GEI-11 (continued)

GeoEngineers

Project: 701 South Jackson Street
Project Location: Seattle, Washington
Project Number: 24504-001-01

Figure A-5
Sheet 2 of 3

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	FIELD DATA: Blows/foot	FIELD DATA: Collected Sample / Sample Name Testing	FIELD DATA: Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	WELL LOG
75	70	18	61						NS	<1	70'

Log of Boring with Monitoring Well GEI-11 (continued)

GeoEngineers

Project: 701 South Jackson Street
Project Location: Seattle, Washington
Project Number: 24504-001-01

Figure A-5
Sheet 3 of 3

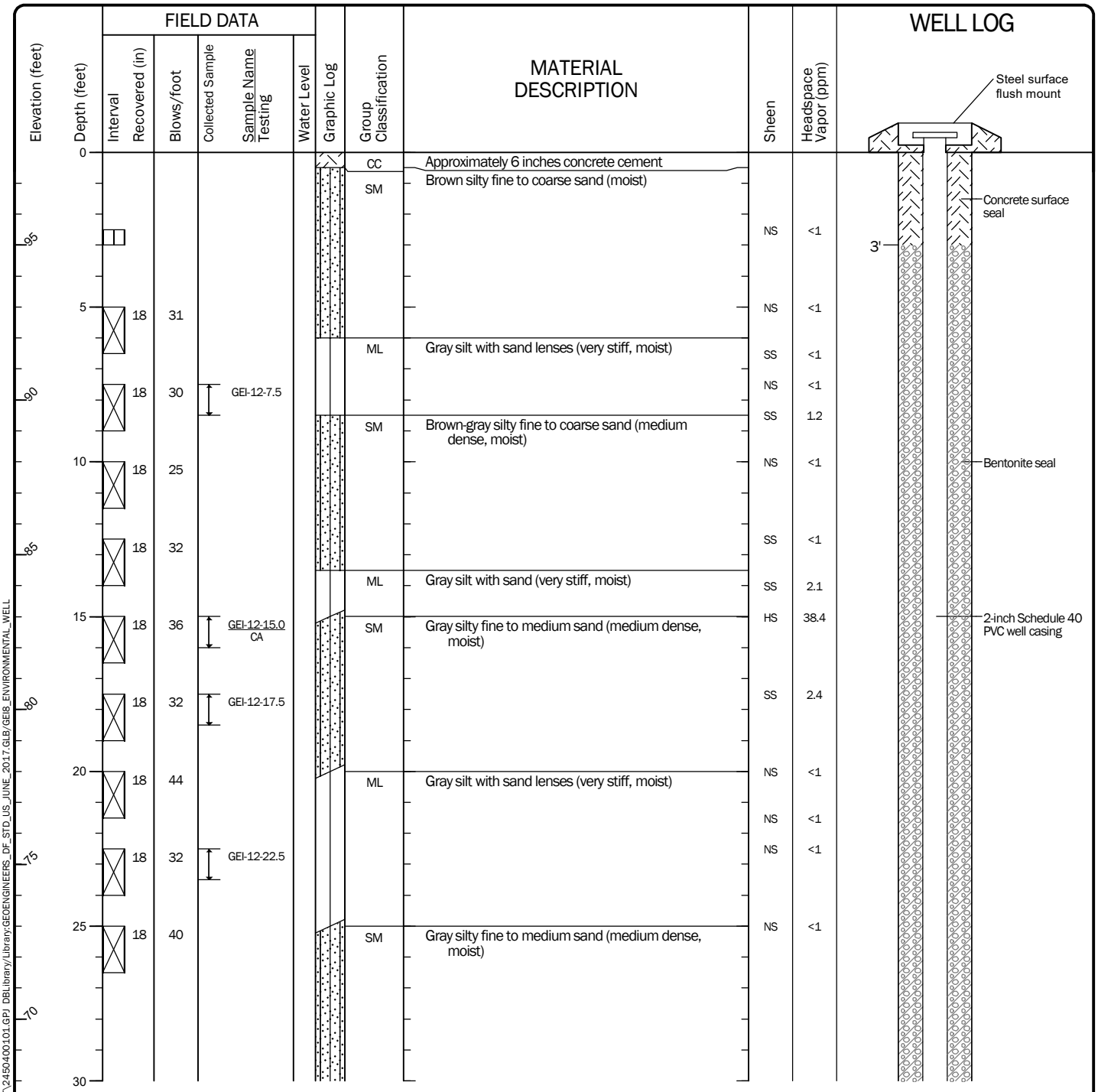
Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	4/6/2022	4/6/2022	75	NRS	RST	Cascade Drilling LP	Hollow-stem Auger

Hammer Data	Autohammer 140 (lbs) / 30 (in) Drop	Drilling Equipment	Truck-mounted drill rig
Surface Elevation (ft) Vertical Datum	98 NAVD88	Top of Casing Elevation (ft)	
Latitude Longitude	47.599017 -122.323695	Horizontal Datum	Decimal Degrees WGS84

DOE Well I.D.: BNC 886
A 2-in well was installed on 4/6/2022 to a depth of 75 ft.

Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
4/6/2022	66.78	31.22

Notes: Boring cleared from the ground surface to approximately 4 feet below ground surface (bgs) using hand tools.



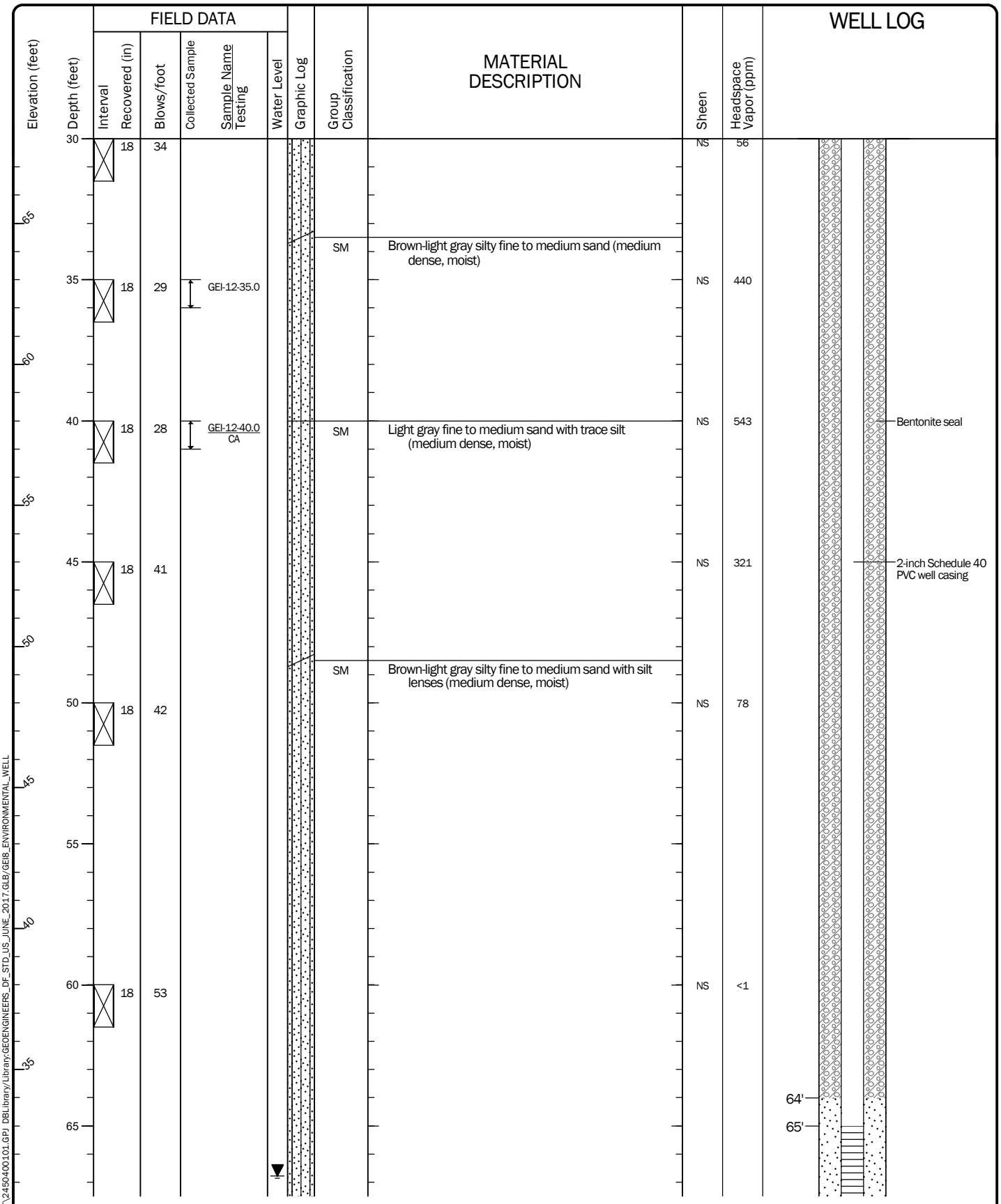
Note: See Figure C-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on North American Datum 1983 (NAD83). Vertical approximated based on LiDAR from Puget Sound LiDAR Consortium dated 2016.

Log of Boring with Monitoring Well GEI-12

GeoEngineers

Project: 701 South Jackson Street
Project Location: Seattle, Washington
Project Number: 24504-001-01

Figure A-6
Sheet 1 of 3



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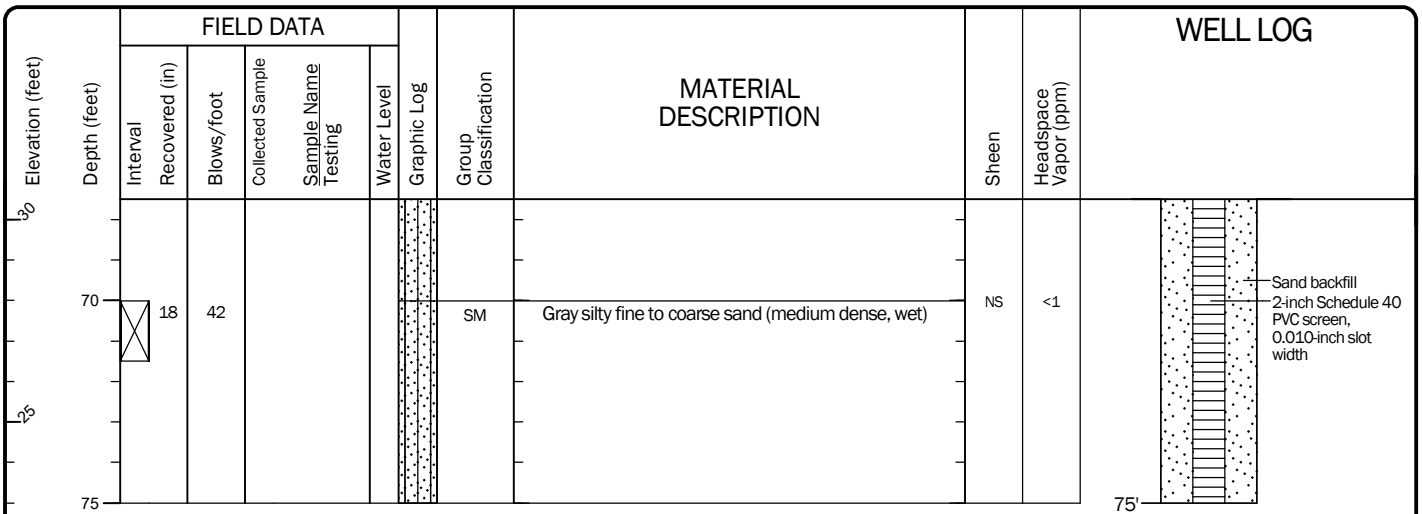
Log of Boring with Monitoring Well GEI-12 (continued)

GeoEngineers

Project: 701 South Jackson Street
Project Location: Seattle, Washington
Project Number: 24504-001-01

Figure A-6
Sheet 2 of 3



Log of Boring with Monitoring Well GEI-12 (continued)

GeoEngineers

Project: 701 South Jackson Street
Project Location: Seattle, Washington
Project Number: 24504-001-01

Figure A-6
Sheet 3 of 3

APPENDIX B
Site-Specific Health and Safety Plan

Site-Specific Health & Safety Plan

701 South Jackson Street
Seattle, Washington
for
GeoEngineers

May 16, 2023

GeoEngineers

2101 4th Avenue, Suite 950
Seattle, Washington 98121
206.728.2674

Site-Specific Health and Safety Plan

701 South Jackson Street
Seattle, Washington

File No. 24504-001-03

May 16, 2023

Approved By:

Signature: for James Kohn Date: 5/16/2023

James Kohn, Site-Safety Officer and Field Coordinator, GeoEngineers

Signature: Date: 5/16/2023

Robert Trahan, LG, Project Manager, GeoEngineers

Signature: Date: 5/16/2023

Tim L. Syverson, LHG , Associate, GeoEngineers

Signature: Date: 5/16/2023

Lucas Miller, Health and Safety Program Manager, GeoEngineers

JK:RST:TLS:ch

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Form 2. Safety Meeting Record
Form 3. Job Hazard Analysis Form
Form 4. Accident/Exposure Report Form

1.0 INTRODUCTION

This Health and Safety Plan (HASP) has been prepared for use at the Seventh Avenue Service Site (Site) during upcoming earthwork activities associated with the redevelopment of the 0.31-acre property located at 701 South Jackson Street (Property) in the Chinatown-International District neighborhood of Seattle, Washington. **This HASP is to be used in conjunction with the GeoEngineers, Inc. (GeoEngineers) Safety Programs.** Together, the written safety programs and this HASP constitute the site safety plan for this Site. This plan is to be used by GeoEngineers personnel on this site and must be available on Site. If the work entails potential exposures to other substances or unusual situations, additional safety and health information will be included, and the plan will need to be approved by the GeoEngineers Health and Safety Program Manager. All plans are to be used in conjunction with current standards and policies outlined in the GeoEngineers Health and Safety Programs.

GENERAL PROJECT INFORMATION

Project Name	Seventh Avenue Service Site/701 South Jackson Street
Project Number	24504-001-03
Type of Project	Remedial excavation oversight during Property redevelopment and post-construction compliance groundwater monitoring.
Start/Completion	May 2023 through December 2024
Subcontractors	Fremont Analytical Cascade Drilling

Liability Clause: If requested by subcontractors, this site HASP may be provided for informational purposes only. In this case, Form 1 shall be signed by the subcontractor. Please be advised that this site-specific HASP is intended for use by GeoEngineers employees only. Nothing herein shall be construed as granting rights to GeoEngineers' subcontractors or any other contractors working on this site to use or legally rely on this HASP. GeoEngineers specifically disclaims any responsibility for the health and safety of any person not employed by the company.

2.0 BACKGROUND

Detailed information regarding background information, including Site location, physical description, use history, summary of previous environmental investigations and identification of preliminary hazardous substances are presented in GeoEngineers' Contaminated Media Management Plan (CMMP) dated August 28, 2023 and are summarized below.

2.1. Problem Definition

Previous environmental investigations conducted at the Site by 701 S Jackson Partners, LLC (South Jackson Partners) and other parties have identified contaminants including gasoline-range total petroleum

hydrocarbons, benzene, toluene, ethylbenzene, and xylenes (BTEX) and naphthalene at concentrations greater than the Model Toxics Control Act (MTCA) cleanup levels (CULs) associated with the former gasoline service station and garage that historically operated at the Property between the 1930s and 1970s.

South Jackson Partners has entered into a Prospective Purchaser Consent Decree (PPCD No. 22-2-15886-7 SEA) with the Washington State Department of Ecology (Ecology), and the Assistant Attorney General, Ecology Division (the AGO), to facilitate cleanup as part of project construction for property redevelopment.

2.2. Property Description

The Property is bounded by South Jackson Street to the north, 7th Avenue South to the west, a mixed-use retail and apartment building (currently vacant) to the south, and a restaurant building (House of Hong) to the east. The Property is currently developed with two single-story structures, including a former gasoline station building in the northwest portion and an "L"-shaped automobile repair garage along the east and south Property boundaries, and paved parking and drive areas. A small building on the southwest corner of the Property is currently used for a storage room for "New Century Tea Gallery". Other buildings on Property are currently vacant.

2.3. Historical Land Use

Since redevelopment following the Jackson Street regarding project in 1927, the Property has been used for automobile repair and fueling services. During redevelopment, the large "L"-shaped building was constructed along the southern and eastern portions of the Property. As early as 1932, a gasoline service station was added to the northwest portion of the Property until sales of gasoline ceased in the 1970s. The former gasoline service station operations included two gasoline underground storage tanks (USTs) and an associated fuel dispenser/pump island, and vehicle service/repair. In 2010, the gasoline USTs associated with the service station were decommissioned and removed from the Property.

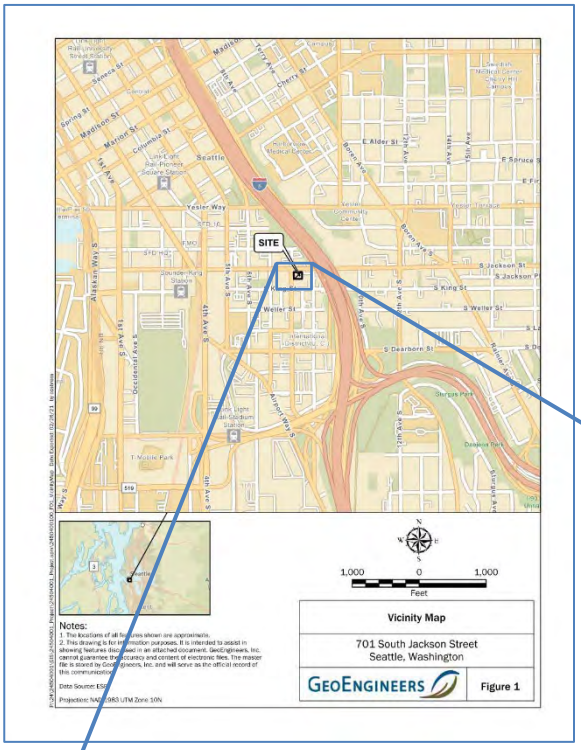
2.4. Project Description and Schedule

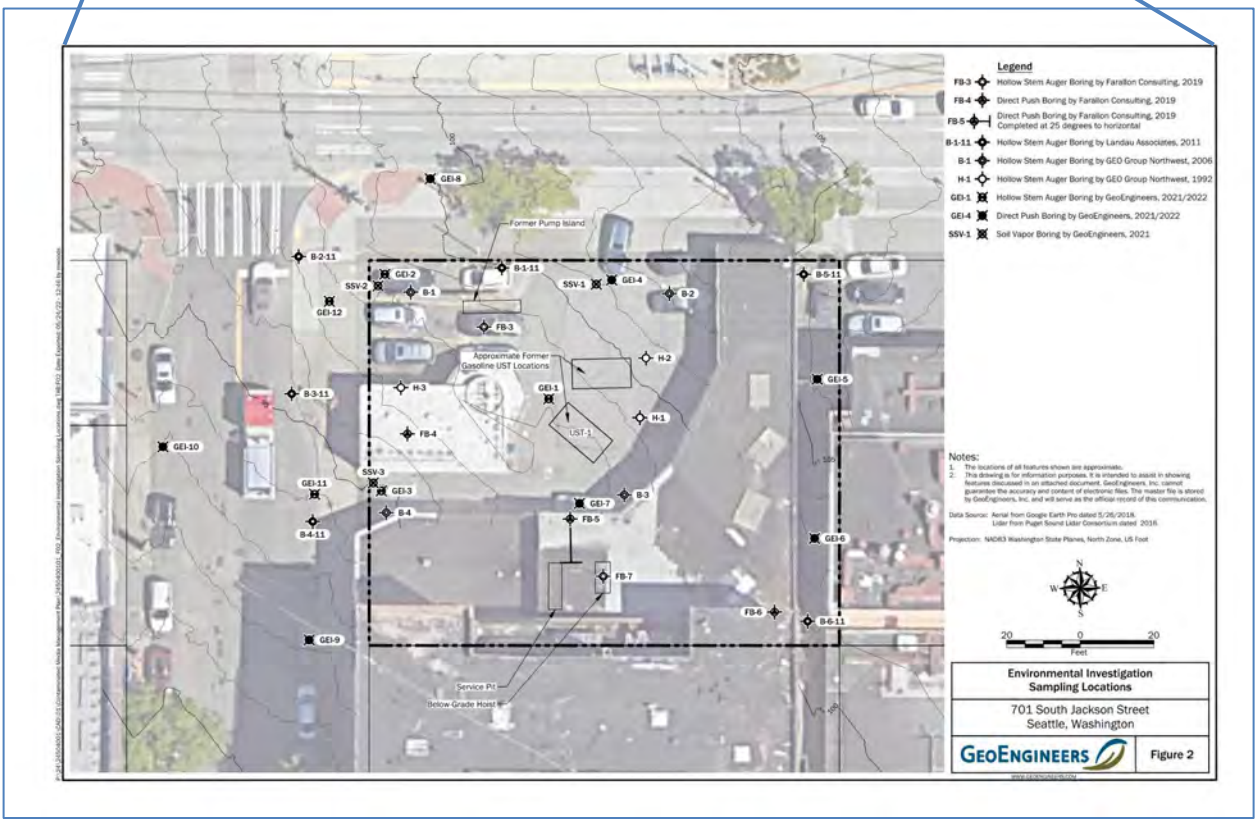
Remedial excavation activities will be completed concurrent with the construction for property redevelopment during the spring and summer months of 2023. Sampling and analysis will be performed to confirm the removal of soil containing contaminant concentrations greater than the MTCA cleanup levels (CULs). Construction excavation at the Property will include removal of soil in stages as excavation activities proceed. Excavated soil is planned to be directly loaded into trucks for off-site disposal or temporarily stockpiled pending off-site disposal. The General Contractor and/or Earthwork Contractor (collectively "Contractor") will be responsible for developing means and methods for soil and stormwater management, equipment decontamination, and tracking waste streams during construction. During construction, GeoEngineers will assist with material management based on existing chemical analytical data and physical evidence of contamination including color, staining, sheen and/or headspace vapors measured using a photoionization detector (PID). Material management, confirmation soil sampling and field screening methods are further described in the CMMP.

Post-construction groundwater water monitoring will then be performed to evaluate and verify that groundwater conditions remain below the MTCA CULs.

2.5. Site Map

The Site and surrounding features are shown in the Site Plan below.





3.0 WORK PLAN

Field activities will be completed to identify, oversee and verify the removal of contaminated soil generated from the Property during redevelopment sourcing from historical land use and operations. Based on previous environmental investigation results, three material management units are identified to guide the Contractor during soil excavation activities to ensure the proper handling and disposal of each waste stream to comply with applicable solid waste regulations. GeoEngineers specific activities will include:

- Document field activities during construction.
- Assist the Contractor in identifying and segregating individual material management units during construction based on field screening, previous environmental data and/or additional characterization data collected during construction (see the CMMP).
- Collection of soil samples to verify the contact beneath the base of the fill (i.e., Category 2 Soil), in native soil to define to the vertical and/or lateral extent of Category 2 soil for proper material management as necessary to support construction, vertical and lateral extent of Category 2 and/or 3 soil previously identified at the Property or if areas of previously unidentified suspect contamination are discovered.
- Collection of confirmation soil samples from the base and sidewalls of the remedial excavation to verify the removal of soil in which one or more contaminant was previously detected at a concentration exceeding the MTCA CULs.
- Installation of new monitoring well(s) and collection of groundwater samples from new and/or existing monitoring wells following construction to evaluate groundwater conditions and verify compliance with the MTCA CULs.
- Submittal of soil and groundwaters samples for a combination of the following:
    - Gasoline-range TPH by NWTPH-Gx
    - Diesel- and oil-range TPH by NWTPH-Dx
    - BTEX by EPA Method 8260
    - PAHs by EPA Method 8270
    - Lead by EPA 6000/7000 Method Series

ANTICIPATED FIELD ACTIVITIES

Field Activities (Check All Anticipated Field Activities to be Completed)	
☒ Pre-Entry Briefing and Acknowledgment - Form 1	☐ UST Site Check/Site Assessment
☒ Safety Meeting Record - Form 2	☐ UST Removal Observation
☒ Job Hazard analyses (JHA) - Form 3	☐ Product Sample collection
☒ Site Reconnaissance	☐ Recovery of Free Product
☒ Surveying	☒ Remedial Excavation
☒ Soil Sampling	☒ Monitoring Well Installation
☒ Groundwater Sampling	☒ Monitoring Well Development
☐ Vapor Sampling	☒ Groundwater Depth and Free Product Measurement

Field Activities (Check All Anticipated Field Activities to be Completed)	
☐ Test Pit Exploration	☐ Other: Click here to enter text.
☐ Direct Push Exploration	☐ Other: Click here to enter text.
☒ Hollow-Stem Auger Exploration	☐ Other: Click here to enter text.
☒ Construction Monitoring	☐ Other: Click here to enter text.

ANTICIPATED FIELD PERSONNEL AND TRAINING

Name of Employee	Level of HAZWOPER Training (24-/40-hr)	Date of 8-Hr Refresher Training	First Aid/ CPR Expiration
James Kohn	40-hr	July 2022	September 2022
Nathan Solomon	40-hr	March 2023	December 2023
Stuart Odekirk	40-hr	February 2019	March 2019
Jason Sanford	40-hr	March 2022	May 2022

4.0 CHAIN OF COMMAND

The chain of the command for the 701 South Jackson Street Site remedial excavation and construction project has been established to provide the hierarchical structure in which field personnel reports potential issues or concerns if working conditions change that may affect on-site and off-site health and safety. The project chain of command and functional responsibility for key individuals are presented below.

PROJECT CHAIN OF COMMAND AND CONTACT INFORMATION

Chain of Command	Title	Name	Telephone Numbers
1	Current Owner	Brad Padden Robert Tiscareno	425.209.8774 (o) 206.915.9702 (o)
2	Associate In Charge	Tim Syverson	206.605.9236 (c) 206.448.4197 (o)
3	Health and Safety Program Manager	Lucas Miller	509.209.2830 (o) 206.451.5307 (c)
4	Project Manager	Robert Trahan	206.240.2300 (c) 206.239.3253 (o)
5	Client Assigned Site Supervisor/Contractor	Craig Haveson	206.439.6343 (o) 206.510.8787 (c)
6	Site Safety Officer	James Kohn	847.521.0619 (c)
7	Field Engineer/Geologist	James Kohn Nathan Solomon Stuart Odekirk Jason Sanford	847.521.0619 (c) 206.437.6819 (c) 425.829.5304 (c) 206.261.4475 (c)
8	Fremont Analytical Cascade Drilling	Clair Griggs Kacey Globe	206.352.3790 (o) 425.527.9700 (o)

4.1. Functional Responsibility

The functional responsibility of individual roles within GeoEngineers health and safety program are described below.

4.1.1. Health and Safety Program Manager (HSM)

GeoEngineers' Health and Safety Program Manager (HSM) is responsible for implementing and promoting employee participation in the program. The HSM issues directives, advisories and information regarding health and safety to the technical staff. Additionally, the HSM has the authority to audit on-site compliance with HASPs, suspend work or modify work practices for safety reasons, and dismiss from the site any GeoEngineers or subcontractor employees whose conduct on the site endangers the health and safety of themselves or others.

4.1.2. Project Manager (PM)

A PM is assigned to manage the activities of various projects and is responsible to the principal-in-charge of the project. The PM is responsible for assessing the hazards present at a job site and incorporating the appropriate safety measures for field staff protection into the field briefing and/or Site Safety Plan. He or she is also responsible for assuring that appropriate HASPs are developed. The PM will provide a summary of chemical analysis to personnel completing the HASP. PMs shall also see that their project budgets consider health and safety costs. The PM shall keep the HSM informed of the project's health- and safety-related matters as necessary. The PM shall designate the project Site Safety Officer (SSO) and help the SSO implement the specifications of the HASP. The PM is responsible for communicating information in site safety plans and checklists to appropriate field personnel. Additionally, the PM and SSO shall hold a site safety briefing before any field activities begin. The PM is responsible for transmitting health and safety information to the Site Safety Officer (SSO) when appropriate.

4.1.3. Site Safety Officer (SSO)

The SSO will have the on-site responsibility and authority to modify and stop work or remove personnel from the site if working conditions change that may affect on-site and off-site health and safety. The SSO will be the main contact for any on-site emergency situation. The SSO is First Aid and CPR qualified and has current Hazardous Waste Operations and Emergency Response (HAZWOPER) training. The SSO is responsible for implementing and enforcing the project safety program and safe work practices during site activities. The SSO shall conduct daily safety meetings, perform air monitoring as required, conduct site safety inspections as required, coordinate emergency medical care, and ensure personnel are wearing the appropriate personal protective equipment (PPE). The SSO shall have advanced fieldwork experience and shall be familiar with health and safety requirements specific to the project. The SSO has the authority to suspend site activities if unsafe conditions are reported or observed.

Duties of the SSO include the following:

- Implementing the HASP in the field and monitoring compliance with its guidelines by staff.
- Being sure that all GeoEngineers field personnel have met the training and medical examination requirements. Advising other contractor employees of these requirements.
- Maintaining adequate and functioning safety supplies and equipment at the site.
- Setting up work zones, markers, signs and security systems, if necessary.

- Performing or supervising air quality measurements. Communicating information on these measurements to GeoEngineers field staff and subcontractor personnel.
- Communicating health and safety requirements and site hazards to field personnel, subcontractors and contractor employees, and site visitors.
- Directing personnel to wear PPE and guiding compliance with all health and safety practices in the field.
- Consulting with the PM regarding new or unanticipated site conditions, including emergency response activities. If monitoring detects concentrations of potentially hazardous substances at or above the established exposure limits, notify/consult with the PM. Consult with the PM and the HSM regarding new or unanticipated site conditions, including emergency response activities. If field monitoring indicates concentrations of potentially hazardous substances at or above the established exposure limits, the HSM must be notified, and corrective action taken.
- Documenting all site accidents, illnesses and unsafe activities or conditions, and reporting them to the PM and the HSM.
- Directing decontamination operations of equipment and personnel.

4.1.4. Field Engineer/Geologist

All GeoEngineers employees working on-site that have the potential of coming in contact with hazardous substances or physical hazards are responsible for participating in the health and safety program and complying with the site-specific health and safety plans. These employees are required to:

- Participate and be familiar with the health and safety program as described in this manual.
- Notify the SSO that when there is need to stop work to address an unsafe situation.
- Comply with the HASP and acknowledge understanding of the plan.
- Report to the SSO, PM or HSM any unsafe conditions and all facts pertaining to incidents or accidents that could result in physical injury or exposure to hazardous materials.
- Participate in health and safety training, including initial 40-hour Occupational Safety and Health Administration (OSHA) course, annual 8-hour HAZWOPER refresher, and First Aid/cardiopulmonary resuscitation (CPR) training.
- Participate in the medical surveillance program if applicable.
- Schedule and take a respirator fit test annually.
- Any field employee working onsite may stop work if the employee believes the work is unsafe.

4.1.5. Contractors Under GeoEngineers Supervision

Contractors working on the site under GeoEngineers supervision or direct control that have the potential of coming in contact with hazardous substances or physical hazards shall have their own health and safety program that is in line with the site-specific health and safety plan.

5.0 EMERGENCY INFORMATION

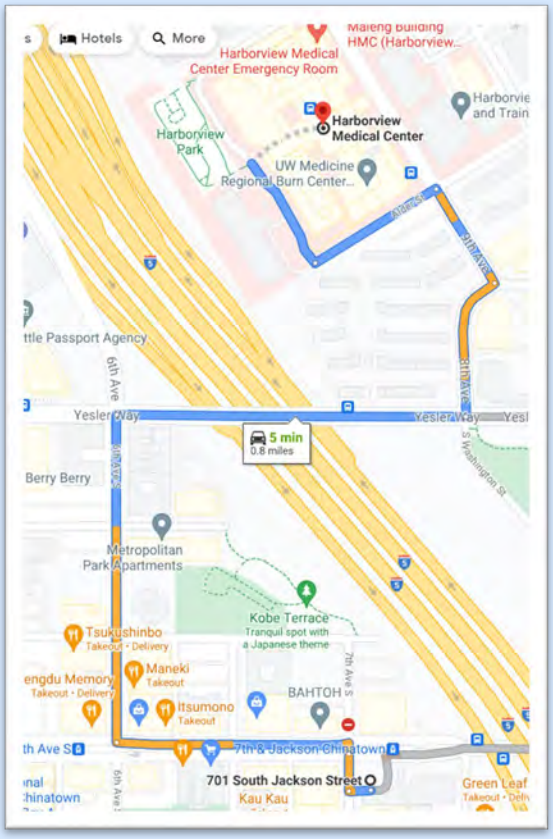
5.1. Emergency Response Preparedness

- Personnel on-site should use the "buddy system" (pairs).
- Visual contact should be maintained between "pairs" on site, with the team remaining in proximity to assist each other in case of emergencies.
- If any member of the field crew experiences any adverse exposure symptoms while on site, the entire field crew should immediately halt work and act according to the instructions provided by the SSO.
- Wind indicators visible to all on-site personnel should be provided by the SSO to indicate possible routes for upwind escape. Alternatively, the SSO may ask on-site personnel to observe the wind direction periodically during site activities.
- The discovery of any condition that would suggest the existence of a situation more hazardous than anticipated should result in the evacuation of the field team, contact of the PM, and re-evaluation of the hazard and the level of protection required.
- If an accident occurs, the SSO and the injured person are to complete, within 24 hours, an Accident Report (Form 4) for submittal to the PM, the HSPM, and HR. The PM should ensure that follow-up action is taken to correct the situation that caused the accident or exposure.

5.2. Standard Emergency Procedures

- **Get help.**
  - Send another worker to phone 9-1-1 (if necessary).
  - As soon as feasible, notify GeoEngineers' Project Manager.
- **Reduce risk to injured person.**
  - Turn off equipment.
  - Move person from injury location (if in life-threatening situation only).
  - Keep person warm.
  - Perform First Aid and/or CPR (if necessary).
- **Transport injured person to medical treatment facility (if necessary).**
  - By ambulance (if necessary) or GeoEngineers vehicle.
  - Stay with person at medical facility.
  - Keep GeoEngineers Project Manager apprised of situation and notify Human Resources Manager of situation.

HOSPITAL AND DIRECTIONS

Hospital Name	Harborview Medical Center
Hospital Address	325 9th Avenue, Seattle, WA 98104
Phone Number (Hospital ER)	(206) 744-3000
Driving Distance	0.8 Miles
Driving Directions	1. Take 7th Avenue to Jackson Street 2. Turn **left** at cross street onto **S Jackson** 3. Turn **right** onto **6th Avenue** 4. Turn **right** onto **Yesler Way** 5. Turn **left** onto **8th Avenue** 6. Turn **left** onto **9th Avenue** 7. Turn **left** onto **Alter Street** 8. Destination will be on the **right**
Driving Map	

6.0 HAZARD ANALYSIS

A hazard analysis has been completed as part of preparation of this HASP. The hazard analysis was performed taking into account the known and potential hazards at the site and surrounding areas, as well as the planned work activities. The results of the hazard analysis are presented in this section. The hazard

assessment will be evaluated each day before beginning work. Updates will be made as necessary and documented in the Job Hazard Analyses (JHA) Form 3 or daily field log.

Known and/or anticipated hazards are discussed in the following sections.

6.1. Job Hazard Analysis

The following presents potential job hazards and mitigation procedures/steps should be followed prior to leaving to the job site, while enroute to the job site and following arrival to the job site to reduce/eliminate these hazards:

- Pre-Job Activities – Potential hazards include unfamiliar locations, congestion, unpaved roads, mechanical failure, flat tires, vehicle fire, exhaust leaks, vehicle collision, internal projectiles.
    - Inspect the vehicle before departure:
        - Check for tire cuts, fluid leaks, flat tires, body damage, windshield cracks, and other damage.
        - Check lights, wipers, fluid levels, and seat belts.
    - Study the area maps, photos and use GPS and compass skills.
    - Use only vehicles appropriate for the work needs and the driving conditions expected.
    - Ensure the vehicle has a complete and current first aid kit and fire extinguisher.
    - Place heavy objects behind a secure safety cage if they must be carried in a passenger compartment.
    - Ensure vehicle has fuel to get to and from your destinations.
    - Identify the safest spot to park field vehicles.
    - Discuss potential biological, physical. Chemical and ergonomic hazards with Project Manager.
- Highway Driving – Potential hazards include unfamiliar roads, mechanical failure, flat tires, vehicle fire, vehicle collision.
    - Inform your Project Manager of your destination and estimated time of return.
    - Carry extra food, water, and clothing.
    - Drive defensively.
    - Inspect vehicle prior to departure (see Pre-Job Activities)
- Driving on Unimproved Roads – Potential hazards include encountering other vehicles on unfamiliar narrow/rough roads, animal/object collision, running/skidding off-road, icy/muddy conditions, flying debris (rocks, etc.), poor visibility, backing, run-away vehicle, roadway obstacles, Project Manager unaware of location.
    - Stay on the main roadway to the extent practicable.
        - Pull over on firm ground and avoid soft shoulders, if a stop is necessary.
    - Drive on maintained trails when possible.
    - Drive with care in tall brush and grass. Watch for wildlife, fallen trees, rocks, and other obstacles.
    - Slow down, especially on corners.

- Maintain a safe speed at all times.
- Follow from a safe distance.
- Know when and how to use 4WD.
- Use only vehicles appropriate to the road conditions.
- Inspect vehicle/location conditions prior to departure (see Pre-Job Activities).

- **Traveling on Foot** – Potential hazards include falls, foot injuries, and stress and/or impact injuries, forest fires, lightning, personal safety.
  - Identify and use safe travel routes. Do not exceed physical abilities or equipment design.
  - Use pack equipment properly. Carry weight on hips, not back.
  - Warm up and stretch the appropriate muscle groups before and after hitting the trail.
  - Test and use secure footing. Move cautiously and deliberately. Never run.
  - In heavy undergrowth, particularly off-trail, slow down and watch carefully.
  - Carry tools on the downhill side.
  - Wear safety-toed boots with good, non-skid soles that are tall enough to support ankles.
  - Know basic first aid. Completion of a basic first aid course is required.
  - Use footwear appropriate to the terrain and load being carried.
  - Know how to fall. Roll, protect the head and neck, and do not extend arms to break the fall.
  - Wear fire retardant clothing.
  - Refer to GeoEngineers Personal Safety Program - Never you're your personal safety. Leave the area and contact your Project Manager.
  - Travel on maintained trails when possible.
- **Slope Evaluation** – Potential hazards include slips, trips and falls.
  - Travel on maintained trails when possible.
  - Take extra precautions when encountering steep, loose, wet trail conditions.
  - Always carry tools on your downhill side.
  - Use a rope for stability if needed/tie off to trees/have throw rope with on-shore buddy.
  - Take slow deliberate steps as conditions dictate.
  - Use a flashlight after dark.
  - Travel after dark only in an emergency.
  - Wear appropriate footwear for conditions.
- **Unfamiliar Crew and Tasks** – Potential hazards include: crew does not notify site owner/manager, unaware of the job site hazards and steps to prevent injury, appropriate personnel protective equipment not worn.
  - Conduct a tailgate safety meeting discussing the jobs, the hazards and actions that will be taken to prevent injury.
  - Discuss "Stop Work Authority" as it applies to each site member.

- Discuss appropriate Personal Protection Equipment (PPE) including high visibility clothing such as reflective vest.
- Notify attendant and/or site owner/manager of work activities and location.
- Discuss appropriate PPE including high visibility clothing such as reflective vest.
- Set up exclusion zone surrounding work area.

- **Communication** – Potential hazards include lack of cell phone coverage, use heavy equipment, large job site without clear address or entrance for emergency crews.
  - Verify cell phone is working.
  - Maintain communication with Project Manager throughout job task.
  - Maintain communication and line of sight with heavy equipment operators.
  - Verify location and contact numbers for emergency medical assistance or 911.
  - Verify designated job site entrance/exit and job site emergency procedures.
  - Review job site health and safety plan.

6.2. Physical Hazards

Physical hazards potentially at the Site and mitigation measures and/or procedures for addressing potential physical hazards are summarized below.

ANTICIPATED PHYSICAL HAZARDS

Physical Hazards (Check All Anticipated Hazards)	
☒ Drill rig and support truck	☒ Overhead hazards/power lines
☒ Backhoe	☒ Tripping/puncture hazards (debris on-site, steep slopes or pits)
☒ Trackhoe	☒ Unusual traffic hazard – Construction Excavation and Street Traffic
☒ Crane	☒ Heat/Cold, Humidity
☒ Front End Loader	☒ Utilities/ utility locate
☒ Excavations/trenching (1:1 slopes for Type B soil)	☒ Noise
☒ Shored/braced excavation (greater than 4' deep)	☐ Other: Click here to enter text.

Measures to mitigate potential/anticipated physical hazards including the following:

- Work areas will be marked with reflective cones, barricades and/or caution tape. High-visibility vests will be worn by on-site personnel to ensure they can be seen by vehicle and equipment operators. Use proper lighting of the work areas.
- Field personnel will be aware at all times of the location and motion of heavy equipment in the area of work to ensure a safe distance between personnel and the equipment. Personnel will be visible to the operator at all times and will remain out of the swing and/or direction of the equipment apparatus. Personnel will approach operating heavy equipment only when they are certain the operator has indicated that it is safe to do so through hand signal or other acceptable means.

- Heavy equipment and/or vehicles used on this site will not work within 20 feet of overhead utility lines without first ensuring that the lines are not energized. This distance may be reduced to 10 feet, depending on the client and the use of a safety watch. Note: If it is later determined that overhead lines are a hazard on this job site, a copy the overhead lines safety section from the HASP Supplemental document shall be attached.
- Personnel will avoid tripping hazards, steep slopes, pits and other hazardous encumbrances. If it becomes necessary to work within 6 feet of the edge of a pit, slope or other potentially hazardous area, appropriate fall protection measures will be implemented by the Site Safety Officer in accordance with OSHA/DOSH regulations and the GeoEngineers Health and Safety Program.
- Personnel will wear appropriate hearing protection (see section on Personnel Protective Protection).
    - Excessive levels of noise (exceeding 85 decibels [dBA]) are anticipated. Personnel potentially exposed will wear ear plugs or muffs with a noise reduction rating of at least 25 dBA whenever it becomes difficult to carry on a conversation 6 feet away from a co-worker or whenever noise levels become bothersome. Increasing the distance from the source will decrease the noise level noticeably.
    - Personnel should be properly trained in the use, selection and the care of hearing protection.
    - Where practical, engineering and/or administrative controls should be utilized to maintain employees' exposure to noise levels below the PEL/TWA.
- No employee shall enter an excavation greater than 4 feet unless authorized by a Competent Person.
- Appropriate measures shall be taken to prevent entry of water in or around the excavation. No employee shall enter an excavation with accumulated water.
- Keep excavated soil and other materials and equipment at least 2 feet from edge of the excavation.
- Cold stress control measures will be implemented according to the GeoEngineers Health and Safety Program.
    - Working in cold environments presents many hazards to site personnel and can result in frost nip (superficial freezing of the skin), frost bite (deep tissue freezing), or hypothermia (lowering of the core body temperature).
    - The combination of wind and cold temperatures increases the degree of cold stress experienced by site personnel. Site personnel shall be trained on the signs and symptoms of cold-related illnesses, how the human body adapts to cold environments, and how to prevent the onset of cold-related illnesses. Heated break areas and warm beverages shall be provided during periods of cold weather.
- Heat stress control measures required for this site will be implemented according to GeoEngineers Health and Safety Program.
    - Site personnel shall be trained on the signs and symptoms of heat-related illnesses, how the human body adapts to hot environments, and how to prevent the onset of heat-related illnesses. When employee exposure is at or above an applicable temperature listed in the Heat Stress table below, Project Managers will ensure that:
        - A sufficient quantity of drinking water is readily accessible to employees at all times; and
        - All employees have the opportunity to drink at least one quart of drinking water per hour.
        - A cooled, shaded rest area should be available to workers.

HEAT STRESS

Type of Clothing	Outdoor Temperature Action Levels
Nonbreathing clothes including vapor barrier clothing or PPE such as chemical resistant suits	52°
Double-layer woven clothes including coveralls, jackets and sweatshirts	77°
All other clothing	89°

6.3. Biological Hazards

Biological hazards potentially at the Site and mitigation measures and/or procedures for addressing potential biological hazards are summarized below.

ANTICIPATED BIOLOGICAL HAZARDS

Biological Hazards (Check the Hazards Anticipated for the Project)
☐ Wildlife (insects, snakes, etc.)
☒ Human Waste
☒ Hypodermic needles or other infectious hazards
☐ Poison Ivy or other vegetation
☐ Other:

Measures to mitigate potential/anticipated biological hazards including the following:

- Wildlife Hazards:
  - Use insect repellant as necessary.
  - If employee has bee sting allergy, carry epi-pen.
  - Avoid bears when they are sited. Give wide berth.
  - Do not get in between a sow and cubs.
  - Have an armed bear guard (contracted by PLP) present in any areas where bears could occur.
  - Avoid areas where salmon carcasses accumulate or where bears are actively foraging.
  - Stay alert and a safe distance away from any other biological hazards (e.g. otters, seals, hunters).
  - Wear appropriate PPE including gloves, long sleeves and pants, mosquito hats and waders if probability of encountering biting or stinging insects.
- Human Waste:
  - Notify property owner of location and description. (It is not our job to handle waste).
  - Wear required PPE for job – thick soled boots with lug tread, leather work gloves, long pants & long-sleeved shirt.
  - The exposure to blood, waste or other potentially infectious materials (OPIMs) can be avoided in the field by being aware of your surroundings and the potential hazards. Unlike first

responders or medical staff, GeoEngineers employees are not trained to handle bloodborne pathogens or OPIMs.

  - If we encounter such materials, the best practice is notifying the property owner/client that disposal is required, and any other specific information we can provide (amount, type, location). If they are not aware of proper disposal procedures (such as using long-handled pincher type devices for pick up waste they can contact their local health department or city parks/maintenance staff for advice or assistance.

- Exposure to hypodermic needles other infectious hazards:
  - Wear heavy lug soled boots when working in the field (i.e. not soft soled office shoes). Around drill rigs, steel toed boots with high traction lug soles are typically required.
  - Do not pick up used needles.
  - Notify the property owner if their presence, location and amount. They should initiate disposal or flag area off from general pedestrian foot traffic – not our job.
  - If working in remote or inner urban area clearing brush from ground area, use appropriate trimming tools and wear leather work gloves. Be aware of surroundings and notice any discarded syringes. Again, if present, notify property owner to collect / dispose of them.

6.4. Ergonomic Hazards

ANTICIPATED ERGONOMIC HAZARDS

Ergonomic Hazards (Check the Hazards Anticipated for the Project)
☒ Heavy Lifting
☐ Repetitive Motion
☐ Other:

Measures to mitigate potential/anticipated ergonomic hazards including the following:

- Minimize reaching by keeping frequently used items within arm's reach, moving your whole body as close as possible to the object.
- Avoid overextending by standing up when retrieving objects on shelves.
- Keep your back in shape with regular stretching exercises.
- Get help from a coworker or use a hand truck if the load is too heavy or bulky to lift alone.
- Proper Lifting Techniques:
  - Face the load; don't twist your body. Stand in a wide stance with your feet close to the object.
  - Bend at the knees, keeping your back straight. Wrap your arms around the object.
  - Let your legs do the lifting.
  - Hold the object close to your body as you stand up straight. To set the load down, bend at the knees, not from the waist.

6.5. Chemical Hazards

ANTICIPATED CHEMICAL HAZARDS

Chemical Hazards	Concentrations	Media of Concern	MTCA Cleanup Level	Units
Gasoline-range hydrocarbons	1.6 - 24,000	Soil	30	mg/kg
Diesel-range hydrocarbons	280 - 590	Soil	2,000	mg/kg
Heavy Oil-range hydrocarbons	78 - 689	Soil	2,000	mg/kg
Total Petroleum Hydrocarbons	123,560 - >13,231,010	Soil Vapor	4,700	µg/m^3
Benzene	0.032 - 110	Soil	0.03	mg/kg
	8.19 - 153	Soil Vapor	11	µg/m^3
Ethylbenzene	0.076 - 470	Soil	6	mg/kg
	Less than 695	Soil Vapor	15,000	µg/m^3
Toluene	0.17 – 1.7	Soil	7	mg/kg
	Up to 1,232 µg/m^3	Soil Vapor	76,000	µg/m^3
Xylenes	0.061 - 2,400	Soil	9	mg/kg
	Up to 1,232	Soil Vapor	1,500	µg/m^3
Lead	1.5 - 340	Soil	250	mg/kg
Naphthalenes	0.0595 - 12.8	Soil	5	mg/kg
	2.97 - 99.9	Soil Vapor	2.5	µg/m^3
cPAHs	0.0053 - 0.74	Soil	0.1	mg/kg

6.6. Summary of Selected Chemical Hazards

6.6.1. Gasoline

Gasoline is a manufactured mixture that does not exist naturally in the environment. Gasoline is produced from petroleum in the refining process. Typically, gasoline contains more than 150 chemicals, including small amounts of benzene, toluene, xylene, and sometimes lead. How the gasoline is made determines which chemicals are present in the gasoline mixture and how much of each is present. The actual composition varies with the source of the crude petroleum, the manufacturer, and the time of year. The National Toxicology Program (NTP) coordinates research within the U.S. Department of Health and Human Services (DHHS) and has studied constituents of gasoline (such as tetraethyl lead), but has not classified the complex mixture of chemicals that combine to form gas a human carcinogen. The International Agency for Research on Cancer (IARC) classifies gasoline as possibly carcinogenic to humans (2B). The American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV) for gasoline is 300 ppm, for an 8-hr Time Weighted Average (TWA); 500 ppm Short-Term Exposure Limit (STEL), usually 15 minutes.

Gasoline levels have previously been detected in low concentration in the project areas which fall underneath all known safety levels of concern. The outdoor setting of the project should further reduce the chance of exposure to hazardous or flammable levels of gasoline during projected activities.

6.6.2. Diesel Fuels

Diesel fuels are similar to fuel oils used for heating (fuel oils no. 1, no. 2 and no. 4). All fuel oils consist of complex mixtures of aliphatic and aromatic hydrocarbons. Diesel fuels predominantly contain a mixture of C10 through C19 hydrocarbons, which include approximately 64 percent aliphatic hydrocarbons, 1 to 2 percent olefinic hydrocarbons, and 35 percent aromatic hydrocarbons. Workers may be exposed to fuel oils through their skin without adequate protection, such as gloves, boots, coveralls, or other protective clothing. Breathing diesel fuel vapors for a long time may damage your kidneys, increase your blood pressure, or lower your blood's ability to clot. Constant skin contact (for example, washing) with diesel fuel may also damage your kidneys. The International Agency for Research on Cancer (IARC) has determined that residual (heavy) fuel oils and marine diesel fuel are possibly carcinogenic to humans (Group 2B classification). Residue from aged diesel fuel can irritate the skin, if left in contact for too long. Degraded fuel can irritate the skin and mucous membranes, if contact is made. Exercising good personal hygiene and cleaning off PPE post-work and prior to re-donning safety equipment will minimize potential contact. More on Total Petroleum Hydrocarbons health effects in the Agency for Toxic Substances and Disease Registry (ATSDR) Toxicological Profile document here: https://www.atsdr.cdc.gov/ToxProfiles/TP.asp?id=424&tid=75.

Diesel fume levels have previously been detected in low concentration in the project areas which fall underneath all known safety levels of concern. The outdoor setting of the project should further reduce the chance of exposure to hazardous or flammable levels of diesel during projected activities.

6.6.3. Benzene

Benzene is a natural constituent of crude oil and is one of the elementary petrochemicals. Due to the cyclic continuous pi bonds between the carbon atoms, benzene is classed as an aromatic hydrocarbon. Benzene is a colorless and highly flammable liquid with a sweet smell, and is partially responsible for the aroma around petrol (gasoline) stations. It is used primarily as a precursor to the manufacture of chemicals with more complex structure, such as ethylbenzene and cumene, of which billions of kilograms are produced annually. Although a major industrial chemical, benzene finds limited use in consumer items because of its toxicity. Historically detected levels of benzene on site fall below levels of concern for contamination exposure during projected activities. The source of benzene detected in soil samples on site has not yet been confirmed. However, the outdoor setting of the project should further reduce the chance of exposure to potential to benzene during project activities.

Benzene is a central nervous system depressant. Symptoms include headache, nausea, tremors, and fatigue, but these typically do not occur until exposure concentrations are in excess of 150 ppm. There is significant evidence that chronic exposures are carcinogenic causing a progressively malignant disease of the blood-forming organs. Contact with liquid benzene may cause blistering and dermatitis. In addition, benzene can be absorbed through unprotected skin and eye and mucous membranes. Benzene vapors can cause transient eye irritation. The mean air odor threshold for benzene is 34 ppm. Benzene's ionization potential (IP) is 9.25 eV and its vapor pressure is 75 mm Hg. Benzene has an ACGIG A1 designation, a Confirmed Human Carcinogen (leukemia). It also has a skin notation, indicating the potentially significant

contribution to the overall exposure by the cutaneous route, including mucous membranes and the eyes, by contact with vapors, liquids and solids.

6.6.4. Lead

Lead is a naturally occurring bluish-gray metal found in small amounts in the earth's crust. Lead can be found in all parts of our environment. Much of it comes from human activities including burning fossil fuels, mining, and manufacturing. Lead has many different uses. It is used in the production of batteries, ammunition, metal products (solder and pipes), and devices to shield X-rays. Because of health concerns, lead from gasoline, paints and ceramic products, caulking, and pipe solder has been dramatically reduced in recent years. Lead has both chronic and acute effects on the body, primarily as a central nervous system inhibitor. Lead is particularly dangerous when ingested by developing children as it may lead to brain development issues. Lead has been detected in TWA hazardous levels in site soil samples previously. Efforts at dust mitigation or monitoring should be made if dust generation is a possibility on site.

Monitor the site conditions for dust. If possible, work upwind during drilling and sample collection.

6.6.5. Polycyclic aromatic hydrocarbons (PAHs)

PAHs are a group of over 100 different chemicals that are formed during the incomplete burning of coal, oil and gas, garbage, or other organic substances like tobacco or charbroiled meat. PAHs are usually found as a mixture containing two or more of these compounds, such as soot. Some PAHs are manufactured. These pure PAHs usually exist as colorless, white, or pale yellow-green solids. PAHs are found in coal tar, crude oil, creosote, and roofing tar, but a few are used in medicines or to make dyes, plastics, and pesticides. PAHs are known carcinogens. Historical levels of PAHs on site fall below levels of concern for contamination exposure during projected activities. Monitor the site conditions for dust. If possible, work upwind during drilling and sample collection.

6.7. Documentation of Hazards

Update in Daily Report. Include evaluation of:

- Physical Hazards (excavations and shoring, equipment, traffic, tripping, heat stress, cold stress and others)
- Chemical Hazards (odors, spills, free product, airborne particulates and others present)
- Biological Hazards (snakes, spiders, other animals, discarded needles, poison ivy, pollen, bees/wasps and others present)

EXPOSURE LIMITS

Compound/ Description	OSHA PEL Exposure Limit	WA-DOSH PEL Exposure Limit	ACGIH TLV Exposure Limits	NIOSH REL Exposure Limits	Exposure Routes	Symptoms of Exposure
Gasoline- clear liquid with a characteristic odor. Motor fuel, motor spirits, natural gasoline. A complex mixture of volatile, hydrocarbons (paraffins, cycloparafinns and aromatics)	None established by OSHA	PEL: 300 ppm STEL: 500 ppm	TWA: 300 ppm STEL: 500 ppm		Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, mucous membrane; dermatitis, headache, lassitude (weakness, exhaustion), blurred vision, dizziness, slurred-speech, confusion, convulsions; chemical pneumonitis (aspiration liquid)
Diesel Fuel, black liquid with a characteristic odor	None established by OSHA		TLV-TWA = 100 mg/m3		Ingestion, inhalation, skin absorption, skin and eye contact	Irritated eyes, skin, and mucous membrane; fatigue; blurred vision; dizziness; slurred speech; confusion; convulsions; and headache, and dermatitis
Benzene, organic chemical compound that is colorless and highly flammable liquid with a sweet smell, and is partially responsible for the aroma of gasoline	PEL: 1 ppm STEL: 5 ppm	TWA: 1 ppm STEL: 5 ppm	TLV-TWA: 0.5 ppm TLV-STEL: 2.5 ppm	TWA 0.1 ppm STEL= 1 ppm	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritated eyes, skin, nose, respiratory system; dizziness; headache, nausea, staggered gait; anorexia, lassitude (weakness, exhaustion); dermatitis; bone marrow depression; [potential occupational carcinogen]
Ethylbenzene, highly flammable, colorless liquid with an odor similar to that of gasoline	PEL: 100 ppm	PEL 100 ppm STEL: 125 ppm	TLV-TWA: 100 ppm TLV-STEL 125 ppm	REL: 100 ppm IDLH: 800 ppm	Inhalation, skin absorption, ingestion, skin and/or eye contact	Eye and mucous membrane irritation, respiratory irritation, dermatitis
Toluene, colorless, water-insoluble liquid with the smell associated with paint thinners	PEL: 200 ppm	PEL: 100 ppm STEL: 150 ppm	TLV-TWA: 20 ppm	TWA: 100 ppm	Inhalation, skin absorption, ingestion, skin and/or eye contact	Fatigue, weakness, dizziness, headaches, eye and nose irritation, anxiety

Compound/ Description	OSHA PEL Exposure Limit	WA-DOSH PEL Exposure Limit	ACGIH TLV Exposure Limits	NIOSH REL Exposure Limits	Exposure Routes	Symptoms of Exposure
Xylenes, colorless, flammable, slightly greasy liquid	PEL: 100 ppm	PEL: 100 ppm STEL: 150 ppm	STEL: 100 ppm	TWA: 100 ppm	Inhalation, skin absorption, ingestion	Nausea, headaches, dizziness, weakness, irritability, confusion, loss of balance, sleepiness, loss of consciousness, death
Lead, soft heavy metal that is silvery with a hint of blue; it tarnishes to a dull gray color when exposed to air	PEL: 0.05 mg/m^3 50 µg/m^3	AL: 30 µg/m^3 PEL: 0.05 mg/m^3 50 µg/m^3	TLV 0.05 mg/m^3	REL 0.05 mg/m3 IDLH 100 mg/m3	Inhalation, ingestion, skin and/or eye contact	Lassitude (weakness, exhaustion), insomnia, facial pallor, anorexia, weight loss, malnutrition, constipation, abdominal pain, colic, anemia, gingival lead line, tremor, wrist and ankle paralysis, encephalopathy, kidney disease, irritated eyes, hypotension
Naphthalene, white crystalline solid with a characteristic odor	PEL: 10 ppm	TWA: 10 ppm STEL: 15 ppm	TLV-TWA: 10 ppm TLV-STEL: 15 ppm	TWA: 10 ppm	Inhalation, skin absorption, ingestion, skin and/or eye contact	Destruction of red blood cells, confusion, nausea, diarrhea, blood in urine, jaundice
Carcinogenic Polycyclic Aromatic Hydrocarbons PAHs (cPAHs)* coal tar pitch volatiles	0.2 mg/m^3 (TWA)	0.2 mg/m^3 (TWA) 0.6 mg/m^3 (STEL)	0.2 mg/m^3 (TWA)	0.1 mg/m^3 (TWA) 80 mg/m^3 (IDLH)	Ingestion, inhalation, skin and/or eye contact	Dermatitis, bronchitis, potential carcinogen

Notes:
IDLH = immediately dangerous to life or health
OSHA = Occupational Safety and Health Administration
ACGIH = American Conference of Governmental Industrial Hygienists
mg/m^3 = milligrams per cubic meter
TWA = time-weighted average (Over 8 hrs.)
PEL = permissible exposure limit
TLV = threshold limit value (over 10 hrs.)
STEL = short-term exposure limit (15 min)
ppm = parts per million

7.0 AIR MONITORING PLAN

An air monitoring plan has been prepared as part of development of this HASP. The air monitoring plan is based on the results of the chemical exposure assessment and the known and potential inhalation hazards on-site. The air monitoring plan addresses steps necessary to limit worker exposure. Non-occupational exposures are not addressed in this plan.

Work upwind if at all possible.

AIR MONITORING EQUIPMENT

Air Monitoring Equipment (Check the Anticipated Method for the Project)
☐ Multi-Gas Detector (may include oxygen, carbon monoxide, hydrogen sulfide, lower explosive limit)
☐ Dust Monitor
☒ Other (i.e., detector tubes or badges) Please specify: PID

AIR MONITORING FREQUENCY

Air Monitoring Equipment (Check the Anticipated Method for the Project)
☒ Continuous during soil disturbance activities or handling samples
☐ 15 minutes
☐ 30 minutes
☐ Hourly
☐ Other: Click here to enter text.

7.1. Action Levels for Volatile Organic Chemicals

- The workspace will be monitored using a photoionization detector (PID). These instruments must be properly maintained, calibrated and charged (refer to the instrument manuals for details). Zero this meter in the same relative humidity as the area in which it will be used and allow at least a 10-minute warm-up prior to zeroing. Do not zero in a contaminated area.
- An initial vapor measurement survey of the site should be conducted to detect “hot spots” if contaminated soil is exposed at the surface. Vapor measurement surveys of the workspace should be conducted at least hourly or more often if persistent petroleum-related odors are detected. Additionally, if vapor concentrations exceed 5 parts per million (ppm) above background continuously for a 5-minute period as measured in the breathing zone, upgrade to Level C personal protective equipment (PPE) or move to a non-contaminated area.
- Standard industrial hygiene/safety procedure is to require that action be taken to reduce worker exposure to organic vapors when vapor concentrations exceed one-half the threshold limit value (TLV). Because of the variety of chemicals, the PID will not indicate exposure to a specific permissible exposure limit (PEL) and is therefore not a preferred tool for determining worker exposure to chemicals.

If odors are detected, then employees shall upgrade to respirators with Organic Vapor Cartridges and will contact the Health and Safety Program Manager for other sampling options.

AIR MONITORING ACTION LEVELS

Contaminant	Activity	Monitoring Device	Frequency of Monitoring Breathing Zone	Action Level	Action
Organic Vapors	Excavation and soil sampling.	PID	Continuous monitoring during soil disturbance activities or handling samples	Between 0 and 1 ppm	Maintain Level D personal protective equipment (PPE) or move out of contaminated area and work upwind whenever possible.
				>1 ppm for 5 minutes	Upgrade to Level C personal protective equipment (PPE) or move out of contaminated area and work upwind whenever possible.
				≥ 5 ppm for 5 minutes	Evacuate area seek guidance from H&S manager
Combustible Atmosphere / gasoline	Excavation and soil sampling.	PID	Continuous monitoring during soil disturbance activities or handling samples	>10% LEL or >1,000 ppm	Depends on contaminant. The PEL is usually exceeded before the lower explosive limit (LEL).
				>10% LEL or >1,000 ppm	Stop work and evacuate the site. Contact Health and Safety Program Manager for guidance.

8.0 SITE CONTROL PLAN

Work zones will be considered anywhere within the fenced construction boundary. Employees should work upwind machinery if possible. To the extent practicable, use the buddy system. Do not approach heavy equipment unless you are sure the operator sees you and has indicated it is safe to approach. All personnel from GeoEngineers and subcontractor(s) should be made aware of safety features during each morning's safety tailgate meeting (drill rig shutoff switch, location of fire extinguishers, cell phone numbers, etc.). For medical assistance, see Section 5.0 above.

8.1. Traffic or Vehicle Access Control Plans

No vehicle access is allowed within the construction boundary. The Contractor will develop a traffic control plan for use by the Contractor for permit authorization by the City of Seattle for the adjacent ROWs.

8.2. Site Work Zones

An exclusion zone, contamination reduction zone, and support zone will be established at the Property boundary prior to entering the construction excavation area. Personnel leaving the facility or on break should exit through designated entrance/exit points which will constitute the contamination reduction zone. At a minimum, the contaminant reduction zone should include garbage bags into which used PPE should be disposed and wash station for hands and boots.

During monitoring well installation and groundwater sampling, the hot zone/exclusion, contamination and decontamination zones will be established within 10 feet of the drill rig and/or monitoring well.

WORK ZONE DELINIATION

Method of delineation/excluding non-site personnel (Check the Anticipated Method for the Project)
☒ Fence - Construction
☐ Survey Tape
☒ Traffic Cones – Well Installation and Groundwater Sampling
☐ Other: Click here to enter text.

8.3. Buddy System

Personnel on-site should use the buddy system (pairs), particularly whenever communication is restricted. If only one GeoEngineers employee is on site, a buddy system can be arranged with subcontractor/ contractor personnel.

8.4. Site Communication Plan

Positive communications (within sight and hearing distance or via radio) should be maintained between pairs on-site, with the pair remaining in proximity to assist each other in case of emergencies. The team should prearrange hand signals or other emergency signals for communication when voice communication becomes impaired (including cases of lack of radios or radio breakdown) and an agreed upon location for an emergency assembly area.

In instances where communication cannot be maintained, you should consider suspending work until it can be restored. If this is not an option, the following are some examples for communication:

- Hand gripping throat: Out of air, can't breathe.
- Gripping partner's wrist or placing both hands around waist: Leave area immediately, no debate.
- Hands on top of head: Need assistance.
- Thumbs up: Okay, I'm all right; or, I understand.
- Thumbs down: No, negative.

8.5. Decontamination Procedures

Decontamination, at a minimum, should include removing and disposing of PPE when exiting the exclusion zone; and washing your hands. Decontamination may also consist of removing outer protective gloves and washing soiled boots and gloves using bucket and brush provided on-site in the contamination reduction zone. If needed, inner gloves will then be removed, and respirator, hands and face will be washed in either a portable wash station or a bathroom facility at the site. Employees will perform decontamination procedures and wash before eating, drinking or leaving the site.

8.6. Spill Containment Plan (Drum and Container Handling)

- Ensure equipment is properly maintained and does not leak.
- Clean up environmental spills using spill pads to absorb the contaminated soil.
- Properly dispose of material following I.A.W. local and environmental requirements.
- Report spill if unable to fully clean up or I.A.W. client regulations.

The Contractor will develop a separate Spill Containment Plan for use during construction.

8.7. Waste Disposal or Storage

Used PPE is to be placed in a plastic bag for disposal. Wash water, drill cuttings and purge water generated will be stored in 55-gallon drums pending permitted off-site disposal.

WASTE DISPOSAL DISPOSAL/STORAGE

Disposal/Storage Method (Check the Anticipated Method for the Project)
☒ On site, pending analysis and further action
☒ Secured (list method): Drum
☒ Other (describe destination, responsible parties): Contractor will haul to landfill
☐ Other: Click here to enter text.

8.8. Sampling, Managing and Handling Drums and Containers

Drums and containers used during the drilling activities shall meet the appropriate Department of Transportation (DOT), OSHA and U.S. Environmental Protection Agency (EPA) regulations for the waste that they contain. Site operations shall be organized to minimize the number of drum or container movement. When practicable, drums and containers shall be inspected, and their integrity shall be ensured before they are moved. Unlabeled drums and containers shall be considered to contain hazardous substances and handled accordingly until the contents are positively identified and labeled. Before the drums or containers are moved, all employees involved in the transfer operation shall be warned of the potential hazards associated with the contents.

Drums or containers and suitable quantities of proper absorbent shall be kept available and used where spills, leaks or rupturing may occur. Where major spills may occur, a spill containment program shall be implemented to contain and isolate the entire volume of the hazardous substance being transferred. Fire extinguishing equipment shall be on hand and ready for use to control incipient fires.

8.9. Sanitation

Sanitary facilities are available on site or at adjacent properties.

8.10. Lighting

Work is anticipated to be performed during daylight hours. Work may extend slightly into the evening provided adequate lighting is used (e.g., portable flood lights).

8.11. Entry Procedures for Tanks or Vaults (Confined Spaces)

GeoEngineers' employees shall not enter confined spaces to perform work unless they have been properly trained and with hands-on experience in the use of retrieval equipment. If a project requires confined space entry, please include a copy of the confined space permit, and include the training documentation in this HASP.

Trenches greater than 4 feet in depth with the potential for buildup of a hazardous atmosphere are considered confined spaces.

9.0 PERSONAL PROTECTIVE EQUIPMENT

After the initial and/or daily hazard assessment has been completed the appropriate personal protective equipment (PPE) will be selected to ensure worker safety. Task-specific levels of PPE shall be reviewed with field personnel during the pre-work briefing conducted before the start of site operations. Task-specific levels of PPE shall be reviewed with field personnel during the pre-work briefing conducted before the start of site operations.

Site activities include handling and sampling solid subsurface material (material may potentially be saturated with contaminated materials and groundwater). Depth-to-groundwater measurements will be performed as well. Site hazards include potential exposure to hazardous materials, and physical hazards such as trips/falls, heavy equipment, and contaminant exposure.

Air monitoring will be conducted to determine the level of respiratory protection.

- Half-face combination organic vapor/high efficiency particulate air (HEPA) or P100 cartridge respirators must be available to be used on site as necessary. P100 cartridges are to be used only if PID measurements are below the site action limit. P100 cartridges are used for protection against dust, metals and asbestos, while the combination organic vapor/HEPA cartridges are protective against both dust and vapor. Ensure that the PID will detect the chemicals of concern on-site.
- Level D PPE, unless a higher level of protection is required, will be worn on the site. Potentially exposed personnel will wash gloves, hands, face and other pertinent items to prevent hand-to-mouth contact. This will be done prior to hand-to-mouth activities including eating, smoking, etc.
- Adequate personnel and equipment decontamination will be used to decrease potential ingestion and inhalation.

ANTICIPATED PERSONAL PROTECTION EQUIPMENT

Anticipated PPE for the Project (Check All That Apply)
PPE:
☒ Hardhat (if overhead hazards, or client requests)
☒ Steel-toed boots (if crushing hazards are a potential or if client requests)
☒ Safety glasses (if dust, particles, or other hazards are present or client requests)
☒ Reflective vest (if working near traffic or equipment)
☒ Hearing protection (if it is difficult to carry on a conversation 3 feet away)
☒ Rubber boots (if wet conditions)
☐ Other: Click here to enter text.
Gloves:
☒ Nitrile
☐ Latex
☐ Liners
☐ Leather
☐ Other (specify) Click here to enter text.
Protective Clothing:
☐ Tyvek (if dry conditions are encountered, Tyvek is sufficient) (modified Level D or Level C)
☐ Saranex (personnel shall use Saranex if liquids are handled or splash may be an issue) (modified Level D or Level C)
☒ Cotton (Level D)
☒ Rain gear (as needed) (Level D)
☐ Layered warm clothing (as needed) (Level D)
☐ Other: Click here to enter text.
Inhalation Hazard Protection:
☒ Level D (no respirator)
☒ Level C (respirators with organic vapor/HEPA P100 filters)
☐ Level B (Self Contained Breathing Apparatus— STOP, Consult the HSM)
☐ Other: Click here to enter text.

9.1. Personal Protective Clothing Inspections

PPE clothing ensembles designated for use during site activities shall be selected to provide protection against known or anticipated hazards. However, no protective garment, glove or boot is entirely chemical-resistant, nor does any PPE provide protection against all types of hazards. To obtain optimum performance from PPE, site personnel shall be trained in the proper use and inspection of PPE. This training shall include the following:

- Inspect PPE before and during use for imperfect seams, non-uniform coatings, tears, poorly functioning closures or other defects. If the integrity of the PPE is compromised in any manner, proceed to the contamination reduction zone and replace the PPE.
- Inspect PPE during use for visible signs of chemical permeation such as swelling, discoloration, stiffness, brittleness, cracks, tears or other signs of punctures. If the integrity of the PPE is compromised in any manner, proceed to the contamination reduction zone and replace the PPE.
- Disposable PPE should not be reused after breaks unless it has been properly decontaminated.

9.2. Respirator Selection, Use and Maintenance

If respirators are required, site personnel shall be trained before use on the proper use, maintenance and limitations of respirators. Additionally, they must be medically qualified to wear respiratory protection in accordance with 29 CFR 1910.134. Site personnel who will use a tight-fitting respirator must have passed a qualitative or quantitative fit test conducted in accordance with an OSHA-accepted fit test protocol. Fit testing must be repeated annually or whenever a new type of respirator is used. Respirators will be stored in a protective container.

9.3. Respirator Cartridges

If the action levels identified in the Air Monitoring Action Levels Table in Section 5.0, are exceeded, site personnel should don respiratory protection appropriate for the known or suspected chemical of concern. For most sites, a half-face or full-face air purifying respirator with a National Institute for Occupational Safety and Health (NIOSH)-approved organic vapor/HEPA P100 combination cartridge (Level C), will be appropriate for the known or suspected chemicals of concern. Monitoring frequency should be continuous while using Level C respiratory protection. The SSO closely monitor personnel using respiratory protection, including observing for signs of fatigue or respiratory distress, the potential for cartridge breakthrough or increased resistance to inhalation, and the need for changes in the level of respiratory protection based on air monitoring. The frequency and duration of breaks should be increased for personnel working in respiratory protection. If at any time on-site air monitoring indicates Level B respiratory protection is warranted, personnel should leave the exclusion zone and consult with the HSM.

If site personnel are required to wear air-purifying respirators, the appropriate cartridges shall be selected to protect personnel from known or anticipated site contaminants. The respirator/cartridge combination shall be approved and NIOSH-certified. A cartridge change-out schedule shall be developed based on known site contaminants, anticipated contaminant concentrations and data supplied by the cartridge manufacturer related to the absorption capacity of the cartridge for specific contaminants. Site personnel shall be made aware of the cartridge change-out schedule prior to the initiation of site activities. Site personnel shall also be instructed to change respirator cartridges if they detect increased resistance during inhalation or detect vapor breakthrough by smell, taste or feel, although breakthrough is not an acceptable method of determining the change-out schedule.

9.4. Respirator Inspection and Cleaning

The Site Safety Officer shall periodically (weekly) inspect respirators at the project site. Site personnel shall inspect respirators prior to each use in accordance with the manufacturer's instructions. In addition, site personnel wearing a tight-fitting respirator shall perform a positive and negative pressure user seal check each time the respirator is donned, to ensure proper fit and function. User seal checks shall be performed

in accordance with the GeoEngineers respiratory protection program or the respirator manufacturer's instructions.

10.0 PERSONNEL MEDICAL SURVEILLANCE

GeoEngineers employees are not in a medical surveillance program because they do not fall into the category of "Employees Covered" in OSHA 1910.120(f)(2), which states that a medical surveillance program is required for the following employees:

- All employees who are or may be exposed to hazardous substances or health hazards at or above the permissible exposure limits or, if there is no permissible exposure limit, above the published exposure levels for these substances, without regard to the use of respirators, for 30 days or more a year;
- All employees who wear a respirator for 30 days or more a year or as required by state and federal regulations;
- All employees who are injured, become ill or develop signs or symptoms due to possible overexposure involving hazardous substances or health hazards from an emergency response or hazardous waste operation; and
- Members of HAZMAT teams.

11.0 DOCUMENTATION TO BE COMPLETED FOR HAZWOPER PROJECTS

- Daily Field Log
- FORM 1 – Health and Safety Pre-Entry Briefing and Acknowledgment of Site Health and Safety Plan for use by employees, subcontractors and visitors
- FORM 2 – Safety Meeting Record
- FORM 3 – Job Hazard Analyses (JHA) Form (if new site hazards are identified)
- FORM 4 – Accident/Exposure Report Form (within 24 hours of accident or exposure)

NOTE: The Field Log is to contain the following information:

- Updates on hazard assessments, field decisions, conversations with subcontractors, client or other parties, etc.;
- Air monitoring/calibration results, including: personnel, locations monitored, activity at the time of monitoring, etc.;
- Actions taken;
- Action level for upgrading PPE and rationale; and
- Meteorological conditions (temperature, wind direction, wind speed, humidity, rain, snow, etc.).

FORM 1
HEALTH AND SAFETY PRE-ENTRY BRIEFING AND ACKNOWLEDGEMENT OF THE SITE HEALTH AND SAFETY PLAN FOR GEOENGINEERS' EMPLOYEES, SUBCONTRACTORS AND VISITORS
701 SOUTH JACKSON STREET
FILE NO. 24504-001-03

Inform employees, contractors and subcontractors or their representatives about:

- The nature, level and degree of exposure to hazardous substances they're likely to encounter;
- All site-related emergency response procedures; and
- Any identified potential fire, explosion, health, safety or other hazards.

Conduct briefings for employees, contractors and subcontractors, or their representatives as follows:

- A pre-entry briefing before any site activity is started.
- Additional briefings, as needed, to make sure that the Site-specific HASP is followed.
- Make sure all employees working on the Site are informed of any risks identified and trained on how to protect themselves and other workers against the Site hazards and risks.
- Update all information to reflect current sight activities and hazards.
- All personnel participating in this project must receive initial health and safety orientation. Thereafter, brief tailgate safety meetings will be held as deemed necessary by the Site Safety Officer.
- The orientation and the tailgate safety meetings shall include a discussion of emergency response, site communications and site hazards.

(All of GeoEngineers' Site workers shall complete this form, which should remain attached to the HASP and be filed with other project documentation). Please be advised that this site-specific HASP is intended for use by GeoEngineers employees only. Nothing herein shall be construed as granting rights to GeoEngineers' subcontractors or any other contractors working on this site to use or legally rely on this HASP. GeoEngineers specifically disclaims any responsibility for the health and safety of any person not employed by the company.

I hereby verify that a copy of the current HASP has been provided by GeoEngineers, Inc., for my review and personal use. I have read the document completely and acknowledge an understanding of the safety procedures and protocol for my responsibilities on Site. I agree to comply with all required, specified safety regulations and procedures.

Print Name **Signature** **Date**

_____

_____

_____

FORM 2
SAFETY MEETING RECORD
701 SOUTH JACKSON STREET
FILE NO. 24504-001-03

Safety meetings should include a discussion of emergency response, site communications and site hazards.

- Use in conjunction with the HASP and Job Hazard Analyses (JHA) Form 3 to help identify hazards.

Date: _____ **Site Safety Officer (SSO):**_____

Topics: _____

Attendees:

Print Name	**Signature:**

FORM 3
JOB HAZARD ANALYSES (JHA) FORM
701 SOUTH JACKSON STREET
FILE NO. 24504-001-03

Project: 701 South Jackson **File No:** 24504-001-03		**Date:** date	**Site Location:** 701 South Jackson, Seattle WA
Development Team:	**Position/Title:**	**Reviewed by:**	**Position/Title:**
James Kohn	Staff Geologist	Name	Position
Name	Position	Name	Position

Minimum Required Protective Equipment: (see critical actions for task-specific requirements)

PPE	Equipment	Tools	Actions
☒ Hard Hat	☐ Safety Beacons	☒ Cell Phone/Satellite	☒ Stay Visible
☒ High Visibility Vest	☒ Safety Cones	☒ Digital Camera	☒ Equipment Inspection
☒ Safety Shoes/Waders	☒ First Aid Kit	☐ Other:	☒ Work in Pairs
☒ Gloves	☒ Fire Extinguisher	☐ Other:	☒ Safety Control/Traffic Plan
☒ Safety Glasses	☒ Eye Wash/ Drinking Water	☐ Other:	☐ Other:
☐ Other:	☐ Other:		

Required Control Measures: (check the box when complete)

☐ Perform a pre-work vehicle inspection (First Aid kit, fire extinguisher).
☐ Drive defensively looking out for the other guy.
☐ Conduct a pre-work safety meeting.
☐ Use a Safety Watch to monitor equipment Minimum Approach Distance (MAD) and to keep personnel clear if needed.
☐ Wear Personal Protective Equipment (PPE).
☐ Ensure training is current (First Aid, defensive driving, etc.).
☐ Conduct Task Safety Assessments throughout the job.

Hazard Assessment: (check the box and describe if applicable)

☐ New Physical Hazard observed and/or encountered.
Describe:

☐ New Biological Hazard observed and/or encountered.
Describe:

☐ New Ergonomic Hazard observed and/or encountered.
Describe:

☐ New Chemical Hazard observed and/or encountered.
Describe:

Additional Health and Safety Actions Taken: (describe modifications to PPE, critical action and/or control measures taken to address the new hazard)

Employee Signature:	Date:

FORM 4
ACCIDENT/EXPOSURE REPORT FORM
701 SOUTH JACKSON STREET
FILE NO. 24504-001-03

To (Supervisor): _____ From (Employee): _____

Telephone (with area code): _____

Name of injured or ill employee: _____

Date of accident: Time of accident: Exact location of accident:

_____

Narrative description of accident/exposure (circle one):

_____

_____

_____

_____

_____

Medical attention given on site:

_____

_____

_____

_____

Nature of illness or injury and part of body involved: Lost Time? Yes ☐ No ☐

_____

_____

Probably Disability (check one):

Fatal	Lost work day with days away from work	Lost work day with days of restricted activity	No lost work day	First Aid only
☐	☐	☐	☐	☐

Corrective action taken by reporting unit and corrective action that remains to be taken (by whom and when):

_____

_____

Employee Signature: Date:

Name of Supervisor:

APPENDIX C
Inadvertent Discovery Plan

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): **Seventh Avenue Service Site**

Location: **701 South Jackson Street, Seattle Washington**

Project Lead/Organization: **701 S Jackson Partners, LLC (South Jackson Partners)**

County: **King**

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 05-05 or Section 106).

Once completed, **the IDP shall always be kept at the project site** during all project activities. All staff, contractors, and volunteers shall 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).

1. The individual making the discovery will immediately notify the Project Lead.
2. The Project Lead will notify the Port of Anacortes Project Manager.
3. The Port's Project Manager will notify the Project Archaeologist. The Project Archaeologist will examine the discovery to determine if there is an archaeological find (See Sections 6 and 7).

Project Lead Contacts

Primary Contact
Name: Robert Trahan
Phone: (o) 206.239.3253
(c) 206.240.2300
Email: rtrahan@geoengineers.com

Alternate Contact
Name: Tim Syverson
Phone: (o) 206.448.4197
(c) 206.605.9236
Email: tsyverson@geoengineers.com

South Jackson Partners (Owner)
Name: Robert Tiscareno
Phone: (o) 206.915.9702
Email: robertt@housingdiversity.com

STS Construction Services (Contractor)
Name: Craig Haveson
Phone: (o) 206.439.6343
(c) 206.510.8787
Email: craigh@stsconst.com

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

Ecology Contacts

Ecology Project Manager
Name: Jing Song
Program: Toxics Cleanup
Phone: (o) 206.594.0000
(c) 425.229.2565
Email: jing.song@ecy.wa.gov

Alternate or Cultural Resource Contact
Name: Josh Morman
Program: Toxics Cleanup
Phone: (o) 360.407.6991
(c) 360.480.3289
Email: josh.morman@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 Contact

Name: Rob Whitlam, PhD
Title: State Archaeologist
Phone: (o) 360.586.3065
(c) 360.890.2615
Email: Rob.Whitlam@dahp.wa.gov

Human Remains/Bones Contact

Name: Guy Tasa, PhD
Title: State Anthropologist
Phone: (c) 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.

Name: Mike Cotten
Title: Northwest Region Administrator
Phone: 206.440.4693
Email: Mike.Cotten@wsdot.wa.gov

Name: Mehrdad Moini
Title: Northwest Region Tribal Coordinator
Phone: 206.440.4734
Email: Mehrdad.Moini@wsdot.wa.gov

Tribe: Muckleshoot Indian Tribe
Name: Laura Murphy
Title: Archaeologist, Cultural Resources
Phone: 253.876.3272
Email: laura.murphy@muckleshoot.nsn.us

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

5. FURTHER CONTACTS (if applicable)

There is no partnering federal or state agency to notify in the event of a discovery.

6. SPECIAL PROCEDURES FOR THE DISCOVERY OF HUMAN SKELETAL REMAINS

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.

Name: Guy Tasa, PhD
Title: State Anthropologist
Phone: (c) 360.790.1633 (24/7)
Email: Guy.Tasa@dahp.wa.gov

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):

   - **King County Medical Examiner**
     206.731.3232
   - **City of Seattle Police Department**
     206.625.5011
   - **Emergency phone number**

     Dial 911
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. The Project Lead/Organization 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 27.56 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 assessments are made of all discovered cultural resources in cooperation with all parties: the federal agencies (if any), DAHP, Ecology, affected tribes, and the archaeologist.

An 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 site 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

- Tribal Contacts: Interactive Map of Tribes by Area (https://dahp.wa.gov/archaeology/tribal-consultation-information)
- Tribal Contacts - WSDOT Tribal Contact Website (https://wsdot.wa.gov/tribal/TribalContacts.htm)

11. ADDITIONAL INFORMATION

There is no additional information in the event of a discovery. Procedures outlined in this IDP will be followed in the event of a discovery.

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). These are examples of above ground cultural resources.*

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, work boot 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.*

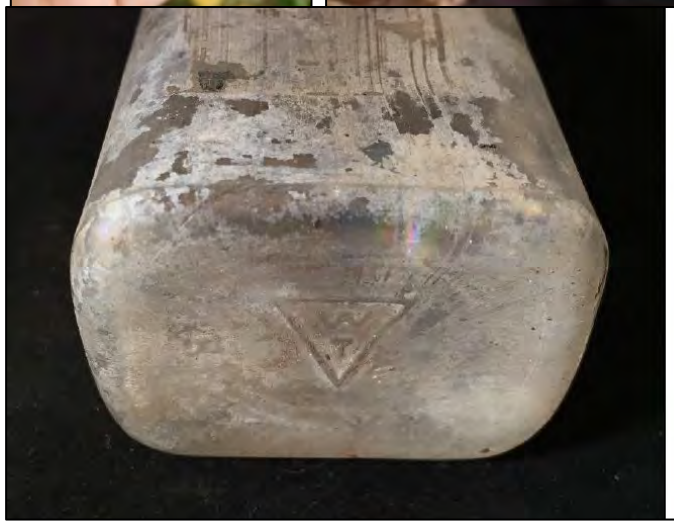
Implement the IDP if you see…

- 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…

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 (above ground historic resources) 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…

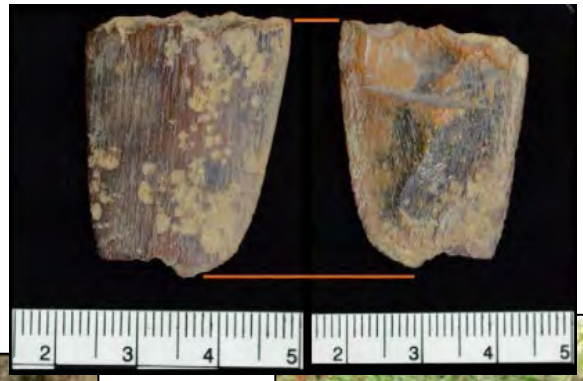
Potential human remains.

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

APPENDIX D
REPORT LIMITATIONS AND GUIDELINES FOR USE[2]

This appendix provides information to help you manage your risks with respect to the use of this report.

Read These Provisions Closely

Some clients, design professionals and contractors may not recognize that the geoscience practices (geotechnical engineering, geology and environmental science) are far less exact than other engineering and natural science disciplines. This lack of understanding can create unrealistic expectations that could lead to disappointments, claims and disputes. GeoEngineers includes these explanatory "limitations" provisions in our reports to help reduce such risks. Please confer with GeoEngineers if you are unclear how these "Report Limitations and Guidelines for Use" apply to your project or site.

Environmental Services Are Performed for Specific Purposes, Persons and Projects

This report has been prepared for the exclusive use of 701 S Jackson Partners, LLC (South Jackson Partners) and their authorized agents. This report is not intended for use by others, and the information contained herein is not applicable to other sites.

GeoEngineers structures our services to meet the specific needs of our clients. For example, an environmental site assessment or remedial action study conducted for a property owner may not fulfill the needs of a prospective purchaser of the same property. Because each environmental study is unique, each environmental report is unique, prepared solely for the specific client and project site. No one except the South Jackson Partners should rely on this plan without first conferring with GeoEngineers. This report should not be applied for any purpose or project except the one originally contemplated.

This Environmental Report Is Based on a Unique Set of Project-Specific Factors

GeoEngineers considered a number of unique, project-specific factors when establishing the scope of services for this project and report. Unless GeoEngineers specifically indicates otherwise, do not rely on this report if it was:

- Not prepared for you,
- Not prepared for your project,
- Not prepared for the specific site explored, or
- Completed before important project changes were made.

If important changes are made after the date of this remedial action plan, GeoEngineers should be given the opportunity to review our interpretations and recommendations and provide written modifications or confirmation, as appropriate.

[2] Developed based on material provided by GBA, The GeoProfessional Business Association.

Reliance Conditions for Third Parties

No third party may rely on the product of our services unless GeoEngineers agrees in advance, and in writing to such reliance. This is to provide our firm with reasonable protection against open-ended liability claims by third parties with whom there would otherwise be no contractual limits to their actions.

Environmental Regulations Are Always Evolving

Some substances may be present in the site vicinity in quantities or under conditions that may have led, or may lead, to contamination of the subject site, but are not included in current local, state or federal regulatory definitions of hazardous substances or do not otherwise present current potential liability. GeoEngineers cannot be responsible if the standards for appropriate inquiry, or regulatory definitions of hazardous substance, change or if more stringent environmental standards are developed in the future.

Subsurface Conditions Can Change

This report is based on conditions that existed at the time our site studies were performed. The findings and conclusions of this report may be affected by the passage of time, by manmade events such as construction on or adjacent to the site, by new releases of hazardous substances, or by natural events such as floods, earthquakes, slope instability or groundwater fluctuations. Always contact GeoEngineers before applying this report to determine if it is still applicable.

Soil and Groundwater End-Use

The cleanup levels (CULs) referenced in this report are site- and situation-specific. The CULs may not be applicable for other sites or for other on-Site uses of the affected media (soil and/or groundwater). Note that hazardous substances may be present in some of the Property soil and/or groundwater at detectable concentrations that are less than the referenced CULs. GeoEngineers should be contacted prior to the export of soil or groundwater from the Property or reuse of the affected media on the Property to evaluate the potential for associated environmental liabilities. We cannot be responsible for potential environmental liability arising out of the transfer of soil and/or groundwater from the Property to another location or its reuse on the Property in instances that we were not aware of or could not control.

Biological Pollutants

GeoEngineers' Scope of Work specifically excludes the investigation, detection, prevention or assessment of the presence of Biological Pollutants. Accordingly, this report does not include any interpretations, recommendations, findings, or conclusions regarding the detecting, assessing, preventing or abating of Biological Pollutants and no conclusions or inferences should be drawn regarding Biological Pollutants, as they may relate to this project. The term "Biological Pollutants" includes, but is not limited to, molds, fungi, spores, bacteria, and viruses, and/or any of their byproducts.

If Client desires these specialized services, they should be obtained from a consultant who offers services in this specialized field.