REMEDIAL INVESTIGATION, FEASIBILITY STUDY, AND CLEANUP ACTION PLAN

Former Phinney Substation Site

Prepared for: Homestead Community Land Trust

Project No. 210143 • October 4, 2021

Aspect CONSULTING

earth + water

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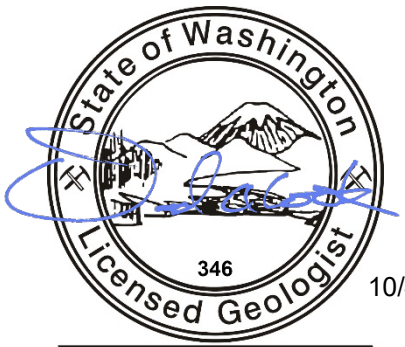

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Acronyms

AAI	All Appropriate Inquiries
ARARs	Potentially Applicable or Relevant and Appropriate Requirements
Aspect	Aspect Consulting, LLC
bgs	below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COPC	contaminants of potential concern
COC	contaminants of concern
CSCSL	Confirmed and Suspected Contaminated Sites List
CSM	Conceptual Site Model
DCA	disproportionate cost analysis
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
ESA	Environmental Site Assessment
mg/kg	milligrams/kilograms
MTCA	Model Toxics Control Act
NFA	No Further Action
OSHA	Occupational Safety and Health Act
PCB	polychlorinated biphenyls
PCE	tetrachloroethylene
RCRA	Resource Conservation and Recovery Act
RCW	Revised Code of Washington
RI/FS/CAP	Remedial Investigation/Feasibility Study/Cleanup Action Plan
RAO	remedial action objective
SEPA	State Environmental Policy Act
TEE	Terrestrial Ecological Evaluation
TPH	total petroleum hydrocarbons

VCP	Voluntary Cleanup Plan
VOC	volatile organic compound
WAC	Washington Administrative Code

Executive Summary

Aspect Consulting, LLC (Aspect) has prepared this Remedial Investigation, Feasibility Study, and Cleanup Action Plan (RI/FS/CAP) for the former Phinney Substation site at 6109 Phinney Avenue North and the east-adjacent property at 6111 Phinney Avenue North, in Seattle, Washington. These properties are planned to be redeveloped by Homestead Community Land Trust (Homestead) as slab-on-grade multifamily affordable housing.

The purpose of this report is to document remedial investigation (RI) activities to date, present a conceptual site model, propose cleanup standards, evaluate a focused set of remedial alternatives, select a preferred remedial alternative, and describe the planned cleanup action to address contamination at the Site. The Site is defined as any area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located (Washington Administrative Code [WAC] 173-340-200).

Based on the investigation completed to date, the Site includes the former substation (Substation Property) and the east-adjacent property, currently occupied by a residential duplex (Duplex Property). The Substation Property was historically used as an electrical substation by Seattle City Light as well as a yard for storage of equipment. The substation facilities were removed in the 1990s. No hazardous chemicals typically associated with electrical substations (for example, polychlorinated biphenyls [PCBs]) have been documented at this Site. However, historical use of parts of the Site as a storage yard, painting of the wood slats and fencing, and weed control measures around the perimeter of the Subject Property appear to have resulted in a few, disconnected shallow soil locations with arsenic, lead, or mercury at concentrations exceeding Model Toxics Control Act (MTCA) Method A cleanup levels (in the upper 6 inches of soil). No other contaminants of potential concern (COPCs), including petroleum hydrocarbons, volatile organic compounds (VOCs), chlorinated acid herbicides, organochloride pesticides, polychlorinated biphenyls, or other metals have been detected at concentrations exceeding MTCA Method A cleanup levels in soil samples tested between 0 and 13 feet below ground surface (bgs).

Groundwater at the Site is located over 100 feet bgs. In light of the sampling results and other lines of evidence, there was no conceptual site model that demonstrated a potential pathway for the detected metals to leach to groundwater. Nearby wells constructed for geotechnical purposes have been consistently dry to 30 feet bgs. As a result, groundwater was not sampled or tested as part of this investigation. Additionally, soil gas sampling at the Site indicates that there are no contaminants in soil gas at concentrations that might pose a risk to indoor air. As such, both groundwater and soil gas are eliminated as media of concern at the Site.

The Feasibility Study concludes that excavation and off-Site disposal of the upper 1 foot of soil in the locations where contamination has been detected is the only feasible option for remediation of the Site. The Cleanup Action Plan outlines the locations where excavation will be completed to remove contaminated soil and additional soil sampling that will be completed to confirm successful removal.

The Site is being enrolled into the Voluntary Cleanup Program concurrently with submittal of this report. Following successful removal of metals-contaminated soil, the Site will be eligible for Site closure and a No Further Action (NFA) determination from the Washington State Department of Ecology (Ecology). On behalf of Homestead, Aspect is requesting an opinion from Ecology that a NFA determination for the Site is likely based on the conditions and assumptions provided in this report.

Remedial Investigation

1 Introduction

Aspect Consulting, LLC (Aspect) has prepared this Remedial Investigation, Feasibility Study, and Cleanup Action Plan (RI/FS/CAP) report for the former Phinney Substation site (the Site[1]) in Seattle, Washington (Figure 1). This report is part of the process to enroll the Site in the Washington State Department of Ecology's (Ecology) Voluntary Cleanup Program (VCP). The objective of the RI and FS is to collect sufficient information to develop and establish cleanup action alternatives to enable selection of a cleanup action for the Site. The objective of the CAP is to outline the cleanup action for the Site as determined by the FS. This document was prepared in accordance with the requirements of the Washington State Model Toxics Control Act (MTCA) Cleanup Regulation adopted by Ecology in Chapter 173-340 of the WAC.

The Site includes the former Substation Property and the east-adjacent parcel, currently occupied by a residential duplex (Duplex Property). Based on the investigations to date, the Site includes the former Substation Property, and the northwest corner of the Duplex Property.

The Substation Property is currently owned by the City of Seattle Office of Housing, and the Duplex Property is currently owned by Homestead. Homestead is in the process of taking ownership of the Substation Property, but as a non-profit housing developer, will not assume ownership until there is more certainty about the environmental condition of the Site and applicable regulatory requirements under MTCA. Ecology, the City of Seattle and Homestead have agreed that Homestead will complete a RI/FS and CAP (this report) and present it to Ecology for their review with the goal of obtaining a No Further Action likely (NFA-likely) determination.

1.1 Report Organization

This report is organized in accordance with Ecology's RI, FS, and CAP Checklists (Ecology, 2016a and 2016b) and includes the following sections:

- **Sections 1 and 2, Remedial Investigation** – Provides a definition of the Site and properties, an overview of historical and future Site use, a summary of the scopes and results of environmental investigations comprising the RI, the Conceptual Site Model (CSM) for the Site, and proposed cleanup standards for future cleanup activities at the Site.

[1] The Site is defined as any area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located (Washington Administrative Code [WAC] 173-340-200).

- **Section 3, Feasibility Study** – Presents the remedial action objectives (RAOs), the results of evaluation of feasible remedial alternatives, and the rationale for the recommended remedial alternative.
- **Section 4, Cleanup Action Plan** – Presents a description of the recommended remedial alternative, compliance monitoring requirements, and the schedule for implementation of the CAP.

2 Remedial Investigation

2.1 Site Description and Background

This section presents a description of the Site and a summary of its ownership and operational history.

2.1.1 General Site Information and Current Land Use

The Site is located at 6109 and 6111 Phinney Avenue North in the Phinney Ridge neighborhood of Seattle, Washington (Figure 1). It is situated at approximate elevation 355 feet[2] and is generally flat. The nearest surface body of water is Green Lake, located approximately 0.5 miles to the east. The Site is approximately 0.22 acres, comprises two King County tax parcels (details in Table A, below) and is zoned for mixed-use residential and commercial uses. The neighborhood is currently developed with private residences and commercial properties, primarily bars and restaurants.

Table A. Site Characteristics

Parcel Number	Associated Address	Size[1] (acres)	Most Recent Use and Development
952310-1290 (Substation Property)	6109 Phinney Avenue North	0.14	Vacant; concrete pad and fencing remains from former electrical substation
35174.0568 (Duplex Property)	6109-6111 Phinney Avenue North	0.08	Residential duplex (circa 1953); occupied

Note: [1] According to King County Tax Assessor

The Substation Property is an L-shaped parcel that was used as an electrical substation from approximately the mid-1950s to 1990s, when it was vacated and all equipment removed from the parcel. The Duplex Property bounds the Substation Property to the west and south. It was first developed for residential use in 1953, when the current duplex was constructed. The two properties are referred to together herein as the Subject Property.

2.1.2 Geology and Hydrogeology

The Site is located on Phinney Ridge, a north-south oriented glacially-deposited drumlin that was formed during the most recent Vashon Stade glacial advance. The surface geology on Phinney Ridge is mapped as Quaternary Glacial Till (Qvt), which is described

[2] All elevations are determined using North American Vertical Datum of 1988 (NAVD88).

as "a compact diamict of silt, sand, and sub-rounded to well-rounded gravel." Borings completed on the same block as the Site have been advanced to 35 feet bgs without encountering groundwater; the deepest wells in the vicinity show static water levels at approximately 100 feet bgs. Perched water within the till does not appear common in this area, and wells constructed from ground surface to 30 feet bgs are consistently dry according to nearby geotechnical studies. The till is described as being very dense, which limits infiltration from surface runoff or precipitation.

2.1.3 Site History

Prior to development, the Substation Property was used for equipment storage by the City of Seattle, and presumably by Seattle City Light, after its acquisition of the parcel in 1948. The electrical substation was constructed between 1948 and 1953. In the 1990s, the substation was de-energized and demolished and the parcel was vacated, leaving only the concrete slab in place. The Substation Property has been vacant since.

The adjacent Duplex Property was first developed with the existing building in 1953, and has been occupied for residential purposes since.

2.1.4 Site Use

There are currently two structures on the two properties: a 980-square-foot concrete pad (left from the former substation) and a residential duplex (on the Duplex Property). The Site is zoned NC2P-55 (M), which is mixed-use residential and commercial. This zone is restricted to the parcels that front Phinney Avenue North; to the west, zoning is for detached single-family houses only (zone SF 5000). The Site will be redeveloped as a multi-story building with affordable housing condominiums.

2.2 Remedial Investigation

This section presents a summary of three environmental investigations that were completed at the Site in 2018, 2020, and 2021, along with a summary of a 2020 Phase I Environmental Site Assessment (ESA) because it sets the course for the 2020 and 2021 investigations to fill remaining data gaps.

The objective of the investigations was to evaluate the presence or absence of subsurface environmental impacts, characterize the nature and extent of those impacts relative to MTCA cleanup levels, and to provide sufficient information for development of remedial action alternatives for the FS. Based on the historical uses of the Site and surrounding properties, the following are the contaminants of potential concern (COPCs) and methods of analysis that were identified and evaluated:

- Diesel- and heavy oil-range total petroleum hydrocarbons (TPH) using Northwest Method NWTPH-Dx
- Volatile organic compounds (VOCs) using Environmental Protection Agency (EPA) Method 8260D
- Chlorinated acid herbicides by EPA Method 8151A
- Organochloride pesticides by EPA Method 8081B
- Polychlorinated biphenyls (PCBs) by EPA Method 8082A

- Resource Conservation and Recovery Act (RCRA) 8 metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) by EPA Methods 7471B and 6010D

The following provides a summary of the environmental investigations completed at the Site that informed this RI. Exploration locations from all investigations to date are shown on Figure 2. Supporting figures and tables from the investigations are included in Appendices A and B.

2.2.1 Surface Soil Sampling and Testing Results – 2018

An environmental investigation was completed in 2018 by SoundEarth Strategies. This was the initial investigation completed for Seattle City Light (the prior owner) to see if chemicals of concern related to historical operation of the substation existed in the surface/subsurface soils or on the concrete slab (the only substation feature remaining in 2018). No hydrocarbons or PCBs were detected in the concrete samples, but arsenic was identified.

Shallow Soil and Lateral Extent. Composite and discrete samples were collected from surface soil (0 to 0.5 feet bgs) at locations across the Substation Property (Figure 2) and submitted for the above-listed contaminants of concern (TPH, pesticides/herbicides, VOCs, PCBs and metals). Initial screening of composite sampling results was used to determine which discrete samples would be submitted for follow-up testing, and for which analytes. Discrete samples for surface soil are shown on Figure 3 and contain the "SS" indicator in their sample names. The actual soil sampling figures and chemical analytical results tables from the 2018 study are also included in Appendix A.

The following summarizes the surface soil testing results:

- PCBs, TPH, VOCs, and pesticide/herbicides were either not detected or detected at concentrations less than MTCA cleanup levels in the composite soil samples collected from surface soil across the Site. In fact, PCBs were not detected in any of the composite soil samples. As a result, no follow-up analyses for these compounds were completed on discrete samples. The three-part composite samples from the green-shaded areas shown on Figure 3 did not contain concentrations of contaminants of concern above MTCA Method A cleanup levels, so follow-up sampling was not completed in these areas.
- Metals were detected at concentrations above MTCA Method A cleanup levels in several composite soil samples as follows:
    - Arsenic was detected in discrete samples at concentrations exceeding the MTCA Method A cleanup levels in two locations in the duplex's parking area, which also acts as the access lane to the Substation Property.
    - Lead was detected in discrete samples at concentrations exceeding the MTCA Method A cleanup levels in five locations: one near the concrete pad, one along the western property boundary, one along the eastern property boundary, and two along the southern property boundary of the Substation Property.

- Mercury was detected in discrete samples at concentrations exceeding the MTCA Method A cleanup levels in two locations along the southern property boundary.

Subsurface Soil and Vertical Extent. In areas where arsenic, lead, and mercury exceeded MTCA Method A cleanup levels in discrete surface soil samples, follow-up soil samples at depths of 1 and 2 feet bgs were collected using a hand auger to confirm vertical extent of these metals. These locations are labeled 1-HA- through 6-HA- on Figure 3. Metals were either not detected or were detected at concentrations less than MTCA Method A cleanup levels in each follow-up locations tested (1-HA-1, through 6-HA-2), confirming that contamination is restricted to the upper 0.5 feet of soil at the Site.

Composite sample analytical results are in Table 1 and discrete surface soil analytical results are in Table 2.

2.2.2 2020 Phase I ESA

In preparation for property sale/transfer, a Phase I ESA was completed at the Site in 2020 by TRC to identify Recognized Environmental Conditions (RECs) associated with historical property uses. The Phase I ESA identified the following as RECs in need of follow-up investigation:

- Known metals impacts to soil at the Substation Property based on the 2018 soil investigation.
- The following off-property RECs were also identified:
  - Phinney Avenue Cleaners historically operated on the east-adjacent property, on the east side of Phinney Avenue North, at 6110 Phinney Avenue North in 1930. This facility is also listed on Ecology's Confirmed and Suspected Contaminated Sites List (CSCSL).
  - Bates and Sakrison Rug and Upholstery Cleaners historically operated west of the Subject Property, west of Greenwood Avenue North, at 6105 Greenwood Avenue North in 1980.
  - Frank M Ford, Clothes Pressers and Cleaners historically operated at 6012 Phinney Avenue North, southeast and across Phinney Avenue North from the Site, in 1935 and 1940.

These RECs prompted additional soil and soil gas sampling in 2020 as outlined in the next section.

2.2.4 Subsurface Soil and Soil Gas Sampling –2020

TRC's subsurface soil sampling was completed to further evaluate metals-contaminated soil and the potential for vapor intrusion from the off-property cleaners that may have used volatile chemicals, and to verify that PCBs were not present at this historical electrical substation site. Their investigation included the following scope:

1. Advancing six borings (EDB-1 through EDB-6) to verify the absence of PCBs in shallow soil.

2. Advancing three temporary soil gas probes (SV-1 through SV-3) to collect soil gas and assess the presence or absence of impacts to soil gas from the potential use of residential heating oil and historical dry cleaners in the vicinity of the Subject Property (soil gas can be an indicator of an off-property release of volatile chemicals).

Soil samples were analyzed for the following Site COPCs:

- Metals (arsenic, lead, and mercury)
- Diesel- and heavy oil-range TPH
- VOCs
- PCBs

COPCs tested from each boring at depths from 2 to 13 feet bgs were either not detected or detected at concentrations less than MTCA Method A cleanup levels. The boring and soil gas probe locations are shown on Figure 2. Subsurface results are shown in Table 3 and on Figure 3. The actual figures and tables from the 2020 study are also included in Appendix A.

Soil gas samples were analyzed for:

- VOCs
- Aliphatic and aromatic petroleum hydrocarbons

Low-level concentrations of petroleum hydrocarbons were detected in all three soil gas points, but no hydrocarbon result exceeded the respective MTCA Method B sub-slab screening levels. Additionally, no HVOCs were detected in soil gas above laboratory reporting limits. Soil gas analytical results are presented in Table 4 and shown on Figure 4. The actual figures and tables from the 2020 study are also included in Appendix A

Groundwater was not encountered during the investigation, where explorations extended to a maximum depth of 13 feet bgs. Local groundwater well logs were reviewed as part of this investigation, and groundwater was identified at a depth of more than 100 feet bgs.

2.2.3 Surface Soil Sampling for Metals Delineation – 2021

Because the prior site characterizations in 2018 and 2020 did a sufficient job establishing the contaminants of concern (metals only), the remaining data gap for this RI was to define the extent of shallow metals-contaminated soil. Based on Aspect's review of the 2018 and 2020 data, it appeared that the shallow metals-contaminated soil could be related to leaching and/or erosion of painted wooden slats within the fence that rings this site because shallow metals-contaminated soil is found at these locations (as well as one location near the southeast corner of the Site where parking cars was common).

In July 2021, Aspect completed additional shallow soil sampling to further define the lateral extents of arsenic, lead, and mercury contamination near locations where these metals exceeded MTCA Method A cleanup levels, specifically, near:

- 1-SS1, 1-SS2 - located in the unpaved area used for residential vehicle parking (south of the Duplex Property).

- 5-SS3 - located along the northeast portion of the fenced perimeter of the Substation Property, which has a chain-link fence with painted wooden slats.
- 6-SS5 - located along the east-central fenced perimeter of the Substation Property, which has a chain-link fence with painted wooden slats.

Aspect's soil samples were collected at 0-0.5 feet bgs from a total of seven locations (AHA-01 through AHA-06, and ATP-01). Samples were submitted to Friedman and Bruya, Inc. of Seattle, Washington, for chemical analytical testing of arsenic, lead, or mercury by EPA Method 200.7.

Results in two locations (AHA-03 and AHA-06) contained concentrations of arsenic or lead at concentrations exceeding MTCA Method A cleanup levels; the remaining sample results indicated that the lateral extents of surface soil contamination were limited. The extent of contamination is presented in Tables 1 and 2 and shown on Figures 3 and 5.

Note that additional soil samples were not needed to be collected at the two other known metals-contaminated areas (at 4-SS3 just east of the former substation facilities, nor at the SS2 locations along the south perimeter of the Site) because the lateral and vertical extent of these locations were established. See Figure 5 (hatched areas) for the defined areas of metals contaminated soil based on all studies completed to date.

2.3 Conceptual Site Model

This section presents the Conceptual Site Model (CSM), which was developed from the results of the RI and is the basis for developing remedial alternatives for the Site. Based on soil and soil gas results, the contamination found on this Site relates to discontinuous and localized metals-contaminated surface soils at the Substation Property and does not extend vertically deeper than the upper 6 inches of soil.

The CSM covers soil conditions, contaminant release, nature and extent of contamination, contaminant fate and transport, and a preliminary exposure assessment for potential receptors.

2.3.1 Chemicals and Media of Concern

The COCs retained for the Site are based on the positive identification of chemicals in soil exceeding MTCA Method A or B screening levels. Those COCs include:

- Arsenic
- Lead
- Mercury

The affected media at the Site is soil. Soil gas and groundwater are not retained as media of concern, as there is no evidence of a release of contaminants at the Site that could have impacted either soil gas or groundwater.

2.3.2 Nature and Extent of Contamination and Soil Impacts

This section describes the nature and extent of metals-contaminated soil at the Site based on the results of the investigations described in Section 2.2. Site contamination is the result of the historical use of the Substation Property and maintenance practices since the

1950s; most likely the application of lead-based and other metals-based paints to fencing and the parking of vehicles on an unpaved driveway south of the duplex.

The sources of the shallow contamination at this Site are located near the property boundaries to the west, east, and south of the Substation Property where painted fencing is present. Secondary locations where there were discrete locations of metals detected in shallow soil included: one small location east of the former substation slab and in the southeast corner of the Substation Property (the unpaved duplex parking area).

The Site contaminants of concern (arsenic, lead, and mercury) are restricted to the upper 0.5 feet of soil at five discontinuous locations across the Subject Property. Soil samples from 1, 2, and 6 feet bgs showed decreasing concentrations of Site COCs with depth (Table 3), further evidence that the metals identified in shallow soil are sourced from activities that occurred at the surface (for example, the painted fence or parked cars). The horizontal extent of contamination has been defined by the discrete surface sampling across the Site. The areas where contamination exists are limited in extent, and noncontiguous with each other (Figures 3 and 5).

2.3.3 Contaminant Fate and Transport

The distribution of shallow metals-contaminated soil along the boundary of the Substation Property to the west, east, and south follows the extent of a chain-link fence with wooden, painted privacy slats that appear to be covered with chipped paint. It is likely that lead- and other metals-based paint was used to paint these slats in the past, as well as the chain-link itself, and that chipping and erosion of the paint over time has been a source of lead to shallow soil.

Arsenic exceedances are restricted to the area south of the duplex, which appears to have been used as the parking area for residents since the duplex was built. It is likely that the arsenic exceedances here are related to the storage of personal vehicles in this area.

MTCA Method A cleanup level exceedances of mercury are restricted to the southern boundary of the Substation Property. According to various sources, paints can contain select metals to influence paint color. Also, The EPA indicates that mercury is a common constituent of pesticides (EPA, 1992) and could also be associated with landscaping or maintenance activities along the southern property boundary where low-level detections of pesticides or herbicides were also observed. Exceedances in this area are likely related to the paint and landscaping activities.

Metals released to surface soil at the Site have sorbed to soil particles; however, the low solubility and mobility of these constituents has restricted their vertical transport through soil, and groundwater is too deep (greater than 100 feet bgs in the vicinity of the Site) to have been affected. Arsenic, lead, and mercury are not volatile and do not pose a risk to soil gas. Horizontal transport of these contaminants via surface flow of stormwater appears to have been limited, as the Site is relatively flat and largely vegetated.

2.3.4 Exposure Pathway Assessment

The primary exposure pathways associated with the presence of metals-contaminated soil at the Site are human health and the environment. The nature and extent of metals-contaminated soil determines the potential exposure scenarios for human health and environmental effects.

The exposure pathway for the Site media of concern, soil, is as follows:

- **Direct-contact pathway:** The direct-contact pathway considers both dermal contact and ingestion of soil from beneath the Site, to a maximum depth of 15 feet bgs. The presence of contamination between 0 and 0.5 feet bgs in areas across the Site indicates that this pathway is complete and there is a risk of exposure for workers or residents.

2.3.4.1 Terrestrial Ecological Evaluation

The purpose of a Terrestrial Ecological Evaluation (TEE) is to assess the potential risk to terrestrial plants and/or animals that live entirely or primarily on affected land. This Site qualifies for a TEE exclusion under WAC 173-340-7491(1)(c) because there is less than 0.25 acres of contiguous undeveloped land on or within 500 feet of any area of the Site, and the contaminant dieldrin is present (though at concentrations well below the MTCA Method A cleanup level). A copy of the TEE form documenting this exclusion is provided in Appendix B.

2.4 Remedial Investigation Conclusions

Based on the results of soil sampling during the RI, metals-contaminated soil at discrete locations is the only affected media for the Site and is the focus of the FS evaluation (Section 3). Both groundwater and soil gas have been eliminated as media of concern for the development of remedial alternatives in the FS. The RI meets the substantive requirements of MTCA 173-340 WAC.

Contaminated soil is present at the Site in discrete locations, resulting from general use, landscaping, and maintenance of the property during its historical use as an electrical substation and storage yard for Seattle City Light. Past use of lead- or other metals-based paint on fencing has contributed to shallow lead contamination in soil; and arsenic contamination is present in the southeastern portion of the Subject Property, likely from historical storage of personal vehicles by residents of the duplex. Mercury along the south property boundary is either related to paint or historical use of weed-killing herbicides/pesticides.

Groundwater has not been encountered during Site explorations and is estimated to be located more than 100 feet bgs in the vicinity of the Site, based on near-by well logs. Soil gas at the Site has not been found to contain concentrations of COPCs above MTCA Method B sub-slab screening levels, indicating that if groundwater is impacted from surrounding property uses, it does not pose a risk of vapor intrusion at the Site.

2.4.1 Areas Requiring Remediation

The areas to be addressed by a remedy for this Site have been delineated based on the nature and extent of contamination and cleanup standards described in the previous sections. The inferred extents of soil impacts are shown on Figure 5.

3 Feasibility Study

This Feasibility Study considers the requirements under 173-340-350 WAC, Site-specific conditions, and the criteria defined in 173-340-360 WAC for screening and evaluation of potentially feasible remedial alternatives for the Site.

3.1 Cleanup Standards and Requirements

Cleanup actions conducted in accordance with MTCA must comply with cleanup standards for the identified COPCs and affected media, as well as applicable regulatory requirements based on federal and state laws (WAC 73-340-710). This section identifies applicable regulatory requirements for the proposed cleanup action, affected media and contaminants of concern, and cleanup standards.

3.1.1 Potentially Applicable or Relevant and Appropriate Requirements (ARARs)

The cleanup action must comply with applicable state and federal laws (WAC 173-340-710(1)). Potentially applicable state and federal laws are discussed below.

MTCA authorized Ecology to adopt cleanup standards for remedial actions at sites where hazardous substances are present (Chapter 70.105D Revised Code of Washington [RCW]). The processes for identifying, investigating and cleaning up these sites are defined and cleanup standards are set for groundwater, soil, surface water, and air in Chapter 173-340 WAC.

Other potentially applicable regulatory requirements include:

- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and All Appropriate Inquiries (AAI) (40 CFR Part 312)
- Federal and State Clean Air Acts (42 USC 7401 et seq.; 40 CFR 50; RCW 70.94; WAC 173-400, 403)
- The State Environmental Policy Act (SEPA) (RCW 43.21C; WAC 197-11)
- The Occupational Safety and Health Act (OSHA) (Part 1910 of Title 29 of the Code of Federal Regulations [29 CFR 1910])
- General Occupational Health Standards (Chapter 296-62 WAC)
- Safety Standards for Construction Work (Chapter 296-155 WAC)
- Permits from local municipalities as required for activities at the Site. City of Seattle grading permits, and City of Seattle permits for street use.

3.1.2 Proposed Cleanup Levels and Points of Compliance

MTCA Method A cleanup levels for unrestricted use are available for all of the COCs at the Site (arsenic, lead, mercury). Proposed Site cleanup levels, based on MTCA Method A, will be used during the implementation of the proposed Cleanup Action and are listed in Table B.

Under MTCA, the point of compliance is the point or location on a Site where the cleanup levels must be attained. In accordance with WAC 173-340-740(6)(d), the standard point of compliance for protection of soil is throughout the soil column.

Table B. Overview of Site-specific Cleanup Standards

Constituent	Cleanup Level and Media
	Soil (mg/kg)[1]
Arsenic	20
Lead	250
Mercury	2.0
MTCA Point of Compliance	Throughout the Soil Column

Note: [1]millgrams/kilograms

3.2 Remedial Action Objectives

Remedial Action Objectives (RAOs) established for the Site are intended to comply with applicable environmental regulations and protect human health and the environment Specifically, the objective of the cleanup action is to mitigate risks associated with the following potential receptors and exposure routes:

- Direct contact by construction workers or future residents of the Site with contaminated soil at the Site

Other pathways such as soil to groundwater leaching or soil vapor intrusion to indoor air are not considered complete exposure pathways for the Subject Property based on Site conditions, contaminant type, and current and future land use (see Section 2.3.4).

3.3 Remedial Alternatives

Potential remedial technologies for addressing soil impacts at the Site include the following:

- **Alternative 1** – Excavation of all metals-contaminated soil exceeding MTCA Method A cleanup levels for off-site disposal.
- **Alternative 2** – Containment via capping of the Site with restrictive covenant recorded with the Property deed.
- **Alternative 3** – No change to current site conditions; restrictive covenant recorded with the Property deed.

There are no other technologically viable options for remediation of metals contamination in the upper 1 foot of soil besides excavation and off-Site disposal, so other physical and chemical methods of contaminant remediation were not considered as part of this Feasibility Study.

3.4 Evaluation of Alternatives

MTCA requires that remedial alternatives for a site satisfy certain "threshold" criteria, as specified in 173-340-360(2) WAC:

- Protect human health and the environment
- Comply with cleanup standards
- Comply with applicable state and federal laws
- Provide for compliance monitoring

In addition to meeting the threshold criteria, cleanup action alternatives under MTCA must also satisfy these "other" requirements:

- Use of permanent solutions to the maximum extent practicable
- Provide for a reasonable restoration time frame
- Consider public concerns

These criteria represent the minimum requirements for an acceptable cleanup action alternative under MTCA.

Alternatives 2 and 3 (capping or deed restriction) would not result in Site conditions that meet each of the threshold criteria indicated above, as contaminated soil would remain in place between 0-0.5 feet bgs. The cleanup will be completed at the Site in conjunction with a construction project to redevelop the Subject Property, and neither Alternatives 2 nor 3 would allow for redevelopment activities, as workers would be immediately exposed to contamination during construction. Based on this assessment, Alternatives 2 and 3 are eliminated from consideration for Site cleanup.

Alternative 1 (remedial excavation and disposal) would physically remove contaminated soil at the Site to the maximum extent practicable, providing the most permanent remedial solution in the shortest amount of time. It is the only technologically feasible option for contaminant removal based on the Site condition, and eliminates the need for institutional controls (such as deed restriction) or engineered controls (such as asphalt capping).

3.4.1 Disproportionate Cost Analysis

In addition to meeting the minimum requirements for a cleanup action, MTCA also allows for consideration of cost in selecting among competing remedial alternatives (173-240-360(3)(e) WAC). If the cost of one alternative is disproportionately higher than another when compared to the benefits afforded by each alternative, then the lower-cost alternative can be selected. The test for making this determination is stated in MTCA as follows: "Costs are disproportionate to benefits if the incremental costs of the alternative over that of a lower cost alternative exceed the incremental degree of benefits achieved by the alternative over the other lower cost alternative." MTCA requires evaluation of the following criteria when conducting a disproportionate cost analysis (DCA):

- Protectiveness
- Permanence

- Effectiveness over the long-term
- Management of short-term risks
- Technical and administrative implementability
- Consideration of public concerns

Only Alternative 1 (remedial excavation) satisfies the MTCA threshold criteria for a cleanup action and is presented as the permanent cleanup action at the Site, as defined in WAC 173-340-200. Element (3d) of WAC 173-340-360, *Selection of a Permanent Cleanup Action*, indicates that "a disproportionate cost analysis shall not be required if the department and the potentially liable persons agree to a permanent cleanup action that will be identified by the department as the proposed cleanup action in the draft cleanup action plan." The CAP outlined in Section 4 below demonstrates that all contaminated soil at the Site will be removed as part of redevelopment; therefore, a DCA is not required.

3.5 Remedy Selection

Based on the results of the FS, the preferred remedial action for the Site is Alternative 1, remedial excavation of all soil exceeding MTCA Method A cleanup levels for permitted off-site disposal. The specific elements and requirements of Alternative 1 (remedial excavation and disposal) are discussed in the Cleanup Action Plan, Section 4.

This remedy will be implemented independently under the VCP with Ecology's concurrence, and is expected to meet the requirements of MTCA and result in an NFA determination from Ecology.

4 Cleanup Action Plan

This section presents the proposed cleanup action plan for implementing the preferred remedial action evaluated during the FS. A CAP is a required part of the Site cleanup process under MTCA. The following sections provide supplemental detail on the selected remedy, including points of compliance, and time frame for the cleanup.

4.1 Description of Selected Remedy

The selected remedial alternative for implementation during the cleanup action was developed through evaluation of the Site conditions and applicable remedial technologies in the FS (Section 3). This section provides a more detailed description of the selected remedial alternative.

4.1.1 Soil Excavation and Disposal

The selected remedial alternative, evaluated during the FS as Alternative 1 (remedial excavation and disposal) has a reasonable restoration time frame and is the only remedial alternative that is compatible with future use of the Subject Property (Section 3.4). The cleanup action consists of excavation of contaminated soil in the five areas shown on Figure 5 and confirmation sampling of the base and sidewalls of the excavation.

Contaminated soil will be segregated from clean soil or direct-loaded into trucks, and hauled off-Site for permitted disposal at one of the following disposal facilities:

- Waste Management's Columbia Ridge Landfill in Arlington, Oregon. A transfer station for this landfill is located in Seattle, Washington.
- Republic Services' Roosevelt Landfill located in Klickitat County, Washington. A transfer station for this landfill is located in Seattle, Washington.

Clean soil (if generated) will be stockpiled separately on the Substation Property and soil samples will be obtained from the stockpile to confirm contaminants are not detected or are detected at concentrations below the MTCA Method A cleanup levels.

The five excavations will be completed in each distinct area shown on Figure 5 where contamination is located, and will extend to 1 foot bgs across the excavation. No benching or structural adjustments will need to be made for an excavation of this depth. Confirmation samples will be collected from the four sidewalls of each excavation area at approximately 0.5 feet bgs at 20-foot intervals, or at least one per sidewall for sidewalls less than 20 feet. Bottom samples will be collected every 20 feet along the bottom of each excavation area, or a minimum of two samples per area for excavation areas less than 40 feet long. Confirmation samples will be analyzed for the following:

- Arsenic, lead, and mercury by EPA Method 6020B

If COCs are detected above MTCA Method A cleanup levels in any of the confirmation bottom samples, the excavation will be advanced an additional 6 inches and another confirmation bottom sample collected. This process will be continued until the bottom of the excavation does not contain COCs at concentrations exceeding MTCA Method A cleanup levels.

If COCs are detected above MTCA Method A cleanup levels in any confirmation sidewall samples, the excavation will be advanced an additional 2 feet along the extent of that sidewall, or to the location of another sidewall sample that does not contain concentrations of COCs above MTCA Method A cleanup levels (excavation will not extend beyond property boundaries where access may not be permitted).

Excavation areas will be backfilled as needed for construction using structural backfill or clean soil from elsewhere on the Site, as appropriate.

4.1.2 Reporting

Aspect will prepare a Cleanup Action Report that documents the results of the cleanup action following completion of the selected remedial action.

References

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SoundEarth Strategies, 2018, Environmental Characterization Report, Phinney Former Substation Property, 6109 Phinney Avenue North, dated May 8, 2018.

TRC Companies, 2020, Phase II Environmental Site Assessment Letter Report, Former Phinney Substation Property, 6109 Phinney Avenue North, dated August 17, 2020.

Washington State Department of Ecology (Ecology), 2016a, Remedial Investigation Checklist, Publication No. 16-09-006, available at https://apps.ecology.wa.gov/publications/SummaryPages/1609006.html.

Washington State Department of Ecology (Ecology), 2016b, Cleanup Action Plan Checklist, Publication No. 16-09-008, available at https://apps.ecology.wa.gov/publications/SummaryPages/1609008.html.

Limitations

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

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

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

TABLES

Table 1. Summary of Composite Surface Soil Analytical Results

Project No. 210143, Former Phinney Ridge Substation, Seattle, Washington

Analyte	Unit	MTCA Method A CUL	Location Date Sample Depth Composite Area 1	Composite Area 2	Composite Area 3	Composite Area 4	Composite Area 5	Composite Area 6	Composite Area 6	Composite Area 7	Composite Area 8	Composite Area 9	Composite Area 10	Composite Area 11	Composite Area 12
			02/13/2018 PH-1-SS1,SS2,SS3 COMP. Composite	02/13/2018 PH-2-SS1,SS2,SS3 COMP. Composite	02/13/2018 PH-3-SS1,SS2 COMP. Composite	02/13/2018 PH-4-SS1,SS2,SS3 COMP. Composite	02/13/2018 PH-5-SS1,SS2,SS3,SS4, SS5 COMP. Composite	02/13/2018 PH-6-SS2,SS1 COMP. Composite	02/13/2018 PH-6-SS3,SS4,SS5 COMP. Composite	02/13/2018 PH-7-SS3,SS2,SS1 COMP. Composite	02/13/2018 PH-8-SS1,SS2,SS3 COMP. Composite	02/13/2018 PH-9-SS1,SS2,SS3 COMP. Composite	02/13/2018 PH-10-SS1,SS2,SS3 COMP. Composite	02/13/2018 PH-11-SS1,SS2,SS3,SS4 COMP. Composite	02/13/2018 PH-12-SS1,SS2 COMP. Composite
Chlor Herbicides															
2,4-D	mg/kg		< 0.011 U	< 0.011 U	< 0.013 U	< 0.011 U	< 0.011 U	< 0.011 U	< 0.012 U	< 0.011 U	< 0.01 U	< 0.011 U	< 0.011 U	< 0.011 U	< 0.011 U
2,4-DB	mg/kg		< 0.011 U	< 0.011 U	< 0.013 U	< 0.011 U	< 0.011 U	< 0.012 U	< 0.012 U	< 0.011 U	< 0.011 U	< 0.012 U	< 0.011 U	< 0.011 U	< 0.011 U
Dalapon	mg/kg		< 0.27 U	< 0.26 U	< 0.31 U	< 0.28 U	< 0.28 U	< 0.28 U	< 0.29 U	< 0.26 U	< 0.26 U	< 0.28 U	< 0.26 U	< 0.27 U	< 0.26 U
Dicamba	mg/kg		< 0.011 U	< 0.011 U	< 0.013 U	< 0.011 U	< 0.011 U	< 0.011 U	< 0.012 U	< 0.011 U	< 0.01 U	< 0.011 U	< 0.011 U	< 0.011 U	< 0.011 U
Dichloroprop	mg/kg		< 0.084 U	< 0.081 U	< 0.097 U	< 0.085 U	< 0.086 U	< 0.086 U	< 0.089 U	< 0.082 U	< 0.079 U	< 0.086 U	< 0.081 U	< 0.083 U	< 0.079 U
Dinoseb	mg/kg		< 0.011 U	< 0.011 U	< 0.013 U	< 0.011 U	< 0.011 U	< 0.011 U	< 0.011 U	< 0.011 U	--	< 0.012 U	< 0.011 U	< 0.011 U	< 0.011 U
MCPA	mg/kg		< 1.1 U	< 1.1 U	< 1.3 U	< 1.1 U	< 1.1 U	< 1.1 U	< 1.2 U	< 1.1 U	< 1 U	< 1.1 U	< 1.1 U	< 1.1 U	< 1 U
MCPP	mg/kg		< 1.1 U	< 1.1 U	< 1.3 U	< 1.1 U	< 1.1 U	< 1.1 U	< 1.2 U	< 1.1 U	< 1 U	< 1.1 U	< 1.1 U	< 1.1 U	< 1 U
Silvex	mg/kg		< 0.011 U	< 0.011 U	< 0.013 U	< 0.011 U	< 0.011 U	< 0.012 U	< 0.012 U	< 0.011 U	< 0.011 U	< 0.012 U	< 0.011 U	< 0.011 U	< 0.011 U
Conventionals															
Moisture Content	%		**16**	**13**	**27**	**17**	**17**	**18**	**21**	**13**	**10**	**18**	**13**	**15**	**11**
Metals															
Arsenic	mg/kg	20	**76**	< 11 U	< 14 U	< 12 U	< 12 U	< 12 U	< 13 U	< 12 U	< 11 U	< 12 U	< 11 U	< 12 U	< 11 U
Barium	mg/kg		**110**	**46**	**92**	**62**	**99**	**59**	**130**	**45**	**28**	**53**	**54**	**46**	**31**
Cadmium	mg/kg	2	< 0.59 U	< 0.57 U	**0.79**	**0.75**	< 0.6 U	**0.61**	< 0.63 U	< 0.58 U	< 0.56 U	< 0.61 U	< 0.57 U	**0.64**	**0.59**
Chromium	mg/kg		**29**	**16**	**32**	**27**	**22**	**17**	**27**	**24**	**15**	**15**	**15**	**15**	**15**
Lead	mg/kg	250	**87**	**100**	**300**	**190**	**140**	**120**	**160**	**100**	**61**	**81**	**80**	**74**	**72**
Mercury	mg/kg	2	< 0.3 U	< 0.29 U	**1.6**	< 0.3 U	< 0.3 U	**1**	< 0.32 U	< 0.29 U	< 0.28 U	< 0.31 U	< 0.29 U	< 0.29 U	**0.36**
Selenium	mg/kg		< 12 U	< 11 U	< 14 U	< 12 U	< 12 U	< 12 U	< 13 U	< 12 U	< 11 U	< 12 U	< 11 U	< 12 U	< 11 U
Silver	mg/kg		< 1.2 U	< 1.1 U	< 1.4 U	< 1.2 U	< 1.2 U	< 1.2 U	< 1.3 U	< 1.2 U	< 1.1 U	< 1.2 U	< 1.1 U	< 1.2 U	< 1.1 U
Other SVOCs															
Pentachlorophenol	mg/kg		< 0.0056 U	< 0.0055 U	< 0.0065 U	< 0.0057 U	< 0.0057 U	**0.0064**	< 0.006 U	< 0.0055 U	< 0.0053 U	< 0.0058 U	< 0.0054 U	< 0.0056 U	< 0.0053 U
PCBAro															
Aroclor 1016	mg/kg		< 0.059 U	< 0.057 U	< 0.069 U	< 0.06 U	< 0.06 U	< 0.061 U	< 0.063 U	< 0.058 U	< 0.056 U	< 0.061 U	< 0.057 U	< 0.059 U	< 0.056 U
Aroclor 1221	mg/kg		< 0.059 U	< 0.057 U	< 0.069 U	< 0.06 U	< 0.06 U	< 0.061 U	< 0.063 U	< 0.058 U	< 0.056 U	< 0.061 U	< 0.057 U	< 0.059 U	< 0.056 U
Aroclor 1232	mg/kg		< 0.059 U	< 0.057 U	< 0.069 U	< 0.06 U	< 0.06 U	< 0.061 U	< 0.063 U	< 0.058 U	< 0.056 U	< 0.061 U	< 0.057 U	< 0.059 U	< 0.056 U
Aroclor 1242	mg/kg		< 0.059 U	< 0.057 U	< 0.069 U	< 0.06 U	< 0.06 U	< 0.061 U	< 0.063 U	< 0.058 U	< 0.056 U	< 0.061 U	< 0.057 U	< 0.059 U	< 0.056 U
Aroclor 1248	mg/kg		< 0.059 U	< 0.057 U	< 0.069 U	< 0.06 U	< 0.06 U	< 0.061 U	< 0.063 U	< 0.058 U	< 0.056 U	< 0.061 U	< 0.057 U	< 0.059 U	< 0.056 U
Aroclor 1254	mg/kg		< 0.059 U	< 0.057 U	< 0.069 U	< 0.06 U	< 0.06 U	< 0.061 U	< 0.063 U	< 0.058 U	< 0.056 U	< 0.061 U	< 0.057 U	< 0.059 U	< 0.056 U
Aroclor 1260	mg/kg		< 0.059 U	< 0.057 U	< 0.069 U	< 0.06 U	< 0.06 U	< 0.061 U	< 0.063 U	< 0.058 U	< 0.056 U	< 0.061 U	< 0.057 U	< 0.059 U	< 0.056 U
Aroclor 1262	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs (Sum of Aroclors)	mg/kg	1	< 0.059 U	< 0.057 U	< 0.069 U	< 0.06 U	< 0.06 U	< 0.061 U	< 0.063 U	< 0.058 U	< 0.056 U	< 0.061 U	< 0.057 U	< 0.059 U	< 0.056 U

Table 1. Summary of Composite Surface Soil Analytical Results

Project No. 210143, Former Phinney Ridge Substation, Seattle, Washington

Analyte	Unit	MTCA Method A CUL	Location Date Sample Depth	Composite Area 1 02/13/2018 PH-1-SS1,SS2,SS3 COMP. Composite	Composite Area 2 02/13/2018 PH-2-SS1,SS2,SS3 COMP. Composite	Composite Area 3 02/13/2018 PH-3-SS1,SS2 COMP. Composite	Composite Area 4 02/13/2018 PH-4-SS1,SS2,SS3 COMP. Composite	Composite Area 5 02/13/2018 PH-5-SS1,SS2,SS3,SS4, SS5 COMP. Composite	Composite Area 6 02/13/2018 PH-6-SS2,SS1 COMP. Composite	Composite Area 6 02/13/2018 PH-6-SS3,SS4,SS5 COMP. Composite	Composite Area 7 02/13/2018 PH-7-SS3,SS2,SS1 COMP. Composite	Composite Area 8 02/13/2018 PH-8-SS1,SS2,SS3 COMP. Composite	Composite Area 9 02/13/2018 PH-9-SS1,SS2,SS3 COMP. Composite	Composite Area 10 02/13/2018 PH-10-SS1,SS2,SS3 COMP. Composite	Composite Area 11 02/13/2018 PH-11-SS1,SS2,SS3,SS4 COMP. Composite	Composite Area 12 02/13/2018 PH-12-SS1,SS2 COMP. Composite
Pest/Herbicides																
4,4'-DDD	mg/kg			< 0.012 U	< 0.011 U	< 0.014 U	< 0.012 U	< 0.012 U	< 0.012 U	< 0.013 U	< 0.012 U	< 0.011 U	< 0.012 U	< 0.011 U	< 0.012 U	< 0.011 U
4,4'-DDE	mg/kg			< 0.012 U	< 0.011 U	< 0.014 U	< 0.012 U	< 0.012 U	**0.041**	< 0.013 U	< 0.012 U	< 0.011 U	< 0.012 U	< 0.011 U	< 0.012 U	< 0.011 U
4,4'-DDT	mg/kg	3		**0.017**	**0.012**	**0.033**	**0.052**	**0.022**	**0.27**	**0.048**	**0.057**	**0.018**	**0.025**	< 0.011 U	**0.012**	< 0.011 U
Aldrin	mg/kg			< 0.0059 U	< 0.0057 U	< 0.0069 U	< 0.006 U	< 0.006 U	< 0.0061 U	< 0.0063 U	< 0.0058 U	< 0.0056 U	< 0.0061 U	< 0.0057 U	< 0.0059 U	< 0.0056 U
Alpha-BHC	mg/kg			< 0.0059 U	< 0.0057 U	< 0.0069 U	< 0.006 U	< 0.006 U	< 0.0061 U	< 0.0063 U	< 0.0058 U	< 0.0056 U	< 0.0061 U	< 0.0057 U	< 0.0059 U	< 0.0056 U
Beta-BHC	mg/kg			< 0.0059 U	< 0.0057 U	< 0.0069 U	< 0.006 U	< 0.006 U	< 0.0061 U	< 0.0063 U	< 0.0058 U	< 0.0056 U	< 0.0061 U	< 0.0057 U	< 0.0059 U	< 0.0056 U
cis-Chlordane	mg/kg			< 0.012 U	< 0.011 U	**0.041**	< 0.012 U	< 0.012 U	< 0.012 U	< 0.013 U	< 0.012 U	< 0.011 U	< 0.012 U	< 0.011 U	< 0.012 U	< 0.011 U
Delta-BHC	mg/kg			< 0.0059 U	< 0.0057 U	< 0.0069 U	< 0.006 U	< 0.006 U	< 0.0061 U	< 0.0063 U	< 0.0058 U	< 0.0056 U	< 0.0061 U	< 0.0057 U	< 0.0059 U	< 0.0056 U
Dieldrin	mg/kg			< 0.012 U	< 0.011 U	**0.033**	< 0.012 U	< 0.012 U	< 0.012 U	< 0.013 U	< 0.012 U	< 0.011 U	< 0.012 U	< 0.011 U	< 0.012 U	< 0.011 U
Endosulfan I	mg/kg			< 0.0059 U	< 0.0057 U	< 0.0069 U	< 0.006 U	< 0.006 U	< 0.0061 U	< 0.0063 U	< 0.0058 U	< 0.0056 U	< 0.0061 U	< 0.0057 U	< 0.0059 U	< 0.0056 U
Endosulfan II	mg/kg			< 0.012 U	< 0.011 U	< 0.014 U	< 0.012 U	< 0.012 U	< 0.012 U	< 0.013 U	< 0.012 U	< 0.011 U	< 0.012 U	< 0.011 U	< 0.012 U	< 0.011 U
Endosulfan Sulfate	mg/kg			< 0.012 U	< 0.011 U	< 0.014 U	< 0.012 U	< 0.012 U	< 0.012 U	< 0.013 U	< 0.012 U	< 0.011 U	< 0.012 U	< 0.011 U	< 0.012 U	< 0.011 U
Endrin	mg/kg			< 0.012 U	< 0.011 U	< 0.014 U	< 0.012 U	< 0.012 U	< 0.012 U	< 0.013 U	< 0.012 U	< 0.011 U	< 0.012 U	< 0.011 U	< 0.012 U	< 0.011 U
Endrin Aldehyde	mg/kg			< 0.012 U	< 0.011 U	< 0.014 U	< 0.012 U	< 0.012 U	< 0.012 U	< 0.013 U	< 0.012 U	< 0.011 U	< 0.012 U	< 0.011 U	< 0.012 U	< 0.011 U
Endrin ketone	mg/kg			< 0.012 U	< 0.011 U	< 0.014 U	< 0.012 U	< 0.012 U	< 0.012 U	< 0.013 U	< 0.012 U	< 0.011 U	< 0.012 U	< 0.011 U	< 0.012 U	< 0.011 U
Heptachlor	mg/kg			< 0.0059 U	< 0.0057 U	< 0.0069 U	< 0.006 U	< 0.006 U	< 0.0061 U	< 0.0063 U	< 0.0058 U	< 0.0056 U	< 0.0061 U	< 0.0057 U	< 0.0059 U	< 0.0056 U
Heptachlor Epoxide	mg/kg			< 0.0059 U	< 0.0057 U	< 0.0069 U	< 0.006 U	< 0.006 U	< 0.0061 U	< 0.0063 U	< 0.0058 U	< 0.0056 U	< 0.0061 U	< 0.0057 U	< 0.0059 U	< 0.0056 U
Lindane	mg/kg	0.01		< 0.0059 U	< 0.0057 U	< 0.0069 U	< 0.006 U	< 0.006 U	< 0.0061 U	< 0.0063 U	< 0.0058 U	< 0.0056 U	< 0.0061 U	< 0.0057 U	< 0.0059 U	< 0.0056 U
Methoxychlor	mg/kg			< 0.012 U	< 0.011 U	< 0.014 U	< 0.012 U	< 0.012 U	< 0.012 U	< 0.013 U	< 0.012 U	< 0.011 U	< 0.012 U	< 0.011 U	< 0.012 U	< 0.011 U
Toxaphene	mg/kg			< 0.059 U	< 0.057 U	< 0.069 U	< 0.06 U	< 0.06 U	< 0.061 U	< 0.063 U	< 0.058 U	< 0.056 U	< 0.061 U	< 0.057 U	< 0.059 U	< 0.056 U
trans-Chlordane	mg/kg			< 0.012 U	< 0.011 U	< 0.014 U	< 0.012 U	< 0.012 U	< 0.012 U	< 0.013 U	< 0.012 U	< 0.011 U	< 0.012 U	< 0.011 U	< 0.012 U	< 0.011 U
TPHs																
Diesel Range Organics	mg/kg	2000		--	< 29 U	**95**	**130**	**99**	--	--	--	--	--	**160**	**140**	**49**
Motor Oil Range Organics	mg/kg	2000		--	**210**	**690**	**370**	**290**	--	--	--	--	--	**420**	**270**	**72**

Notes:

MTCA = Washington State Department of Ecology Model Toxics Control Act
CUL = Cleanup Level
mg/kg = milligram per kilogram
Bold - detected
Blue Shaded - Detected result exceeded screening level
U - Analyte not detected at or above Reporting Limit (RL) shown

Table 2. Summary of Discrete Surface Soil Analytical Results

Project No. 210143, Former Phinney Ridge Substation, Seattle, Washington

Composite Area (see Table 1)			Area 1							Area 2			Area 3	
Sample Location			1-SS1	1-SS2	1-SS3	AHA-04	AHA-05	AHA-06	ATP-01	2-SS1	2-SS2	2-SS3	3-SS1	3-SS2
Date			02/13/2018	02/13/2018	02/13/2018	07/14/2021	07/14/2021	07/14/2021	07/14/2021	02/13/2018	02/13/2018	02/13/2018	02/13/2018	02/13/2018
Sample			PH-1-SS1	PH-1-SS2	PH-1-SS3	AHA-04-0.5	AHA-05-0.5	AHA-06-0.5	ATP-01-0.5	PH-2-SS1	PH-2-SS2	PH-2-SS3	PH-3-SS1	PH-3-SS2
Depth			0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft
Analyte	**Unit**	**MTCA Method A CUL**												
Metals														
Arsenic	mg/kg	20	**110**	**70**	< 14 U	**2.9**	**2.55**	**32.1**	**4.84**	--	--	--	--	--
Cadmium	mg/kg	2	--	--	--	--	--	--	--	--	--	--	--	--
Lead	mg/kg	250	**65**	**66**	**250**	--	--	--	**30.2**	**40**	**140**	**98**	**270**	**320**
Mercury	mg/kg	2	--	--	--	--	--	--	--	--	--	--	**1.6**	**2.4**
Pesticides/Herbicides														
Dieldrin	mg/kg		--	--	--	--	--	--	--	--	--	--	**0.048**	< 0.015 U

Composite Area (see Table 1)			Area 4			Area 5						
Sample Location			4-SS1	4-SS2	4-SS3	5-SS1	5-SS2	5-SS3	5-SS4	5-SS5	AHA-01	AHA-02
Date			02/13/2018	02/13/2018	02/13/2018	02/13/2018	02/13/2018	02/13/2018	02/13/2018	02/13/2018	07/14/2021	07/14/2021
Sample			PH-4-SS1	PH-4-SS2	PH-4-SS3	PH-5-SS1	PH-5-SS2	PH-5-SS3	PH-5-SS4	PH-5-SS5	AHA-01-0.5	AHA-02-0.5
Depth			0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft	0-0.5 ft	0-0.5 ft
Analyte	**Unit**	**MTCA Method A CUL**										
Metals												
Arsenic	mg/kg	20	--	--	--	--	--	--	--	--	--	--
Cadmium	mg/kg	2	< 0.6 U	< 0.62 U	**1.3**	--	--	--	--	--	--	--
Lead	mg/kg	250	**85**	**88**	**340**	**110**	**170**	**320**	**80**	**140**	**67.9**	**70**
Mercury	mg/kg	2	--	--	--	--	--	--	--	--	--	--
Pesticides/Herbicides												
Dieldrin	mg/kg		--	--	--	--	--	--	--	--	--	--

Composite Area (see Table 1)			Area 6						Area 7			Area 11			
Sample Location			6-SS1	6-SS2	6-SS3	6-SS4	6-SS5	AHA-03	7-SS1	7-SS2	7-SS3	11-SS1	11-SS2	11-SS3	11-SS4
Date			02/13/2018	02/13/2018	02/13/2018	02/13/2018	02/13/2018	07/14/2021	02/13/2018	02/13/2018	02/13/2018	02/13/2018	02/13/2018	02/13/2018	02/13/2018
Sample			PH-6-SS1	PH-6-SS2	PH-6-SS3	PH-6-SS4	PH-6-SS5	AHA-03-0.5	PH-7-SS1	PH-7-SS2	PH-7-SS3	PH-11-SS1	PH-11-SS2	PH-11-SS3	PH-11-SS4
Depth			0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft	0-0.5 ft	0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft
Analyte	**Unit**	**MTCA Method A CUL**													
Metals															
Arsenic	mg/kg	20	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	mg/kg	2	--	--	--	--	--	--	--	--	--	**1.7**	< 0.64 U	< 0.56 U	< 0.57 U
Lead	mg/kg	250	--	--	**59**	**93**	**270**	**308**	**84**	**40**	**69**	**160**	**49**	**47**	**52**
Mercury	mg/kg	2	< 0.32 U	**2.6**	--	--	--	--	--	--	--	--	--	--	--
Pesticides/Herbicides															
Dieldrin	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

Bold - detected

Blue Shaded - Detected result exceeded screening level

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

Discrete samples from Areas 8, 9, 10, and 12 were not submitted for chemical analysis based on the composite results from those areas (Table 1)

MTCA = Washington State Department of Ecology Model Toxics Control Act

CUL = Cleanup Level

mg/kg = milligram per kilogram

Table 3. Summary of Boring Soil Analytical Results

Project No. 210143, Former Phinney Ridge Substation, Seattle, Washington

Analyte	Unit	MTCA Method A CUL	1-HA-1 03/16/2018 PH-01-HA1-01 1 ft	1-HA-1 03/16/2018 PH-01-HA1-02 2 ft	3-HA-1 03/16/2018 PH-03-HA1-01 1 ft	3-HA-1 03/16/2018 PH-03-HA1-02 2 ft	4-HA-1 03/16/2018 PH-04-HA1-01 1 ft	4-HA-1 03/16/2018 PH-04-HA1-02 2 ft	5-HA-1 03/16/2018 PH-05-HA1-01 1 ft	5-HA-1 03/16/2018 PH-05-HA1-02 2 ft	6-HA-1 03/16/2018 PH-06-HA1-01 1 ft	6-HA-1 03/16/2018 PH-06-HA1-02 2 ft	6-HA-2 03/16/2018 PH-06-HA2-01 1 ft	6-HA-2 03/16/2018 PH-06-HA2-02 2 ft	EDB-1 03/19/2020 EDB-1:2 2 ft	EDB-1 03/19/2020 EDB-1:6 6 ft	EDB-1 03/19/2020 EDB-1:13 13 ft	EDB-2 03/19/2020 EDB-2:2 2 ft	EDB-2 03/19/2020 EDB-2:6 6 ft	EDB-2 03/19/2020 EDB-2:10 10 ft	EDB-3 03/19/2020 EDB-3:2 2 ft	EDB-3 03/19/2020 EDB-3:6 6 ft	EDB-3 03/19/2020 EDB-3:10 10 ft	EDB-4 03/19/2020 EDB-4:2 2 ft	EDB-4 03/19/2020 EDB-4:6 6 ft	EDB-4 03/19/2020 EDB-4:10 10 ft	EDB-5 03/19/2020 EDB-5:2 2 ft	EDB-5 03/19/2020 EDB-5:6 6 ft	EDB-5 03/19/2020 EDB-5:9 9 ft	EDB-6 03/19/2020 EDB-6:2 2 ft	EDB-6 03/19/2020 EDB-6:6 6 ft	EDB-6 03/19/2020 EDB-6:13 13 ft
BTEX																															
Benzene	mg/kg	0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.03 U	< 0.03 U	--	< 0.03 U	< 0.03 U	--	< 0.03 U	< 0.03 U	--	< 0.03 U	< 0.03 U	--	< 0.03 U	< 0.03 U	--	< 0.03 U	< 0.03 U
Toluene	mg/kg	7	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
Ethylbenzene	mg/kg	6	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
Total Xylenes	mg/kg	9	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.1 U	< 0.1 U	--	< 0.1 U	< 0.1 U	--	< 0.1 U	< 0.1 U	--	< 0.1 U	< 0.1 U	--	< 0.1 U	< 0.1 U	--	< 0.1 U	< 0.1 U
Metals																															
Arsenic	mg/kg	20	< 12 U	< 11 U	--	--	--	--	--	--	--	--	--	--	**1.97**	**1.02**	--	**1.95**	**1.9**	--	**2.01**	**1.3**	--	**5.47**	**1.66**	--	**1.98**	**1.41**	--	**1.66**	< 1 U	--
Barium	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	mg/kg	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	mg/kg	250	--	--	**42**	**14**	**15**	< 6.1 U	**170**	**8.6**	--	--	**190**	**21**	**2.36**	**1.31**	--	**4.75**	**2.25**	--	**11.9**	**1.57**	--	**61.3**	**1.79**	--	**2.36**	**1.6**	--	**2.46**	**1.3**	--
Mercury	mg/kg	2	--	--	< 0.31 U	**0.92**	--	--	--	--	**0.94**	**0.48**	--	--	< 1 U	< 1 U	--	< 1 U	< 1 U	--	< 1 U	< 1 U	--	< 1 U	< 1 U	--	< 1 U	< 1 U	--	< 1 U	< 1 U	--
Selenium	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Other SVOCs																															
Hexachlorobutadiene	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.25 U	< 0.25 U	--	< 0.25 U	< 0.25 U	--	< 0.25 U	< 0.25 U	--	< 0.25 U	< 0.25 U	--	< 0.25 U	< 0.25 U	--	< 0.25 U	< 0.25 U
Pentachlorophenol	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	mg/kg	5	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
PCBAro																															
Aroclor 1016	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--
Aroclor 1221	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--
Aroclor 1232	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--
Aroclor 1242	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--
Aroclor 1248	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--
Aroclor 1254	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--
Aroclor 1260	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--
Aroclor 1262	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--
Aroclor 1268	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--
Total PCBs (Sum of Aroclors)	mg/kg	1	--	--	--	--	--	--	--	--	--	--	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--	< 0.02 U	--	--
TPHs																															
Diesel Range Organics	mg/kg	2000	--	--	--	--	--	--	--	--	--	--	--	--	--	< 50 U	< 50 U	--	< 50 U	< 50 U	--	< 50 U	< 50 U	--	< 50 U	< 50 U	--	< 50 U	< 50 U	--	< 50 U	< 50 U
Motor Oil Range Organics	mg/kg	2000	--	--	--	--	--	--	--	--	--	--	--	--	--	< 250 U	< 250 U	--	< 250 U	< 250 U	--	< 250 U	< 250 U	--	< 250 U	< 250 U	--	< 250 U	< 250 U	--	< 250 U	< 250 U
VOCs																															
1,1,1,2-Tetrachloroethane	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
1,1,1-Trichloroethane	mg/kg	2	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
1,1,2,2-Tetrachloroethane	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
1,1,2-Trichloroethane	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
1,1-Dichloroethane	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
1,1-Dichloroethene	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
1,1-Dichloropropene	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
1,2,3-Trichlorobenzene	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.25 U	< 0.25 U	--	< 0.25 U	< 0.25 U	--	< 0.25 U	< 0.25 U	--	< 0.25 U	< 0.25 U	--	< 0.25 U	< 0.25 U	--	< 0.25 U	< 0.25 U
1,2,3-Trichloropropane	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
1,2,4-Trichlorobenzene	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.25 U	< 0.25 U	--	< 0.25 U	< 0.25 U	--	< 0.25 U	< 0.25 U	--	< 0.25 U	< 0.25 U	--	< 0.25 U	< 0.25 U	--	< 0.25 U	< 0.25 U
1,2,4-Trimethylbenzene	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
1,2-Dibromo-3-chloropropane	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U
1,2-Dibromoethane (EDB)	mg/kg	0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
1,2-Dichlorobenzene	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
1,2-Dichloroethane (EDC)	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
1,2-Dichloropropane	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
1,3,5-Trimethylbenzene	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
1,3-Dichlorobenzene	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
1,3-Dichloropropane	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
1,4-Dichlorobenzene	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
2,2-Dichloropropane	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
2-Butanone	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U
2-Chlorotoluene	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
2-Hexanone	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U
4-Chlorotoluene	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
4-Methyl-2-pentanone	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U
Acetone	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U
Bromobenzene	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
Bromodichloromethane	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
Bromoform	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
Bromomethane	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U
Carbon Tetrachloride	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
Chlorobenzene	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
Chloroethane	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U
Chloroform	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
Chloromethane	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U
cis-1,2-Dichloroethene (DCE)	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
cis-1,3-Dichloropropene	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
Dibromochloromethane	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
Dibromomethane	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
Dichlorodifluoromethane	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U
Isopropylbenzene	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
m,p-Xylenes	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.1 U	< 0.1 U	--	< 0.1 U	< 0.1 U	--	< 0.1 U	< 0.1 U	--	< 0.1 U	< 0.1 U	--	< 0.1 U	< 0.1 U	--	< 0.1 U	< 0.1 U
Methyl tert-butyl ether (MTBE)	mg/kg	0.1	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
Methylene Chloride	mg/kg	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U
n-Hexane	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.25 U	< 0.25 U	--	< 0.25 U	< 0.25 U	--	< 0.25 U	< 0.25 U	--	< 0.25 U	< 0.25 U	--	< 0.25 U	< 0.25 U	--	< 0.25 U	< 0.25 U
n-Propylbenzene	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
o-Xylene	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
p-Isopropyltoluene	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
sec-Butylbenzene	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
Styrene	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
tert-Butylbenzene	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
Tetrachloroethene (PCE)	mg/kg	0.05	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.025 U	< 0.025 U	--	< 0.025 U	< 0.025 U	--	< 0.025 U	< 0.025 U	--	< 0.025 U	< 0.025 U	--	< 0.025 U	< 0.025 U	--	< 0.025 U	< 0.025 U
trans-1,2-Dichloroethene	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
trans-1,3-Dichloropropene	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U
Trichloroethene (TCE)	mg/kg	0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.02 U	< 0.02 U	--	< 0.02 U	< 0.02 U	--	< 0.02 U	< 0.02 U	--	< 0.02 U	< 0.02 U	--	< 0.02 U	< 0.02 U	--	< 0.02 U	< 0.02 U
Trichlorofluoromethane	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U	--	< 0.5 U	< 0.5 U
Vinyl Chloride	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U	--	< 0.05 U	< 0.05 U

Notes:
MTCA = Washington State Department of Ecology Model Toxics Control Act
CUL = Cleanup Level
mg/kg = milligram per kilogram
Bold - detected
Blue Shaded - Detected result exceeded screening level
U - Analyte not detected at or above Reporting Limit (RL) shown

Table 4. Summary of Soil Gas Analytical Results

Project No. 210143, Former Phinney Ridge Substation, Seattle, Washington

			Location	SV-1	SV-2	SV-3
			Date	03/19/2020	03/19/2020	03/19/2020
Analyte	Unit	MTCA Method B Screening Level (Unrestricted)[2]				
APH						
C5 - C8 Aliphatic Hydrocarbons	ug/m3			**1100**	< 220 U	**280**
C9 - C12 Aliphatic Hydrocarbons	ug/m3			**740**	**370**	**570**
C9 - C10 Aromatic Hydrocarbons	ug/m3			< 240 U	< 180 U	< 180 U
Sum of Total Aromatic Hydrocarbons, ND = 0[1]	ug/m3	4700		**1840**	**370**	**850**
VOCs						
1,1,1-Trichloroethane	ug/m3	76000		< 5.2 U	< 4 U	< 4 U
1,1,2-Trichloroethane	ug/m3	3		< 1 U	< 0.81 U	< 0.8 U
1,1-Dichloroethane	ug/m3	52		< 3.8 U	< 3 U	< 3 U
1,1-Dichloroethene	ug/m3	3000		< 3.8 U	< 2.9 U	< 2.9 U
1,2-Dichloroethane (EDC)	ug/m3	3.2		< 0.38 U	< 0.3 U	< 0.3 U
Chloroethane	ug/m3	150000		< 25 U	< 20 U	< 19 U
cis-1,2-Dichloroethene (cDCE)	ug/m3			< 3.8 U	< 2.9 U	< 2.9 U
Tetrachloroethene (PCE)	ug/m3	320		< 64 U	< 50 U	< 50 U
trans-1,2-Dichloroethene	ug/m3	610		< 3.8 U	< 2.9 U	< 2.9 U
Trichloroethene (TCE)	ug/m3	11		< 2.6 U	< 2 U	< 2 U
Vinyl Chloride	ug/m3	9.5		< 2.4 U	< 1.9 U	< 1.9 U

Notes:

MTCA = Washington State Department of Ecology Model Toxics Control Act

CUL= Cleanup Level

ug/m3 = microgram per cubic meter

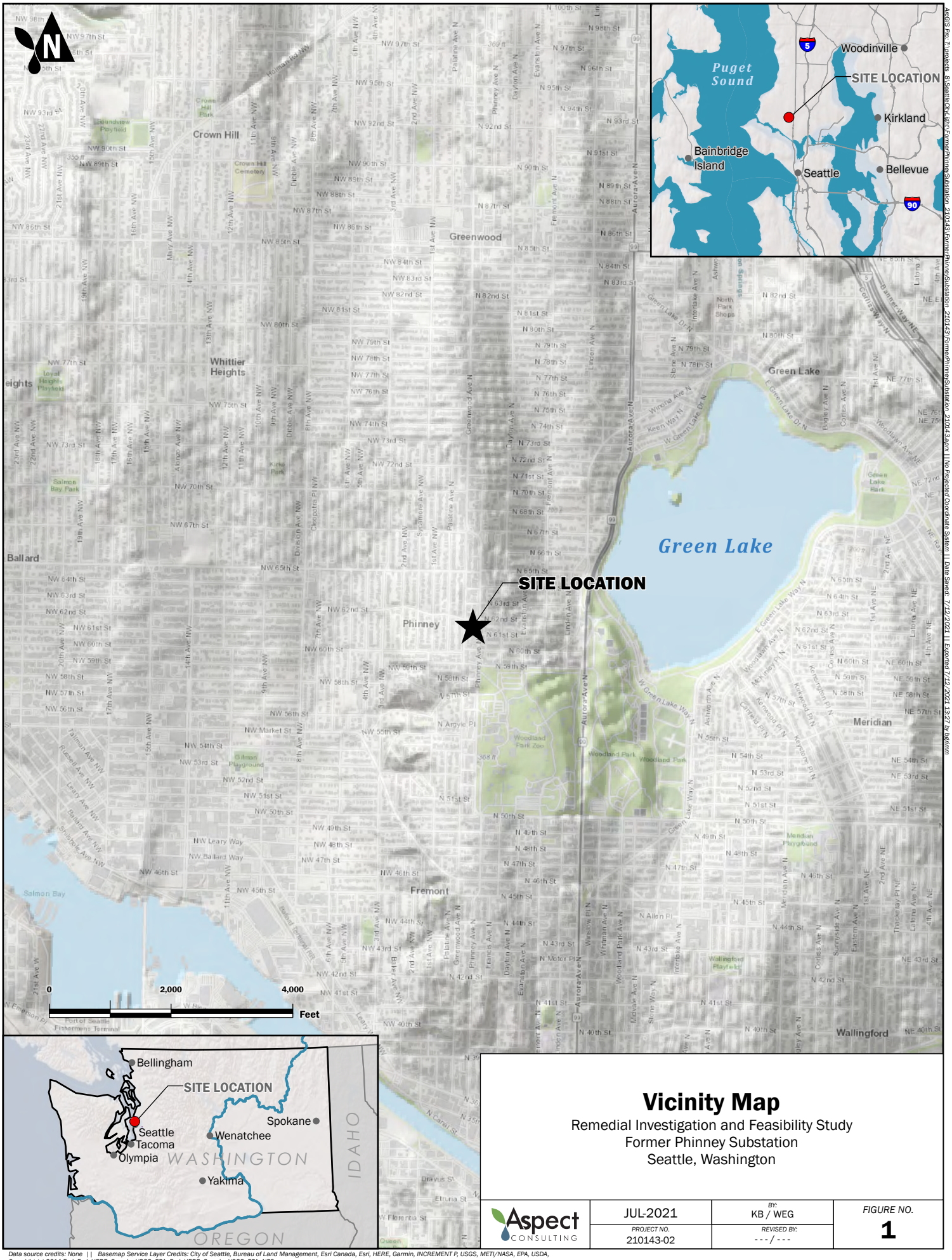
Bold type indicates analyte was detected above laboratory reporting limits. No analytes were detected above MTCA Method B screening levels.

[1] Total petroleum hydrocarbon concentration is the sum total of VOCs and APHs; zero was used for non-detects.

[2] Generic MTCA Method B sub-slab soil gas SL per Ecology Implementation Memo #18.

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

FIGURES



Vicinity Map

Remedial Investigation and Feasibility Study
Former Phinney Substation
Seattle, Washington

Aspect CONSULTING	JUL-2021	BY: KB / WEG	FIGURE NO. 1
	PROJECT NO. 210143-02	REVISED BY: ---/---	

Data source credits: None | | Basemap Service Layer Credits: City of Seattle, Bureau of Land Management, Esri Canada, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA,

- Test Pit
- Discrete Soil Sample
- Soil Vapor Sample
- Direct Push Boring
- Hand Auger
- Concrete Slab
- Site Parcel
- King County Tax Parcel

0 15 30 Feet

1:180
(1 inch equals 15 feet)

Site Plan

Remedial Investigation and Feasibility Study
Former Phinney Substation
Seattle, Washington

Aspect CONSULTING	SEP-2021	BY: KB / WEG	FIGURE NO. 2
	PROJECT NO. 210143-02	REVISED BY: ---/---	

Data source credits: None || Basemap Service Layer Credits: EagleView Technologies, Inc.

Soil Analytical Results

- Analytes detected exceeded MTCA Method A cleanup levels.
- Analytes detected did not exceed MTCA Method A cleanup levels.

- Test Pit
- Discrete Soil Sample
- Soil Vapor Sample
- Direct Push Boring
- Hand Auger

- 3-Point Composite Samples from These Areas Did Not Exceed MTCA Method A Cleanup Levels for Any Analyte (Table 1)
- Concrete Slab
- Site Parcel
- King County Tax Parcel

4-SS3 (0.5 ft.) Pb: 340 — *Sample Name (Depth)* / *Analytical Result(s)*

N

0 15 30

Feet

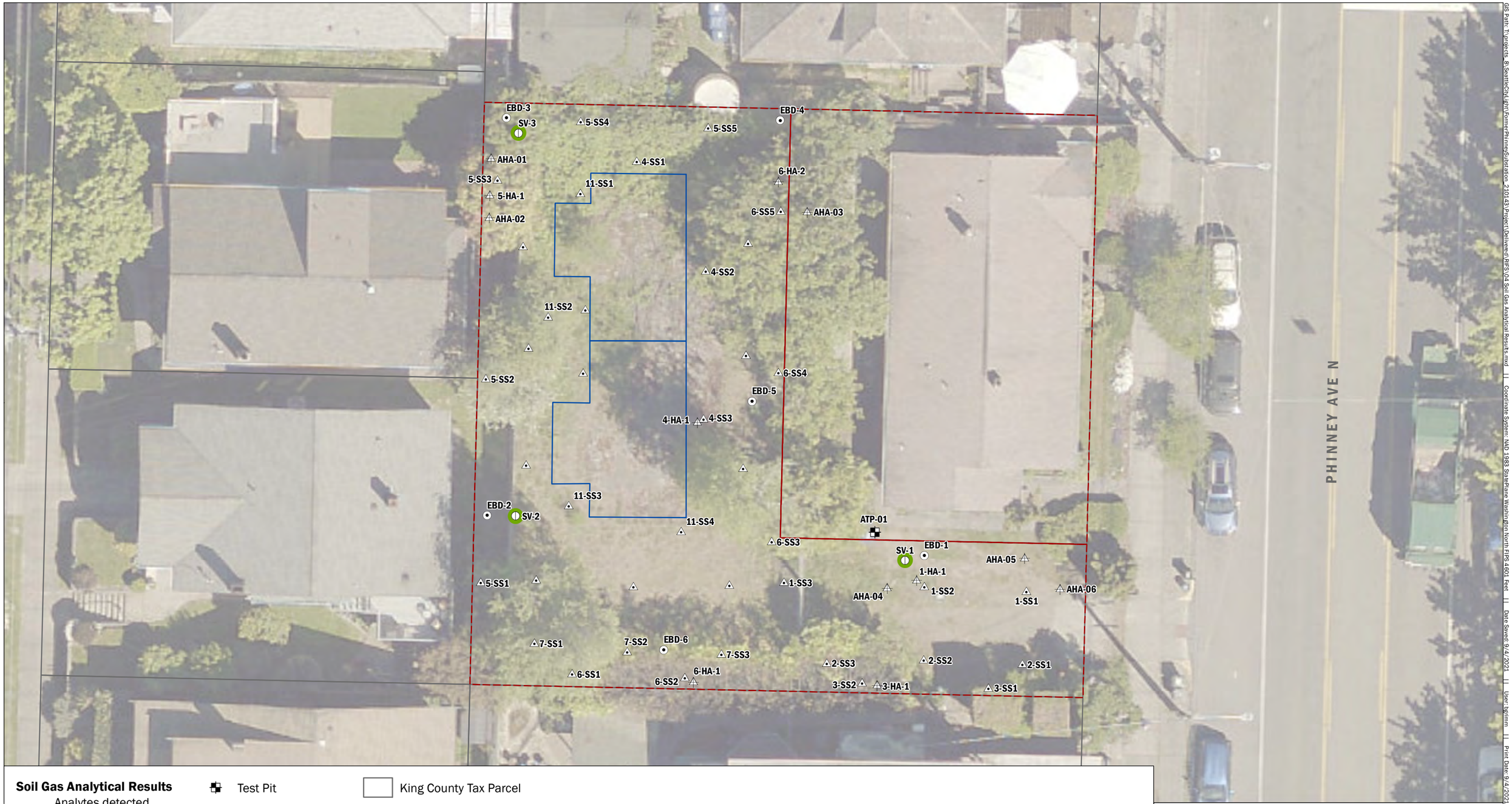
Soil Analytical Results

Remedial Investigation and Feasibility Study
Former Phinney Substation
Seattle, Washington

Aspect Consulting	SEP-2021	BY: KB / WEG	FIGURE NO. 3
	PROJECT NO. 210143-02	REVISED BY: ---	

Basemap Layer Credits || EagleView Technologies, Inc.

GIS Path: T:\projects_8\SeattleCity\Light\FormerPhinneySubstation_210143\Project\Delivered\RIFS\03 Soil Analytical Results.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 9/4/2021 || User: bglimm || Print Date: 9/4/2021



Soil Gas Analytical Results
Analytes detected did not exceed MTCA Method B cleanup levels

- Test Pit
- Discrete Soil Sample
- Soil Vapor Sample
- Direct Push Boring
- Hand Auger
- Concrete Slab
- Site Parcel
- King County Tax Parcel

N

0 15 30
Feet

Basemap Layer Credits || EagleView Technologies, Inc.

Soil Gas Analytical Results

Remedial Investigation and Feasibility Study
Former Phinney Substation
Seattle, Washington

Aspect Consulting	SEP-2021	BY: KB / WEG	FIGURE NO. 4
	PROJECT NO. 210143-02	REVISED BY: ---	

GIS Path: T:\projects_8\Seattle City Light\Former Phinney Substation 210143\Project\Delivered\RIFS\04 Soil Gas Analytical Results.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 9/4/2021 || User: lgrimm || Print Date: 9/4/2021

Soil Analytical Results

- Analytes detected exceeded MTCA Method A cleanup levels.
- Analytes detected did not exceed MTCA Method A cleanup levels.

Soil Gas Analytical Results

- Analytes detected did not exceed MTCA Method B cleanup levels

- Test Pit
- Discrete Soil Sample
- Soil Vapor Sample
- Direct Push Boring
- Hand Auger
- Area Requiring Remediation
- Concrete Slab
- Site Parcel
- King County Tax Parcel

N

0 15 30

Feet

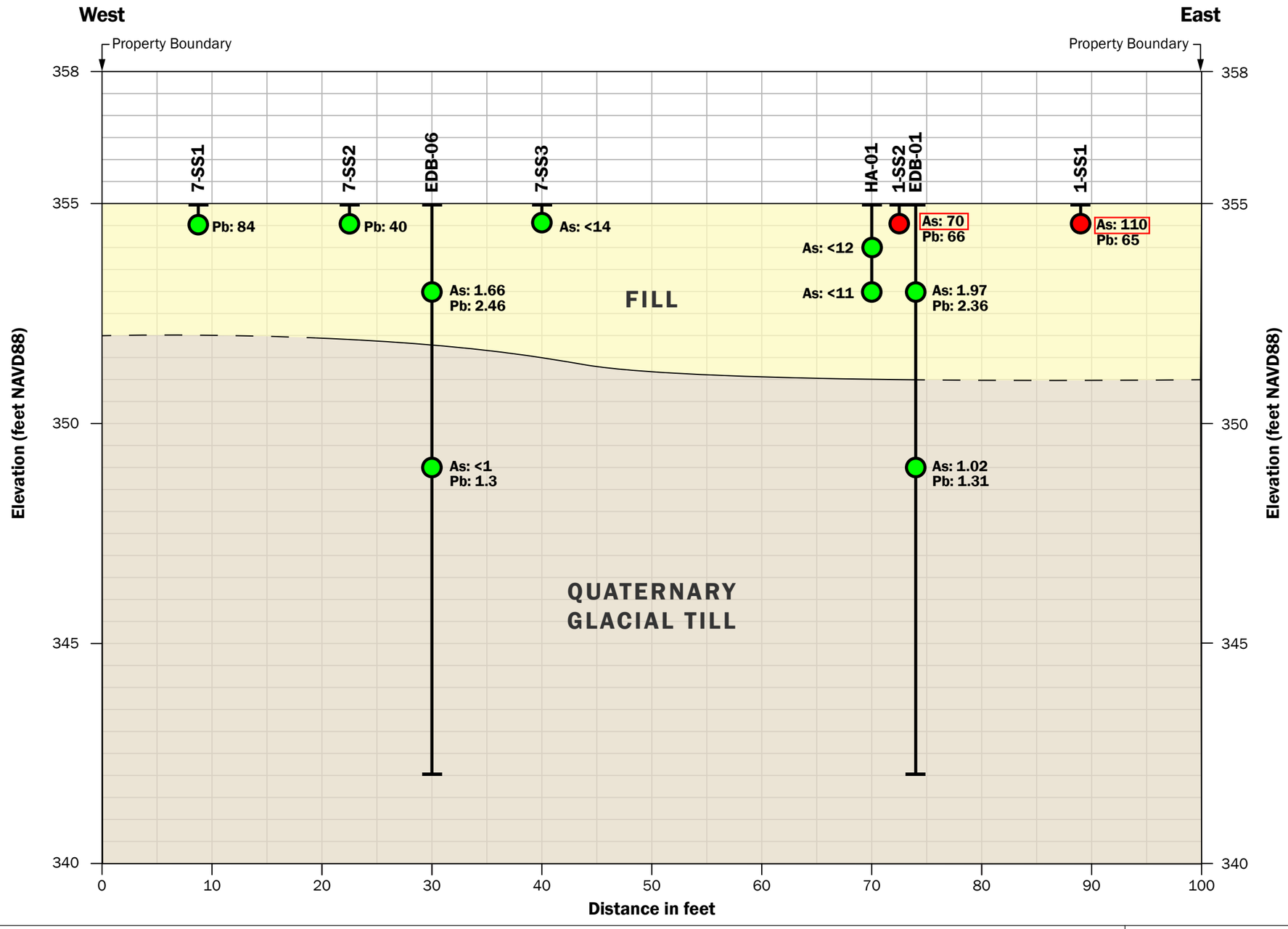
Basemap Layer Credits || EagleView Technologies, Inc.

Areas Requiring Remediation

Remedial Investigation and Feasibility Study
Former Phinney Substation
Seattle, Washington

Aspect Consulting	SEP-2021	BY: KB / WEG	FIGURE NO. 5
	PROJECT NO. 210143-02	REVISED BY: ---	

GIS Path: T:\projects_8\Seattle City Light\Former Phinney Substation 210143\Project\Delivered\RIFS\05 Areas Requiring Remediation.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 9/4/2021 || User: tglimm || Print Date: 9/4/2021



Concentration of contaminant noted exceeds MTCA Method A CUL. Exceedences expressed in mg/kg

All analytes tested detected below MTCA Method A CUL

Fill

Quaternary Glacial Till

Inferred Geologic Contact

Boring Identification: EDB-06

Notes:

- MTCA = Model Toxics Control Act
- No groundwater encountered
- Only lead and arsenic results shown: see Tables 2 and 3 for full analytical results

0 10 20
Feet

Vertical Exaggeration = x5

Cross Section

RI/FS/CAP
Former Phinney Substation
Seattle, Washington

Aspect CONSULTING	JUNE-2021	BY: KB/RAC	FIGURE NO. 6
	PROJECT NO. 210143	REV BY: ---	

GIS Path: T:\projects_8\FormerPhinneySubstation_210143\Delivered\05 Cross Section.ai

APPENDIX A

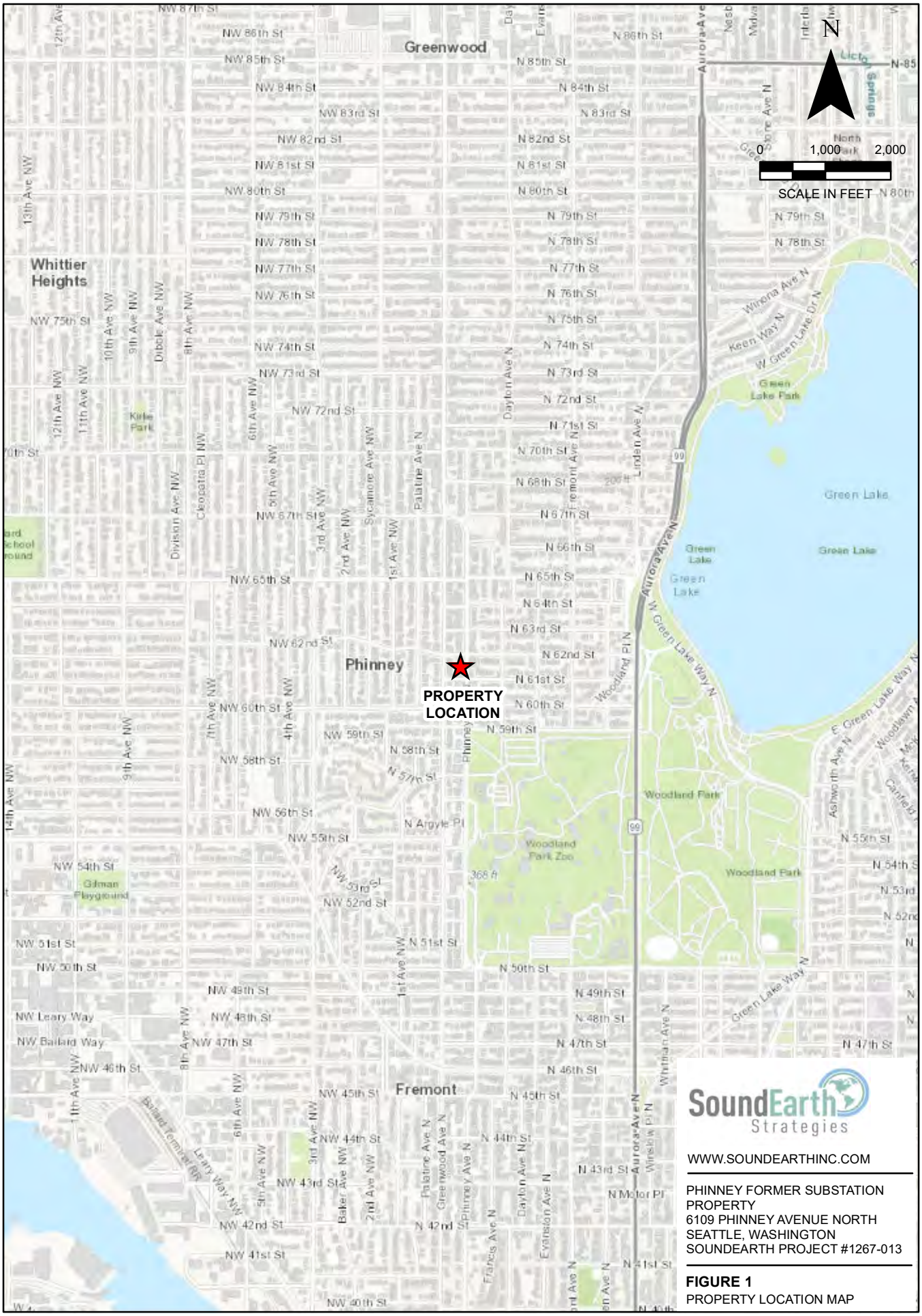
Previous Environmental Reports

- SoundEarth Strategies 2018 Environmental Investigation
- TRC 2020 Phase I ESA
- TRC 2020 Phase II ESA

SoundEarth Strategies Environmental Investigation, May 8, 2018

(only tables and figures are included)

FIGURES



SoundEarth Strategies

WWW.SOUNDEARTHINC.COM

PHINNEY FORMER SUBSTATION PROPERTY
6109 PHINNEY AVENUE NORTH
SEATTLE, WASHINGTON
SOUNDEARTH PROJECT #1267-013

FIGURE 1
PROPERTY LOCATION MAP

P:\1267 SEATTLE CITY LIGHT\1267-013 PHINNEY FORMER SUBSTATION\TECHNICAL\CAD\2018\ENVIRONMENTAL CHARACTERIZATION REPORT\1267-013_2018_SD_AREAS.DWG 4/26/2018

AREA 5
AREA 4
AREA 11
AREA 12
AREA 10
AREA 9
AREA 8
AREA 7
AREA 6
AREA 1
AREA 2
AREA 3
CONCRETE AREA 1
CONCRETE AREA 2
CONCRETE PAD
ACM-01C
ACM-01B
ACM-01A
DRIVEWAY
SS1
SS2
SS3
SS4
SS5
01
02
03
PARCEL: 9523101290
6315 PHINNEY AVENUE NORTH
SINGLE FAMILY RESIDENCE
6109 PHINNEY AVENUE NORTH
PHINNEY AVENUE NORTH

Area	Sample ID	Lead
5	PH-5-SS1,SS2,SS3,SS4,SS5 Comp	**140**

Area	Sample ID	Arsenic
CON1	PH-CON1-01,03,02 Comp	**23**

Area	Sample ID	Cadmium	Lead
4	PH-4-SS1,SS2,SS3 Comp	**0.75**	**190**

Area	Sample ID	Mercury
6	PH-6-SS2,SS1 Comp	**1.0**

Area	Sample ID	Lead
6	PH-6-SS3,SS4,SS5 Comp	**160**

Area	Sample ID	Arsenic
CON2	PH-CON2-01,03,02 Comp	**26**

Area	Sample ID	Cadmium	Lead
11	PH-11-SS1,SS2,SS3,SS4 Comp	**0.64**	**74**

Area	Sample ID	Dieldrin	Lead	Mercury
3	PH-3-SS1,SS2 Comp	**33**	**300**	**1.6**

Area	Sample ID	Arsenic	Lead
1	PH-1-SS1,SS2,SS3 Comp	**76**	**87**

Area	Sample ID	Lead
2	PH-2-SS1,SS2,SS3 Comp	**100**

Area	Sample ID	Lead
7	PH-7-SS3,SS2,SS1 Comp	**100**

N

0 5 10

APPROXIMATE SCALE IN FEET

	Arsenic	Cadmium	Lead	Mercury	Dieldrin
MTCA Method A Cleanup Level	20	2	250	2	62.5

LEGEND

- DISCRETE SOIL SUB-SAMPLE
- CONCRETE SUB-SAMPLE
- ASBESTOS SAMPLE
- PROPERTY BOUNDARY
- PARCEL BOUNDARY
- SOIL SAMPLING AREA
- CONCRETE SAMPLING AREA
- MTCA — WASHINGTON STATE MODEL TOXICS CONTROL ACT
- RED — DENOTES CONCENTRATION EXCEEDS MTCA CLEANUP LEVEL
- METALS RESULTS SHOWN IN MILLIGRAMS PER KILOGRAM
- DIELDRIN RESULTS SHOWN IN MICROGRAMS PER KILOGRAM

SoundEarth Strategies
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PHINNEY FORMER SUBSTATION PROPERTY
6109 PHINNEY AVENUE NORTH
SEATTLE, WASHINGTON
SOUNDEARTH PROJECT #1267-013

FIGURE 2
COMPOSITE SOIL AND CONCRETE ANALYTICAL RESULTS EXCEEDING PROJECT SCREENING LEVELS

4/26/2018

P:\1267 SEATTLE CITY LIGHT\1267-013 PHINNEY FORMER SUBSTATION\TECHNICAL\CAD\2018\ENVIRONMENTAL CHARACTERIZATION REPORT\1267-013_2018_SD.DWG

N

0 5 10

APPROXIMATE SCALE IN FEET

	Arsenic	Lead	Mercury	Dieldrin
MTCA Cleanup Level	20	250	2	62.5

PHINNEY AVENUE NORTH

SINGLE FAMILY RESIDENCE
6109 PHINNEY AVENUE NORTH

PARCEL: 9523101290
6315 PHINNEY AVENUE NORTH

AREA 5
SS4 PB: 80
SS5 PB: 140
CD: <0.60
PB: 85
SS1 AREA 4
AREA 11
SS1 CD: 1.7
PB: 160
SS3 PB: 320
SS5 PB: 270
SS1
01
03
CONCRETE AREA 1
SS1
SS2 CD: <0.62
PB: 88
CONCRETE PAD
ACM-01C
02
ACM-01B
ACM-01A
CD: <0.64
PB: 49
SS2
SS1
AREA 12
SS2
AREA 10
AREA 11
AREA 4
AREA 9
SS2
SS4 PB: 93
PB: 170
SS2
SS2
AREA 5
AREA 6
03
SS3
CD: 1.3
PB: 340
CONCRETE AREA 2
01
SS3
SS3
02
SS3
CD: <0.56
PB: 47
AREA 11
CD: <0.57
PB: 52
SS4
SS3
PB: 59
PB: 110
SS1
SS1
AREA 8
SS2
SS3
SS3
AS: <14
PB: 250
DRIVEWAY
AS: 70
PB: 66
SS2
AREA 1
SS1
AS: 110
PB: 65
SS1
PB: 84
AREA 7
SS2
PB: 40
SS3
PB: 69
SS1
AREA 6
HG: <0.32
SS2
HG: 2.6
SS3
PB: 98
SS2
PB: 320
HG: 2.4
DIELDRIN: <15
AREA 2
SS2
PB: 140
PB: 270
HG: 1.6
DIELDRIN: 48
SS1
PB: 40
AREA 3
SS1

LEGEND

- DISCRETE SOIL SUB-SAMPLE
- CONCRETE SUB-SAMPLE
- ASBESTOS SAMPLE
- PROPERTY BOUNDARY
- PARCEL BOUNDARY
- SOIL SAMPLING AREA
- CONCRETE SAMPLING AREA

AS	ARSENIC
CD	CADMIUM
PB	LEAD
HG	MERCURY
<	RESULT BELOW LABORATORY REPORTING LIMIT
MTCA	WASHINGTON STATE MODEL TOXICS CONTROL ACT
RED	DENOTES CONCENTRATION EXCEEDS MTCA CLEANUP LEVEL
	METALS RESULTS SHOWN IN MILLIGRAMS PER KILOGRAM
	DIELDRIN RESULTS SHOWN IN MICROGRAMS PER KILOGRAM

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PHINNEY FORMER SUBSTATION PROPERTY
6109 PHINNEY AVENUE NORTH
SEATTLE, WASHINGTON
SOUNDEARTH PROJECT #1267-013

FIGURE 3
DISCRETE SOIL SUB-SAMPLE ANALYTICAL RESULTS FOR METALS AND DIELDRIN

4/26/2018

P:\1267 SEATTLE CITY LIGHT\1267-013 PHINNEY FORMER SUBSTATION\TECHNICAL\CAD\2018\ENVIRONMENTAL CHARACTERIZATION REPORT\1267-013_2018_HA.DWG

Area	Depth (ft bgs)	Lead (mg/kg)
5	1	170
	2	8.6

Area	Depth (ft bgs)	Lead (mg/kg)
6 (HA-2)	1	190
	2	21

	Arsenic (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)
MTCA Method A Cleanup Level	20	250	2

Area	Depth (ft bgs)	Lead (mg/kg)
4	1	15
	2	<6.1

Area	Depth (ft bgs)	Lead (mg/kg)	Mercury (mg/kg)
3	1	42	<0.31
	2	14	0.92

Area	Depth (ft bgs)	Arsenic (mg/kg)
1	1	<12
	2	<11

Area	Depth (ft bgs)	Mercury (mg/kg)
6 (HA-1)	1	0.94
	2	0.48

AREA 1
AREA 2
AREA 3
AREA 4
AREA 5
AREA 6
AREA 7
AREA 8
AREA 9
AREA 10
AREA 11
AREA 12
CONCRETE AREA 1
CONCRETE AREA 2
CONCRETE PAD
DRIVEWAY
SINGLE FAMILY RESIDENCE
6109 PHINNEY AVENUE NORTH
PHINNEY AVENUE NORTH
PARCEL: 9523101290
6315 PHINNEY AVENUE NORTH

N

0 5 10
APPROXIMATE SCALE IN FEET

LEGEND

- DISCRETE SOIL SUB-SAMPLE
- CONCRETE SUB-SAMPLE
- ASBESTOS SAMPLE
- HAND AUGER BORING
- PROPERTY BOUNDARY
- PARCEL BOUNDARY
- SOIL SAMPLING AREA
- CONCRETE SAMPLING AREA
- ft bgs — FEET BELOW GROUND SURFACE
- mg/kg — MILLIGRAMS PER KILOGRAM
- < — RESULT BELOW LABORATORY REPORTING LIMIT
- MTCA — WASHINGTON STATE MODEL TOXICS CONTROL ACT

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PHINNEY FORMER SUBSTATION PROPERTY
6109 PHINNEY AVENUE NORTH
SEATTLE, WASHINGTON
SOUNDEARTH PROJECT #1267-013

FIGURE 4
HAND AUGER SOIL SAMPLE ANALYTICAL RESULTS FOR METALS

TABLES

Table 1
Composite Soil and Concrete Sample Analytical Results for DRPH and ORPH
Phinney Former Substation Property
6109 Phinney Avenue North
Seattle, Washington

Sample ID	Sampled By	Date Sampled	Sample Type	Depth (feet bgs)	Analytical Results (milligrams per kilogram) DRPH[(1)]	ORPH[(1)]
PH-1-SS1,SS2,SS3 Comp	SoundEarth	02/13/18	Soil	0 - 0.5	<41[U1, J]	570[J]
PH-2-SS1,SS2,SS3 Comp			Soil	0 - 0.5	<29	210
PH-3-SS1,SS2 Comp			Soil	0 - 0.5	95[N, J]	690[J]
PH-4-SS1,SS2,SS3 Comp			Soil	0 - 0.5	130[J]	370[N1, J]
PH-5-SS1,SS2,SS3,SS4,SS5 Comp			Soil	0 - 0.5	99[J]	290[N1, J]
PH-6-SS2,SS1 Comp			Soil	0 - 0.5	110	590
PH-6-SS3,SS4,SS5 Comp			Soil	0 - 0.5	87[J]	370[N1, J]
PH-7-SS3,SS2,SS1 Comp			Soil	0 - 0.5	51[J]	140[N1, J]
PH-8-SS1,SS2,SS3 Comp			Soil	0 - 0.5	66[J]	140[N1, J]
PH-9-SS1,SS2,SS3 Comp			Soil	0 - 0.5	66[J]	250[N1, J]
PH-10-SS1,SS2,SS3 Comp			Soil	0 - 0.5	160[J]	420[N1, J]
PH-11-SS1,SS2,SS3,SS4 Comp			Soil	0 - 0.5	140[J]	270[N1, J]
PH-12-SS1,SS2 Comp			Soil	0 - 0.5	49[J]	72[N1, J]
PH-CON1-01,03,02 Comp			Concrete	--	<26	<52
PH-CON2-01,03,02 Comp			Concrete	--	<26	<52
MTCA Cleanup Level for Soil[(2)]					**2,000**	**2,000**

NOTES:

Sample analyses conducted by OnSite Environmental, Inc. of Redmond, Washington.

[(1)]Analyzed by Method NWTPH-Dx.

[(2)]MTCA Cleanup Regulation, Chapter 173-340-900 of WAC, Table 740-1 Method A Cleanup Levels for Soil, Unrestricted Land Uses, revised November 2007.

OnSite Environmental, Inc. Laboratory Notes:

[N1] Hydrocarbons in the diesel range are impacting the lube oil range result.

[N]Hydrocarbons in the lube oil range are impacting the diesel range result.

[U1] The practical quantitation limit is elevated due to interferences present in the sample.

Data Validation Report Note:

[J]The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

< = not detected at a concentration exceeding the laboratory reporting limit

-- = not applicable

bgs = below ground surface

DRPH = diesel-range petroleum hydrocarbons

MTCA = Washington State Model Toxics Control Act

NWTPH = Northwest Total Petroleum Hydrocarbon

ORPH = oil-range petroleum hydrocarbons

SoundEarth = SoundEarth Strategies, Inc.

WAC = Washignton Administrative Code

Table 2
Composite Soil Sample Analytical Results for Herbicides
Phinney Former Substation Property
6109 Phinney Avenue North
Seattle, Washington

Sample ID	Sampled By	Date Sampled	Depth (feet bgs)	Analytical Results[1] (micrograms per kilogram)										
				Dalapon	Dicamba	MCPP	MCPA	Dichlorprop	2,4-D	Pentachlorophenol	2,4,5-TP (Silvex)	2,4,5-T	2,4-DB	Dinoseb
PH-1-SS1,SS2,SS3 Comp	SoundEarth	02/13/18	0 - 0.5	<270	<11	<1,100	<1,100	<84	<11	<5.6	<11	<11	<11	<11
PH-2-SS1,SS2,SS3 Comp			0 - 0.5	<260	<11	<1,100	<1,100	<81	<11	<5.5	<11	<11	<11	<11
PH-3-SS1,SS2 Comp			0 - 0.5	<310	<13	<1,300	<1,300	<97	<13	<6.5	<13	<13	<13	<13
PH-4-SS1,SS2,SS3 Comp			0 - 0.5	<280	<11	<1,100	<1,100	<85	<11	<5.7	<11	<11	<11	<11
PH-5-SS1,SS2,SS3,SS4,SS5 Comp			0 - 0.5	<280	<11	<1,100	<1,100	<86	<11	<5.7	<11	<11	<11	<11
PH-6-SS2,SS1 Comp			0 - 0.5	<280	<11	<1,100	<1,100	<86	<11	6.4	<12	<12	<12	<11
PH-6-SS3,SS4,SS5 Comp			0 - 0.5	<290	<12	<1,200	<1,200	<89	<12	<6.0	<12	<12	<12	<12
PH-7-SS3,SS2,SS1 Comp			0 - 0.5	<260	<11	<1,100	<1,100	<82	<11	<5.5	<11	<11	<11	<11
PH-8-SS1,SS2,SS3 Comp			0 - 0.5	<260	<10	<1,000	<1,000	<79	<10	<5.3	<11	<11	<11	<11
PH-9-SS1,SS2,SS3 Comp			0 - 0.5	<280	<11	<1,100	<1,100	<86	<11	<5.8	<12	<12	<12	<12
PH-10-SS1,SS2,SS3 Comp			0 - 0.5	<260	<11	<1,100	<1,100	<81	<11	<5.4	<11	<11	<11	<11
PH-11-SS1,SS2,SS3,SS4 Comp			0 - 0.5	<270	<11	<1,100	<1,100	<83	<11	<5.6	<11	<11	<11	<11
PH-12-SS1,SS2 Comp			0 - 0.5	<260	<11	<1,000	<1,000	<79	<11	<5.3	<11	<11	<11	<11
MTCA Cleanup Level for Soil				**2,400,000**[2]	**2,400,000**[2]	**80,000**[2]	**10,000**[2]	**NE**	**800,000**[2]	**2,500**[3]	**640,000**[2]	**800,000**[2]	**640,000**[2]	**80,000**[2]

NOTES:

Sample analyses conducted by OnSite Environmental, Inc. of Redmond, Washington.

[1]Analyzed by EPA Method 8151A.

[2]MTCA Cleanup Regulation, Chapter 173-340 of WAC, CLARC, Soil, Method B, Non cancer, Direct Contact, CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

[3]MTCA Cleanup Regulation, Chapter 173-340 of WAC, CLARC, Soil, Method B, Cancer, Direct Contact, CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

< = not detected at a concentration exceeding the laboratory reporting limit

2,4-D = 2,4-dichlorophenoxyacetic acid

2,4,5-TP = 2-(2,4,5-trichlorophenoxy)propanoic acid

2,4,5-T = 2,4,5-trichlorophenoxyacetic acid

2,4-DB = 4-(2,4-dichlorophenoxy)butyric acid

bgs = below ground surface

CLARC = Cleanup Levels and Risk Calculations

EPA = U.S. Environmental Protection Agency

MCPA = 2-methyl-4-chlorophenoxyacetic acid

MCPP = mecoprop or methylchlorophenoxypropionic acid

MTCA = Washington State Model Toxics Control Act

NE = not established

SoundEarth = SoundEarth Strategies, Inc.

WAC = Washington Administrative Code

Table 3A
Composite Soil Sample Analytical Results for Pesticides
Phinney Former Substation Property
6109 Phinney Avenue North
Seattle, Washington

Sample ID	Date Sampled	Depth (feet bgs)	Analytical Results[(1)] (micrograms per kilogram)																			
			alpha-BHC	gamma-BHC	beta-BHC	delta-BHC	Heptachlor	Aldrin	Heptachlor Epoxide	gamma-Chlordane	alpha-Chlordane	4,4'-DDE	Endosulfan I	Dieldrin	Endrin	4,4'-DDD	Endosulfan II	4,4'-DDT	Endrin Aldehyde	Methoxychlor	Endosulfan Sulfate	Endrin Ketone	Toxaphene
PH-1-SS1,SS2,SS3 Comp	02/13/18	0 - 0.5	<5.9	<5.9	<5.9	<5.9	<5.9	<5.9	<5.9	<12	<12	<12	<5.9	<12	<12	<12	<12	17	<12	<12	<12	<12	<59
PH-2-SS1,SS2,SS3 Comp		0 - 0.5	<5.7	<5.7	<5.7	<5.7	<5.7	<5.7	<5.7	<11	<11	<11	<5.7	<11	<11	<11	<11	12	<11	<11	<11	<11	<57
PH-3-SS1,SS2 Comp		0 - 0.5	<6.9	<6.9	<6.9	<6.9	<6.9	<6.9	<6.9	<14	41[P, J]	<14	<6.9	**33***	<14	<14	<14	33	<14	<14	<14	<14	<69
PH-4-SS1,SS2,SS3 Comp		0 - 0.5	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<12	<12	<12	<6.0	<12	<12	<12	<12	52	<12	<12	<12	<12	<60
PH-5-SS1,SS2,SS3,SS4,SS5 Comp		0 - 0.5	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<12	<12	<12	<6.0	<12	<12	<12	<12	22	<12	<12	<12	<12	<60
PH-6-SS2,SS1 Comp		0 - 0.5	<6.1	<6.1	<6.1	<6.1	<6.1	<6.1	<6.1	<12	<12	41	<6.1	<12	<12	12	<12	270	<12	<12	<12	<12	<61
PH-6-SS3,SS4,SS5 Comp		0 - 0.5	<6.3	<6.3	<6.3	<6.3	<6.3	<6.3	<6.3	<13	<13	<13	<6.3	<13	<13	<13	<13	48	<13	<13	<13	<13	<63
PH-7-SS3,SS2,SS1 Comp		0 - 0.5	<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<12	<12	<12	<5.8	<12	<12	<12	<12	57	<12	<12	<12	<12	<58
PH-8-SS1,SS2,SS3 Comp		0 - 0.5	<5.6	<5.6	<5.6	<5.6	<5.6	<5.6	<5.6	<11	<11	<11	<5.6	<11	<11	<11	<11	18	<11	<11	<11	<11	<56
PH-9-SS1,SS2,SS3 Comp		0 - 0.5	<6.1	<6.1	<6.1	<6.1	<6.1	<6.1	<6.1	<12	<12	<12	<6.1	<12	<12	<12	<12	25	<12	<12	<12	<12	<61
PH-10-SS1,SS2,SS3 Comp		0 - 0.5	<5.7	<5.7	<5.7	<5.7	<5.7	<5.7	<5.7	<11	<11	<11	<5.7	<11	<11	<11	<11	<11	<11	<11	<11	<11	<57
PH-11-SS1,SS2,SS3,SS4 Comp		0 - 0.5	<5.9	<5.9	<5.9	<5.9	<5.9	<5.9	<5.9	<12	<12	<12	<5.9	<12	<12	<12	<12	12	<12	<12	<12	<12	<59
PH-12-SS1,SS2 Comp		0 - 0.5	<5.6	<5.6	<5.6	<5.6	<5.6	<5.6	<5.6	<11	<11	<11	<5.6	<11	<11	<11	<11	<11	<11	<11	<11	<11	<56
MTCA Cleanup Level for Soil			**158.73**[(2)]	**909**[(2)]	**555**[(2)]	**NE**	**222**[(2)]	**58.8**[(2)]	**109.89**[(2)]	**NE**	**NE**	**2,941**[**(2)**]	**NE**	**62.5**[(2)]	**24,000**[(3)]	**4,166**[(2)]	**NE**	**2,941**[(2)]	**NE**	**400,000**[(3)]	**480,000**[(3)]	**NE**	**909**[(2)]

NOTES:

Bold denotes concentration exceeds Project Screening Level but below MTCA Cleanup Level.

Sample analyses conducted by OnSite Environmental, Inc. of Redmond, Washington.

*Project Screening Level for dieldrin (31.25 micrograms per kilogram) determined by dividing the MTCA Cleanup Level by the number of discrete samples composited.

[(1)]Analyzed by EPA Method 8081B.

[(2)]MTCA Cleanup Regulation, Chapter 173-340 of WAC, CLARC, Soil, Method B, Cancer, Direct Contact, CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

[(3)]MTCA Cleanup Regulation, Chapter 173-340 of WAC, CLARC, Soil, Method B, Non cancer, Direct Contact, CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

OnSite Environmental, Inc. Laboratory Note:

[P]The relative percent difference of the detected concentrations between the two columns is greater than 40.

Data Validation Report Note:

[J]The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

< = not detected at a concentration exceeding the laboratory reporting limit

bgs = below ground surface

BHC = hexachlorocyclohexane

CLARC = Cleanup Levels and Risk Calculations

DDD = dichlorodiphenyldichloroethane

DDE = dichlorodiphenyldichloroethylene

DDT = dichlorodiphenyltrichloroethane

EPA = U.S. Environmental Protection Agency

MTCA = Washington State Model Toxics Control Act

NE = not established

WAC = Washington Administrative Code

Table 4A
Composite Soil and Concrete Sample Analytical Results for RCRA 8 Metals
Phinney Former Substation Property
6109 Phinney Avenue North
Seattle, Washington

Sample ID	Date Sampled	Sample Type	Depth (feet bgs)	Analytical Results (milligrams per kilogram)							
				Arsenic[1]	Barium[1]	Cadmium[1]	Chromium[1]	Lead[1]	Mercury[2]	Selenium[1]	Silver[1]
PH-1-SS1,SS2,SS3 Comp	02/13/18	Soil	0 - 0.5	**76**	110	<0.59	29	**87**	<0.30	<12	<1.2
PH-2-SS1,SS2,SS3 Comp		Soil	0 - 0.5	<11	46	<0.57	16	**100**	<0.29	<11	<1.1
PH-3-SS1,SS2 Comp		Soil	0 - 0.5	<14	92	0.79	32	**300**	**1.6**	<14	<1.4
PH-4-SS1,SS2,SS3 Comp		Soil	0 - 0.5	<12	62	**0.75**	27	**190**	<0.30	<12	<1.2
PH-5-SS1,SS2,SS3,SS4,SS5 Comp		Soil	0 - 0.5	<12	99	<0.60	22	**140**	<0.30	<12	<1.2
PH-6-SS2,SS1 Comp		Soil	0 - 0.5	<12	59	0.61	17	120	**1.0**	<12	<1.2
PH-6-SS3,SS4,SS5 Comp		Soil	0 - 0.5	<13	130	<0.63	27	**160**	<0.32	<13	<1.3
PH-7-SS3,SS2,SS1 Comp		Soil	0 - 0.5	<12	45	<0.58	24	**100**	<0.29	<12	<1.2
PH-8-SS1,SS2,SS3 Comp		Soil	0 - 0.5	<11	28	<0.56	15	61	<0.28	<11	<1.1
PH-9-SS1,SS2,SS3 Comp		Soil	0 - 0.5	<12	53	<0.61	15	81	<0.31	<12	<1.2
PH-10-SS1,SS2,SS3 Comp		Soil	0 - 0.5	<11	54	<0.57	15	80	<0.29	<11	<1.1
PH-11-SS1,SS2,SS3,SS4 Comp		Soil	0 - 0.5	<12	46	**0.64**	15	**74**	<0.29	<12	<1.2
PH-12-SS1,SS2 Comp		Soil	0 - 0.5	<11	31	0.59	15	72	0.36	<11	<1.1
PH-CON1-01,03,02 Comp		Concrete	--	**23**	83	<0.52	19	<5.2	<0.26	<10	<1.0
PH-CON2-01,03,02 Comp		Concrete	--	**26**	87	<0.52	20	5.9	<0.26	<10	<1.0
MTCA Cleanup Level for Soil				**20**[3]	**16,000**[4]	**2**[3]	**2,000**[3]	**250**[3]	**2**[3]	**400**[4]	**400**[4]

NOTES:

Red denotes concentration exceeds MTCA cleanup level for soil.

Bold denotes concentration exceeds Project Screening Level for soil.

Project Screening Levels are variable and determined by dividing the MTCA Cleanup Level by the number of discrete samples composited.

[1]Analyzed by EPA Method 6010D.

[2]Analyzed by EPA Method 7471B.

[3]MTCA Cleanup Regulation, Chapter 173-340-900 of WAC, Table 740-1 Method A Cleanup Levels for Soil, Unrestricted Land Uses, revised November 2007.

[4]MTCA Cleanup Regulation, Chapter 173-340 of WAC, CLARC, Soil, Method B, Noncancer, Direct Contact, CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

< = not detected at a concentration exceeding the laboratory reporting limit

bgs = below ground surface

CLARC = Cleanup Levels and Risk Calculations

EPA = U.S. Environmental Protection Agency

MTCA = Washington State Model Toxics Control Act

RCRA = Resource Conservation and Recovery Act

WAC = Washington Administrative Code

Table 5
Composite Soil and Concrete Sample Analytical Results for PCBs
Phinney Former Substation Property
6109 Phinney Avenue North
Seattle, Washington

Sample ID	Sampled By	Date Sampled	Sample Type	Depth (feet bgs)	Analytical Results[1] (milligrams per kilogram)							
					Arocolor 1016	Arocolor 1221	Arocolor 1232	Arocolor 1242	Arocolor 1248	Arocolor 1254	Arocolor 1260	Total PCBs[2]
PH-1-SS1,SS2,SS3 Comp	SoundEarth	02/13/18	Soil	0 - 0.5	<0.059	<0.059	<0.059	<0.059	<0.059	<0.059	<0.059	<0.059
PH-2-SS1,SS2,SS3 Comp			Soil	0 - 0.5	<0.057	<0.057	<0.057	<0.057	<0.057	<0.057	<0.057	<0.057
PH-3-SS1,SS2 Comp			Soil	0 - 0.5	<0.069	<0.069	<0.069	<0.069	<0.069	<0.069	<0.069	<0.069
PH-4-SS1,SS2,SS3 Comp			Soil	0 - 0.5	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060
PH-5-SS1,SS2,SS3,SS4,SS5 Comp			Soil	0 - 0.5	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060
PH-6-SS2,SS1 Comp			Soil	0 - 0.5	<0.061	<0.061	<0.061	<0.061	<0.061	<0.061	<0.061	<0.061
PH-6-SS3,SS4,SS5 Comp			Soil	0 - 0.5	<0.063	<0.063	<0.063	<0.063	<0.063	<0.063	<0.063	<0.063
PH-7-SS3,SS2,SS1 Comp			Soil	0 - 0.5	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058
PH-8-SS1,SS2,SS3 Comp			Soil	0 - 0.5	<0.056	<0.056	<0.056	<0.056	<0.056	<0.056	<0.056	<0.056
PH-9-SS1,SS2,SS3 Comp			Soil	0 - 0.5	<0.061	<0.061	<0.061	<0.061	<0.061	<0.061	<0.061	<0.061
PH-10-SS1,SS2,SS3 Comp			Soil	0 - 0.5	<0.057	<0.057	<0.057	<0.057	<0.057	<0.057	<0.057	<0.057
PH-11-SS1,SS2,SS3,SS4 Comp			Soil	0 - 0.5	<0.059	<0.059	<0.059	<0.059	<0.059	<0.059	<0.059	<0.059
PH-12-SS1,SS2 Comp			Soil	0 - 0.5	<0.056	<0.056	<0.056	<0.056	<0.056	<0.056	<0.056	<0.056
PH-CON1-01,03,02 Comp			Concrete	--	<0.052	<0.052	<0.052	<0.052	<0.052	<0.052	<0.052	<0.052
PH-CON2-01,03,02 Comp			Concrete	--	<0.052	<0.052	<0.052	<0.052	<0.052	<0.052	<0.052	<0.052
MTCA Cleanup Level for Soil[3]					--	--	--	--	--	--	--	**1.0**

NOTES:

Sample analyses conducted by OnSite Environmental, Inc. of Redmond, Washington.

[1]Analyzed by EPA Method 8082A.

[2]MTCA Cleanup Regulation, Chapter 173-340-900 of WAC, Table 740-1 Method A Cleanup Levels for Soil, Unrestricted Land Uses, revised November 2007.

[3]Total PCBs are calculated by summing the detected PCB concentrations.

< = not detected at a concentration exceeding the laboratory reporting limit

bgs = below ground surface

EPA = U.S. Environmental Protection Agency

MTCA = Washington State Model Toxics Control Act

PCB = polychlorinated biphenyl

SoundEarth = SoundEarth Strategies, Inc.

WAC = Washington Administrative Code

Table 6
Hand Auger Soil Sample Analytical Results for Metals
Phinney Former Substation Property
6109 Phinney Avenue North
Seattle, Washington

Sample ID	Date Sampled	Depth (feet bgs)	Analytical Results (milligrams per kilogram)		
			Arsenic[1]	Lead[1]	Mercury[2]
PH-01-HA1-01	03/16/18	1	<12	--	--
PH-01-HA1-02		2	<11	--	--
PH-03-HA1-01		1	--	42	<0.31
PH-03-HA1-02		2	--	14	0.92
PH-04-HA1-01		1	--	15	--
PH-04-HA1-02		2	--	<6.1	--
PH-05-HA1-01		1	--	170	--
PH-05-HA1-02		2	--	8.6	--
PH-06-HA1-01		1	--	--	0.94
PH-06-HA1-02		2	--	--	0.48
PH-06-HA2-01		1	--	190	--
PH-06-HA2-02		2	--	21	--
MTCA Cleanup Level for Soil[3]			**20**	**250**	**2**

NOTES:

Sample analyses conducted by OnSite Environmental Inc. of Redmond, Washington.

[1]Samples analyzed by EPA Method 6010D.

[2]Samples analyzed by EPA Method 7471B.

[3]MTCA Cleanup Regulation, Chapter 173-340-900 of WAC, Table 740-1 Method A Cleanup Levels for Soil, Unrestricted Land Uses, revised November 2007.

-- = not analyzed

< = less than laboratory reporting limit

bgs = below ground surface

EPA = U.S. Environmental Protection Agency

MTCA = Washington State Model Toxics Control Act

WAC = Washington Administrative Code

TRC Phase I Environmental Site Assessment, August 25, 2020

(only tables and figures are included)

Tables

Table 1
Summary of Regulatory Database Listings
Phase I Environmental Site Assessment
Former Phinney Substation & Whaley Duplex Properties
6109 Phinney Ave N, Seattle, WA

Database	Search Distance (Miles)	Subject Property	Sites within Search Distance
STANDARD ENVIRONMENTAL RECORDS			
Federal NPL Site List			
NPL	1	--	0
Proposed NPL	1	--	0
NPL LIENS	0.001	--	0
Federal Delisted NPL Site List			
Delisted NPL	1	--	0
Federal CERCLIS List			
FEDERAL FACILITY	0.5	--	0
SEMS	0.5	--	0
Federal CERCLIS NFRAP Site List			
SEMS-ARCHIVE	0.5	--	0
Federal RCRA CORRACTS Facilities List			
CORRACTS	1	--	0
Federal RCRA Non-CORRACTS TSD Facilities List			
RCRA-TSDF	0.5	--	0
Federal RCRA Generators List			
RCRA-LQG	0.25	--	0
RCRA-SQG	0.25	--	0
RCRA-VSQG	0.25	--	1
Federal Institutional Controls / Engineering Controls Registries			
LUCIS	0.5	--	0
US ENG CONTROLS	0.5	--	0
US INST CONTROL	0.5	--	0
Federal ERNS List			
ERNS	0.001	--	0
State- and Tribal - Equivalent NPL			
HSL	1	--	0
State- and Tribal - Equivalent CERCLIS			
CSCSL	1	--	29
State and Tribal Landfill and/or Solid Waste Disposal Site Lists			
SWF/LF	0.5	--	2
State and Tribal Leaking Underground Storage Tank Site Lists			
LUST	0.5	--	3
INDIAN LUST	0.5	--	0
State and Tribal Registered Storage Tank Lists			
FEMA UST	0.25	--	0
UST	0.25	--	1
AST	0.25	--	0
INDIAN UST	0.25	--	0
State and Tribal Institutional Control / Engineering Control Registries			
INST CONTROL	0.5	--	0
State and Tribal Voluntary Cleanup Sites			
ICR	0.5	--	6
VCP	0.5	--	5
INDIAN VCP	0.5	--	0
State and Tribal Brownfields Sites			
BROWNFIELDS	0.5	--	1
ADDITIONAL ENVIRONMENTAL RECORDS			
Local Brownfield lists			
US BROWNFIELDS	0.5	--	0
Local Lists of Landfill / Solid Waste Disposal Sites			
SWTIRE	0.5	--	0
SWRCY	0.5	--	0
INDIAN ODI	0.5	--	0
ODI	0.5	--	0
DEBRIS REGION 9	0.5	--	0
Local Lists of Hazardous Waste / Contaminated Sites			
US HIST CDL	0.001	--	0
ALLSITES	0.5	--	26
CDL	0.001	--	0
HIST CDL	0.001	--	0
CSCSL NFA	0.5	--	6
US CDL	0.001	--	0
Local Land Records			
LIENS 2	0.001	--	0

Table 1
Summary of Regulatory Database Listings
Phase I Environmental Site Assessment
Former Phinney Substation & Whaley Duplex Properties
6109 Phinney Ave N, Seattle, WA

Database	Search Distance (Miles)	Subject Property	Sites within Search Distance
Records of Emergency Release Reports			
HMIRS	0.001	--	0
SPILLS	0.001	--	0
SPILLS 90	0.001	--	0
Other Ascertainable Records			
RCRA NonGen / NLR	0.25	--	3
FUDS	1	--	0
DOD	1	--	0
SCRD DRYCLEANERS	0.5	--	0
US FIN ASSUR	0.001	--	0
EPA WATCH LIST	0.001	--	0
2020 COR ACTION	0.25	--	0
TSCA	0.001	--	0
TRIS	0.001	--	0
SSTS	0.001	--	0
ROD	1	--	0
RMP	0.001	--	0
RAATS	0.001	--	0
PRP	0.001	--	0
PADS	0.001	--	0
ICIS	0.001	--	0
FTTS	0.001	--	0
MLTS	0.001	--	0
COAL ASH DOE	0.001	--	0
COAL ASH EPA	0.5	--	0
PCB TRANSFORMER	0.001	--	0
RADINFO	0.001	--	0
HIST FTTS	0.001	--	0
DOT OPS	0.001	--	0
CONSENT	1	--	0
INDIAN RESERV	0.001	--	0
FUSRAP	1	--	0
UMTRA	0.5	--	0
LEAD SMELTERS	0.001	--	0
US AIRS	0.001	--	0
US MINES	0.25	--	0
FINDS	0.001	--	0
UXO	1	--	0
DOCKET HWC	0.001	--	0
AIRS	0.001	--	0
COAL ASH	0.5	--	0
DRYCLEANERS	0.25	--	1
Financial Assurance	0.001	--	0
Inactive Drycleaners	0.25	--	1
MANIFEST	0.25	--	3
NPDES	0.001	--	0
UIC	0.001	--	0
ECHO	0.001	--	0
FUELS PROGRAM	0.25	--	0
EDR HIGH RISK HISTORICAL RECORDS			
EDR Exclusive Records			
EDR MGP	1	--	0
EDR Hist Auto	0.125	--	3
EDR Hist Cleaner	0.125	--	8
EDR RECOVERED GOVERNMENT ARCHIVES			
Exclusive Recovered Govt. Archives			
RGA HWS	0.001	--	0
RGA LF	0.001	--	0
RGA LUST	0.001	--	0
	Total	**0**	**99**

Notes:

Table derived from EDR Radius Map Report Inquiry No. 6086048.1s dated June 9, 2020.

-- Subject property was not listed in this database.

Table 2
Subject Property Reconnaissance Observations
Phase I Environmental Site Assessment
Former Phinney Substation & Whaley Duplex Properties
6109 Phinney Ave N, Seattle, WA

Date of visit: November 7, 2019 and March 18, 2020
TRC Personnel: B. Carp, Senior Environmental Scientist
Current Use(s): SCL Parcel was vacant; Whaley Parcel occupied by residential duplex

Subject Property Features	Observed (Y/N Unknown)	Location	Notes	Photographs
General Observations				
Aboveground Storage Tanks (ASTs)	N			
Drums	N			
Hazardous Substances & Petroleum Products (in connection with Identified Uses)	N			
Hazardous Substances & Petroleum Products (not in connection with identified Uses)	N			
Odors	N			
Polychlorinated Byphenyls (PCBs)	N			
Pools of liquid	N			
Underground Storage Tanks (USTs)	N			
Unidentified substance containers	N			
Utilities				
Electrical Power	Y		Electrical service is available Seattle City Light.	
Garbage & Recyling	Y		Garbage and recycling service is available.	
Natural Gas	Y		Natural gas service is available.	
Potable Water	Y		Potable water is available from the City of Seattle.	
Sewer or Septic System	Y		Sewer service is available.	
Stormwater	Y		Stormwater service was not confirmed.	
Building Interior Observations				
TRC did not view the interior areas of the occupied residential duplex located on the Whaley Parcel.				
Exterior Features				
Pits, ponds, or lagoons	N			
Solid Waste or Fill-areas	N			
Stained soil or pavement	N			
Stressed vegetation	N			
Wastewater (i.e., wastewater or other liquid discharged into a drain, ditch, underground injection system, or stream)	N			
Wells (e.g., dry, irrigation, injection, abandonded, water, monitoring)	N			

Figures

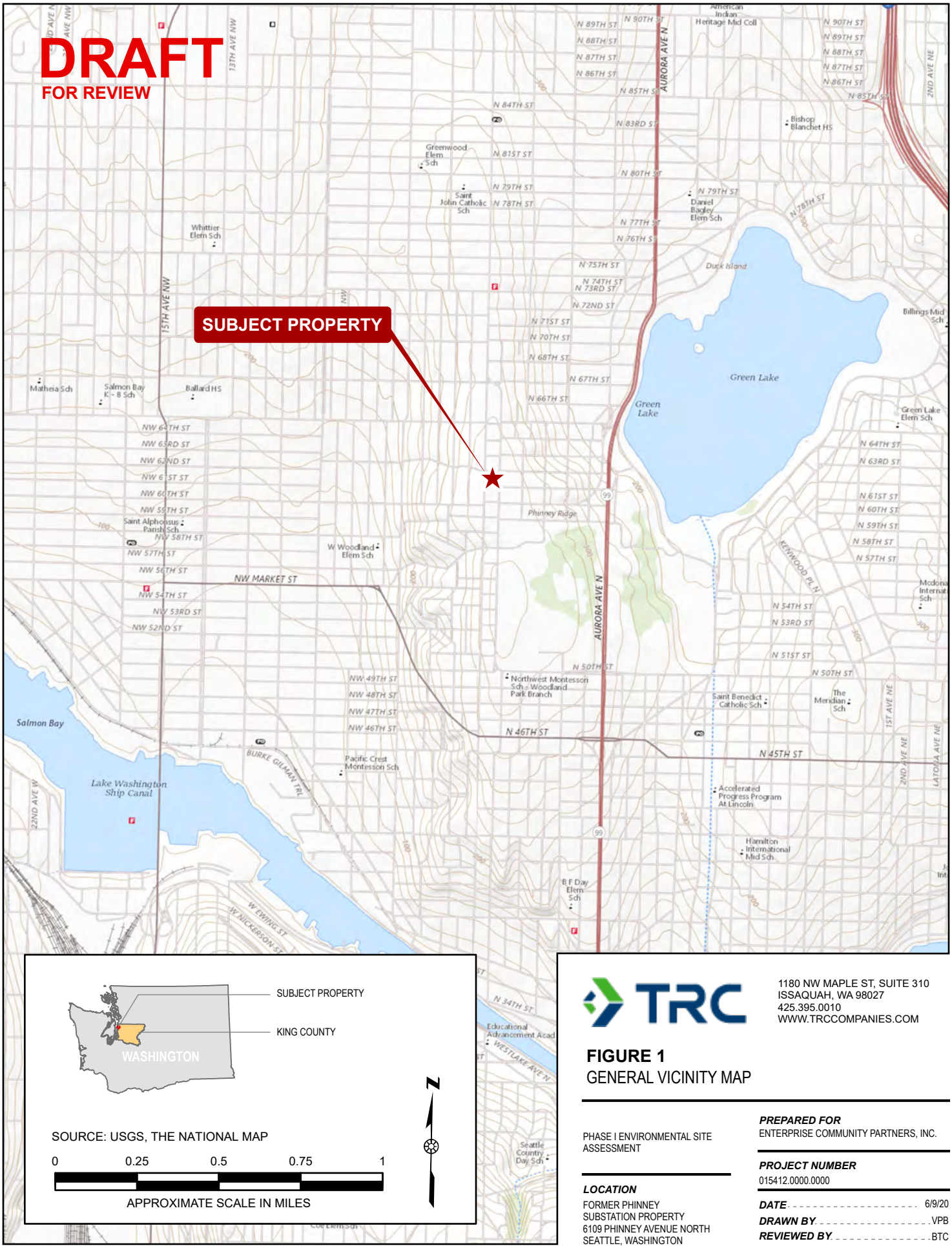

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FIGURE 1
GENERAL VICINITY MAP

PHASE I ENVIRONMENTAL SITE ASSESSMENT

LOCATION
FORMER PHINNEY SUBSTATION PROPERTY
6109 PHINNEY AVENUE NORTH
SEATTLE, WASHINGTON

PREPARED FOR
ENTERPRISE COMMUNITY PARTNERS, INC.

PROJECT NUMBER
015412.0000.0000

DATE 6/9/20
DRAWN BY VPB
REVIEWED BY BTC

DRAFT
FOR REVIEW

RESIDENTIAL
RESIDENTIAL
RESIDENTIAL
RESIDENTIAL
N 62ND ST
RESIDENTIAL
RESIDENTIAL
SULLY'S SNOW GOOSE
DESSERT WORKS
6110 PHINNEY AVE N PARK PUBLIC HOUSE
FORMER PHINNEY AVE CLEANERS
GREENWOOD AVE N
PHINNEY AVE N
RESIDENTIAL
RESIDENTIAL
RESIDENTIAL
6109 PHINNEY AVE N SEATTLE CITY LIGHT (SCL) PROPERTY
PARCEL ID: 952310-1290
6109 PHINNEY AVE N WHALE PROPERTY
PARCEL ID: 952310-1291
FORMER SCL SUBSTATION PROPERTY
MODERN JAPANESE CUISINE
6105 GREENWOOD AVE N RESIDENTIAL
FORMER BATES & SAKRISON RUG & UPHOLSTERY
RESIDENTIAL
RESIDENTIAL
GIBRAN BOUTIQUE
RESIDENTIAL
N 61ST ST
RESIDENTIAL
RESIDENTIAL
RESIDENTIAL
RESIDENTIAL
RESIDENTIAL
RESIDENTIAL
RESIDENTIAL
RESIDENTIAL
RESIDENTIAL
FRESH FLOURS
RESIDENTIAL
FORMER FRANK M FORD CLOTHES, PRESSERS, & CLEANERS
6012 PHINNEY AVE N
CHEF LIAO ASIAN FUSION CUISINE
RESIDENTIAL
RESIDENTIAL
RESIDENTIAL
RESIDENTIAL
RESIDENTIAL
RESIDENTIAL

N

0 5 10 15 20 25 50

HORIZONTAL SCALE: 1" = 50'

NOTES:

- RECOGNIZED ENVIRONMENTAL CONDITION (REC)
- APRROXIMATE BOUNDARY OF SUBJECT PROPERTY PARCELS
- APPROXIMATE BOUNDARY OF SURROUNDING PROPERTY PARCELS

AERIAL PHOTO: KING COUNTY, WA (2019)

TAX PARCEL INFORMATION: KING COUNTY, WA (2020)

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FIGURE 2
SITE REPRESENTATION WITH IDENTIFIED RECs

REPORT
PHASE I ENVIRONMENTAL SITE ASSESSMENT

LOCATION
FORMER PHINNEY SUBSTATION PROPERTY
6109 PHINNEY AVENUE NORTH
SEATTLE, WASHINGTON

PREPARED FOR
ENTERPRISE COMMUNITY PARTNERS, INC.

PROJECT NUMBER
015412.0000.0000

DATE 6/9/20
DRAWN BY ..... VPB
REVIEWED BY ..... BTC

TRC Phase II Environmental Site Assessment, August 17, 2020

(only tables and figures are included)

Tables

Table 1
Summary of Detected Metals and PCBs in Soil
Phase II Environmental Site Assessment Letter Report
Former Phinney Substation Property
6109 Phinney Avenue North, Seattle, Washington

Sample Location	Sample ID	Sample Depth (feet)	Sample Date	Total Metals[a]			Total PCBs[b]
				Arsenic	Lead	Mercury	
EDB-1	EDB-1:2	2	3/19/2020	**1.97**	**2.36**	<1	ND
	EDB-1:6	6	3/19/2020	**1.02**	**1.31**	<1	ND
EDB-2	EDB-2:2	2	3/19/2020	**1.95**	**4.75**	<1	ND
	EDB-2:6	6	3/19/2020	**1.90**	**2.25**	<1	ND
EDB-3	EDB-3:2	2	3/19/2020	**2.01**	**11.9**	<1	ND
	EDB-3:6	6	3/19/2020	**1.30**	**1.57**	<1	ND
EDB-4	EDB-4:2	2	3/19/2020	**5.47**	**61.3**	<1	ND
	EDB-4:6	6	3/19/2020	**1.66**	**1.79**	<1	ND
EDB-5	EDB-5:2	2	3/19/2020	**1.98**	**2.36**	<1	ND
	EDB-5:6	6	3/19/2020	**1.41**	**1.60**	<1	ND
EDB-6	EDB-6:2	2	3/19/2020	**1.66**	**2.46**	<1	ND
	EDB-6:6	6	3/19/2020	<1	**1.30**	<1	ND
MTCA Method A Soil Cleanup Level for Unrestricted Land Uses[c]				**20**	**250**	**2**	**NA**

Notes:
All results presented in milligrams/kilogram (mg/kg).

Bold	Bold results exceed the laboratory reporting limit.
a	Analyzed by EPA Method 6020B.
b	Analyzed by EPA Method 8082A.
c	Model Toxics Control Act (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses, Table 740-1, Washington Administrative Code (WAC) 173-340-900.
NA	Not applicable.
ND	None of the analyzed compounds were detected at a concentration exceeding the laboratory reporting limit.

Compounds:

PCBs	Polychlorinated biphenyls

Table 2
Summary of Petroleum Hydrocarbons and VOCs in Soil
Phase II Environmental Site Assessment Letter Report
Former Phinney Substation Property
6109 Phinney Avenue North, Seattle, Washington

Sample Location	Sample ID	Sample Depth (feet)	Sample Date	Total Petroleum Hydrocarbons[a]		VOCs[b]
				DRO	ORO	
EDB-1	EDB-1:6	6	3/19/2020	<50	<250	ND
	EDB-1:13	13	3/19/2020	<50	<250	ND
EDB-2	EDB-2:6	6	3/19/2020	<50	<250	ND
	EDB-2:10	10	3/19/2020	<50	<250	ND
EDB-3	EDB-3:6	6	3/19/2020	<50	<250	ND
	EDB-3:10	10	3/19/2020	<50	<250	ND
EDB-4	EDB-4:6	6	3/19/2020	<50	<250	ND
	EDB-4:10	10	3/19/2020	<50	<250	ND
EDB-5	EDB-5:6	6	3/19/2020	<50	<250	ND
	EDB-5:9	9	3/19/2020	<50	<250	ND
EDB-6	EDB-6:6	6	3/19/2020	<50	<250	ND
	EDB-6:13	13	3/19/2020	<50	<250	ND
MTCA Method A Soil Cleanup Level for Unrestricted Land Uses[c]				**2,000**	**2,000**	**NA**

Notes:
All results presented in milligrams/kilogram (mg/kg).

a	Analyzed by NWTPH-Dx.
b	Analyzed by EPA Method 8260D.
c	Model Toxics Control Act (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses, Table 740-1, Washington Administrative Code (WAC) 173-340-900.
NA	Not applicable.
ND	None of the analyzed compounds were detected at a concentration exceeding the laboratory reporting limit.

Compounds:

DRO	Diesel-range organics
ORO	Oil-range organics
VOCs	Volatile organic compounds

Table 3
Summary of Detected Petroleum Hydrocarbons and VOCs in Soil Gas
Phase II Environmental Site Assessment Letter Report
Former Phinney Substation Property
6109 Phinney Avenue North, Seattle, Washington

Sample ID	Sample Date	Air Phase Hydrocarbons[a]			Volatile Organic Compounds[b]
		APH EC5-8 aliphatics	APH EC9-12 aliphatics	APH EC9-10 aromatics	
SV-1	3/19/2020	**1,100**	**740**	<240	ND
SV-2	3/19/2020	<220	**370**	<180	ND
SV-3	3/19/2020	**280**	**570**	<180	ND
Sub-Slab Soil Gas Screening Level[c]		**90,000**	**4,700**	**6,000**	**NA**

Notes:

All results presented in micrograms per cubic meter (µg/m^3).

a Analyzed by MA-APH.

b Analyzed by EPA Method TO-15.

c Method B Sub-slab Soil Gas Screening Levels, from Draft Vapor Intrusion Guidance Document, Washington Department of Ecology, Table B-1.

NA Not applicable.

ND None of the analyzed compounds were detected at a concentration exceeding the laboratory reporting limit.

Figures

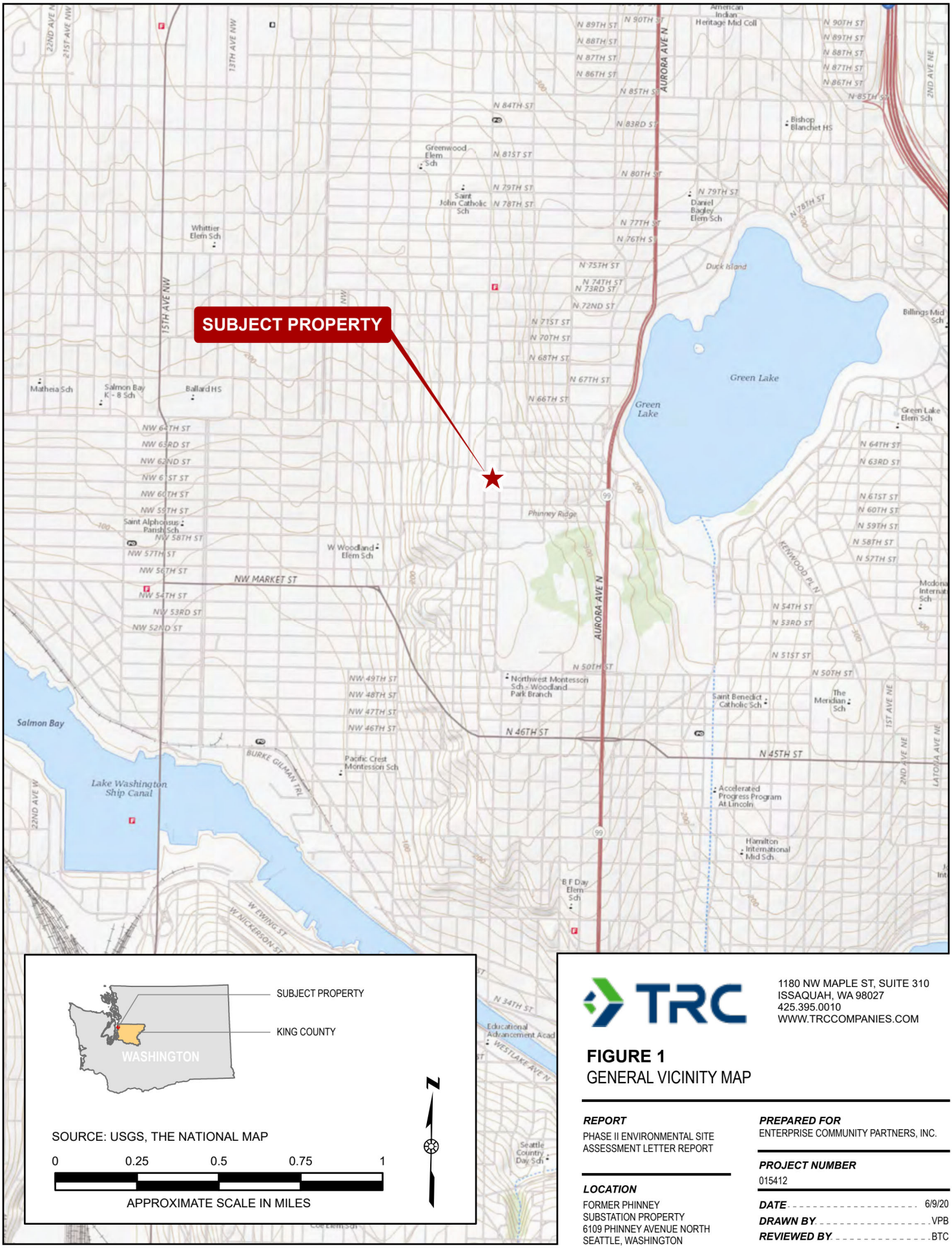

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FIGURE 1
GENERAL VICINITY MAP

REPORT
PHASE II ENVIRONMENTAL SITE ASSESSMENT LETTER REPORT

LOCATION
FORMER PHINNEY SUBSTATION PROPERTY
6109 PHINNEY AVENUE NORTH
SEATTLE, WASHINGTON

PREPARED FOR
ENTERPRISE COMMUNITY PARTNERS, INC.

PROJECT NUMBER
015412

DATE 6/9/20
DRAWN BY VPB
REVIEWED BY BTC

SAMPLE LOCATION	DEPTH (FEET)	DATE	As	Pb	Hg
EBD-3:2	2	3/19/20	**2.01**	**11.9**	<1
EBD-3:6	6	3/19/20	**1.3**	**1.57**	<1

SAMPLE LOCATION	DEPTH (FEET)	DATE	As	Pb	Hg
EBD-4:2	2	3/19/20	**5.47**	**61.3**	<1
EBD-4:6	6	3/19/20	**1.66**	**1.79**	<1

SAMPLE LOCATION	DEPTH (FEET)	DATE	As	Pb	Hg
EBD-5:2	2	3/19/20	**1.98**	**2.36**	<1
EBD-5:6	6	3/19/20	**1.41**	**1.6**	<1

SAMPLE LOCATION	DEPTH (FEET)	DATE	As	Pb	Hg
EBD-2:2	2	3/19/20	**1.95**	**4.75**	<1
EBD-2:6	6	3/19/20	**1.9**	**2.25**	<1

SAMPLE LOCATION	DEPTH (FEET)	DATE	As	Pb	Hg
EBD-1:2	2	3/19/20	**1.97**	**2.36**	<1.0
EBD-1:6	6	3/19/20	**1.02**	**1.31**	<1.0

SAMPLE LOCATION	DEPTH (FEET)	DATE	As	Pb	Hg
EBD-6:2	2	3/19/20	**1.66**	**2.46**	<1
EBD-6:6	6	3/19/20	<1	**1.3**	<1

6112 GREENWOOD AVE N
SEATTLE, WA
PARCEL # 9523101266

6108 GREENWOODX AVE N
SEATTLE, WA
PARCEL # 9523101320

6109 PHINNEY AVE N
SEATTLE, WA
PARCEL # 9523101291

PHINNEY RIDGE
SEATTLE, WA
PARCEL # 9523101290

PHINNEY AVE N

NOTES:

- DISCRETE SOIL SUB-SAMPLE (SES)
- SOIL-VAPOR SAMPLE LOCATION (SES)
- CONCRETE SUB-SAMPLE (SES)
- ASBESTOS SAMPLE LOCATION (SES)
- SOIL SAMPLE AREA (SES)
- CONCRETE SAMPLE AREA (SES)
- EBD SAMPLE LOCATION (TRC)
- YAPPROXIMATE SUBJECT PROPERTY BOUNDARY
- APPROXIMATE ADJACENT PROPERTY BOUNDARY

SOUND EARTH STRATEGIES (SES) LOCATIONS FROM ENVIRONMENTAL CHARACTERIZATION REPORT (MAY 2018)

PARCEL DATA: KING COUNTY GIS

ANALYTICAL RESULTS NOTES

ALL RESULTS SHOWN IN MILLIGRAMS PER KILOGRAM (mg/kg)

As	ARSENIC
Pb	LEAD
Hg	MERCURY
●	RESULT EXCEEDS MTCA CLEANUP LEVEL
RED	RESULT EXCEEDS MTCA METHOD A SOIL CLEANUP LEVEL

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FIGURE 2

SITE REPRESENTATION WITH SOIL METALS ANALYTICAL RESULTS

REPORT
PHASE II ENVIRONMENTAL SITE ASSESSMENT LETTER REPORT

LOCATION
FORMER PHINNEY SUBSTATION PROPERTY
6109 PHINNEY AVENUE NORTH
SEATTLE, WASHINGTON

PREPARED FOR
ENTERPRISE COMMUNITY PARTNERS, INC

PROJECT NUMBER
015412

DATE 6/9/20
DRAWN BY ..... JYT/VPB
REVIEWED BY ..... JB/BTC

APPENDIX B

Terrestrial Ecological Evaluation Form

Voluntary Cleanup Program

Washington State Department of Ecology
Toxics Cleanup Program

TERRESTRIAL ECOLOGICAL EVALUATION FORM

Under the Model Toxics Control Act (MTCA), a terrestrial ecological evaluation is necessary if hazardous substances are released into the soils at a Site. In the event of such a release, you must take one of the following three actions as part of your investigation and cleanup of the Site:

1. Document an exclusion from further evaluation using the criteria in WAC 173-340-7491.
2. Conduct a simplified evaluation as set forth in WAC 173-340-7492.
3. Conduct a site-specific evaluation as set forth in WAC 173-340-7493.

When requesting a written opinion under the Voluntary Cleanup Program (VCP), you must complete this form and submit it to the Department of Ecology (Ecology). The form documents the type and results of your evaluation.

Completion of this form is not sufficient to document your evaluation. You still need to document your analysis and the basis for your conclusion in your cleanup plan or report.

If you have questions about how to conduct a terrestrial ecological evaluation, please contact the Ecology site manager assigned to your Site. For additional guidance, please refer to https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Terrestrial-ecological-evaluation.

Step 1: IDENTIFY HAZARDOUS WASTE SITE	
Please identify below the hazardous waste site for which you are documenting an evaluation.	
Facility/Site Name: Former Phinney Substation	
Facility/Site Address: 6109 Phinney Avenue North, Seattle, WA	
Facility/Site No:	VCP Project No.:

Step 2: IDENTIFY EVALUATOR			
Please identify below the person who conducted the evaluation and their contact information.			
Name: Dave Cook, LG, CPG		Title: Principal Geologist	
Organization: Aspect Consulting			
Mailing address: 710 2nd Ave, Suite 550			
City: Seattle	State: WA	Zip code: 98104	
Phone: 206.372.7637	Fax:	E-mail: dcook@aspectconsulting.com	

Step 3: DOCUMENT EVALUATION TYPE AND RESULTS

A. Exclusion from further evaluation.

1. Does the Site qualify for an exclusion from further evaluation?

☒ Yes *If you answered **"YES,"** then answer **Question 2**.*

☐ No or Unknown *If you answered **"NO" or "UNKNOWN,"** then skip to **Step 3B** of this form.*

2. What is the basis for the exclusion? *Check all that apply. Then skip to **Step 4** of this form.*

Point of Compliance: WAC 173-340-7491(1)(a)

☒ All soil contamination is, or will be,* at least 15 feet below the surface.

☐ All soil contamination is, or will be,* at least 6 feet below the surface (or alternative depth if approved by Ecology), and institutional controls are used to manage remaining contamination.

Barriers to Exposure: WAC 173-340-7491(1)(b)

☐ All contaminated soil, is or will be,* covered by physical barriers (such as buildings or paved roads) that prevent exposure to plants and wildlife, and institutional controls are used to manage remaining contamination.

Undeveloped Land: WAC 173-340-7491(1)(c)

☒ There is less than 0.25 acres of contiguous[#] undeveloped[±] land on or within 500 feet of any area of the Site and any of the following chemicals is present: chlorinated dioxins or furans, PCB mixtures, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, heptachlor epoxide, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, or pentachlorobenzene.

☐ For sites not containing any of the chemicals mentioned above, there is less than 1.5 acres of contiguous[#] undeveloped[±] land on or within 500 feet of any area of the Site.

Background Concentrations: WAC 173-340-7491(1)(d)

☐ Concentrations of hazardous substances in soil do not exceed natural background levels as described in WAC 173-340-200 and 173-340-709.

* An exclusion based on future land use must have a completion date for future development that is acceptable to Ecology.

[±] "Undeveloped land" is land that is not covered by building, roads, paved areas, or other barriers that would prevent wildlife from feeding on plants, earthworms, insects, or other food in or on the soil.

[#] "Contiguous" undeveloped land is an area of undeveloped land that is not divided into smaller areas of highways, extensive paving, or similar structures that are likely to reduce the potential use of the overall area by wildlife.

B. Simplified evaluation.

1. Does the Site qualify for a simplified evaluation?

☐ Yes *If you answered **"YES,"** then answer **Question 2** below.*

☐ No or Unknown *If you answered **"NO"** or **"UNKNOWN,"** then skip to **Step 3C** of this form.*

2. Did you conduct a simplified evaluation?

☐ Yes *If you answered **"YES,"** then answer **Question 3** below.*

☐ No *If you answered **"NO,"** then skip to **Step 3C** of this form.*

3. Was further evaluation necessary?

☐ Yes *If you answered **"YES,"** then answer **Question 4** below.*

☐ No *If you answered **"NO,"** then answer **Question 5** below.*

4. If further evaluation was necessary, what did you do?

☐ Used the concentrations listed in Table 749-2 as cleanup levels. *If so, then skip to **Step 4** of this form.*

☐ Conducted a site-specific evaluation. *If so, then skip to **Step 3C** of this form.*

5. If no further evaluation was necessary, what was the reason? *Check all that apply. Then skip to **Step 4** of this form.*

Exposure Analysis: WAC 173-340-7492(2)(a)

☐ Area of soil contamination at the Site is not more than 350 square feet.

☐ Current or planned land use makes wildlife exposure unlikely. Used Table 749-1.

Pathway Analysis: WAC 173-340-7492(2)(b)

☐ No potential exposure pathways from soil contamination to ecological receptors.

Contaminant Analysis: WAC 173-340-7492(2)(c)

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations that exceed the values listed in Table 749-2.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations that exceed the values listed in Table 749-2, and institutional controls are used to manage remaining contamination.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays, and institutional controls are used to manage remaining contamination.

C. Site-specific evaluation. A site-specific evaluation process consists of two parts: (1) formulating the problem, and (2) selecting the methods for addressing the identified problem. Both steps require consultation with and approval by Ecology. *See* WAC 173-340-7493(1)(c).

1. Was there a problem? *See* WAC 173-340-7493(2).

☐ Yes *If you answered **"YES,"** then answer **Question 2** below.*

☐ No *If you answered **"NO,"** then identify the reason here and then skip to **Question 5** below:*

- ☐ No issues were identified during the problem formulation step.
- ☐ While issues were identified, those issues were addressed by the cleanup actions for protecting human health.

2. What did you do to resolve the problem? *See* WAC 173-340-7493(3).

- ☐ Used the concentrations listed in Table 749-3 as cleanup levels. *If so, then skip to **Question 5** below.*
- ☐ Used one or more of the methods listed in WAC 173-340-7493(3) to evaluate and address the identified problem. *If so, then answer **Questions 3 and 4** below.*

3. If you conducted further site-specific evaluations, what methods did you use?
Check all that apply. See WAC 173-340-7493(3).

- ☐ Literature surveys.
- ☐ Soil bioassays.
- ☐ Wildlife exposure model.
- ☐ Biomarkers.
- ☐ Site-specific field studies.
- ☐ Weight of evidence.
- ☐ Other methods approved by Ecology. If so, please specify:

4. What was the result of those evaluations?

- ☐ Confirmed there was no problem.
- ☐ Confirmed there was a problem and established site-specific cleanup levels.

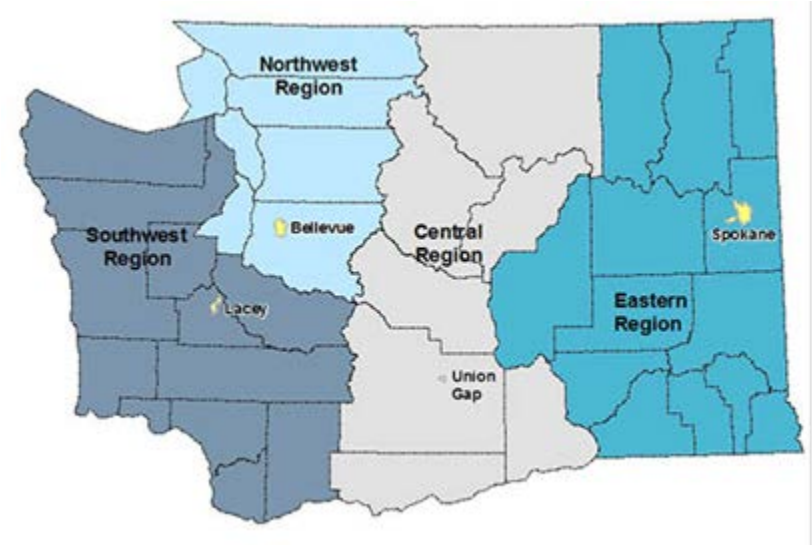
5. Have you already obtained Ecology's approval of both your problem formulation and problem resolution steps?

☐ Yes If so, please identify the Ecology staff who approved those steps:

☐ No

Step 4: SUBMITTAL

Please mail your completed form to the Ecology site manager assigned to your Site. If a site manager has not yet been assigned, please mail your completed form to the Ecology regional office for the County in which your Site is located.



Northwest Region: Attn: VCP Coordinator 3190 160th Ave. SE Bellevue, WA 98008-5452	**Central Region:** Attn: VCP Coordinator 1250 West Alder St. Union Gap, WA 98903-0009
Southwest Region: Attn: VCP Coordinator P.O. Box 47775 Olympia, WA 98504-7775	**Eastern Region:** Attn: VCP Coordinator N. 4601 Monroe Spokane WA 99205-1295

APPENDIX C

Report Limitations and Guidelines for Use

REPORT LIMITATIONS AND USE GUIDELINES

Reliance Conditions for Third Parties

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

Services for Specific Purposes, Persons and Projects

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

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

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

This Report Is Project-Specific

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

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

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

Geoscience Interpretations

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

Discipline-Specific Reports Are Not Interchangeable

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

Environmental Regulations Are Not Static

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

Property Conditions Change Over Time

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

Phase I ESAs – Uncertainty Remains After Completion

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

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

Historical Information Provided by Others

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

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

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