



SITE ASSESSMENT WORK PLAN

Property Identification:

**ECSI #128
JB'S METAL FINISHING
5215 SE FLAVEL DRIVE
PORTLAND, OREGON 97206**

Prepared For:

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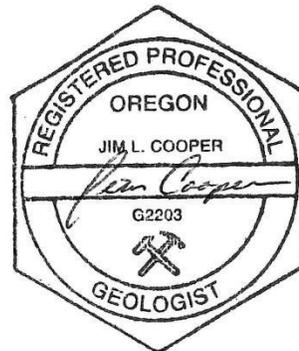
Date Issued: September 1, 2020
Alpha Project Number: 19-30261

SITE ASSESSMENT WORK PLAN

ECSI # 128

This plan was prepared under the supervision and direction of the undersigned.

ALPHA ENVIRONMENTAL SERVICES, INC.



Jim Cooper, R.G.
Senior Geologist



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Principal

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FIGURES

Figure 1: Site Overview Map

Figure 2: Site Sampling Map



ACRONYMS AND ABBREVIATIONS

ASTM	American Society for Testing and Materials
bsg	below surface grade
COC	Contaminants of Concern
DEQ	Department of Environmental Quality (Oregon)
PID	Photoionization Detector
PVC	Poly Vinyl Chloride
RBCs	Risk-based Concentrations
RBDM	Risk-based Decision Making
RCRA	Resource Conservation & Recovery Act
VOCs	Volatile Organic Compounds
WRD	Water Resources Department (Oregon)



1.0 INTRODUCTION

Alpha Environmental Services (Alpha) has prepared this Site Assessment Work Plan for the subject property located at 5215 SE Flavel Drive, Portland, Oregon (the Property). The purpose of the Work Plan is to provide an outline of the proposed sampling, laboratory analysis and risk analysis evaluation. The scope of work proposed is an attempt to understand the potential impacts at the Property from past site activities. The assessment will follow the standard practice for conducting Phase II Environmental Site Assessments from the American Society for Testing and Materials (ASTM) Standard E1903-19 and Oregon Department of Environmental Quality (DEQ) regulations.

1.1 Project Organization

The following section outlines the project organization, reporting relationships, and lines of communication related to the work to be completed at the Property.

- Dianne Ruff: Mrs. Ruff is the current owner of the site and will be responsible for the authorization of site work and paying the applicable DEQ fees. Mrs. Ruff will contract directly with the consultant to execute the work.
- Oregon Department of Environmental Quality (DEQ): DEQ will be the primary regulatory authority. DEQ will review and approve work plans. The DEQ project manager is Kevin Dana, (503) 229-5369.
- Alpha Environmental Inc (Alpha): Alpha has prepared this work plan for the Property. Alpha will be conducting the site work and submitting reports the DEQ. The Alpha project manager for proposed work is Jim Cooper, (503) 292-5346.

1.2 Property Description

5215 SE Flavel Drive, Portland, Oregon

Property ID: 1S2E19DB 15300 (R144743)

Property Size: 0.06 Acres

Zoning: CM1 – Commercial Mixed Use

The Property consists of an approximately 0.06-acre parcel improved with 1920s era commercial building and limited in-front parking.

1.3 Current and Future Land Use

The Property is zoned CM1 – Commercial Mixed Use. Currently the property is occupied by a Farmers Insurance Agency. The CM1 zone is a small-scale, commercial mixed-use zone intended for sites in smaller mixed-use nodes within lower density residential areas, on neighborhood corridors, and at the edges of neighborhood centers, town centers and regional centers.

The future use of the property is anticipated to remain the same or similar. There is limited parking due to the city right of way and the east side of the Property is constructed below ground surface. There is a fence constructed in the rear portion of the Property approximately one foot from the building limiting access to this area of the site.

1.4 Site Drainage

The majority of the Property is covered by the building or impervious asphalt. Stormwater appears to sheet flow across the asphalt and drains to SE Flavel Drive.

1.5 Sewer Connections

The property connected to the sanitary sewer and is serviced by the City of Portland. The sewer lateral runs along the west side of the property toward SE Flavel Drive.

1.6 Geology and Groundwater

The Property is situated within the Willamette Valley, which is a portion of the Puget Trough physiographic sub province of the Pacific Mountain System geological province of the State of Oregon. This area consists of fluviolacustrine sedimentary deposits. Underlying the area is unconsolidated silt, sand, gravel and clay. Generally, this specific area consists of fine-grained material, but gravel layers may also be found there to some extent. The thickness of these deposits is generally less than 100 feet; locally, it may be as great as 150 feet (Walker, et al., 1991).

According to the USGS online mapping database, static groundwater appears to be located approximately 96 feet below surface grade (bsg) beneath the property. The flow of groundwater typically imitates the surface topography and ordinarily flows from higher to lower elevations. The near surface flow may be influenced by stratigraphy, water bodies, rainfall, underground utilities and other subsurface features. Based on the general topography of the Property and vicinity, groundwater is anticipated to flow to the south.

The nearest major surface water in the vicinity of the Property is Johnson Creek located approximately 0.62 miles south of the Property.

2.0 PREVIOUS INVESTIGATIONS

2.1 Site Work

Oregon DEQ Soil Testing, 5215 SE Flavel Drive, Portland, Oregon, Dated January 1987.

Paramatrix, JB's Metal Finishing, Preliminary Assessment, ECSI ID #128, Dated June 30, 1992.

Alpha Environmental Services, Inc., *Tank Decommissioning Report: 5215 SE Flavel Drive, Oregon 97206*, Dated - Pending.

2.2 Site History

The following section was reproduced from the JB's Metal Finishing Preliminary Assessment Report.

The structure was built in 1926 and used for a transmission shop. It was later occupied by an auto body shop and then by JB's Metal Finishing, according to the present owner, William McGrath. The first plating shop was operated by Earl Moyles. Other plate shop operators listed were Steve Graham, Ron Stirely, and Larry Shaw. Prior to the building being used as a plate shop, it was used at various times as a paint shop, machine shop and an auto repair shop. An auto detailing business was operated by Stupek after his purchase of the property.

JB's Metal Finishing operated onsite from November 1984 through January 1987. The property was leased by JB's Metal Finishing from the Property owner, Ray Stupek. The plating business was purchased by Warren Sjothun in November 1984 from Bob Schaber and Jim Moore, Jr. Schaber and Moore had operated the plating shop at Flavel for several yeas as a partnership using the name JB's. Sjothun purchased the tradename as well as the other business assets. After JB's Metal vacated the site, the property remained vacant for several years and was then used for furniture storage. Mr. McGrath purchased the site in 1988 from Ray Stupek.

The following section was reproduced from the DEQ website.

In 1987, DEQ received an anonymous complaint alleging the illegal disposal of plating waste. In response, DEQ conducted an initial investigation, which revealed elevated levels of copper, chromium, lead, and cyanide in soils. In addition, some of the soil samples exhibited low pH (3.9-4.5). Soil samples collected during the 1992 Preliminary Assessment showed levels of copper, chromium, lead, and cyanide to be below the Oregon SOCLEAN total metals standard for residential soils. 3,500 ppm of lead was detected in sludge sample from an underground storage tank located in front of the facility.

3.0 CONCEPTUAL SITE MODEL

3.1 Potential Sources of Contamination

Historical records indicate that the potential sources of contamination on the Property were likely illegal dumping.

3.1.1 Illegal Dumping

The complaints about the illegal dumping and previous testing indicate releases occurred in or near the old flower box at the southeast corner of the building and along the eastern portion of the site.

The 1987 DEQ sampling indicates low areas east of the building (no site map was available to verify locations). This is no longer the case as a block retaining wall has been constructed and soils in the east center and northeast corner of the building are approximately 5 to 6 feet thick. A fenced area at the southeast corner of the building is at grade level.

The flower box was removed prior to the 1992 assessment and soils reportedly spread along the southeast driveway portion of the site.

3.2 Potential Receptors

The conceptual site model includes the identification of potential receptors. The following are applicable for the Properties:

- Human Receptors

3.2.1 Human Receptors

A potential human receptor is defined as any individual that might have the potential to contact, ingest, or inhale contaminants present in site media due to current or future anticipated land use scenarios.

Based on the current and likely future land use, the applicable receptors include occupational workers and construction/excavation workers.

3.3 Exposure Pathways

The conceptual site model includes the identification of exposure pathways.

3.3.1 Soil

Soil impacted by heavy metals above risk levels may exist on the property. The following exposure pathways for potentially impacted soil are considered complete:

- Soil Ingestion, Dermal Contact, and Inhalation

3.3.2 Groundwater

Based on the depth to groundwater and the availability of municipal water, the groundwater pathway is considered to be incomplete.

3.4 Conceptual Site Model Summary Table

Potentially Exposed Population	Exposure Route, Medium and Exposure Point	Pathway Selected?	Reason for Selection or Exclusion
Current and Future Land Use: Occupational ; Potentially Impacted Medium: Soil			
Adults (Occupational & Residential)	Soil Ingestion, Dermal Contact or Inhalation from on-site soils above 3 feet (RBC _{ss})	Yes	The pathway is complete if contaminated soils are within 3 feet of the surface.
Adults (Construction & Excavation Workers)	Soil Ingestion, Dermal Contact or Inhalation from on-site soils below 3 feet (RBC _{ss}).	Yes	The pathway is complete.
Adults (Occupational & Residential)	Volatilization to Outdoor Air (RBC _{so})	No	Chemicals of concern are non-volatile.
Adults (Occupational & Residential)	Vapor Intrusion into Buildings (RBC _{si})	No	Chemicals of concern are non-volatile.
Adults	Soil Leaching to Groundwater (RBC _{sw})	No	The pathway is incomplete because groundwater is not used for drinking purposes.

4.0 PROPOSED SCOPE OF WORK

4.1 Review and Approval of Work Plan

This Revised Work Plan is being submitted for DEQ review and approval. The Work Plan has been written based on the previous site inspections and communications with the DEQ.

Figure 2 shows the locations of the proposed sample locations.

4.2 Proposed Direct-Push Samples

Alpha will engage a subcontractor using direct-push drilling techniques and/or using a hand-driven GeoProbe type sampler or stainless-steel soil auger for the subsurface investigation. The boring locations were chosen based on the previous sampling.

Disposable drill liners will be used in direct-push samples to return samples to the surface and holes will be abandoned in accordance with the Oregon Water Resources Department (WRD) guidelines.

Borings and Sampling Details

5215 SE Flavel Drive					
Identification	Purpose	Type	Drilling Depth	Sampled Media	Analysis
B1	Site Assessment	Direct-push/Auger	6'	Soil	RCRA 8 Metals, Cyanide
B2	Site Assessment	Direct-push/Auger	5'	Soil	RCRA 8 Metals, Cyanide
B3	Site Assessment	Direct-push/Auger	5'	Soil	RCRA 8 Metals, Cyanide
B4	Site Assessment	Direct-push/Auger	5'	Soil	RCRA 8 Metals, Cyanide
B5	Site Assessment	Direct-push/Auger	5'	Soil	RCRA 8 Metals, Cyanide
B6	Site Assessment	Direct-push/Auger	5'	Soil	RCRA 8 Metals, Cyanide

4.3 Sampling and Field Screening

Soil samples will be field screened for visual and olfactory signs of contamination.

Investigation Derived Waste (IDW) may be stored temporarily onsite or transported to Alpha's storage yard pending laboratory testing.

4.4 Selection of Soil Samples for Chemical Analyses

Soil samples from borings will be collected from the depth interval with the greatest observable contamination or based on field observations. If there is no indication of contamination, the soil samples will be collected at approximately one to three feet below ground surface, except for Boring B1 which will be collected at five to six feet bsg (the assumed original ground surface at this location). Additional soil samples may be collected from areas exhibiting obvious contamination.

4.5 Contaminants of Concern

Based on the types of chemicals reportedly released, the Contaminants of Concern (COC) are as follows below. The risk will be evaluated for each COC in order to determine whether risk is present at a site.

- Heavy Metals
- Cyanide

4.6 Chemical Analyses

The soil samples from the borings will be analyzed using EPA Test Method 6020A Total Metals and ASTM D7511 Total Cyanide.

4.7 Results Evaluation

Specific areas will not be further evaluated if: 1) laboratory detections are at concentrations below the applicable risk screening levels; 2) not-detected and the reporting limits are below the applicable risk screening levels.

If detected concentrations are above the background levels and RBCs, that sample will be additionally analyzed for leachability using the Toxic Characteristic Leaching Procedure.

4.8 Additional Chemical Analyses

Any additional laboratory testing from the proposed borings or additional borings and/or follow up analysis is not included in the scope of work. If these conditions exist, the client will need to be contacted, and approval required prior to the samples being analyzed.

5.0 QUALITY ASSURANCE & QUALITY CONTROL

For the project, all data used for closure purposes will comply with the DEQ's Quality Assurance Project Plan (QAPP) for the Site Investigations, DEQ05-LQ-069-QAPP, Version 2.2, dated August 14, 2012.

5.1 Field Equipment & Decontamination

Disposable field equipment anticipated to be used for this project include nitrile gloves, plastic spoons, drill core liners, Terra Core™ samplers and Ziplock bags. Reusable field equipment is anticipated to be a soil cutting knife.

Decontamination of Alpha supplied reusable field equipment will include manual removal of particles, wash with Alconox solution, rinse with tap water, wash with Alconox solution and rinse with distilled water. In between each boring, the driller will rinse all sample tubing, cutting bits, etc. with a hot water pressure rinse.

5.2 Field Screening

The soil samples from the investigation will be obtained directly from direct-push disposable liners or from the auger cuttings. The liners will be split open along the longitudinal axis and laid open for visual observation. Any obviously impacted soil will be placed directly into both laboratory-provided jars. A new set of gloves will be donned after any sample handling and between each interval of sample is collected.

5.3 Sample Collection

Samples from the investigation will be collected directly from direct-push disposable liners or soil auger cuttings.

5.4 Trip Blanks

A trip blank will not be used for this project as there are no volatile organic compounds.

5.5 Rinsate Blanks

Rinsate blanks will be collected at a rate of 1 per 20 analytical samples collected for each matrix sampled (soil). The rinsate blank for the soil sampling will be collected from the soil knife used to inspect coring's, the soil auger and or trowel.

The following procedure will be used for rinsate blanks. After the piece of equipment has been field cleaned and prior to its being used for sample operations, it will be rinsed with organic free water. The rinse water will be collected and submitted for analyses of all constituents for which the samples collected with that piece of equipment are being analyzed.

5.6 Field Duplicates

Field duplicates will be collected at a rate of 1 per 20 analytical samples. The field duplicate for the soil sample will be collected from an area of obvious impacts, if possible.

5.7 Sample Transport

The samples will be packed with an appropriate temperature blank(s), which will consist of a 100-ml polyethylene bottle filled with clean water and the trip blank.

The sample chain of custody will maintain the following protocol for the coolers: be in an authorized person's physical possession or view and/or locked up and kept in a secured area that is restricted to authorized personnel. All changes in sample possession will be documented with the date, time, and personnel.

6.0 RISK SCREENING EVALUATION

6.1 Risk-Based Decision Making

In order to evaluate the current and reasonably likely future risk to human health and the environment, Alpha will compare the data from the current investigation to the DEQ risk-based decision making (RBDM) guidelines.

The RBDM process involves investigating potential sources of the contaminants and the environmental media in which they are contained (e.g., soil or groundwater), receptors (who could potentially be exposed to contaminants), and the exposure pathway (how a receptor might come in contact with contaminants [e.g., inhalation, ingestion or dermal contact]). If any of these elements is missing, the pathway is considered incomplete.

Using the parameters listed above, the laboratory detected concentrations will be compared to DEQ risk-based concentrations (RBCs). An RBC is the concentration of a hazardous substance in soil, water, air or sediment that is determined to be protective of human health and the environment under specified exposure conditions.

To evaluate potential risk from heavy metals in the soil, the detected concentrations will be compared to the DEQ “Regional Default Background Concentrations for Metals in Soil” dated January 2018. According to the DEQ guidance, if the maximum level detected is less than the background default value, then the metal is not a chemical of potential concern or a potential ecological concern. It should be noted that background levels may exceed the corresponding RBCs. Based on the map provided in the DEQ background metals report, the Property is within the Portland Basin area.

To help determination the potential risks at the site, a Conceptual Site Model (CSM) was constructed.

7.0 SCHEDULE

The scope of work described herein will be initiated within 14 to 21 days of the DEQ’s approval of the Work Plan, excluding delays beyond the control of Alpha. It is estimated that the boring advancement and sample collection will require approximately one day.

The results of the investigation will be presented and discussed in a report to be submitted within approximately two to three weeks following receipt of the analytical data. The report will document the results of the activities proposed in the scope of work.



8.0 LIMITATIONS

Alpha has developed this work plan based on the information currently know about the site. There is a possibility that, even with the proper application of the methodologies described in this plan, there may exist at the Property conditions that could not be identified within the scope of the assessment or which were not reasonably identifiable from the available information.

The methodologies of the proposed assessment are not intended to produce all inclusive or comprehensive results, but rather to provide the client, DEQ and interested parties with an indication of subsurface environmental conditions in specifically targeted areas of the property at this time.

The investigation will be performed in a professional manner, in accordance with generally accepted environmental practices, using the degree of skill and care ordinarily exercised by reputable. The investigation is not intended to be a definitive investigation of existing or potential adverse environmental impacts of the entire site and/or adjacent site; thus, it is possible that an impact may exist on the Property or adjacent properties, but was not identified during the investigation.

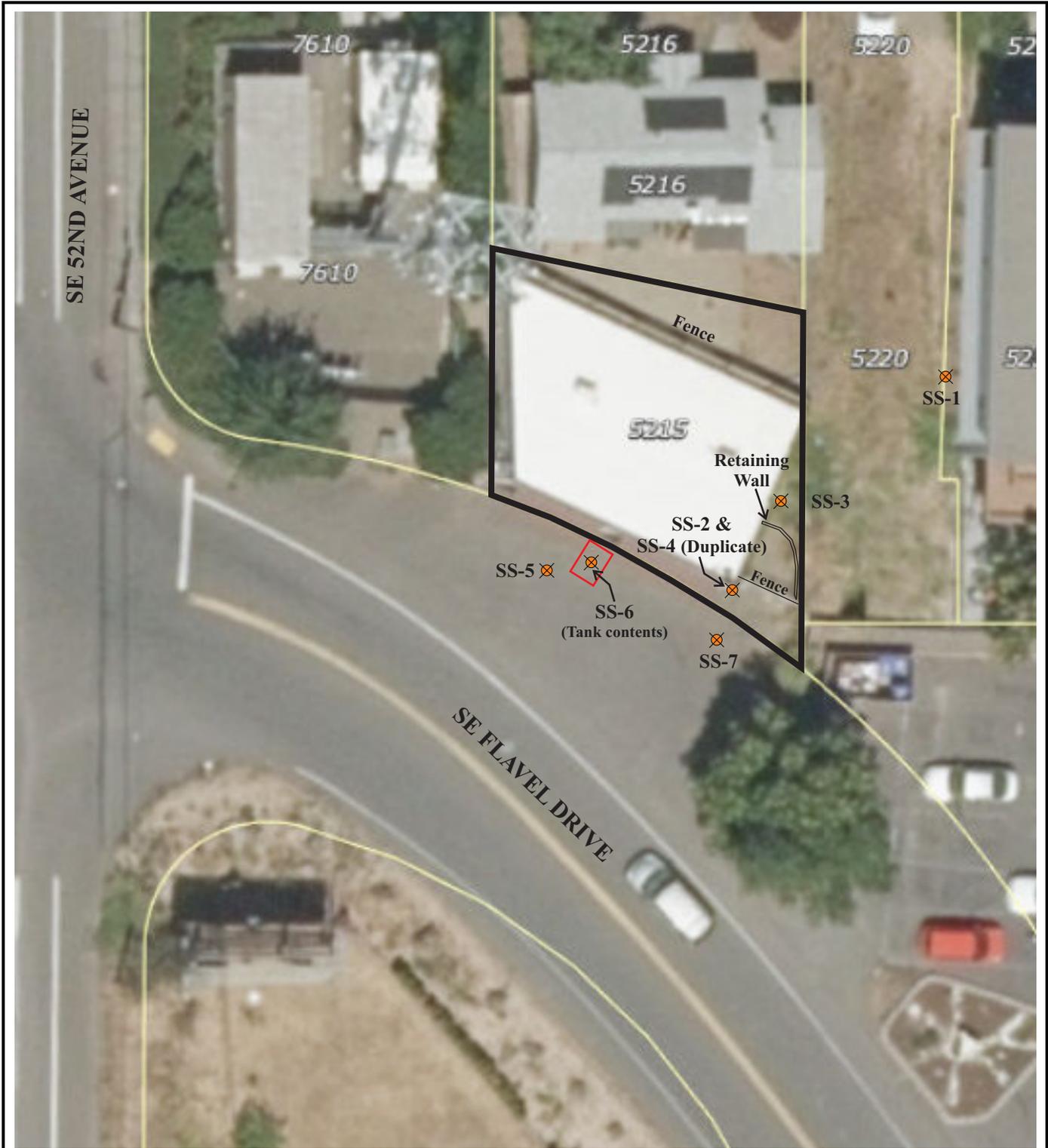


9.0 REFERENCES

American Society for Testing and Materials, *Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process*, ASTM Designation: E 1903-19

State of Oregon Water Resources Department, Agency Resources, *Online Well Log Search and Groundwater Level Data*, accessed via website.

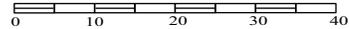
Walker, 1991. *Geological Map of Oregon*, United States Geological Survey, Walker, G.W. and MacLeod, N.S., 1991.



LEGEND

✕ Soil Sampling Locations - PA Report 1992

APPROXIMATE SCALE IN FEET



11080 SW ALLEN BLVD, STE 100
 BEAVERTON, OREGON 97205
 (503) 292-5346

FIGURE 1: PREVIOUS SAMPLING LOCATIONS

Project Name: 5215 SE Flavel Drive
 Portland, Oregon 97206
Project Number: 19-30261

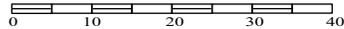




LEGEND

- ✕ Proposed Sampling Locations
- ✕ Soil Sampling Locations - PA Report 1992

APPROXIMATE SCALE IN FEET



11080 SW ALLEN BLVD, STE 100
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FIGURE 2: PROPOSED SAMPLING LOCATIONS

Project Name: 5215 SE Flavel Drive
 Portland, Oregon 97206
Project Number: 19-30261

