

# **Petroleum Contaminated Soil Excavation Oversight and Confirmation Sampling Plan**

A-1 Towing Facility  
King County Tax Parcel No. 3223049048  
18459 Des Moines Memorial Drive South  
Des Moines, Washington

Prepared for:  
Atkinson Construction  
23410 30th Avenue South  
Kent, WA 98032

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PBS Project 40757.028



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WSDOT Headquarters Hazardous Materials and Solid Waste Program, Phase II Environmental Site Assessment, Soil Sampling Report, January 2019.  
WSDOT A-1 Towing Site Figure, SR 509/24th Avenue South to South 188th Street – New Expressway Project

Appendix B: Soil and Groundwater Management Plan

## 1 PURPOSE

This Petroleum Contaminated Soil (PCS) Excavation Oversight and Confirmation Sampling and Analysis Plan (SAP) follows several subsurface investigations and subsequent remedial actions (Attachment A) at the A-1 Towing facility, located at 18459 Des Moines Memorial Drive South, Des Moines, Washington (the Site). PBS Engineering and Environmental LLC (PBS) notes that, in addition to the historical remedial actions at this Site, the Washington State Department of Transportation (WSDOT) has indicated that, after the demolition of the existing structures and before the start of construction for State Route (SR) 509, the top 18 inches of soil across the northern, northeastern, and southwestern portions of the Site, where petroleum-impacted soil was previously identified and remediated will be further over-excavated, removed, assessed, and disposed of appropriately. Additionally, confirmation soil samples will be collected across the Site to further assess shallow soil conditions. Following the removal of any suspect impacted soil, clean fill soil will be imported to backfill the excavated area if necessary.

The objective of the activities described in this plan is to remove all potentially impacted soil until conditions are verified to be in accordance with the Washington State Department of Ecology (Ecology) Model Toxics Control Act (MTCA) and its implementing regulations defined in Revised Code of Washington (RCW) Chapter 70.105D and Washington Administrative Code (WAC) Chapter 173-340.

## 2 BACKGROUND

PBS understands that the Site is located on the west side of the King County Tax Parcel 3223049048, beyond WSDOT's Right of Way (ROW), and is part of the expansion of SR-509 (Figure 1). The Site has been owned by WSDOT since at least 2000 but was leased to several private parties over time. Reportedly, a tenant conducted industrial activities, including welding, at this Site between 2000 and 2016, and the Washington State Patrol (WSP) used a portion of the Site to dismantle seized vehicles in 2016. Additionally, A-1 Towing leased the Site as a towing yard, which included the storage of vehicles throughout the Site and the repair of vehicles within an existing garage structure (former shop).

The following bullets summarize the historical subsurface investigations and remedial actions at this Site. Detailed documentation of these investigations, remedial actions, and soil sampling findings are provided in GeoEngineers' 2022 Phase II Environmental Site Assessment, available in Attachment A.

- In 2016 WSDOT conducted a Phase II Subsurface Investigation following the lease termination of the former welding tenant (Mr. Foreman, 2000 through 2016). The WSDOT Phase II investigation included soil sampling of areas with observed suspect petroleum impacted soil (areas identified as Area A, B, C and D). Analytical results indicated the elevated concentrations of lube oil and arsenic exceeding the MTCA Cleanup Levels (CULs) in Area B and C, respectively.
- In 2017, WSDOT contracted Marine Vacuum Incorporated to remediate areas of the Site with trash, debris and some soils with concentrations below MTCA Method A CULs. GeoEngineers noted that "It is unclear from this statement as to what soils were actually removed and no additional details were provided."
- In 2018, A-1 Towing graded Site soils, including some contaminated ones. These soils were displaced from previously sampled areas A and B, resulting in a new stockpile just north of Area D.
- In March 2018, WSDOT collected four additional soil samples from Areas A, B, and a new location to assess potential grading with known or suspected soil contamination, or where displaced/graded soils

seemed to have been consolidated into a stockpile by the lessee. Because Areas C and D lacked these indicators, no additional sampling was conducted there. The sample results did not exceed the MTCA Method A CULs.

- In September 2018, WSDOT contracted Marine Vacuum Performed to conduct excavation activities to remediate areas that previously detected lube oil concentrations exceeding the MTCA Method A CULs and an area to remediate suspected contaminated materials in Area C and D. During remedial activities by soil excavation soils were field screened using visual observation, olfactory and a photoionization detector (PID) device. Subsequently, WSDOT collected two additional confirmation soil samples in locations where the soils were excavated. Laboratory analytical results were either non-detect or detected at concentrations below MTCA Method A CULs. Reportedly, clean soil was used to backfill the excavated area.
- According to a Phase II Environmental Site Assessment conducted in 2019, approximately 8.4 cubic yards of petroleum-impacted and suspected contaminated soil were removed from the Site. The analytical results from follow-up confirmation samples indicated that no contamination remained on the Site. Subsequently, WSDOT requested a No Further Action (NFA) determination from the State of Washington Department of Ecology.
- Ecology responded to the request for a NFA determination, indicating that additional information would be necessary. This includes the depth of samples, groundwater samples (if encountered), and more accurate sample location information, as the previous report had conflicting depictions.
- In 2021, GeoEngineers conducted additional sampling at three areas (B, C, and D) around the existing structure on the A-1 Towing site to further evaluate potential contaminants related to past Site uses. The analytical results did not identify concentrations of gasoline (Gx), diesel and oil (Dx), volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), or the eight Resource Conservation and Recovery Act (RCRA) metals exceeding the MTCA Method A CULs. Out of the nine soil samples analyzed, only two showed low concentrations of diesel, oil, and/or PAHs, which were below CULs. Groundwater was not encountered at the maximum depth explored, which was 15 to 20 feet below ground surface (bgs).

It is PBS' understanding that after the demolition of the existing structures and as part of the future development of SR 509, WSDOT plans to excavate, remove, assess, and dispose of the top 18 inches of soil across the northern, northeastern, and southwestern portions of the Site, where contaminated soil was previously identified, to ensure the removal of any suspected and potentially remaining petroleum-impacted soil. Additionally, confirmation soil samples will be collected across the entire Site to further assess shallow soil conditions. Following the removal of any suspect impacted soil, clean fill dirt will be imported to backfill the excavated area if necessary.

### **3 PETROLEUM CONTAMINATED SOIL EXCAVATION AND SAMPLING ACTIVITIES**

Based on past soil cleanup efforts and confirmation soil sampling, PBS has determined that additional excavation and sampling are required to completely remove any remaining petroleum-contaminated soil. Specifically, PBS will provide sampling support during excavation of the top 18 inches of soil from the northern, northeastern, and southwestern sides of a former shop (exterior) of the site. This soil will then be transported offsite for disposal, ensuring thorough remediation of the area.

PBS notes that, based on field observations and stockpile sampling results, the excavated soil may be re-used onsite if it meets Ecology's Chapter 173-350 WAC Solid Waste Handling Standards. See Section 3.1 for further discussions regarding the criteria for re-using soil onsite.

Experienced PBS personnel will conduct oversight and sampling activities for the PCS excavation, supervised by a licensed geologist or professional engineer.

A site-specific health and safety plan will be prepared and reviewed with field personnel prior to beginning work and will be maintained on site during field operations.

Before commencing the PCS excavation, Atkinson is responsible for ensuring that the site is secured with high-visibility (hi-vis) barriers to prevent potential contact by the public (including employees) with equipment or contaminated material. On-site personnel and traffic control measures will further minimize public exposure to equipment or contaminants during working hours. Open excavations will be secured outside of working hours until backfill activities are complete.

### **3.1 Segregation of Overburden Soil for Waste Profiling**

To enhance efficiency and manage the costs associated with PCS disposal, PBS recommends dividing the Site into two sections: a northern section and a southern section. During the excavation of PCS in the northern section, it is advised to segregate clean and contaminated soil into two distinct stockpiles. Soil suspected of PCS contamination should be placed in a designated holding area that has been previously established for this purpose. The soils accumulated in these stockpiles will then be sampled to determine the appropriate disposal characterization.

Given the nature of A1-Towing activities and use of this facility as an equipment storage yard, it is possible that portions of the overburden soil across the Site is not contaminated due to undeveloped/over vegetated areas that were not utilized historically for equipment storage purposes. In the event that both of the following conditions are met, portions of the overburden soil may be segregated and stored on site for use as backfill material:

- Field observations indicate the potential for portions of the overburden soil to meet criteria for reuse on site as established in the Soil and Groundwater Management Plan (SGMP) (Appendix B), and
- Adequate space exists on site for the temporary stockpiling of overburden soil pending sampling, sample analysis and possible use as backfill.

Should potentially clean overburden soil be segregated and stockpiled on site, waste samples will be collected of the stockpiled soil as established in the SGMP (Appendix B). Stockpile soil samples, if collected, will be analyzed for the following:

- Total Petroleum Hydrocarbon as gasoline (TPH-G) by Method NWTPH-Gx;
- TPH as diesel and heavy oil (TPH-D and TPH-HO) by Method NWTPH-Dx;
- Benzene, toluene, ethylbenzene, and xylene (BTEX) by EPA Method 8021B or 5021A; and
- Total Lead.

Analytical results of stockpile samples will be used to determine the suitability of the soil for reuse as backfill material as established in the SGMP (Appendix B). Should segregated material be deemed unsuitable for reuse as backfill, it will be disposed of offsite as established in Sections 3.0 and 5.0 of the SGMP.

### 3.2 Soil Excavation

During excavation, soils will be monitored for visual and olfactory evidence of contamination, including changes in color, texture, and odor. Additionally, field instruments such as a Photoionization Detector (PID) can be used to qualitatively assess the presence of volatile organic compounds (VOCs) and indicate contamination.

Soil excavation will be conducted by Atkinson's subcontractor using a track-mounted excavator. The soil excavation is conducted in 6-inch intervals by stripping the surface. Upon completing the planned excavation (see Figure 1) to the proposed depth of up to 18 inches, confirmation soil sampling will be conducted if there are no field indications such as soil staining, petroleum odor, or elevated PID readings.

If soil sampling confirms that no contaminants of concern remain within the excavation area, it will be backfilled with clean material to a depth that will be at Atkinson's discretion to reach project design goals. For the remediation of PCS that extends deeper than 18 inches, Atkinson should coordinate with WSDOT to facilitate additional excavation, assessment, and disposal of the PCS that falls outside of their initial scope of work.

### 3.3 Soil Stockpile and Loading

Excavated soil may be temporarily stockpiled onsite and staged for load and haul out. The stockpiled soil will be located adjacent to the excavation areas, with specific site logistics controlled by Atkinson. Atkinson will manage contaminated soil stockpiles in accordance with the procedures established in the PBS' 2024 SGMP, Section 5.4 (Appendix B).

General requirements for the temporary stockpile include:

- a. Preventing intermixing of stockpiled materials with underlying soils or materials from other sources, or with other contaminants.
- b. Preventing influx of rainwater.
- c. Preventing erosion of stockpiled materials.
- d. Applying stormwater BMPs as appropriate for stockpile construction and maintenance.
- e. Maintaining daily inventory of stockpile areas and providing information to the Project Engineer, as requested.
- f. Implementing appropriate site security measures such as signage and fences to alleviate hazards to the public.

### 3.4 Performance Soil Sampling and Analysis Plan

Performance monitoring for impacted soil excavation will involve confirmation soil sampling. Upon completing the remedial actions (to the proposed depth of up to 18 inches), confirmation soil samples will be collected on a 15-foot by 15-foot grid pattern within the northern/northeastern sides of the former shop. Following the successful completion of remediation in the northern/northeastern section, similar efforts will proceed in the southwestern side of the former shop. Based on the analytical results of these samples, the two segregated soil stockpiles will be removed and transported to appropriate landfills. Furthermore, these results will determine whether additional excavation is necessary.

Additionally, discrete confirmation soil samples will be collected across the entire Site on a 15-foot by 15-foot grid pattern (see Figure 1). Samples will be collected from a depth of 9-inches below ground surface (bgs) and 18-inches bgs. Samples collected from 18-inches bgs will be placed on hold with the project laboratory

pending the results from shallow samples. Based on the discrete confirmation soil sampling results, further remedial excavation may be warranted to confirm compliance with regulatory cleanup criteria.

The sampling method and procedures are presented below.

### **3.4.1 Sample Locations**

After completing the excavation to the total depth (18 inches), soil samples will be collected from the sidewalls and base of the excavation following PCS removal for laboratory analysis. PBS will collect samples from the base and sidewalls of the excavation at prescribed intervals (approximately every 15 feet) to confirm compliance with regulatory cleanup criteria. The proposed excavation areas and associated confirmation sampling grid are illustrated in Figure 1.

Additionally, across the entire site, at least two confirmation soil samples will be collected from each discrete sample location at depths of 9 inches bgs and 18 inches bgs. Samples collected from 18 inches bgs will be placed on hold with the project laboratory pending the results from the shallow samples. The proposed confirmation sampling grid is illustrated in Figure 1.

### **3.4.2 Sample Methods**

Soil sampling will adhere to the procedures outlined in Section 5.5 of the PBS's 2024 SGMP (Appendix B). Whenever feasible, disposable sampling equipment will be utilized, directly depositing samples into laboratory-provided containers. The sampler will use new disposable gloves for the collection of each sample. If non-disposable sampling equipment is employed, decontamination will occur as follows: equipment will be scrubbed using a laboratory-grade detergent (such as Alconox®), followed by rinses in tap water and distilled water. After decontamination, the equipment will be allowed to dry before collecting subsequent samples. Samples will then be collected directly into laboratory-provided containers and stored in a cooler on ice, with chain-of-custody documentation, for transport to the analytical laboratory.

Confirmation soil samples will be submitted for the following analyses:

- TPH-G by Method NWTPH-Gx;
- TPH-D and TPH-HO by Method NWTPH-Dx;
- RCRA 8 Metals by EPA Method 6010D/7471B

Each soil sample should be labeled using a Unique Sample ID.

- *Location (Sample boring #)\_Depth\_Time\_Date*

### **3.4.3 Waste Profiling and Disposal**

Waste soil generated from remedial actions will be profiled for offsite disposal using analytical data from previous soil sampling activities, as well as proposed sampling activities. The waste soil is expected to be characterized as non-dangerous solid waste for disposal at a Subtitle D Landfill. Material may be temporarily staged on site in stockpiles pending transport to the disposal facility, following stockpiling procedures established and described in Section 6.1 of the SGMP (PBS, 2024).

Contaminated groundwater is not anticipated to be generated during this remedial excavation.

A waste profile and weight tickets documenting receipt and tonnage of PCS from the disposal facility will be included in the follow up Remedial Action Report (if any). Weight/volume tickets will be tallied, and total tonnage/volume of exported waste will be reported.

#### **4 SCHEDULE AND REPORTING**

The analytical results from samples collected will be reviewed by the Environmental Consultant and compared to action levels provided in the Ecology MTCA regulations (WAC 173-340).

The laboratory analysis results will typically be available approximately 7 days after sample collection, unless Atkinson requests a 24-hour rush analysis. PBS will await these results and compile all data into a memo summarizing the results, laboratory report chain of custody documentation, sample location plan(s), and conclusions. These results will be used to support regulatory reporting, decision unit characterization, and, if necessary, waste profiling for disposal. The draft report will be prepared and submitted for client review approximately 2 weeks following receipt of final laboratory analytical data.

Please feel free to contact me at 206.766.7636 or [nasrin.bastami@pbsusa.com](mailto:nasrin.bastami@pbsusa.com) with any questions.

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Reviewed by: Melanie Young, PE, PBS Senior Environmental Engineer

# Figures

APPROXIMATE PROPERTY BOUNDARY  
(A-1 TOWING)

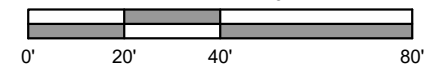


**LEGEND**

- SS-2 PREVIOUS WSDOT EXPLORATIONS (2016)
- MW-1 MONITORING WELL NUMBER AND LOCATION (GEOENGINEERS, 2022)
- GEI-1 BORING NUMBER AND LOCATION (GEOENGINEERS, 2022)
- PROPOSED CONFIRMATION SOIL SAMPLES
- ASSESSMENT AREA (2022)
- AREA OF EXCAVATION (2024)
- GRID LINES (APPROX 20' INTERVALS)



Scale 1" = 40'



PREPARED FOR: GUY ATKINSON CONSTRUCTION



REMEDIAL EXCAVATION & CONFIRMATION SOIL SAMPLE LOCATIONS  
**SR 509 STAGE 2B - A1 TOWING**  
DES MOINES, WASHINGTON

PROJECT	40757.028
DATE	JUL 2024
SHEET ID	1



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## **Appendix A**

**GeoEngineers, Phase II Environmental Site Assessment, November 2022  
Headquarters Hazardous Materials and Solid Waste Program  
Environmental Services Office, Phase II Environmental Site Assessment,  
Soil Sampling Report, January 2019**