STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Eastern Region Office
4601 North Monroe St., Spokane, WA 99205-1295 • 509-329-3400

May 1, 2025

Jordan Tampien
4 Degrees Real Estate
905 West Second Avenue
Spokane, WA 99201
jordan@4degrees.com

Re: Further Action at the following Site:

- **Site Name:** Cora Avenue Borrow Pit
- **Site Address:** 440 W Cora Ave, Spokane
- **Facility/Site ID:** 100000484
- **Cleanup Site ID:** 17158
- **VCP Project ID:** EA0390

Dear Jordan Tampien:

On March 11, 2025, the Washington State Department of Ecology[1] received your request for an opinion regarding the sufficiency of your characterization of the Cora Avenue Borrow Pit facility (Site) under the Voluntary Cleanup Program (VCP).[2] On April 10, 2025, Ecology received your cleanup action plan (CAP) detailing your proposed cleanup actions. This letter provides our opinion and analysis. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), chapter 70A.305 RCW.[3]

Opinion

Ecology has determined that while your proposed cleanup will likely meet MTCA cleanup standards, there are data gaps in the site characterization and other requirements that need to be addressed prior to or during implementation of the cleanup.

[1] https://ecology.wa.gov/
[2] https://ecology.wa.gov/Spills-Cleanup/Contamination-cleanup/Voluntary-Cleanup-Program
[3] https://app.leg.wa.gov/RCW/default.aspx?cite=70A.305

Ecology bases this opinion on an analysis of whether the remedial action meets the substantive requirements of MTCA, Chapter 70A.305 RCW, and its implementing regulations, Chapter 173-340 WAC (collectively "substantive requirements of MTCA").

Site Description

This opinion applies only to the Site described here. The Site is defined by the nature and extent of contamination associated with the following release:

- Arsenic, cadmium, lead, and polycyclic aromatic hydrocarbons (PAHs) into the soil.

Enclosure A includes a detailed description and diagram of the Site, as currently known to Ecology.

Please note a parcel of real property can be affected by multiple sites. At this time, we have no information that the parcel(s) associated with this Site are affected by other sites.

Basis for the opinion

This opinion is based on the information contained in the following documents:

- Spokane Environmental Solutions, Cleanup Action Plan- Former Cora Avenue Borrow Pit, April 10, 2025.
- Spokane Environmental Solutions, Additional Phase II Soil Sampling for SVOC and Metal Constituents, March 4, 2025.
- Spokane Environmental Solutions, Limited Soil Sampling for SVOC and Metals, January 23, 2025.
- Fulcrum Environmental Consulting, Phase I Environmental Site Assessment, October 13, 2023.
- Budinger & Associates, Preliminary Results of Environmental Exploration, Sampling, and Chemical Analysis- Cora Avenue Well Site, May 15, 2015.
- TechCon, Inc., Phase I Environmental Site Assessment Report for Cora Avenue Well Site, February 16, 2015.

- Gifford Consultants, Inc., Interim Report; Results of Preliminary Subsurface Explorations; Proposal for Additional Explorations and Geotechnical Studies; Proposed New Faith Bible Church, August 2, 1994.

You can request these documents by filing a records request.[4] For help making a request, contact the Public Records Officer at recordsofficer@ecy.wa.gov or call 360-407-6040. Before making a request, check whether the documents are available on the Site webpage.[5]

This opinion is void if any of the information contained in those documents is materially false or misleading.

Analysis of the cleanup

Ecology has determined further remedial action is necessary to clean up contamination at the Site. Ecology bases this conclusion on the following analysis.

Characterizing the Site

Ecology has determined your Site characterization is sufficient for setting cleanup standards and selecting a cleanup action; however, there are data gaps in the Site characterization identified below. **Enclosure A** describes the Site.

In April 2015, Budinger & Associates conducted a preliminary investigation which included advancing one soil boring to 35 feet below ground surface (bgs), excavating eight test pits to 20 feet bgs, and installing one groundwater monitoring well at 100 feet bgs. The soil boring encountered approximately 22 feet of fill material including gravel, sand, silt, and debris, with native material encountered from 22 to 35 feet bgs. Debris encountered in the test pits included concrete, glass, porcelain, brick, metal, suspected slag material, and fire residue. Soil samples were collected from three test pits (TP1, TP3, and TP8) and analyzed for total petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), Resource Conservation and Recovery Act (RCRA) metals, and leachable metals using the Toxicity Characteristic Leaching Procedure (TCLP, EPA Method 1311). Arsenic, cadmium, and lead exceeded MTCA Method A soil cleanup levels in TP1 from 0 to 9 feet bgs and TP8 from 1 to 4 feet bgs. No other contaminants exceeded cleanup levels, and the TCLP analyses did not exceed dangerous waste criteria. The groundwater monitoring well was screened from 70 to 100 feet bgs with the static water level measured at 77.5 feet bgs. One

[4] https://ecology.wa.gov/About-us/Accountability-transparency/Public-records-requests
[5] https://apps.ecology.wa.gov/cleanupsearch/site/17158

groundwater sample was collected and analyzed for heavy metals, nitrates, volatile organic compounds (VOCs), pesticides, and herbicides. Tetrachloroethene (PCE) was detected at 4 micrograms per liter (µg/L), below the MTCA Method A groundwater cleanup level of 5 µg/L.

In January 2025, Spokane Environmental Solutions (SES) excavated 6 test pits (TP-1 through TP-6) and collected composite soil samples from each test pit at 0 to 4 feet bgs and 4 to 8 feet bgs. The soil samples were analyzed for arsenic, cadmium, lead, and semi-volatile organic compounds (SVOCs, including PAHs). One sample from TP-4 exceeded the MTCA Method A cleanup level for lead from 4 to 8 feet bgs, and samples from TP-2 and TP-3 exceeded the MTCA Method A cleanup level for PAHs from 0 to 4 feet bgs. In February 2025, SES excavated 12 additional test pits (TP-7 through TP-18) and collected composite soil samples from 0 to 5 feet bgs and 5 to 8 feet bgs. One sample from TP-10 exceeded the MTCA Method A cleanup level for arsenic from 5 to 8 feet bgs, and samples from TP-10 and TP-18 exceeded the cleanup level for PAHs from 5 to 8 feet bgs, while the sample from TP-17 exceeded the cleanup level for PAHs from 0 to 5 feet bgs.

Setting cleanup standards

Cleanup standards include cleanup levels, points of compliance, and applicable local laws and requirements. Ecology has determined Site cleanup levels applied to the Property meet the substantive requirements of MTCA.

For soil, the cleanup levels were established using MTCA Method A and are based on direct contact and protection of groundwater. The cleanup level for PAHs is based on the toxicity equivalency factor (TEF) relative to benzo(a)pyrene. The land use is classified as unrestricted. The point of compliance for soils is throughout the lateral and vertical extent of the Site, to a depth of 15 feet bgs. This is the standard point of compliance and is based on an empirical demonstration that Site contaminants do not cause an exceedance of groundwater cleanup levels. The cleanup levels are as follows.

Contaminant	**Cleanup Level (mg/kg)**
Arsenic	20
Cadmium	2
Lead	250
PAHs	0.1

mg/kg = milligrams per kilogram

Selecting the cleanup action

Ecology has determined the proposed Property cleanup action will likely meet the cleanup standards established for the Site; however, Ecology recommends completing additional site characterization prior to completing the proposed remediation. The CAP submitted in April 2025 proposes the following cleanup action:

- Approximately 4,000 cubic yards of soil will be excavated in six zones with arsenic, lead, and PAHs exceeding MTCA Method A cleanup levels identified during the April 2015 and January to February 2025 site characterizations. The soil is proposed to be excavated from either the 0 to 5 feet bgs or 5 to 10 feet bgs interval based on prior sampling results and segregated into three stockpiles for further waste characterization. Soil that meets the guidelines for reuse established in Table 12.1 in Ecology's Guidance for Remediation of Petroleum Contaminated Sites[6] (Publication No. 10-09-057) may be reused onsite, while soil above MTCA Method A cleanup levels or Washington State dangerous waste criteria will be removed from the Site and disposed at an appropriate RCRA Subtitle C or D facility.

Additional requirements

Ecology has identified the following data gaps and further requirements which should be addressed before the cleanup action is completed.

Site characterization and cleanup standards

- The characterization of the lateral and vertical extent of soil contamination is not sufficient to delineate the true extent of soil exceeding MTCA cleanup standards. There are significant lateral gaps in the soil sample distribution illustrated in Figure 2 of **Enclosure A**, including an absence of soil samples west of TP1 and TP8 completed by Budinger in 2015, throughout the center of the Site, and to the north, northeast, and southeast of previous test pits with contaminants exceeding cleanup levels. Therefore, the projected excavation boundaries and estimated excavation volumes illustrated in Figure 3 in **Enclosure A** may not represent the full lateral extent of material exceeding cleanup levels at the Site.

  Vertical depth profiling consisted of composite soil samples collected from 3 to 5 foot increments to a maximum of 10 feet bgs. This sampling approach does not provide sufficient resolution to establish vertical contaminant boundaries versus

[6] https://apps.ecology.wa.gov/publications/documents/1009057.pdf

discrete soil samples. There were also no confirmation soil samples collected below 8 feet bgs in areas where contaminations were present at depth during the 2015 or 2025 investigations. Confirming the vertical extent of contamination is required to demonstrate that cleanup levels have been met at the 15 foot point of compliance.

While there is no guidance specific to sample collection on former dump sites, Ecology's Model Remedies for Cleanup of Former Orchard Properties[7] may be appropriate for sites with area-wide shallow soil contamination where a removal action is the selected remedial alternative. This guidance states that for sites less than 5 acres, 30 samples should be collected from discrete locations, with 15 locations including depth profile samples.

- Previous investigations identified burned materials among the debris present from the ground surface to approximately 20 feet bgs. The concentration of PAHs in soil with no petroleum hydrocarbons detections also suggests incomplete combustion of waste materials as the primary source of PAHs. A November 2006 report[8] from the United States Environmental Protection Agency (EPA) indicated that the burning of commercial and residential wastes was the largest source of dioxins and furans to the environment. Therefore, a subset of samples should be collected where PAHs have been identified above MTCA Method A cleanup levels in soil and analyzed for dioxins and furans using EPA Method 1613. If any compound exceeds the MTCA Method B soil cleanup levels listed in Ecology's CLARC[9] data tables, further investigation will be required to confirm the cleanup action selected for the Site is protective of all potential ecological receptors and exposure pathways.

- The CAP recommends using the MTCA Method A soil cleanup level of 2 mg/kg for PAHs, which is based on industrial land use. Since the proposed land use is residential, Ecology has determined the appropriate MTCA Method A cleanup level for PAHs is 0.1 mg/kg, based on unrestricted land use.

Applicable or relevant and appropriate requirements

- Previous investigations observed solid waste present within the slope to the north

[7] https://apps.ecology.wa.gov/publications/documents/2109006.pdf
[8] https://ordspub.epa.gov/ords/eims/eimscomm.getfile?p_download_id=523391
[9] https://ecology.wa.gov/regulations-permits/guidance-technical-assistance/contamination-cleanup-tools/clarc/data-tables

of the Site, including automobile tires. These wastes may contain hazardous substances which constitute an exposure risk to workers and residents, and also may degrade and lead to erosion and potential slope failure. The solid waste within the slope should be evaluated for all contaminants of concern as well as slope failure risk, which may require an updated geotechnical evaluation. If the solid waste cannot be removed or remediated without risking slope failure, engineering and institutional controls may be required to meet MTCA cleanup standards.

- Due to the highly toxic nature of soils at or near the surface and residences in close proximity to the Site, dust control measures should be implemented during the proposed cleanup action. These measures may include dust suppression using water or barriers and downwind monitoring for airborne particulate matter.

Terrestrial Ecological Evaluation

A Terrestrial Ecological Evaluation (TEE) has not been performed at the Site. The TEE is necessary to meet the substantive requirements of MTCA, to set cleanup levels that are protective of terrestrial species, and to determine an appropriate cleanup action. Please conduct the TEE and provide the associated documentation forms to Ecology. Additional information on satisfying this requirement can be found at the following link: https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Terrestrial-ecological-evaluation

EIM data submittal

All sampling data should be submitted to Ecology's Environmental Information Management (EIM) database[10], which is required in order to receive a final Ecology opinion for this Site. The Toxics Cleanup Program Policy 840[11] describes data submittal requirements. Please visit the EIM Submit Data webpage for data submittal instructions.

[10] https://ecology.wa.gov/eim
[11] https://fortress.wa.gov/ecy/publications/SummaryPages/1609050.html

Limitations of the Opinion

Opinion does not settle liability with the state.

Liable persons are strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release or releases of hazardous substances at the Site. This opinion **does not**:

- Resolve or alter a person's liability to the state.
- Protect liable persons from contribution claims by third parties.

To settle liability with the state and obtain protection from contribution claims, a person must enter into a consent decree with Ecology under RCW 70A.305.040(4).[12]

Opinion does not constitute a determination of substantial equivalence.

To recover remedial action costs from other liable persons under MTCA, one must demonstrate that the action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action. This opinion does not determine whether the action you performed is substantially equivalent. Courts make that determination. *See* RCW 70A.305.080[13] and WAC 173-340-545.[14]

State is immune from liability.

The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. *See* RCW 70A.305.170(6).[15]

Contact Information

Thank you for choosing to clean up the Site under the Voluntary Cleanup Program (VCP). After you have addressed our concerns, you may request another review of your cleanup. Please do not hesitate to request additional services as your cleanup progresses. We look forward to working with you.

For more information about the VCP and the cleanup process, please visit our web site: www. ecy.wa.gov/programs/tcp/vcp/vcpmain.htm. If you have any questions about this

[12] https://app.leg.wa.gov/RCW/default.aspx?cite=70A.305.040
[13] https://app.leg.wa.gov/RCW/default.aspx?cite=70A.305.080
[14] https://apps.leg.wa.gov/WAC/default.aspx?cite=173-340-545
[15] https://app.leg.wa.gov/RCW/default.aspx?cite=70A.305.170

opinion, please contact me by phone at (509) 342-5564 or e-mail at ted.uecker@ecy.wa.gov.

Sincerely,

Ted M. Uecker
ERO Toxics Cleanup Program

tmu:hg

Enclosures (1): A – Description and Diagrams of the Site

cc: Gary Panther, Spokane Environmental Solutions
Nicholas Acklam, Ecology KG

Enclosure A

Description and Diagrams of the Site

Site description

The Site is located at 516 W Cora Ave in Spokane and includes Spokane County tax parcels 35064.3614, 35064.3615, and 35064.3516, totaling 4.71, 10.06, and 4.1 acres. Ecology also suspects that parcel 35063.2005 may contain debris associated with the Site, although soil data collected in 2025 indicates soil meets MTCA cleanup standards on the western boundary of the Site. The Site is a former borrow pit used by the City of Spokane from approximately 1911 until the 1950s for storage of sand and gravel up to approximately 70 feet below ground surface (bgs). From 1953 to 1954, the City of Spokane used the Site for disposal of construction debris including soil, concrete, glass, porcelain, brick, metal, suspected slag material, and fire residue. The central portion of the Site was developed into a mobile home park in 1974. Apartment complexes were developed to the east (parcel 35064.3801) in 1975 and the west (parcel 35063.2005) in 1979. The Faith Bible Church purchased the mobile home property in the early 1990s and graded and filled areas to reduce subsidence prior to development in 1999. The remainder of the Site to the east and west of the church is undeveloped. The property west of the church (West Property, parcel 35064.3614) is undergoing environmental investigation and cleanup in preparation of a 90-unit multi-family housing development. The Site is bounded by W Cora Ave and single-family residential housing to the south.

Site geology consists of alluvial Pleistocene outburst flood deposits overlying Miocene flood basalt bedrock. The Site is bordered by a steep alluvial terrace to the north, which is alleged to have been used for dumping materials into the borrow pits. Fill materials including gravel, sand, silt, and debris occur from the ground surface to between 16-22 feet bgs, with native gravel, sand, cobbles, and boulders encountered below the fill to at least 100 feet bgs. Unconfined groundwater identified as the Spokane Valley Rathdrum Prairie Aquifer is encountered at 80 feet bgs.

Site history

From 1991-1994, Gifford Consultants conducted preliminary subsurface exploration for development of the proposed church property (parcels 35064.3615 and 35064.3616, approximately 14.16 acres), which included geotechnical soil borings to determine the fill thickness and nine exploratory test pits to document the debris types. No environmental data is available from these studies. In 2015, TechCon conducted a Phase I environmental site assessment (ESA) on the vacant property west of the church property (West Property, parcel 35064.3614 totaling 4.7 acres) and did not identify any recognized environmental conditions (RECs).

In 2015, the City of Spokane Water Department considered developing the West Property. Budinger & Associates surveyed the property using ground penetrating radar (GPR) to identify any shallow buried drums or large debris, advanced one geotechnical soil boring, installed one groundwater monitoring well, and excavated eight test pits. The soil boring was advanced to 35 feet bgs and encountered gravel, sand, silt, and debris in the upper 22 feet, and native flood deposit gravels and coarser materials from 22-35 feet.

The groundwater monitoring well was advanced to 100 feet bgs and encountered gravel, sand, silt, and debris to 16 feet bgs, followed by native gravel, sand, and coarser material. Bedrock was not encountered. The well was screened from 70-100 feet bgs, with the static water level recorded at 77.5 feet bgs. One groundwater sample was collected and analyzed for heavy metals, nitrates, volatile organic compounds (VOCs), pesticides, and herbicides. Tetrachloroethene (PCE) was detected at 4 ug/L, below the MTCA Method A cleanup level of 5 ug/L. No other analytes were detected above cleanup levels.

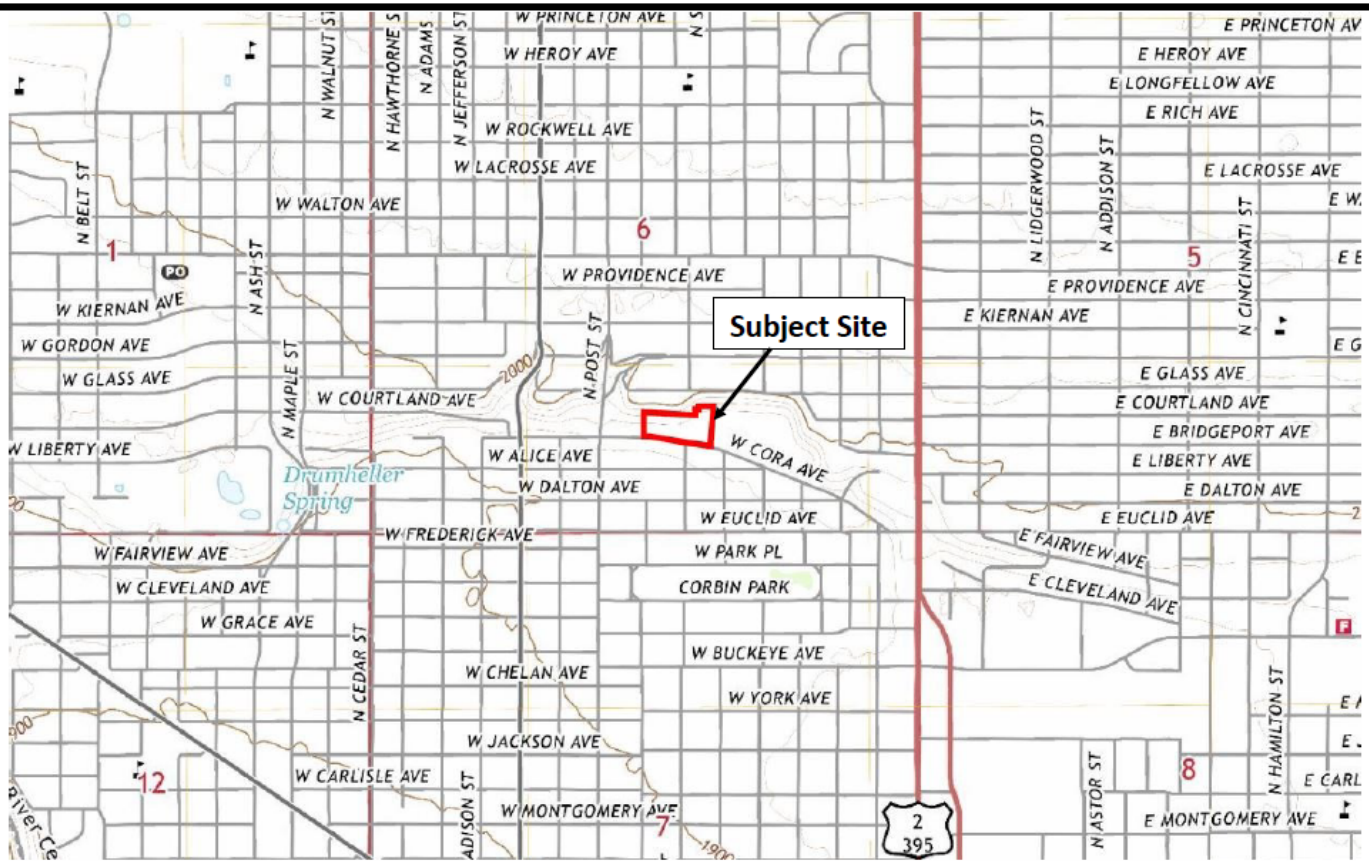
The test pits were excavated up to 20 feet bgs and identified the debris layer decreasing in thickness from north to south. Three test pits with the greatest level of debris were sampled and analyzed for petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), Resource Conservation and Recovery Act (RCRA) metals, and leachable metals using the Toxicity Characteristic Leaching Procedure (TCLP, EPA Method 1311). Arsenic, cadmium, and lead were detected exceeding MTCA Method A cleanup levels for unrestricted land use in test pits TP1 from 0-9 feet bgs and TP8 from 1-4 feet bgs. The maximum concentrations were 40.8 mg/kg arsenic, 2.71 mg/kg cadmium, and 868 mg/kg lead. PAHs were detected in all three test pits below the Method A cleanup level. Petroleum hydrocarbons and PCBs were not detected, and no TCLP analyses exceeded federal or state dangerous waste criteria.

In 2023, Fulcrum Environmental Consulting conducted an updated Phase I ESA on the West Property, which identified potential adverse impacts to soil and groundwater associated with debris including buried tires which were observed at the surface of the northern slope. In January 2025, Spokane Environmental Solutions (SES) conducted limited soil sampling on the West Property, including six test pits across the northeast with composite soil samples collected at each location from 0-4 feet and 4-8 feet bgs. Samples were analyzed for semi-volatile organic compounds (SVOCs), arsenic, cadmium, and lead. One sample from 4-8 feet bgs exceeded the MTCA Method A cleanup level for lead at 300 mg/kg, while two other samples from 4-8 feet bgs exceeded the Method A cleanup level for PAHs.

In February 2025, SES completed an additional twelve test pits on the remainder of the West Property, with composite soil samples collected at each location from 0-5 feet and 5-8 feet bgs. One sample from 5-8 feet bgs exceeded the MTCA Method A cleanup level for arsenic, while three samples exceeded the Method A cleanup level for PAHs.

In April 2025, SES submitted a cleanup action plan (CAP) which proposed excavating an estimated 4,000 cubic yards of soil and segregating the soil into three stockpiles based on exceedance of MTCA Method A cleanup levels or Washington State dangerous waste criteria. The excavation will occur in six zones distinguished by contaminant type based on prior soil sampling results, with zones 1, 3, 4, and 6 excavated from 0-5 feet bgs and zones 2 and 5 excavated between 5 and 10 feet bgs. Excavation from each zone will continue until confirmation samples from the lateral and vertical extent of each zone are below cleanup levels or the standard point of compliance is reached at 15 feet bgs. The stockpiles will be characterized and either reused onsite if below cleanup levels or disposed of at an appropriate RCRA Subtitle C or D facility.

Site Diagrams



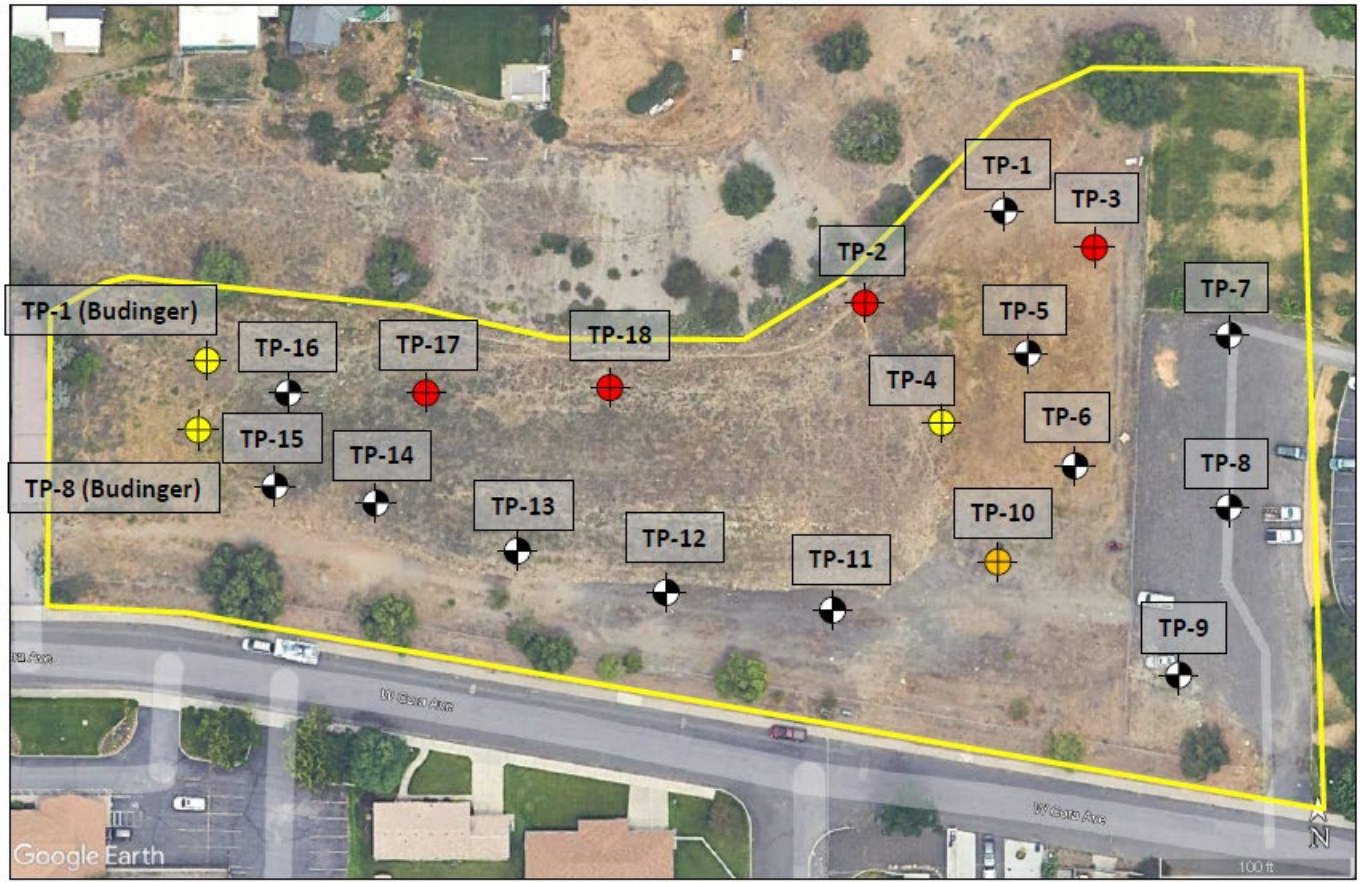
LEGEND

Approximate subject site location

Figure 1: Topographic Subject Site Location Map

516 West Cora Avenue, Spokane, Washington

FULCRUM environmental consulting	Fulcrum Environmental Consulting, Inc. 207 West Boone Avenue Spokane, Washington 99201 (509) 459-9220
Map By: Abby Whitmore	Project Number: 233902.00
Date: 09/18/2023	Reviewed By: Scott Groat



Legend

- Parcel Outline
- Exceeds cPAHs
- Exceeds Metals
- Exceeds for Metals and cPAHs

Not to Scale

Notes:

1. Location of all features on map are approximate.
2. This drawing is for information purposes. It is intended to support descriptions of features discussed in an associated document. Spokane Environmental Solutions, LLC cannot guarantee the accuracy and content of electronic files. The master file is stored by Spokane Environmental Solutions, LLC and will serve as the official record of this communication.
3. TP-1 and TP-2 (Budinger are test pit samples in exceedance identified in a 2015 Budinger & Associates Investigation.

Data Source: Image from Google Earth

Date Created: 4/4/2025

Test Pit Map

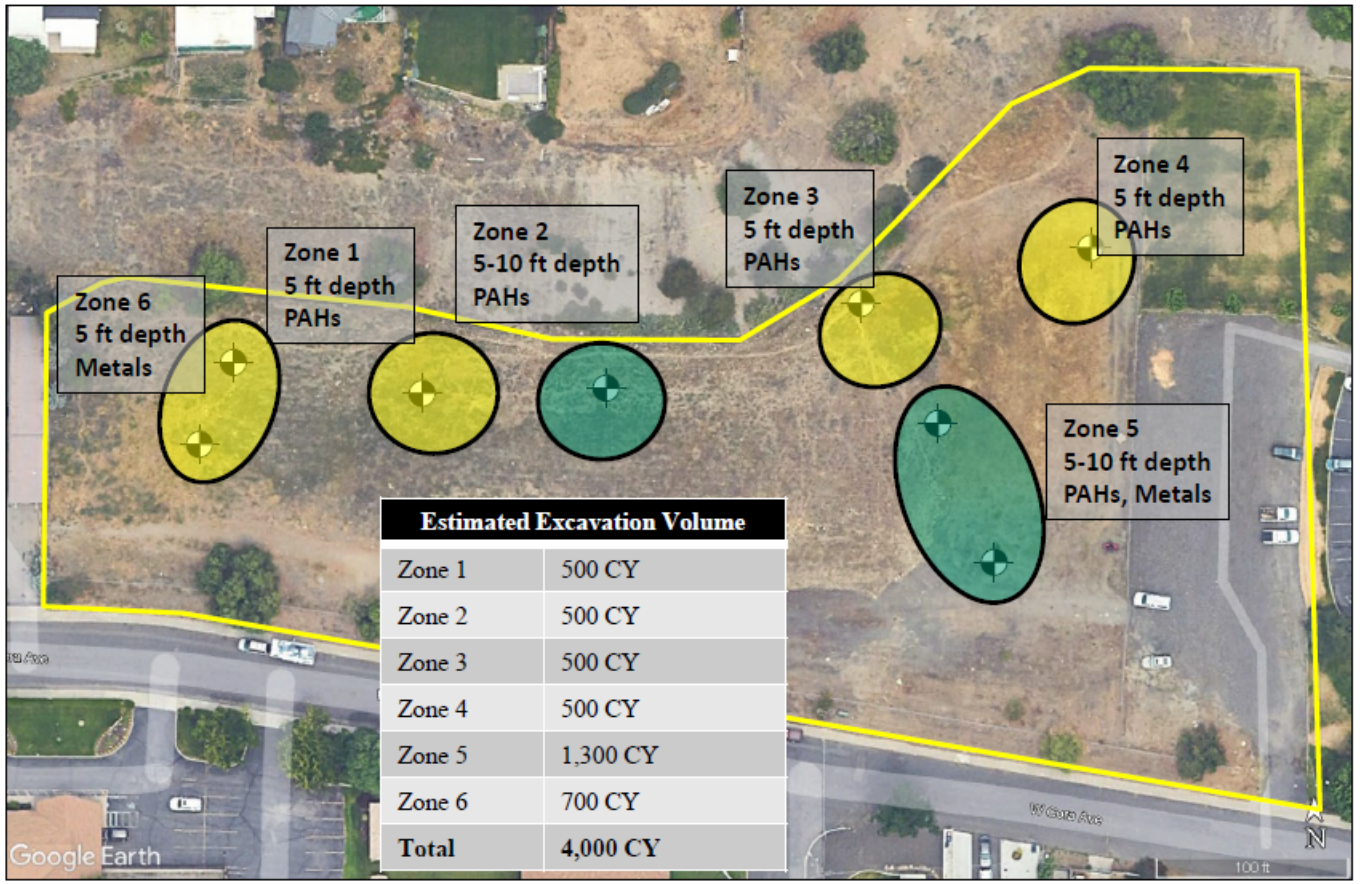
Cleanup Action Plan
516 W. Cora Ave.

Spokane, WA

Spokane Environmental Solutions

Figure 2

1810-003 Date Exported: 4/4/2025



Estimated Excavation Volume	
Zone 1	500 CY
Zone 2	500 CY
Zone 3	500 CY
Zone 4	500 CY
Zone 5	1,300 CY
Zone 6	700 CY
Total	**4,000 CY**

Legend

- Parcel Outline
- Approx. Excavation Area (0 – 5 ft)
- Approx. Excavation Area (5 – 10 ft)

N W E S

Not to Scale

Notes:

1. Location of all features on map are approximate.
2. This drawing is for information purposes. It is intended to support descriptions of features discussed in an associated document. Spokane Environmental Solutions, LLC cannot guarantee the accuracy and content of electronic files. The master file is stored by Spokane Environmental Solutions, LLC and will serve as the official record of this communication.
3. Excavation area volume estimates don't include overburden.

Data Source: Image from Google Earth

Date Created: 4/4/2025

18-10-003 Date Exported: 4/4/2025

Projected Excavation Map

Phase II ESA 516 W. Cora Ave.	Spokane, WA

Spokane Environmental Solutions

Figure 3