Spokane Environmental Solutions

DEPARTMENT OF ECOLOGY
State of Washington

CLEANUP ACTION PLAN

Former Cora Avenue Borrow Pit

516 West Cora Avenue

Spokane, WA 99205

FSID: 100000484

CSID: 17158

VCP Project ID: EA0390

Ecology Contact: Ted Uecker

This Cleanup Action Plan outlines the planned remedial action intended to bring the Cora Avenue Borrow Pit site into compliance with Washington State Department of Ecology's Model Toxics Cleanup Criteria prior to development of an 82-unit apartment complex. Remedial investigations have identified onsite zones bearing soil contamination exceeding MTCA Method A cleanup criteria for unrestricted land use. Excavation and disposal of contaminated soils is the proposed method for site remediation. Ecology's suggestions and approval for this Cleanup Action Plan are desired to hasten the obtainment of a "No Further Action Likely" opinion before proceeding with site remediation.

Cleanup Action Plan

Cora Avenue Borrow Pit
516 West Cora Avenue
Spokane Washington, 99205

FSID: 100000484
CSID: 17158
VCP Project ID: EA0390

Prepared for
Washington State Department of Ecology

SES PROJECT NO. 1810-003

Spokane Environmental Solutions

2020 East Springfield Avenue
Spokane, Washington 99202
509.688.5376

April 10, 2025

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

APPENDICES

PROJECT INFORMATION

Site Name/Location:	Cora Avenue Borrow Pit 516 West Cora Avenue Spokane, Washington 99205
Site Owner:	4 Degrees Real Estate
VCP Enrollee:	4 Degrees Real Estate
Contractor:	Spokane Environmental Solutions, LLC 2020 East Springfield Avenue Spokane, Washington 99202 (509) 688-5376
4 Degrees Real Estate Project Manager:	Jordan Tampien: (509) 413-1956
SES Project Manager:	Gary D. Panther, LG, LEG: (509) 954-5090
SES Project No.:	1810-003

ACRONYMS AND ABBREVIATIONS

Acronyms & Abbreviations	Definitions
ARAR	Applicable, Relevant and Appropriate Requirements
bgs	below ground surface
COC	Contaminant/Chemical of Concern
CSID	Cleanup Site Identification number
CSM	Conceptual Site Model
dba	Doing business as
DQO	Data Quality Objectives
DRPH	Diesel Range Petroleum Hydrocarbons
Ecology	Washington State Department of Ecology
EIM	Electronic Information Management
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FID	Flame Ionization Detector
FSID	Facility Site identification number
GC	Gas Chromatography
ICP-OES	Inductively Coupled Plasma Optical Emission Spectrometer
MDL	Method Detection Limit
MTCA	Model Toxics Control Act
ORPH	Oil Range Petroleum Hydrocarbons
PAH	Polycyclic Aromatic Hydrocarbons
PDW	Potentially Dangerous Waste
PQL	Practical Quantitation Limits
RCRA	Resource Conservation and Recovery Act
RCW	Revised Code of Washington
RI	Remedial Investigation
RPD	Relative Percent Difference
SAP	Sampling and Analysis Plan

Acronyms & Abbreviations	Definitions
TCLP	Toxicity Characteristic Leaching Procedure
TPH	Total Petroleum Hydrocarbon
VCP	Voluntary Cleanup Program
WAC	Washington State Administrative Code

1. INTRODUCTION

1.1. PURPOSE

This document is the Cleanup Action Plan (CAP) for the Cora Avenue Borrow Pit Site located in Spokane, Washington. The general location of the Site is shown in Figure 1. A CAP is required as part of the site cleanup process under Chapter 173-340 WAC, Model Toxics Control Act (MTCA) Cleanup Regulations. The purpose of the CAP is to identify the proposed cleanup action for the Site and to provide an explanatory document for public review. More specifically, this plan:

- Describes the Site
- Summarizes current site conditions;
- Summarizes the cleanup action alternatives considered in the remedy selection process;
- Describes the selected cleanup action for the Site and the rational for selecting this alternative;
- Identifies site-specific cleanup levels and points of compliance for each dangerous waste substance and medium of concern for the proposed cleanup action;
- Identifies applicable state and federal laws for the proposed cleanup action;
- (use for containment remedies) Identifies residual contamination remaining on the site after cleanup and restrictions on future uses and activities at the site to ensure continued protection of human health and the environment;
- Discusses compliance monitoring requirements; and
- Presents the schedule for implementing the CAP.

Ecology has made a preliminary determination that a cleanup conducted in conformance with this CAP will comply with the requirements for selection of a remedy under WAC 173-340-360.

1.2. PREVIOUS STUDIES

The primary studies used to guide the development of this CAP are the 2025 soil investigations completed by SES. These studies analyzed SVOCs, PAHs, and total arsenic, cadmium and lead at representative locations around the site to depths of approximately 10 feet. These studies primarily delineate the degree and extent of onsite soil contamination. One additional zone of contamination is identified in the 2015 Budinger investigation report.

The SES investigation follows a Fulcrum Phase I ESA in 2023 that identified potential environmental risk associated with tires historically being discarded on the site.

Investigations conducted by Budinger and Associates in 2015 addressed onsite groundwater and soil. One groundwater sample was analyzed for possible contaminants with the only detection being tetrachloroethylene (TCE) below MTCA Method A cleanup levels for groundwater. This study also identified total metals arsenic, cadmium and lead in concentrations in soils exceeding MTCA Method A cleanup levels. Test pits 1 and 8 from this investigation are used in this CAP to guide soil excavation. No other Contaminants of Concern (COCs) or potentially asbestos-containing materials or other potentially hazardous construction wastes were identified in this study.

Geotechnical investigations conducted by Intermountain Materials in 2023 identified no potentially asbestos-containing materials, potentially hazardous construction wastes or

obvious petroleum impact.

1.3. REGULATORY FRAMEWORK

This CAP is designed to bring site soil contaminant concentrations into compliance with Ecology's MTCA cleanup standards for unrestricted land use. This site appears to have been cleared and vacant since the mid-1990s based on historical aerial photographs. This site is part of a larger area that made up a sand and gravel borrow pit that was backfilled in the early 1970s. The current site owner is listed on the county assessor's website as 4 CAP WEST CORA, LLC which is developing the site as apartment buildings.

2. SITE DESCRIPTION

2.1. SITE HISTORY

This site appears to have been vacant since the mid-1990s based on historical aerial photographs. The site is part of a larger area that served as a sand and gravel pit from the early 1900s into the 1960s. The borrow pit was backfilled, leveled and developed into an RV park in the early 1970s. The site then operated as a mobile home park until the mid-1990s. The site is to be developed into residential apartments upon completion of appropriate site remediation.

2.2. HUMAN HEALTH AND ENVIRONMENTAL CONCERNS

Soil contaminants identified in surface/near surface soils include members of metals and PAH groups. The source of soil contamination is likely related to its being reclaimed with undocumented fill following its history as a borrow pit. Potential health impacts related to contaminant groups are outlined as follows:

- Metals – Increased risk of certain cancers, kidney, bone and/or lung disease, nervous system damage, and/or high blood pressure;
- PAHs – Increased risk or certain cancers, kidney, liver and/or lung disease, negative impacts to immune system, reproductive system and/or cardiovascular system.

COCs are distributed unevenly throughout the site. COCs are present in levels exceeding MTCA Method A cleanup levels in pockets ranging from about 0 – 5 feet and 5 – 10 feet bgs. (detailed summaries of analytical results are found in Tables 1 through 3. Groundwater in this area is approximately 75 feet bgs. Migration of COCs to groundwater is therefore unlikely as they would have been detected in groundwater investigations conducted previously.

Health impacts are a potential concern only for employees experiencing direct contact with site surface soils or through inhalation of dust during dry conditions.

2.3. CLEANUP STANDARDS

Contaminants of concern (COCs) selected for cleanup are those that were detected at concentrations exceeding MTCA Method A cleanup levels or unrestricted land use in the 2025 limited soil assessment. Cleanup standards are based on MTCA Method A cleanup levels for unrestricted land use. All COCs and associated MTCA cleanup levels are as follows:

Analyte Group	Analyte	MTCA Method A Cleanup Level
Metals (mg/kg)	Arsenic	20
	Cadmium	2
	Lead	250
PAHs	Toxicity equivalency relative to benzo(a)pyrene	2

3. CLEANUP ACTION ALTERNATIVES AND ANALYSIS

The only reasonable cleanup action for expedient site remediation is soil excavation and disposal. Cleanup action alternatives are not explored in this CAP.

4. DESCRIPTION OF SELECTED REMEDY

4.1. SITE DESCRIPTION

This 4.71-acre vacant site is identified by Spokane County parcel number 35064.3614 (street address 516 West Cora Avenue) (see Vicinity Map, Figure 1).

Of the 18 locations sampled in the SES Limited Soil Investigations, 6 had soil samples at various depths with one or more contaminants greater than the MTCA Method A cleanup level for unrestricted land use. The 2015 Budinger report also identified a zone near the west edge of the site with contaminants exceeding cleanup values. COCs in levels exceeding MTCA Method A cleanup levels were identified in zones unevenly distributed across the site in layers between 0 – 5 feet and 5 – 10 feet bgs. Overall site contamination and proposed excavation limits are depicted in Projected Excavation Site Map, Figure 3. Analytical results and Toxic Equivalency Calculations used to determine cleanup zones are listed in Tables 1 and 2 respectively.

4.2. DESCRIPTION OF THE CLEANUP ACTION

Excavation of contaminated soil is the most appropriate strategy for expedient remediation of this site. A total excavation volume of approximately 4,000 CY of Potentially Dangerous Waste (PDW) is predicted based on the remedial investigation. PDW is a zone identified in the remedial investigation that exceed MTCA Method A cleanup values for unrestricted land use and may exceed Washington State Dangerous Waste designation after being excavated and stockpiled for disposal. Zones identified as PDW will be excavated into stockpiles of appropriate size and these stockpiles will be analyzed individually for Dangerous Waste (DW) characteristics prior to reuse or offsite disposal.

Stockpiles can be identified by one of three categories as seen in Table 3. Stockpiles identified as Category 1 can be reused onsite as backfill or be transported to another offsite location without restrictions. However, all stockpiles destined for offsite fill material must be analyzed for COCs and found to be below MTCA Method A Cleanup values prior to transport. Stockpiles identified as Category 2 will be designated as non-hazardous waste and disposed of in the Graham Road Subtitle D landfill. Stockpiles identified as Category 3 will be assigned the dangerous waste number WT02 and disposed of in the Arlington, OR Subtitle C landfill.

Estimated excavation areas are delineated based on the locations and depths of soil samples exceeding cleanup levels. Zones 1, 3, 4 and 6 are to be excavated from 0 – 5 feet bgs and

Zones 2 and 5 are to be excavated from 5 – 10 feet bgs. These zones are outlined in Projected Excavation Map, Figure 3. The overburden from Zones 2 and 5 will be stockpiled and analyzed prior to being reused as structural fill onsite.

Per Ecology guidance, should potentially asbestos-containing hazardous construction wastes be identified during excavation, proper precautions will be taken and asbestos samples will be collected and analyzed.

4.3. CLEANUP STANDARDS AND POINT OF COMPLIANCE

Zones identified as containing potentially impacted soil must be outlined prior to excavation and kept separate from all other onsite soils. These zones are identified as Zones 1 – 5 and have specific areas and depths. It is understood that approximately two feet of surface soil will be removed from the entire site for purpose of development. This surface soil that is outside the delineated Zones is considered clean based on the results of the remedial investigation studies and will be identified as Category 1 soils without additional testing.

For delineated Zones in Figure 3: soil will be excavated from outlined excavation areas to the depth identified as containing potentially dangerous waste. If soil exists above this depth, it will be excavated and stored separately in stockpiles that are subject to the same analysis as those containing potentially dangerous waste for waste designation purposes. Confirmation soil samples will be taken at the base and extent of soil excavations to ensure that contaminated soil zones have been properly delineated. Excavation will continue until excavation extent confirmation samples are in compliance.

Confirmation sample analysis for individual Zones will be based on findings from the remedial investigations. Zones 1 – 4 contained only PAHs as a COC exceeding MTCA Method A cleanup criterion for unrestricted land use so PAHs will be analyzed for characterization sampling in these Zones. Zone 5 contained PAHs and total arsenic, cadmium or lead as a COC in exceedance so PAHs and total arsenic, cadmium and lead will be analyzed for characterization sampling in this Zone. Zone 6 contained total arsenic, cadmium and lead in exceedance so these analytes will be analyzed for compliance in this Zone.

Analyzed soil samples are in compliance if they are below MTCA Method A cleanup level for unrestricted land use. PAHs are below cleanup when Toxic Equivalency Factor (TEF), as defined by Washington State Ecology Publication No. 15-09-049, is below 2. Relevant total metals are below cleanup at concentrations below 20 mg/kg arsenic, 2 mg/kg cadmium, or 250 mg/kg lead.

If confirmation samples are found to be out of compliance, excavation will continue in the direction indicated. Lateral excavation will continue until sidewall sampling indicates relevant COCs below cleanup level. Likewise, excavation will continue downward until sampling indicates relevant COCs below cleanup level or to a maximum depth of 15 feet below finished top of asphalt grade of completed site development.

Excavated soils will be stockpiled and sampled to determine Soil Categories, described in section 4.2 and defined in Table 3, prior to disposal at an appropriate designated facility. Composite samples consisting of three composite samples (each comprised of 10 aliquots) selected randomly from each stockpile will be analyzed by Eurofins Spokane Valley, WA laboratory. Stockpiles will be characterized one of three categories for disposal as discussed previously and in Table 3.

4.4. APPLICABLE, RELEVANT AND APPROPRIATE REQUIREMENTS (ARARS)

Applicable ARARs include hazardous waste requirements for designation and disposal.

4.5. RESTORATION TIMEFRAME

Removal of contaminated soil media will commence soon after approval of CAP and is anticipated to take approximately four to six weeks. Time frame includes initial soil removal and additional soil removal following out of compliance confirmation sampling.

5. COMPLIANCE MONITORING

Compliance monitoring will be conducted concurrently with contaminated soil excavation. Site will be considered in compliance when lead soil concentrations on edges and floor of excavation area are confirmed below MTCA Method A cleanup levels for unrestricted land use.

5.1. FIELD SAMPLING PROCEDURES

SAMPLE COLLECTION

Samples will be collected from the excavation limits, bottom and associated stockpiles in quantities and preservation required for intended analysis. Sample collection will be conducted with nitrile gloves and other appropriate disposable sampling techniques to ensure that no cross-contamination of samples occurs.

We propose the following sampling frequency of one discrete sample collected from every 50-feet of excavation sidewall and one discrete sample collected from each 1,000 square feet of excavation floor. As an example, this would equate to a minimum of four discrete soil samples collected from the sidewalls and three discrete soil samples collected from the bottom of each excavation zone as identified in the Projected Excavation Map – Figure 3. However, excavation zones located above a zone identified as containing COCs below MTCA Method A cleanup levels for unrestricted land use will not require bottom confirmation samples. This would include Zones 1 – 4. Zone 6 will require bottom confirmation sampling since the Budinger investigation did not explore this area at depth in detail. This would equate to a minimum of 24 sidewall and 12 bottom confirmation samples total.

SAMPLING HANDLING

Procedures improving confidence in reliability of samples:

- Samples will be stored in prepared coolers and maintained at or below 4°C to maintain sample integrity before and during transport to the laboratory.
- Samples will be delivered to the laboratory with 24 hours of field collection under chain-of-custody (COC) procedures.

5.2. ANALYTICAL METHODS

Metals – Arsenic, cadmium and lead soil concentrations will be analyzed by EPA Method 6010D employing inductively coupled plasma – optical emission spectrometry (ICS-OES).

PAHs – PAHs will be determined using cPAH Toxic Equivalency Factors (TEF) calculation with constituents analyzed by EPA Method 8270E employing gas chromatography/mass spectrometry.

Detailed information regarding EPA Method 6010D and 8270E can be found in EPA's SW-846 Compendium.

5.3. QUALITY ASSURANCE AND QUALITY CONTROL

The accredited laboratory selected for sample analysis will undergo specific procedures for quality assurance and quality control. These procedures include:

- Calibration Verification – Instrumentation will be calibrated prior to and during sample analysis to ensure that results fall within quality control criteria.
- Method Blanks – Blanks analyzed to assess possible laboratory contamination.
- MS/MSD Samples – Matrix spikes assess the matrix effects on measurement accuracy. Duplicate sample measures quality of laboratory preparation techniques and sample heterogeneity.
- Surrogate Spike Compounds – Appropriate surrogate compounds will be analyzed to evaluate recovery of analytes.
- Laboratory Control Samples – Laboratory analysis to determine precision and accuracy of analytical methods.

SES personnel will examine laboratory QA/QC data to determine suitability of analytical results and address issues, as necessary.

5.4. DATA QUALITY OBJECTIVES

Data Quality Objectives (DQOs) are qualitative and/or quantitative statements of the precision (a measure of the random error), bias (a measure of systematic error), representativeness, completeness, and comparability necessary for the data to serve the objectives of the project. During plan implementation, field as well as laboratory data will be generated. The quality of the field data will be evaluated based on successful calibration of each instrument supplying the data and the stated accuracy and precision by the manufacturer. The quality of laboratory data will be evaluated based on the relative precision, bias, representativeness, completeness, and comparability of the data generated by each type of analysis. These terms are defined below:

- Precision - Precision is a measure of the scatter in the data due to random error. For most environmental measurements, the major sources of random error are sampling and analytical procedures. Sampling and analytical precision is expressed as the relative percent difference (RPD).
- Bias - Bias is a measure of the difference between the analytical result for a parameter and the true value due to systematic errors. Potential sources of systematic errors include sample collection, physical/chemical instability of samples, interference effects, calibration of the measurement system, and artificial contamination.
- Representativeness - Representativeness of the environmental conditions at the time of sampling is achieved by selecting sampling locations, methods and times so that the data describe the site conditions that the project seeks to evaluate.
- Completeness - Completeness refers to the amount of usable data produced in the project.
- Comparability - Comparability refers to the ability to compare the data from the project to other data.

Project DQOs for laboratory method reporting limits (RLs) or practical quantitation limits (PQLs) and the method detection limits (MDLs) for precision and bias will be assessed based on the laboratory control limits for the respective laboratory parameter. Representativeness of the data collected will be ensured by using sampling procedures that represent the actual site conditions at the time of sampling. In addition, representative samples will also be ensured through following proper protocols for sample handling (storage, preservation, packaging, custody, and transportation), sample documentation, and laboratory sample handling and documentation procedures.

Comparability of the data will be ensured by selecting standard EPA and/or state analytical methodologies for sample analysis. Data will be reported from the laboratory to Spokane Environmental Solutions both electronically and in paper copy form. The laboratory provided data will be converted by Eurofins Environment Testing into a database format suitable for Electronic Information Management (EIM) submittal to Ecology. The electronic and paper copy analytical reports will be checked by Spokane Environmental Solutions to ensure reporting accuracy. Data quality will be assessed in terms of precision, bias, representativeness, completeness and comparability using specific data quality assessment procedures indicated by the EPA or Ecology laboratory method parameters.

5.5. INSTITUTIONAL/ENGINEERING CONTROLS

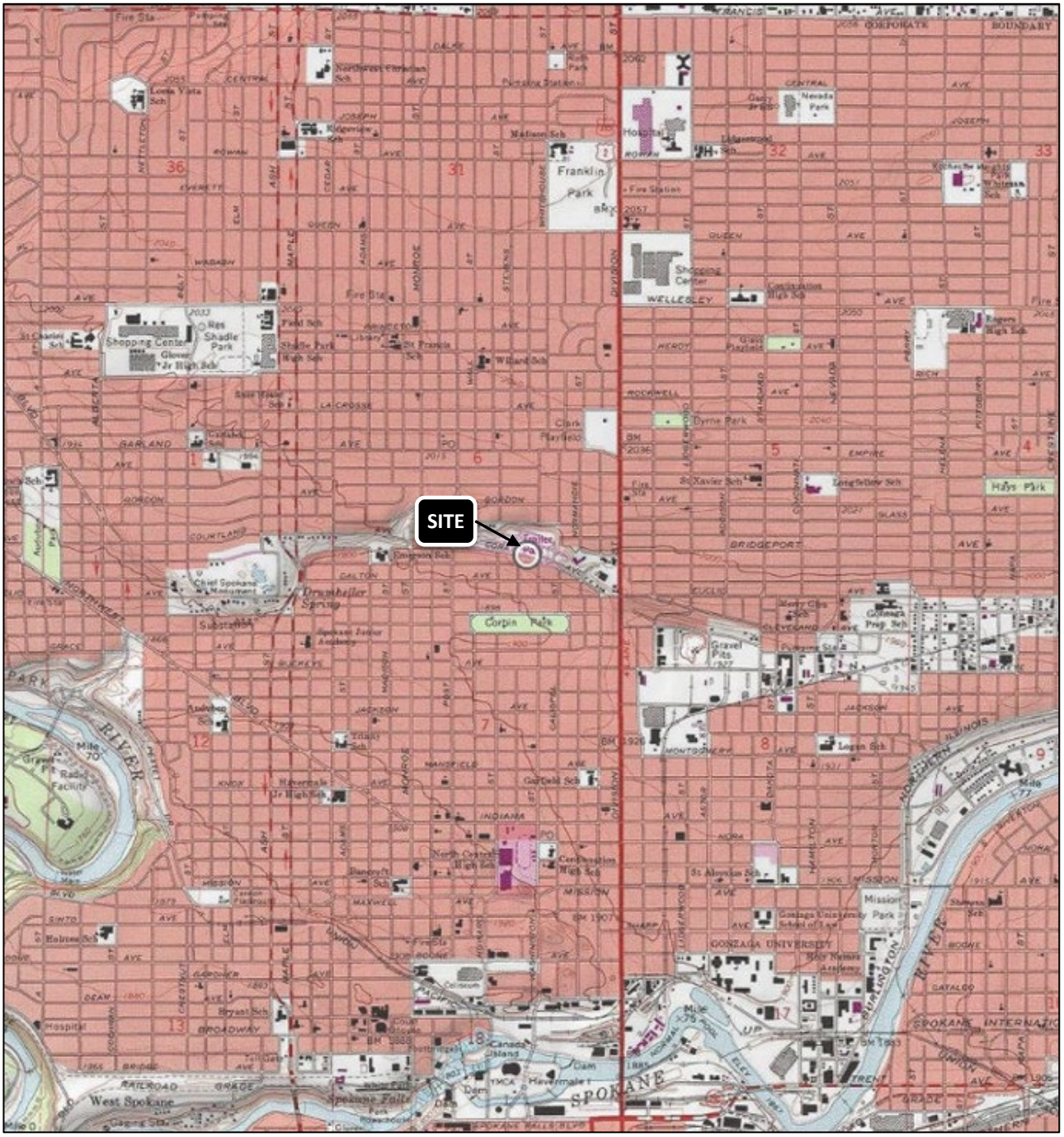
This Cleanup Action is intended to bring soil contamination below Cleanup Criteria defined in MTCA Method A cleanup levels for unrestricted land use. Residual contamination is not anticipated and will require no institutional or engineering controls. A temporary visible barrier around the excavation area will be erected to prevent public exposure during the execution of the Cleanup Action.

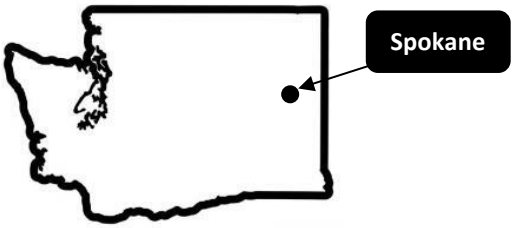
Residual or de minimis contamination is not anticipated. If present, institutional controls will be explored.

6. REFERENCES

- Budinger and Associates. "Preliminary Results of Environmental Exploration, Sampling and Chemical Analysis for Cora Avenue Well Site." May 2015.
- Ecology, revised 2013. Model Toxics Control Act Regulation and Statute. Washington State Department of Ecology, Olympia, Washington. 324 pages. Publication No. 94-06. http://www.ecy.wa.gov/biblio/9406.html
- Fulcrum Environmental Consulting. "Phase I Environmental Site Assessment, 526 West Cora Avenue, Spokane, Washington." July 2023.
- Intermountain Materials Testing and Geotechnical. "Geotechnical Evaluation, Cora Multi-Family, 516 West Cora Avenue, Spokane, Washington." September 2023.
- Spokane Environmental Solutions, LLC (SES). "Additional Phase II Soil Sampling for SVOC and Metal Constituents, 516 West Cora Avenue, Spokane, Washington." February 2025
- Spokane Environmental Solutions, LLC (SES). "Limited Soil Sampling for SVOC and Metals, 516 West Cora Avenue, Spokane, Washington." January, 2025.
- Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA publication SW-846, Third Edition, Final Updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), and V (2015).
- Washington Administrative Code, "Dangerous Waste Criteria." WAC 173-303-100. 2007.
- Washington Administrative Code, "Unrestricted land use soil cleanup standards." WAC 173-340-740. 2007.

FIGURES





0 0.25 0.5 1 mi

0 0.42 0.85 1.7 km

N W E S

Not to Scale

Vicinity Map

Cleanup Action Plan 516 W. Cora Ave.	Spokane, WA

Spokane Environmental Solutions

Figure 1

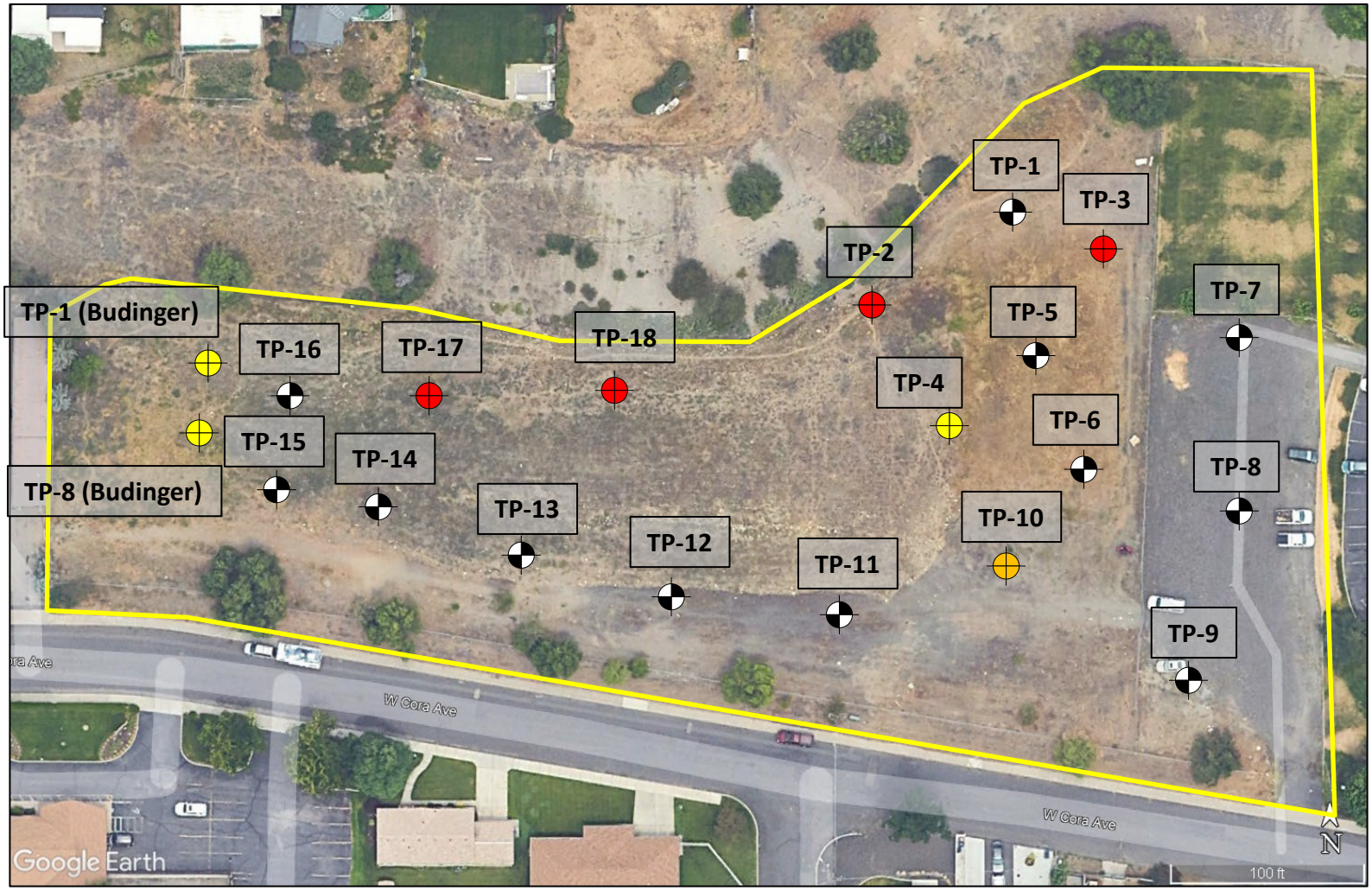
Notes:

1. Location of all features on map are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached 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.

Data Source: Image from ESRI Online

Date Created: 1/13/2025

1810-001 Date Exported: 1/13/2025



Legend

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

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. 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

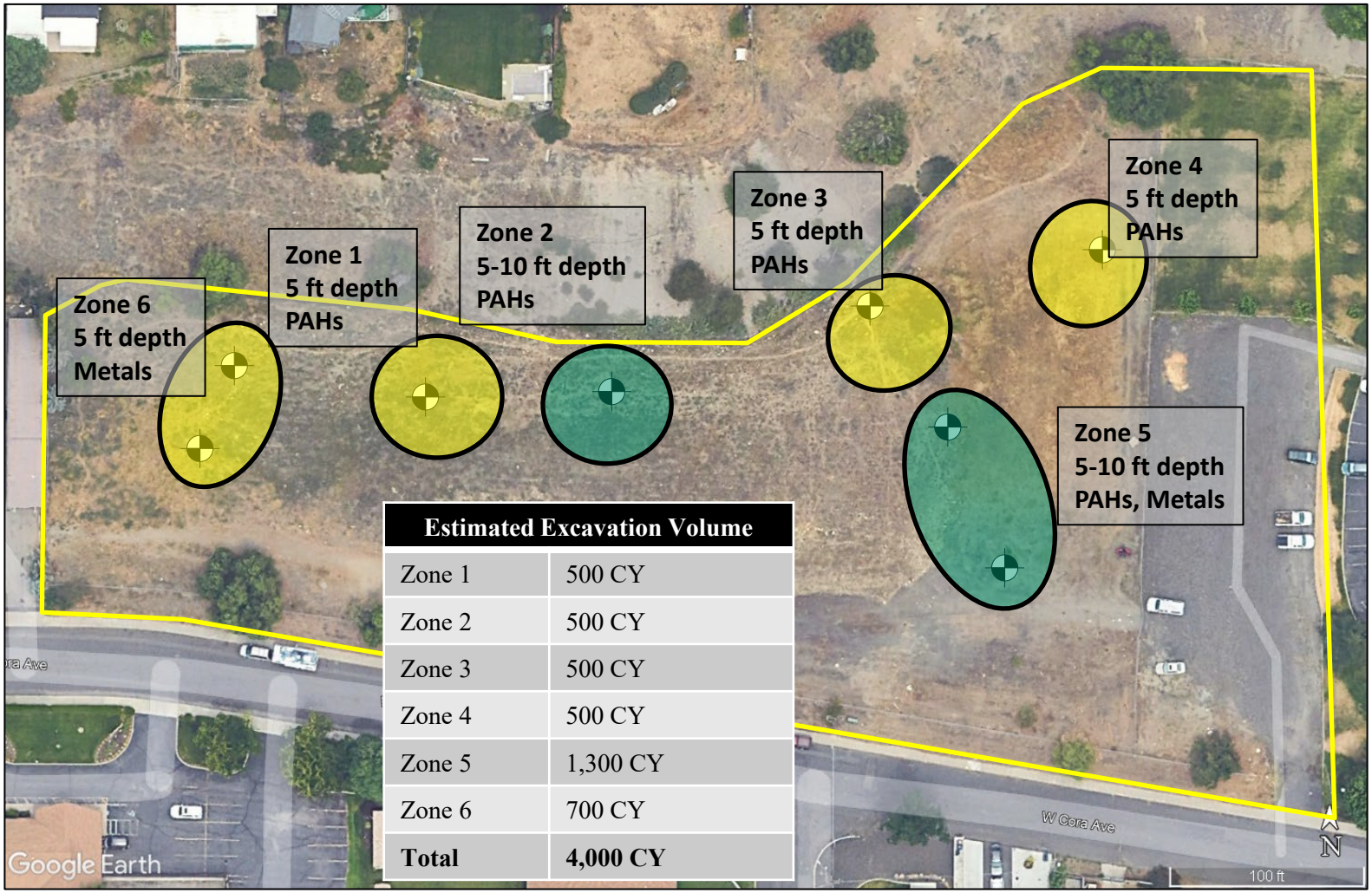
Test Pit Map

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

1810-003 Date Exported: 4/4/2025

Projected Excavation Map

Phase II ESA
516 W. Cora Ave.

Spokane, WA

Spokane Environmental Solutions

Figure 3

TABLES

Table 1 - Soil Analytical Data
Cleanup Action Plan
516 W. Cora Avenue
Spokane, Washington

Sample ID	Sample Type	Sample Date	Arsenic mg/Kg	Cadmium mg/Kg	Lead mg/Kg	cPAHs Exceed TEF	1,2,4-Trichlorobenzene	Acenaphthene	Acenaphthylene	Anthracene	Benzo[g,h,i]perylene	Bis(2-ethylhexyl) phthalate	Butyl benzyl phthalate	Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Phenol	Pyrene
Ecology MTCA Method A Soil Cleanup Level (mg/Kg)			20	2.0	250	Y/N	34	4800	24000	24000	NA	71	530	64000	2.80	8000	800	3200	3200	5.00	NA	24000	2400
TP-1-4	C	1/10/25	13	0.69	190	N	<0.0061	<0.0046	<0.0051	<0.016	0.048	0.097	<0.052	<0.022	<0.0051	0.049	<0.090	0.029	<0.0051	0.054	0.018	<0.023	0.024
TP-1-8	C	1/10/25	7.2	<0.43	30	N	<0.0062	<0.0048	<0.0052	<0.017	0.049	0.12	<0.053	<0.0023	<0.0052	<0.049	<0.092	0.063	<0.0052	0.025	0.059	<0.024	0.054
TP-2-4	C	1/10/25	14	<0.40	99	**Y**	<0.0063	0.48	<0.0053	0.24	0.053	0.22	<0.054	<0.023	<0.0053	<0.049	<0.094	1.1	0.43	0.15	2.0	<0.024	0.7
TP-2-8	C	1/10/25	9.0	0.72	130	N	<0.0059	<0.0046	<0.0050	<0.016	0.039	0.091	<0.051	<0.022	<0.0050	0.06	<0.088	0.04	<0.005	0.024	0.022	<0.023	0.039
TP-3-4	C	1/10/25	11	<0.37	12	**Y**	<0.0061	<0.0046	<0.0050	0.02	0.16	<0.072	<0.051	<0.022	<0.0050	0.053	<0.090	0.54	<0.005	<0.005	0.065	<0.023	0.48
TP-3-8	C	1/10/25	16	0.60	100	N	<0.0058	<0.0044	<0.0048	<0.015	<0.017	<0.068	<0.068	<0.021	<0.0048	<0.045	<0.086	<0.012	<0.0048	<0.0048	<0.0056	<0.022	<0.013
TP-4-4	C	1/10/25	13	0.40	80	N	<0.0066	<0.005	<0.0055	<0.018	<0.020	0.093	<0.056	<0.024	<0.0055	<0.052	<0.098	0.032	<0.0055	0.0093	0.012	<0.025	0.03
TP-4-8	C	1/10/25	14	0.71	**300**	N	<0.0063	0.0082	<0.0052	0.017	0.041	0.085	0.088	<0.0023	<0.0052	<0.049	<0.093	0.054	0.0063	<0.0052	0.033	<0.024	0.049
TP-5-4	C	1/10/25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP-5-8	C	1/10/25	10	0.40	78	N	<0.0060	<0.0046	<0.005	<0.016	0.042	0.093	<0.051	<0.022	<0.0050	0.054	<0.089	0.04	<0.005	0.011	0.18	<0.023	0.41
TP-6-4	C	1/10/25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP-6-8	C	1/10/25	<3.8	<0.45	<11	N	<0.0063	<0.0048	<0.0053	<0.017	0.049	0.092	<0.054	<0.023	<0.0053	<0.049	<0.094	0.041	<0.0053	0.014	0.017	<0.024	0.039
TP-7-4	C	2/6/25	8.6	<0.38	20	N																	
TP-7-8	C	2/6/25	13	<0.51	16 J	N																	
TP-8-4	C	2/6/25	9.1	<0.43	74	N																	
TP-8-8	C	2/6/25	9.4	<0.41	150	N																	
TP-9-4	C	2/6/25	7.0 J	<0.40	26	N																	
TP-9-8	C	2/6/25	8.6 J	<0.42	<10	N																	
TP-10-4	C	2/6/25	6.9 J	<0.39	66	N																	
TP-10-8	C	2/6/25	**37**	<0.43	70	**Y**					These SVOC compounds are not reported as they do not exceed cleanup values. Attachment A contains analytical reports where this data can be found.												
TP-11-4	C	2/6/25	10	<0.46	33	N							Table 2 provides cPAH TEF calculations based on analytical data collected during both assements.										
TP-11-8	C	2/6/25	7.8 J	<0.40	27	N																	
TP-12-4	C	2/6/25	15	<0.45	<23	N																	
TP-12-8	C	2/6/25	16	<0.47	<24	N																	
TP-13-4	C	2/6/25	9.5	<0.42	<22	N																	
TP-13-8	C	2/6/25	9.6 J	<0.47	<24	N																	
TP-14-4	C	2/6/25	1.1	<0.046	1.6 J	N																	
TP-14-8	C	2/6/25	13	<0.47	22 J	N																	
TP-15-4	C	2/6/25	11	<0.43	47	N																	
TP-15-8	C	2/6/25	10	<0.42	<10	N																	
TP-16-4	C	2/6/25	14	<0.47	67	N																	
TP-16-8	C	2/6/25	12	<0.44	55	N																	
TP-17-4	C	2/6/25	8.5 J	<0.47	110	**Y**																	
TP-17-8	C	2/6/25	8.2 J	<0.43	93	N																	
TP-18-4	C	2/6/25	6.0 J	<0.43	44	N																	
TP-18-8	C	2/6/25	11	0.56 J	150	**Y**																	

Notes:

Units in milligrams per kilogram (mg/Kg) or micrograms per kilogram (ug/Kg)
bold = Analyte detected above MTCA Method A cleanup criteria.
< = Analyte not detected at or above the Method Reporting Limit (MRL) and/or Method Detection Limit (MDL)
= Indicates a detection in excess of the MTCA Method A Soil Cleanup Level. Method B value used when Method A value not established.
-- = not analyzed or not applicable
ID = Identification
MTCA = Model Toxics Control Act
NE = Not Established
Sample Type: G = Grab. C = Composite
cPAH compliance determined through TEF Calculations. Individual TEF Calculation are Shown on Table 2.
Cleanup values as reported in CLARC, January 2025 update.

Toxicity Equivalency Factor Calculations

TP-1-4 1/10/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (mg/kg)	Toxicity Equivalency Factor (I	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		0.043	1	0.043	
Benzo(a)anthracene		0.02	0.1	0.002	
Benzo(b)fluoranthene		0.028	0.1	0.0028	
Benzo(k)fluoranthene		0.0305	0.1	0.00305	
Chrysene		0.021	0.01	0.00021	
Dibenzo(a,h)anthracene		0.055	0.1	0.0055	
Indeno(1,2,3-cd)pyrene		0.026	0.1	0.0026	
Sum	**0.1**			**0.059**	**Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Toxicity Equivalency Factor Calculations

TP-1-8 1/10/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (mg/kg)	Toxicity Equivalency Factor (I	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		0.072	1	0.072	
Benzo(a)anthracene		0.035	0.1	0.0035	
Benzo(b)fluoranthene		0.058	0.1	0.0058	
Benzo(k)fluoranthene		0.029	0.1	0.0029	
Chrysene		0.049	0.01	0.00049	
Dibenzo(a,h)anthracene		0.055	0.1	0.0055	
Indeno(1,2,3-cd)pyrene		0.045	0.1	0.0045	
Sum	**0.1**			**0.095**	**Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Toxicity Equivalency Factor Calculations

TP-2-4 1/10/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (mg/kg)	Toxicity Equivalency Factor (I	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		0.079	1	0.079	
Benzo(a)anthracene		0.2	0.1	0.02	
Benzo(b)fluoranthene		0.11	0.1	0.011	
Benzo(k)fluoranthene		0.0315	0.1	0.00315	
Chrysene		0.19	0.01	0.0019	
Dibenzo(a,h)anthracene		0.055	0.1	0.0055	
Indeno(1,2,3-cd)pyrene		0.033	0.1	0.0033	
Sum	**0.1**			**0.124**	**Fail**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Toxicity Equivalency Factor Calculations

TP-2-8 1/10/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (mg/kg)	Toxicity Equivalency Factor (I	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		0.046	1	0.046	
Benzo(a)anthracene		0.025	0.1	0.0025	
Benzo(b)fluoranthene		0.022	0.1	0.0022	
Benzo(k)fluoranthene		0.0295	0.1	0.00295	
Chrysene		0.02	0.01	0.0002	
Dibenzo(a,h)anthracene		0.05	0.1	0.005	
Indeno(1,2,3-cd)pyrene		0.023	0.1	0.0023	
Sum	**0.1**			**0.061**	**Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Toxicity Equivalency Factor Calculations

TP-3-4 1/10/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (mg/kg)	Toxicity Equivalency Factor (I	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		0.24	1	0.24	
Benzo(a)anthracene		0.42	0.1	0.042	
Benzo(b)fluoranthene		0.45	0.1	0.045	
Benzo(k)fluoranthene		0.14	0.1	0.014	
Chrysene		0.41	0.01	0.0041	
Dibenzo(a,h)anthracene		0.07	0.1	0.007	
Indeno(1,2,3-cd)pyrene		0.16	0.1	0.016	
Sum	**0.1**			**0.368**	**Fail**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Toxicity Equivalency Factor Calculations

TP-3-8 1/10/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (mg/kg)	Toxicity Equivalency Factor (I	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		0.05	1	0.05	
Benzo(a)anthracene		0.0195	0.1	0.00195	
Benzo(b)fluoranthene		0.0195	0.1	0.00195	
Benzo(k)fluoranthene		0.029	0.1	0.0029	
Chrysene		0.029	0.01	0.00029	
Dibenzo(a,h)anthracene		0.05	0.1	0.005	
Indeno(1,2,3-cd)pyrene		0.0195	0.1	0.00195	
Sum	**0.1**			**0.064**	**Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Toxicity Equivalency Factor Calculations

TP-4-4 1/10/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (mg/kg)	Toxicity Equivalency Factor (I	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		0.049	1	0.049	
Benzo(a)anthracene		0.02	0.1	0.002	
Benzo(b)fluoranthene		0.028	0.1	0.0028	
Benzo(k)fluoranthene		0.033	0.1	0.0033	
Chrysene		0.02	0.01	0.0002	
Dibenzo(a,h)anthracene		0.06	0.1	0.006	
Indeno(1,2,3-cd)pyrene		0.024	0.1	0.0024	
Sum	**0.1**			**0.066**	**Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Toxicity Equivalency Factor Calculations

TP-4-8 1/10/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (mg/kg)	Toxicity Equivalency Factor (I	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		0.052	1	0.052	
Benzo(a)anthracene		0.029	0.1	0.0029	
Benzo(b)fluoranthene		0.031	0.1	0.0031	
Benzo(k)fluoranthene		0.0315	0.1	0.00315	
Chrysene		0.022	0.01	0.00022	
Dibenzo(a,h)anthracene		0.055	0.1	0.0055	
Indeno(1,2,3-cd)pyrene		0.025	0.1	0.0025	
Sum	**0.1**			**0.069**	**Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Toxicity Equivalency Factor Calculations

TP-5-4 1/10/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (mg/kg)	Toxicity Equivalency Factor (I	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		0.031	1	0.031	
Benzo(a)anthracene		0.019	0.1	0.0019	
Benzo(b)fluoranthene		0.024	0.1	0.0024	
Benzo(k)fluoranthene		0.012	0.1	0.0012	
Chrysene		0.028	0.01	0.00028	
Dibenzo(a,h)anthracene		0.0056	0.1	0.00056	
Indeno(1,2,3-cd)pyrene		0.011	0.1	0.0011	
Sum	**0.1**			**0.038**	**Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Sample analyzed out of hold time.

Toxicity Equivalency Factor Calculations

TP-5-8 1/10/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (mg/kg)	Toxicity Equivalency Factor (I	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		0.049	1	0.049	
Benzo(a)anthracene		0.027	0.1	0.0027	
Benzo(b)fluoranthene		0.032	0.1	0.0032	
Benzo(k)fluoranthene		0.03	0.1	0.003	
Chrysene		0.025	0.01	0.00025	
Dibenzo(a,h)anthracene		0.055	0.1	0.0055	
Indeno(1,2,3-cd)pyrene		0.024	0.1	0.0024	
Sum	**0.1**			**0.066**	**Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Toxicity Equivalency Factor Calculations

TP-6-4 1/10/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (mg/kg)	Toxicity Equivalency Factor (I	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		0.034	1	0.034	
Benzo(a)anthracene		0.042	0.1	0.0042	
Benzo(b)fluoranthene		0.036	0.1	0.0036	
Benzo(k)fluoranthene		0.02	0.1	0.002	
Chrysene		0.04	0.01	0.0004	
Dibenzo(a,h)anthracene		0.0055	0.1	0.00055	
Indeno(1,2,3-cd)pyrene		0.015	0.1	0.0015	
Sum	**0.1**			**0.046**	**Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Sample analyzed out of hold time.

Toxicity Equivalency Factor Calculations

TP-6-8 1/10/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (mg/kg)	Toxicity Equivalency Factor (I	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		0.05	1	0.05	
Benzo(a)anthracene		0.028	0.1	0.0028	
Benzo(b)fluoranthene		0.028	0.1	0.0028	
Benzo(k)fluoranthene		0.0315	0.1	0.00315	
Chrysene		0.023	0.01	0.00023	
Dibenzo(a,h)anthracene		0.055	0.1	0.0055	
Indeno(1,2,3-cd)pyrene		0.027	0.1	0.0027	
Sum	**0.1**			**0.067**	**Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Toxicity Equivalency Factor Calculations

TP-7-4 2/6/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (ug/Kg)	Concentration mg/Kg	Toxicity Equivalency Factor (I	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		4.6	0.0046	1	0.0046	
Benzo(a)anthracene		3.4	0.0034	0.1	0.00034	
Benzo(b)fluoranthene		5.8	0.0058	0.1	0.00058	
Benzo(k)fluoranthene		3.4	0.0034	0.1	0.00034	
Chrysene		4.7	0.0047	0.01	0.000047	
Dibenzo(a,h)anthracene		6.8	0.0068	0.1	0.00068	
Indeno(1,2,3-cd)pyrene		4.1	0.0041	0.1	0.00041	
Sum	**0.1**				**0.007**	**Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Non Detect = MDL

Toxicity Equivalency Factor Calculations

TP-7-8 2/6/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (ug/Kg)	Concentration mg/Kg	Toxicity Equivalency Factor (I	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		4.4	0.0044	1	0.0044	
Benzo(a)anthracene		4.1	0.0041	0.1	0.00041	
Benzo(b)fluoranthene		4.8	0.0048	0.1	0.00048	
Benzo(k)fluoranthene		4.1	0.0041	0.1	0.00041	
Chrysene		4.1	0.0041	0.01	0.000041	
Dibenzo(a,h)anthracene		8.1	0.0081	0.1	0.00081	
Indeno(1,2,3-cd)pyrene		4.9	0.0049	0.1	0.00049	
Sum	**0.1**				**0.007**	**Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Non Detect = MDL

Toxicity Equivalency Factor Calculations

TP-8-4 2/6/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (ug/Kg)	Concentration mg/Kg	Toxicity Equivalency Factor (I	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		36	0.036	1	0.036	
Benzo(a)anthracene		26	0.026	0.1	0.0026	
Benzo(b)fluoranthene		40	0.04	0.1	0.004	
Benzo(k)fluoranthene		14	0.014	0.1	0.0014	
Chrysene		36	0.036	0.01	0.00036	
Dibenzo(a,h)anthracene		8.1	0.0081	0.1	0.00081	
Indeno(1,2,3-cd)pyrene		23	0.023	0.1	0.0023	
Sum	**0.1**				**0.047**	**Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Non Detect = MDL

Toxicity Equivalency Factor Calculations

TP-8-8 2/6/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (ug/Kg)	Concentration mg/Kg	Toxicity Equivalency Factor (I	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		8.9	0.0089	1	0.0089	
Benzo(a)anthracene		5.9	0.0059	0.1	0.00059	
Benzo(b)fluoranthene		7.4	0.0074	0.1	0.00074	
Benzo(k)fluoranthene		3.6	0.0036	0.1	0.00036	
Chrysene		12	0.012	0.01	0.00012	
Dibenzo(a,h)anthracene		7	0.007	0.1	0.0007	
Indeno(1,2,3-cd)pyrene		4.3	0.0043	0.1	0.00043	
Sum	**0.1**				**0.012**	**Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Non Detect = MDL

Toxicity Equivalency Factor Calculations

TP-9-4 2/6/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (ug/Kg)	Concentration mg/Kg	Toxicity Equivalency Factor (I	Toxicity Equivalency Concentration (mg/kg)
Benzo(a)pyrene		7.2	0.0072	1	0.0072
Benzo(a)anthracene		5.7	0.0057	0.1	0.00057
Benzo(b)fluoranthene		8.2	0.0082	0.1	0.00082
Benzo(k)fluoranthene		4.9	0.0049	0.1	0.00049
Chrysene		6.9	0.0069	0.01	0.000069
Dibenzo(a,h)anthracene		6.9	0.0069	0.1	0.00069
Indeno(1,2,3-cd)pyrene		7.5	0.0075	0.1	0.00075
Sum	**0.1**				**0.011 Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Non Detect = MDL

Toxicity Equivalency Factor Calculations

TP-9-8 2/6/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (ug/Kg)	Concentration mg/Kg	Toxicity Equivalency Factor (I	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		3.4	0.0034	1	0.0034	
Benzo(a)anthracene		3.4	0.0034	0.1	0.00034	
Benzo(b)fluoranthene		3.4	0.0034	0.1	0.00034	
Benzo(k)fluoranthene		3.4	0.0034	0.1	0.00034	
Chrysene		3.4	0.0034	0.01	0.000034	
Dibenzo(a,h)anthracene		6.8	0.0068	0.1	0.00068	
Indeno(1,2,3-cd)pyrene		4.1	0.0041	0.1	0.00041	
Sum	**0.1**				**0.006**	**Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Non Detect = MDL

Toxicity Equivalency Factor Calculations

TP-10-4 2/6/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (ug/Kg)	Concentration mg/Kg	Toxicity Equivalency Factor (unitless	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		13	0.013	1	0.013	
Benzo(a)anthracene		12	0.012	0.1	0.0012	
Benzo(b)fluoranthene		15	0.015	0.1	0.0015	
Benzo(k)fluoranthene		6	0.006	0.1	0.0006	
Chrysene		14	0.014	0.01	0.00014	
Dibenzo(a,h)anthracene		6.9	0.0069	0.1	0.00069	
Indeno(1,2,3-cd)pyrene		9.5	0.0095	0.1	0.00095	
Sum	**0.1**				**0.018**	**Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Non Detect = MDL

Toxicity Equivalency Factor Calculations

TP-10-8 2/6/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (ug/Kg)	Concentration mg/Kg	Toxicity Equivalency Factor (I	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		3.7	0.0037	1	0.0037	
Benzo(a)anthracene		3.5	0.0035	0.1	0.00035	
Benzo(b)fluoranthene		4.6	0.0046	0.1	0.00046	
Benzo(k)fluoranthene		3.5	0.0035	0.1	0.00035	
Chrysene		4.8	0.0048	0.01	0.000048	
Dibenzo(a,h)anthracene		7	0.007	0.1	0.0007	
Indeno(1,2,3-cd)pyrene		4.2	0.0042	0.1	0.00042	
Sum	**0.1**				**0.006**	**Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Non Detect = MDL

Toxicity Equivalency Factor Calculations

TP-11-4 2/6/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (ug/Kg)	Concentration mg/Kg	Toxicity Equivalency Factor (unitless	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		25	0.025	1	0.025	
Benzo(a)anthracene		22	0.022	0.1	0.0022	
Benzo(b)fluoranthene		25	0.025	0.1	0.0025	
Benzo(k)fluoranthene		11	0.011	0.1	0.0011	
Chrysene		25	0.025	0.01	0.00025	
Dibenzo(a,h)anthracene		6.9	0.0069	0.1	0.00069	
Indeno(1,2,3-cd)pyrene		15	0.015	0.1	0.0015	
Sum	**0.1**				**0.033**	**Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Non Detect = MDL

Toxicity Equivalency Factor Calculations

TP-11-8 2/6/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (ug/Kg)	Concentration mg/Kg	Toxicity Equivalency Factor (I	Toxicity Equivalency Concentration (mg/kg)
Benzo(a)pyrene		7.8	0.0078	1	0.0078
Benzo(a)anthracene		6.2	0.0062	0.1	0.00062
Benzo(b)fluoranthene		8.5	0.0085	0.1	0.00085
Benzo(k)fluoranthene		3.8	0.0038	0.1	0.00038
Chrysene		7	0.007	0.01	0.00007
Dibenzo(a,h)anthracene		6.8	0.0068	0.1	0.00068
Indeno(1,2,3-cd)pyrene		5.4	0.0054	0.1	0.00054
Sum	**0.1**				**0.011 Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Non Detect = MDL

Toxicity Equivalency Factor Calculations

TP-12-4 2/6/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (ug/Kg)	Concentration mg/Kg	Toxicity Equivalency Factor (unitless	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		3.4	0.0034	1	0.0034	
Benzo(a)anthracene		3.4	0.0034	0.1	0.00034	
Benzo(b)fluoranthene		3.4	0.0034	0.1	0.00034	
Benzo(k)fluoranthene		3.4	0.0034	0.1	0.00034	
Chrysene		3.4	0.0034	0.01	0.000034	
Dibenzo(a,h)anthracene		6.7	0.0067	0.1	0.00067	
Indeno(1,2,3-cd)pyrene		4	0.004	0.1	0.0004	
Sum	**0.1**				**0.006**	**Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Non Detect = MDL

Toxicity Equivalency Factor Calculations

TP-12-8 2/6/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (ug/Kg)	Concentration mg/Kg	Toxicity Equivalency Factor (I	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		3.4	0.0034	1	0.0034	
Benzo(a)anthracene		3.4	0.0034	0.1	0.00034	
Benzo(b)fluoranthene		3.4	0.0034	0.1	0.00034	
Benzo(k)fluoranthene		3.4	0.0034	0.1	0.00034	
Chrysene		3.4	0.0034	0.01	0.000034	
Dibenzo(a,h)anthracene		6.8	0.0068	0.1	0.00068	
Indeno(1,2,3-cd)pyrene		4.1	0.0041	0.1	0.00041	
Sum	**0.1**				**0.006**	**Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Non Detect = MDL

Toxicity Equivalency Factor Calculations

TP-13-4 2/6/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (ug/Kg)	Concentration mg/Kg	Toxicity Equivalency Factor (unitless	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		14	0.014	1	0.014	
Benzo(a)anthracene		11	0.011	0.1	0.0011	
Benzo(b)fluoranthene		12	0.012	0.1	0.0012	
Benzo(k)fluoranthene		12	0.012	0.1	0.0012	
Chrysene		15	0.015	0.01	0.00015	
Dibenzo(a,h)anthracene		6.8	0.0068	0.1	0.00068	
Indeno(1,2,3-cd)pyrene		8.1	0.0081	0.1	0.00081	
Sum	**0.1**				**0.019**	**Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Non Detect = MDL

Toxicity Equivalency Factor Calculations

TP-13-8 2/6/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (ug/Kg)	Concentration mg/Kg	Toxicity Equivalency Factor (I	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		3.7	0.0037	1	0.0037	
Benzo(a)anthracene		3.4	0.0034	0.1	0.00034	
Benzo(b)fluoranthene		3.9	0.0039	0.1	0.00039	
Benzo(k)fluoranthene		3.4	0.0034	0.1	0.00034	
Chrysene		3.4	0.0034	0.01	0.000034	
Dibenzo(a,h)anthracene		6.8	0.0068	0.1	0.00068	
Indeno(1,2,3-cd)pyrene		4.1	0.0041	0.1	0.00041	
Sum	**0.1**				**0.006**	**Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Non Detect = MDL

Toxicity Equivalency Factor Calculations

TP-14-4 2/6/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (ug/Kg)	Concentration mg/Kg	Toxicity Equivalency Factor (unitless	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		34	0.034	1	0.034	
Benzo(a)anthracene		34	0.034	0.1	0.0034	
Benzo(b)fluoranthene		34	0.034	0.1	0.0034	
Benzo(k)fluoranthene		34	0.034	0.1	0.0034	
Chrysene		34	0.034	0.01	0.00034	
Dibenzo(a,h)anthracene		68	0.068	0.1	0.0068	
Indeno(1,2,3-cd)pyrene		41	0.041	0.1	0.0041	
Sum	**0.1**				**0.055**	**Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Non Detect = MDL

Toxicity Equivalency Factor Calculations

TP-14-8 2/6/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (ug/Kg)	Concentration mg/Kg	Toxicity Equivalency Factor (I	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		12	0.012	1	0.012	
Benzo(a)anthracene		6.7	0.0067	0.1	0.00067	
Benzo(b)fluoranthene		11	0.011	0.1	0.0011	
Benzo(k)fluoranthene		5.1	0.0051	0.1	0.00051	
Chrysene		11	0.011	0.01	0.00011	
Dibenzo(a,h)anthracene		6.9	0.0069	0.1	0.00069	
Indeno(1,2,3-cd)pyrene		4.1	0.0041	0.1	0.00041	
Sum	**0.1**				**0.015**	**Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Non Detect = MDL

Toxicity Equivalency Factor Calculations

TP-15-4 2/6/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (ug/Kg)	Concentration mg/Kg	Toxicity Equivalency Factor (unitless	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		7.8	0.0078	1	0.0078	
Benzo(a)anthracene		3.9	0.0039	0.1	0.00039	
Benzo(b)fluoranthene		8.6	0.0086	0.1	0.00086	
Benzo(k)fluoranthene		3.4	0.0034	0.1	0.00034	
Chrysene		6.5	0.0065	0.01	0.000065	
Dibenzo(a,h)anthracene		6.8	0.0068	0.1	0.00068	
Indeno(1,2,3-cd)pyrene		5	0.005	0.1	0.0005	
Sum	**0.1**				**0.011**	**Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Non Detect = MDL

Toxicity Equivalency Factor Calculations

TP-15-8 2/6/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (ug/Kg)	Concentration mg/Kg	Toxicity Equivalency Factor (I	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		3.4	0.0034	1	0.0034	
Benzo(a)anthracene		3.4	0.0034	0.1	0.00034	
Benzo(b)fluoranthene		3.4	0.0034	0.1	0.00034	
Benzo(k)fluoranthene		3.4	0.0034	0.1	0.00034	
Chrysene		3.4	0.0034	0.01	0.000034	
Dibenzo(a,h)anthracene		6.8	0.0068	0.1	0.00068	
Indeno(1,2,3-cd)pyrene		4.1	0.0041	0.1	0.00041	
Sum	**0.1**				**0.006**	**Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Non Detect = MDL

Toxicity Equivalency Factor Calculations

TP-16-4 2/6/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (ug/Kg)	Concentration mg/Kg	Toxicity Equivalency Factor (unitless	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		49	0.049	1	0.049	
Benzo(a)anthracene		35	0.035	0.1	0.0035	
Benzo(b)fluoranthene		55	0.055	0.1	0.0055	
Benzo(k)fluoranthene		35	0.035	0.1	0.0035	
Chrysene		46	0.046	0.01	0.00046	
Dibenzo(a,h)anthracene		71	0.071	0.1	0.0071	
Indeno(1,2,3-cd)pyrene		42	0.042	0.1	0.0042	
Sum	**0.1**				**0.073**	**Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Non Detect = MDL

Toxicity Equivalency Factor Calculations

TP-16-8 2/6/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (ug/Kg)	Concentration mg/Kg	Toxicity Equivalency Factor (I	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		3.4	0.0034	1	0.0034	
Benzo(a)anthracene		3.4	0.0034	0.1	0.00034	
Benzo(b)fluoranthene		3.4	0.0034	0.1	0.00034	
Benzo(k)fluoranthene		3.4	0.0034	0.1	0.00034	
Chrysene		3.4	0.0034	0.01	0.000034	
Dibenzo(a,h)anthracene		6.8	0.0068	0.1	0.00068	
Indeno(1,2,3-cd)pyrene		4.1	0.0041	0.1	0.00041	
Sum	**0.1**				**0.006**	**Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Non Detect = MDL

Toxicity Equivalency Factor Calculations

TP-17-4 2/6/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (ug/Kg)	Concentration mg/Kg	Toxicity Equivalency Factor (unitless	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		75	0.075	1	0.075	
Benzo(a)anthracene		51	0.051	0.1	0.0051	
Benzo(b)fluoranthene		79	0.079	0.1	0.0079	
Benzo(k)fluoranthene		43	0.043	0.1	0.0043	
Chrysene		81	0.081	0.01	0.00081	
Dibenzo(a,h)anthracene		73	0.073	0.1	0.0073	
Indeno(1,2,3-cd)pyrene		48	0.048	0.1	0.0048	
Sum	**0.1**				**0.105**	**Fail**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Non Detect = MDL

Toxicity Equivalency Factor Calculations

TP-17-8 2/6/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (ug/Kg)	Concentration mg/Kg	Toxicity Equivalency Factor (I	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		24	0.024	1	0.024	
Benzo(a)anthracene		18	0.018	0.1	0.0018	
Benzo(b)fluoranthene		29	0.029	0.1	0.0029	
Benzo(k)fluoranthene		11	0.011	0.1	0.0011	
Chrysene		22	0.022	0.01	0.00022	
Dibenzo(a,h)anthracene		6.9	0.0069	0.1	0.00069	
Indeno(1,2,3-cd)pyrene		16	0.016	0.1	0.0016	
Sum	**0.1**				**0.032**	**Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Non Detect = MDL

Toxicity Equivalency Factor Calculations

TP-18-4 2/6/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (ug/Kg)	Concentration mg/Kg	Toxicity Equivalency Factor (unitless	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		35	0.035	1	0.035	
Benzo(a)anthracene		35	0.035	0.1	0.0035	
Benzo(b)fluoranthene		42	0.042	0.1	0.0042	
Benzo(k)fluoranthene		35	0.035	0.1	0.0035	
Chrysene		35	0.035	0.01	0.00035	
Dibenzo(a,h)anthracene		71	0.071	0.1	0.0071	
Indeno(1,2,3-cd)pyrene		43	0.043	0.1	0.0043	
Sum	**0.1**				**0.058**	**Pass**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Non Detect = MDL

Toxicity Equivalency Factor Calculations

TP-18-8 2/6/2025

cPAH	MTCA Method A Cleanup Level	Measured Concentration (ug/Kg)	Concentration mg/Kg	Toxicity Equivalency Factor (I	Toxicity Equivalency Concentration (mg/kg)	
Benzo(a)pyrene		200	0.2	1	0.2	
Benzo(a)anthracene		190	0.19	0.1	0.019	
Benzo(b)fluoranthene		370	0.37	0.1	0.037	
Benzo(k)fluoranthene		130	0.13	0.1	0.013	
Chrysene		200	0.2	0.01	0.002	
Dibenzo(a,h)anthracene		70	0.07	0.1	0.007	
Indeno(1,2,3-cd)pyrene		96	0.096	0.1	0.0096	
Sum	**0.1**				**0.288**	**Fail**

Notes:

1. Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures Using Toxicity Equivalency Factors, Washington State Department of Ecology, October 12, 2007

Non detected given 1/2 the MRL.

Non Detect = MDL

Table 3 – Possible Soil Categories

Cleanup Action
516 West Cora Avenue
Spokane, Washington 99205

Possible Site Soil Catagories					
Parameter		**Analytical Method**	**Category**		
			1	**2**	**3**
			Below MTCA Method A cleanup criteria for unrestricted land use	Above MTCA Method A cleanup criteria for unrestricted land use but below DW characteristics[c]	Above MTCA Method A cleanup criteria for unrestricted land use and above DW characteristics
Carcinogenic Polycyclic Hydrocarbons (cPAHs)		SW8270E	<2 TEF[a]	>2 TEF	Not Applicable[d]
Metals of Concern (totals)	Arsenic	SW6010D	<20 mg/kg	<0.001% EC[b]	>0.001% EC
	Cadmium	SW6010D	<2 mg/kg		
	Lead	SW6010D	<250 mg/kg		
Destination			Onsite – No limitations for reuse Offsite – Must be analyzed for COCs prior to transportation	Must be disposed of at a Subtitle D Landfill	Must be disposed of at a Subtitle C Landfill

a – TEF as the Toxic Equivalency Factor relative to benzo(a)pyrene as defined in Washington State Ecology Publication No. 15-09-049

b – EC is the Equivalent Concentration of relevant toxic categories or known constituents of a waste as outlined in the Book Designation Procedure described in WAC 173-303-100(5)(b)

c – DW characteristics defined EC can be overridden by biological testing methods (bioassay) adopted in WAC 173-303-110.

d – cPAH constituents are not currently required in the Book Designation Procedure for Waste Managements Dangerous Waste Determination

APPENDIX 1
Contaminated Soil Management Plan

1. INTRODUCTION

This **Contaminated Soil Management Plan (CSMP)** provides detailed information and outlines the procedures for the management of soil during the redevelopment of the property located at 516 West Cora Avenue in Spokane, Washington (referred to as the "Site" or "Property"). This CSMP has been prepared by Spokane Environmental Solutions, LLC (SES) on behalf of 4-Degrees Real Estate, LLC. (Client).

SES understands that the existing vacant Site will be developed with an apartment building complex. It is also understood that the planned building does not include underground parking, storage or other uses. As part of the redevelopment, an unknown quantity of soil will be excavated, with some soil being reused on-site and others disposed of off-site due to adverse impact from lead, arsenic and carcinogenic polycyclic aromatic hydrocarbons (cPAHs).

The primary objective of this Plan is to assess the soil being excavated and determine the appropriate handling procedures for reuse on-site or for export to an off-site disposal facility. Any off-site disposal of materials will require verification of soil conditions in accordance with the receiving facility's requirements.

1.1 CSMP OBJECTIVE

The objective of this CSMP is to provide guidance on the identification and proper management of potentially contaminated soil at the Site. The plan aims to assist the Contractor in the proper handling, testing, and disposal of soil materials encountered during construction activities.

This CSMP includes the following sections:

- Overview of current environmental conditions and identified contaminants of concern.
- Roles and responsibilities of project team members involved in CSMP implementation.
- Procedures for the management and sampling of newly discovered contaminated materials.
- Guidelines for storing potentially contaminated soil in stockpiles or staging piles awaiting classification, sampling, and disposal.
- Criteria for the acceptable reuse of materials on-site.
- Information on approved off-site receiving disposal facilities.
- Documentation requirements for the handling, storage, loading, and disposal of contaminated soil.

---

2. PROJECT INFORMATION

2.1 PROJECT LOCATION AND HISTORY

The Site is located at 516 West Cora Avenue, Spokane, Washington (Figure 1). The Site is currently undeveloped. The Site is generally flat with a major upward slope to the north,

residential properties to the west and south, and a church to the east. The property is owned by 4-Degrees Real Estate, LLC. Historically, the Site was used as a mobile home park between the late 1960s until the 1980s, when was cleared due to excessive settlement. Prior, the Site was a borrow pit and was backfilled with soil of unknown origins.

2.2 PROJECT ORGANIZATION

Prior to Site redevelopment, key project roles and responsibilities will be assigned to ensure effective soil management. The following table summarizes the primary roles (subject to change):

Role	Name/Organization	Contact	Contact Information
Project Manager	4-Degrees Real Estate, Inc.	Jordan Tampien	jordan@4degrees.com 509.413.1956
Environmental Consultant	Spokane Environmental Solutions, LLC.	Brandon Kautzman	brandon@spokaneenvironmental.com 509.263.6823
General Contractor	TW Clark	Jon Huettl	jon@twclark.com 509.927.0800
Dirt Work Contractor	TBD	TBD	TBD
Analytical Testing Laboratory	Eurofins, Inc.	Randee Arrington	randee.arrington@et.eurofinsus.com 509.924.9200

2.3 PROCEDURES FOR SPECIFIC CONSTRUCTION ACTIVITIES

The following construction activities are expected to disturb or excavate soil, which will require either on-site reuse or off-site export:

- **General Site Grading**: SES understands that general grading will take place prior to the placement of the building floor slab.
- **Installation of Subsurface Utilities, Foundations, and Footings**: Installation of subsurface utilities (e.g., water lines, sewer connections, stormwater piping, natural gas lines) will also result in excavation and soil disturbance.

---

3. SAMPLE AND ANALYSIS RESULTS

Previous environmental investigations indicate that the Site was historically used as a borrow pit, and was backfilled with undocumented fill. The following sample and analysis plan was developed to evaluate the soil conditions and determine the appropriate management and disposal procedures.

3.1 INITIAL INVESTIGATION (JANUARY 2025)

SES conducted a Limited Phase II investigation in January 2025, advancing six test pits to approximately 10 feet below ground surface (bgs). The test pits were located in an area where a recent Phase I ESA concluded leachate from tires observed upgradient might pose a risk to shallow site soil.

- **Key Findings**:
    - Test pits 2 and 3 show elevated levels of PAHs.
    - Test pit 4 shows elevated levels of total lead.
    - Other potential contaminants of concern (e.g., chlorinated solvents, polychlorinated biphenyls (PCBs), etc. were not analyzed at this time.

3.2 SUPPLEMENTAL INVESTIGATION (FEBRUARY 2025)

In February 2025, SES conducted supplementary investigation testing. Twelve additional test pits were placed across the site, to determine the areal extent of soil impact.

- **Key Finding**:
    - Test pits 10, 17 and 18 show elevated levels of PAHs.
    - Test pit 10 shows elevated levels of total arsenic.
    - Other potential contaminants of concern (e.g., chlorinated solvents, polychlorinated biphenyls (PCBs), etc. were not analyzed at this time.

3.3 POTENTIAL CONTAMINANTS OF CONCERN (PCOCs)

Identified Soil PCOCs:

The following contaminants have been detected in soil above laboratory reporting limits or regional background concentrations and are considered **PCOCs** at the Site:

- **cPAHs** (carcinogenic polycyclic aromatic hydrocarbons)
- **Lead, Cadmium and Arsenic**: Lead, cadmium and arsenic metals were detected at levels above background concentrations and are considered PCOCs in soil at the Site.

Polychlorinated Biphenyls (PCBs) were not detected at this site in the 2015 soil investigation by Budinger and Associates. PCB aren't considered a PCOC but will be analyzed for if soil staining is witnessed during excavation.

3.4 CONTAMINATED MEDIA: DEGREE AND EXTENT

COCs in levels exceeding MTCA Method A cleanup levels were identified in zones unevenly distributed across the site in layers between 0 – 5 feet and 5 – 10 feet bgs. SES sampled 18 locations at these two depth ranges and identified 6 locations with soil samples at various depths with one or more contaminants greater than the MTCA Method A cleanup level for unrestricted land use. The 2015 Budinger report also identified a zone near the west edge of the site with contaminants exceeding cleanup values.

---

4. HEALTH AND SAFETY PLAN (HASP)

The **Site-specific Health and Safety Plan (HASP)** complies with the applicable **Washington Industrial Safety and Health Act (WISHA)** and **OSHA** regulations. SES has prepared a HASP to guide personnel while on site, and is included Appendix 2. The HASP provides crucial information for Site workers regarding potential health risks and hazards associated with each construction task. It also includes training requirements to ensure compliance with federal, state, and local regulations, as well as guidelines for selecting appropriate **personal protective equipment (PPE)**, control measures, and decontamination procedures.

Key elements of the HASP include:

- **Task-specific health risk awareness**: Identifying hazards associated with specific Site activities, such as excavation and handling of contaminated soil.
- **Employee training**: Ensuring all workers are trained on health and safety protocols, including hazard recognition and safe work practices.
- **PPE requirements**: Specifying the types of protective gear needed based on the contaminants present at the Site.
- **Control measures and decontamination procedures**: Detailing methods to minimize exposure to contaminants and ensure proper decontamination following each work shift.

The contractor will be responsible for conducting all on-Site activities in accordance with the HASP and other applicable contracts or specification documents. The HASP will be reviewed and communicated to all necessary workers, ensuring that proper training is provided to ensure worker safety and regulatory compliance. Additionally, all contractors or consultants involved in soil management activities must adhere to the health and safety procedures outlined in the HASP and ensure their employees are properly trained and equipped to handle site-specific risks.

---

5. CONTAMINATED MATERIAL DEFINITIONS

This section outlines the classification and management procedures for excavated materials, focusing on the criteria for on-site reuse or off-site waste disposal. The handling of contaminated soil depends on its content and contamination levels.

5.1 DANGEROUS WASTE

Soil, materials, debris, or liquids that contain contaminant levels potentially exceeding the Washington State Dangerous Waste criteria, as outlined in **WAC 173-303**, are considered **Dangerous Waste**. However, Site soil characterization has not identified any material exceeding these Dangerous Waste criteria, as defined by **WAC 173-303**.

5.2 ABOVE MTCA METHOD A CATEGORY

Contaminated soil with concentrations of **PCOCs** at or above the **MTCA Method A** cleanup levels must be disposed of at an approved **RCRA Subtitle D landfill** or at a **soil treatment facility**.

5.3 BELOW MTCA LEVEL CATEGORY

Soil contamination levels below **MTCA Method A** pose relatively low risks to human health and the environment. These soils can remain on-site if they will not be disturbed, but they may also be reused as fill material on-site under certain restrictions. When exported from the Site, soil with PCOC concentrations below the MTCA Method A levels must be sent to a permitted facility capable of accepting this waste stream or can be reused at an off-site location under appropriate conditions. All soils reused at an off-site location will be analyzed for PCOCs prior to transport.

5.4 CONTAMINATED SOIL REUSE

The **Ecology Guidelines for Reuse of Petroleum Contaminated Soil (PCS)**, as described in **Chapter 173-350 WAC**, categorize PCS for reuse or disposal management. These guidelines apply when considering the handling, reuse, and disposal criteria for exported Site soil. For specific guidelines, see **Attachment III**.

---

6. SOIL EXCAVATION AND HANDLING

This section outlines procedures for excavating, loading, and transporting contaminated soil generated from various activities, as well as guidelines for determining when excavation of uncontaminated soil may commence.

6.1 ACTIVITIES WITH THE POTENTIAL TO GENERATE CONTAMINATED SOIL

Several construction activities may encounter and/or generate contaminated soil requiring appropriate management. These activities include:

- General Site grading
- Installation of subsurface utilities, foundations, and footings

The contractor will be responsible for determining the methods and means for soil excavation and will collaborate with **SES** to develop an excavation sequence.

6.2 CONTAMINATED SOIL MANAGEMENT PROCEDURES

Soils excavated from the Site will be managed in accordance with the following procedures:

- Segregating soil that is below **MTCA levels** and will be reused as fill on the Site or removed from the Site.

- Segregating soil with **above-MTCA contamination** for proper disposal.
- Stockpiling contaminated waste as necessary for additional sampling and waste profiling.
- Minimizing soil stockpiling by allowing direct loading of soil when possible.
- Ensuring proper disposal of **below-MTCA contaminated soil** at an approved facility.
- Ensuring proper disposal of **above-MTCA contaminated soil** at an **RCRA Subtitle D landfill**.

6.3 ON-SITE SOIL MANAGEMENT

Except for specifically defined zones, most of the soil excavated from the Site will be below the **MTCA Method A** cleanup criteria. There are no restrictions for soil remaining on-site that is below these levels. However, should the soil be exported from the Site, disposal criteria outlined in Section **8.0** will apply.

6.4 STOCKPILING

Stockpiling may be required for the temporary storage of contaminated soil, either for pending analytical test results or in cases of undocumented contamination. The following guidelines must be adhered to for stockpile management:

- Stockpiles must be lined with plastic sheeting at least 6 millimeters thick, with adjacent sheeting sections overlapping by a minimum of 3 feet.
- A berm must be constructed around the perimeter of the stockpile to prevent run-on and/or run-off of precipitation.
- Stockpiles must be covered when not in use, with the cover anchored securely to prevent disturbance by wind and shielded from precipitation.

6.5 DUST AND ODOR CONTROL

During excavation and handling of contaminated soil, nuisance odors may be emitted. This is the responsibility of the contractor conducting the soil excavation. SES is not tasked with this activity.

If nuisance dust is observed, the contractor should be prepared to implement one or more of the following measures:

- Apply a mist of water to the affected area as needed to minimize odors.
- Cover exposed areas with plastic sheeting at the end of each day or when excavation activities are paused.
- Keep stockpiles covered when not in use.

6.6 DECONTAMINATION PROCEDURES

Residue from contaminated soil on equipment and excavator tracks/tires, as well as truck tires, will be removed using a combination of wet and dry methods.

- **Dry Conditions**: Soil residues will be removed by dry brushing.
- **Wet Conditions**: Soil that cannot be removed by dry brushing will be cleaned off equipment with high-pressure water.
- **Winter Conditions**: High-pressure water washing will be used to remove material residues and mud from equipment and tires.

A **decontamination station** will be constructed on-site, located appropriately for efficient cleaning. The station will consist of a bermed bed of crushed aggregate rock with a water collection sump. Water generated during decontamination will be processed through the stormwater management system. Work areas will be kept clean and free of excessive soil or debris.

---

7. CONTINGENCY PLAN FOR UNKNOWN OR SUSPECTED CONTAMINATION

During construction activities, contaminated soil or suspect media may be encountered. If any of the following signs of contamination are identified, the equipment operator must immediately notify the construction manager and the Environmental Professional:

- Obvious petroleum staining, sheen, or colored hues in soil or standing water
- Presence of petroleum products or leachate from other chemicals
- Presence of utility pipelines containing sludge or trapped liquid indicating petroleum or chemical discharge
- Discovery of buried pipes, conduits, tanks, or unexplained metallic objects or debris
- Unusual vapors causing eye irritation or a tingling or burning sensation in the nose
- Presence of gasoline- or oil-like vapors or odors

If suspect soil or media are encountered, the contractor will notify the Environmental Professional and the project team to assess the situation and determine appropriate actions.

7.1 SOIL SAMPLING

A **SES Environmental Professional** will oversee the collection of soil samples during development work to assess contamination.

7.1.1 SAMPLING AND ANALYSIS PROCEDURES

In collaboration with the contractor, the Environmental Professional will collect environmental samples following standard procedures. Samples will be collected in laboratory-provided containers, placed on ice in a cooler, and sent for analysis. The sampling analysis will be based on the **PCOCs** identified at that location and may include the following:

- **Total arsenic, cadmium and lead by EPA Method 6010D**
- **Polycyclic Aromatic Hydrocarbons (PAHs) by EPA Method 8270E**

All non-disposable sampling equipment (e.g., hand augers, shovels, spoons) will be decontaminated prior to and between sample collections using the following process:

- Scrub with potable water containing **Alconox/Liquinox** detergent
- Rinse with potable water

Chain-of-custody documentation will accompany the samples at all times. Analytical requests will clearly specify any compositing required by the laboratory.

7.1.2 EVALUATION OF ANALYTICAL RESULTS

The **Environmental Professional** will review the analytical results and compare them against applicable criteria for waste management. Soils will be managed according to the following conditions:

- **Dangerous waste criteria:**
  - (WAC 173-303-090): Soils that exceed toxicity characteristics using the Toxicity Characteristic Leaching Procedure (TCLP) of total metals (RCRA 8) must be disposed of as **dangerous waste**.
  - (WAC 173-303-100): Soils that fail the toxicity criteria by book designation with total metals (RCRA 8 plus copper, nickel and zinc) or fish bioassay must be disposed of as **dangerous waste**.
- **Excluded categories of waste** (WAC 173-303-071(3)(t)): Contaminated material that fails the toxicity characteristic test as defined in **WAC 173-303-090(8)** (dangerous waste numbers **D018** through **D043**) are subject to corrective action regulations under **40 C.F.R. Part 280**.

---

8. CONTAMINATED SOIL TRANSPORT AND OFF-SITE DISPOSAL

Contaminated soil will be transported to an appropriate disposal facility by licensed haulers. The contractor must submit a copy of the transporter's permit/qualifications before any waste is shipped off-site.

8.1 CONTAMINATED SOIL WASTE TRANSPORT

Contaminated soil waste may be directly loaded into trucks for transport to the approved disposal facility. The contractor will provide the Environmental Professional with the following documents within **7 working days** of each waste shipment:

- Shipping records (manifest or bill of lading)
- Weight tickets for all shipped waste

An approved, certified trucking company will transport the soil to the pre-approved landfill or disposal facility permitted to accept such materials.

8.2 CONTAMINATED SOIL WASTE OFF-SITE DISPOSAL

For disposal criteria, see **Section 5**. Examples of approved facilities (subject to approval) for disposal of **MTCA-contaminated soil** include:

- **Waste Management's Graham Road Facility**
- **Waste Management's Arlington Oregon Facility**
- Other approved, permitted facilities

---

9. POST-CONSTRUCTION MANAGEMENT

The **Contaminated Soil Management Plan (CSMP)** provides guidance on managing contamination during the construction phase. However, it is understood that additional management measures may be necessary once construction is complete. Post-construction management may include ongoing inspection, notification, maintenance, and monitoring.

Contractors responsible for managing contaminated soil will ensure compliance with all relevant permits and approvals related to the excavation, management, storage, transportation, and treatment/disposal of contaminated soil generated during the project. Permits may include, but are not limited to, excavation permits, transportation permits and manifests, and approvals for treatment or disposal of contaminated materials. All permit documentation, along with disposal receipts, should be retained for future reporting by the Owner.

In summary, the following reports will be prepared:

- **Quantity by weight**, determined by the number of truckloads and type of material hauled
- **Quantity by volume** in bank yards, measured by the contractor during excavation
- **Disposal facility** for each truckload
- **Manifests / Bills of Lading (BOL)** for each truck and the specified disposal facility
- **Disposal facility receipts**, including weight tickets and fee receipts
- **Physical characteristics**, including analytical results where applicable

The completed report shall be presented to the owner, either in spreadsheet or table format, with all supporting documentation attached. An accompanying narrative should detail any deviations from the procedures that occurred, identify corrective actions taken, and explain the resolution of any discrepancies.

APPENDIX 2
Health and Safety Plan

Cora Avenue Cleanup Action
Cora Avenue Borrow Pit
516 West Cora Avenue
Spokane, WA 99205
SES Project #1803-003

Spokane Environmental Solutions Site-Specific Safety Plan

This Site-Specific Safety Plan (SSSP) is to be used in conjunction with Spokane Environmental Solutions, LLC (SES) Accident Prevention Program (APP) and meets or exceeds all state and federal health and safety requirements for this project. All SES employees shall review the SSSP prior to starting work and shall, by their signature, acknowledge their understanding of the contents and their willingness to work toward an incident-free project. All SES employees shall be made aware of those requirements as well.

Section 1.0 – Company Information and Key Contacts

Company Name:	Spokane Environmental Solutions, LLC		
Address:	2020 E. Springfield Avenue, Spokane, WA 99202		
Site Specific Safety Plan (SSSP) Approved by:			Approval Date:
Project Manager: Gary Panther		Project Manager Phone # 509-279-5559	
Site Supervisor: Brandon Kautzman		Site Supervisor Cell Phone #: 509-262-6823	
Site Safety Officer: Brandon Kautzman		Site Safety Officer Cell Phone #: 509-262-6823	

Section 2.0 – Scope of Work

Description of work and ancillary activities:	SES will provide project oversight, direction of excavation areas and field documentation on behalf of 4 Degrees Real Estate (Client). The Earthwork Contractor (TBD) will be excavating contaminated and non-contaminated soil (primary chemical(s) of concern being lead and arsenic) with levels slightly above MTCA Method A Soil Cleanup levels). The Earthwork Contractor will be responsible for any air monitoring and documentation that may be required to ensure onsite personnel are protected by any COC's that may be above regulatory permissible exposure limits (PEL). Excavation and handling loadout of soils as indicated in the Cleanup Action Plan (CAP). Potential tasks requiring increased focus may include:

	1. Hazard materials identification and handling; 2. Heavy equipment operation to include (but not limited to) excavator; dump trucks 3. General construction site logistics and organization; 4. Class A/B truck operation to transport waste materials;

Section 3.0 – Work Location

Project Location: 516 W. Cora, Spokane, WA	Work will be conducted within specific areas of the site with area delineations marked for clear identification and overseen by SES personnel.

Section 4.0 – Subcontractors Covered by this Site Specific Safety Plan (where applicable)

Subcontractor Name	Tasks/Role	Contact
THIRD PARTY DIG/HAULER	Loadout and transportation of soils as directed by the CAP and per onsite SES personnel.	TBD

Section 5.0 – Competent Persons

In accordance with 29 CFR 1926.32(f), SES employees have demonstrated a competent-level of expertise in the outlined areas through their experience, education, training, and demonstrated competency to be defined as a Competent Person. These employees are capable of identifying existing or potential hazards on the worksite or working conditions that are unsanitary, hazardous, or dangerous to employees and have the authorization to immediately take all necessary corrective measures to protect onsite personnel.

Job Type	Qualification Type	N/A	Employee Name
Supervise Safety on the Job Site	Competent		Gary Panther Brandon Kautzman
First Aid/CPR Trained Personnel	Trained		Gary Panther Brandon Kautzman
Fall Protection Supervision/Inspection of Fall Protection Equipment	Competent	NA	

Confined Space	Qualified/Trained	NA	
Heavy Equipment Operation	Qualified/Trained		Brandon Kautzman
Electrical Workers (working near/on energized parts)	Qualified (Maintenance)	NA	
Handling of Hazardous Waste	Competent		Gary Panther Brandon Kautzman
General Construction Site Operations	Competent		Gary Panther Brandon Kautzman
Commercial Driver's License – Class A / B	Licensed	NA	

Section 6.0 – *Minimum PPE that will be used

☒ Hard Hat	☒ Safety Vest, Orange, tear-away design	☒ Safety Glasses	☒ Safety Toe Shoes
☐ Leather Gloves	☒ Nitrile Gloves	☐ Ear Plugs	☐ Ear Muffs
☐ Face Shield	☐ Respirator (Type:___)	☐ Tyvek Overalls	☐ Other:

*Additional or specifically required PPE will be identified by the project supervisor and added to the site SSSP and communicated to all affected persons.

Section 7.0 – Injury Reporting

All incidents (injury, property damage, equipment damage, 3rd party) will be immediately reported to the project supervisor who in turn will immediately notify as required. At the end of each shift, the project supervisor will inquire of each employee and/or subcontractor if they were injured at all during the day's operations. Any injuries will be documented in the project log and immediately reported as noted above.

Employee's and subcontractors will be encouraged to report unsafe conditions and unsafe behaviors to help prevent incident occurrence.

Section 8.0 – Mishaps, Incident Report, Emergency Procedures, Hospital Identification and Map

All incidents will be immediately reported to SES representative per project protocol. There are no active telephones onsite therefore, emergency cell phone numbers will be posted in a central area for all employees to view.

A. Serious Injury
   - Call 9-1-1
   - Do not move injured unless required to do so

- Contact project supervisor as soon as possible
- Provide care as possible until emergency medical services (EMS) arrive
- Preserve the scene against contamination for the investigation if safe to do so

B. Outside Medical Treatment
   - Provide care as possible
   - Contact project supervisor as soon as possible and follow additional instructions as provided
   - Take injured to predetermined medical facility.
   - Ensure that all investigation documents are completed, and appropriate copies retained

C. Onsite First Aid Cases
   - Provide care as necessary.
   - Complete investigative documents and forward to owner
   - Document the injury in project logs and follow up in successive days to ensure complete recovery

D. Near-Miss; Property Damage; 3rd Party Incident; Fire
   - Contact 9-1-1 if necessary
   - Prevent further damage
   - Secure the scene and barricade as necessary to facilitate the investigation
   - Contact the owner as soon as possible

Medical facilities located near project site:

- **Urgent Care – MultiCare Rockwood Urgent Care, 300 E. 5th Avenue Suite 1 North, Spokane, WA 99202; Tel: 509-342-3100**
- **Emergency Room – Providence Sacred Heart, 101 West 8th Avenue, Spokane, WA 99204; Tel: 509-474-3131**

The SES project supervisor will initiate the investigation and will utilize the Incident Reporting Form located in the Accident Prevention Program. The complete report will be submitted to the appropriate representatives as required and within 24 hours of the incident. The report will include all photographs and witness statements as necessary.

Section 9.0 – Activity Hazard Analysis (AHA)

SEE ATTACHED

Section 10.0 – Personnel Acknowledgement

By signing below, the undersigned acknowledges that he/she has read and reviewed the SSSP. The undersigned also acknowledges that he/she has been instructed in the contents of this document and understands the information pertaining to the specified work, and will comply with the provisions contained therein.

Personnel Acknowledgement			
Print Name	**Signature**	**Company**	**Date**

This page may be used for newly identified trigger tasks that arise during the course of work that may require the documentation of control measures to a newly identified hazard. This form should be completed and submitted to the owner or project supervisor to include in the project file.

LOCATION	HAZARD ANALYSIS COMPLETED BY:	DATE:

WORK ACTIVITY (Description/Location):

EMPLOYEE	POSITION	EMPLOYEE	POSITION

REQUIRED PERSONAL PROTECTIVE EQUIPMENT (Erase what does not apply)				
Gloves Hard Hat Safety Boots	Safety Glasses Reflective Vest Hearing Protection	Dust Mask Goggles Face Shield	Fall Protection Insulated tools Voltage rated Gloves	Arc rated Clothing HRC _____ Other:

JOB STEPS	POTENTIAL HAZARDS	CONTROLS

AREA HAZARDS	ACTIONS TO MITIGATE HAZARDS

Activity Hazard Analysis (AHA)

Activity/Work Task: **Heavy Equipment Operation**	Overall Risk Assessment Code (RAC) (Use highest code)	**M**
Project Location: 516 West Cora Avenue, Spokane, WA 99205	**Risk Assessment Code (RAC) Matrix**	
SES Project Number: 1810-003	**Severity** / **Probability**	
Date Prepared: 10 April 2025	Frequent / Likely / Occasional / Seldom / Unlikely	
Prepared by (Name/Title): Mike Wilkinson, SES	Catastrophic: E / E / H / H / M	
	Critical: E / H / H / M / L	
Reviewed by (Name/Title):	Marginal: H / M / M / L / L	
	Negligible: M / L / L / L / L	
Notes: (Field Notes, Review Comments, etc.)	Step 1: Review each **"Hazard"** with identified safety **"Controls"** and determine RAC (See above)	
	"Probability" is the likelihood to cause an incident, near miss, or accident and identified as: Frequent, Likely, Occasional, Seldom or Unlikely.	**RAC Chart**
	"Severity" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic, Critical, Marginal, or Negligible	**E = Extremely High Risk**
		H = High Risk
	Step 2: Identify the RAC (Probability/Severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.	**M = Moderate Risk**
		L = Low Risk

Job Steps	Hazards	Controls	RAC
1. Heavy Equipment Operation	1. A. Slips, trips, and falls.	1.A.1. Ensure proper PPE (footwear, orange tear-away safety vests, hard hats, hand protection. See Site-specific safety plan & site orientation 1.A.2. Ensure adequate lighting for clear visibility 1.A.3. Ensure access / egress to vehicle is free of obstructions and debris. 1.A.4. Maintain control of all areas where trenching or demolition is being conducted.	**L**
	1.B. Unauthorized Operators	1.B1. Maintain strict control over access to site. Only Authorized personnel with the proper training and PPE are to be allowed onsite. 1.B.2. Secure each piece of equipment at the end of each shift to stop unauthorized operation of the equipment. 1.B.3. If key operated, remove key from ignition and secure in the project site office or some other general/locked location. 1.B.4. Review each operator training record to determine if competent / qualified to operate each piece of equipment.	**L**
	1.C. Struck-By Injuries	1.C1. Conduct plan of the day (POD) meetings at the beginning of each shift to discuss the equipment operating areas, assign roles/responsibilities for ensuring safety in the area. Discuss spatial awareness and to keep vigilant when	**M**

		moving in the vicinity of heavy equipment to ensure safety. 1.C.2. Use a spotter during operations where equipment is stationary to ensure that no unauthorized personnel are allowed inside of the swing radius of the equipment. 1.C.3. Use orange tear-away vests during all operations on this project. Hard hats, appropriate work gloves, safety toe boots, and all other required PPE shall be worn at all times. 1.C.4. Maintain visual contact with operator during times of movement along with radio communications when available.	

Equipment to be Used	Training Requirements/Competent or Qualified Personnel name(s)	Inspection Requirements
1. PPE - hard hats, safety toe boots, hand protection, ear protection (plugs/muffs) where required, eye protection, orange tear-away safety vest. 2. Hand Tools 3. Heavy equipment (backhoe, track-hoe, front end loader, etc.) 4. Ladders	1. SES Accident Prevention Program 2. Earthworks Contractor Accident Prevention Program	1. Daily inspection to make sure proper PPE is worn 2. Pre-shift equipment inspection in accordance with the manufacturer's operating instructions 3. Walk the area around the equipment and work location prior to each shift to ensure that the area is clear of obstructions.

Activity Hazard Analysis (AHA)

Activity/Work Task: **Traffic / Site Vehicle Control**	Overall Risk Assessment Code (RAC) (Use highest code)	**M**
Project Location: 516 West Cora Avenue, Spokane, WA 99205	**Risk Assessment Code (RAC) Matrix**	
SES Project #: 1810-003		
Date Prepared: 10 April 2025		
Prepared by (Name/Title): Mike Wilkinson, SES		
Reviewed by (Name/Title):		
Notes: (Field Notes, Review Comments, etc.)		

Severity	**Probability**				
	Frequent	Likely	Occasional	Seldom	Unlikely
Catastrophic	**E**	**E**	**H**	**H**	**M**
Critical	**E**	**H**	**H**	**M**	**L**
Marginal	**H**	**M**	**M**	**L**	**L**
Negligible	**M**	**L**	**L**	**L**	**L**

Step 1: Review each **"Hazard"** with identified safety **"Controls"** and determine RAC (See above)

"Probability" is the likelihood to cause an incident, near miss, or accident and identified as: Frequent, Likely, Occasional, Seldom or Unlikely.

"Severity" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic, Critical, Marginal, or Negligible

Step 2: Identify the RAC (Probability/Severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.

RAC Chart

- **E = Extremely High Risk**
- **H = High Risk**
- **M = Moderate Risk**
- **L = Low Risk**

Job Steps	Hazards	Controls	RAC
1. Traffic / Site Control	1.A. Slips, Trips, Falls.	1.A.1. Ensure walking surfaces are clear of obstructions. 1.A.2. Ensure adequate lighting for clear visibility 1.A.3. Ensure proper PPE is worn at all times	**L**
	1.B. Pedestrian Traffic	1.B.1. Ensure that all pedestrian's walk in designated areas. 1.B.2. Control the flow of pedestrians to allow for safe movement of vehicle traffic.	**L**
	1.C. Exposure to Weather	1.C.1. Wear appropriate clothing for the anticipated weather and time of day (night vs. day) conditions. 1.C.2. Ensure that employees hydrate well before and during all activities and take sufficient breaks to allow for such 1.C.3. Establish site/project-specific guidelines to cease operations in the event that weather conditions prevent employees from being able to work safely (high winds, extreme cold/high temperatures etc).	**L**
	1.D. Vehicle Traffic	1.D.1. Properly don high visibility clothing at all times. 1.D.2. Use spotters when necessary to ensure safe movement around personnel and equipment. 1.D.3. Ensure that the flow of traffic and signage is in accordance with the approved traffic control plan.	**M**

Equipment to be Used	Training Requirements/Competent or Qualified Personnel name(s)	Inspection Requirements
1. PPE - hard hats, foot protection, hand protection, eye protection, orange tear-away safety vests 2. Traffic signs per the traffic control plan 3. Spotters as required / necessary for safe mobility	1. SES Accident Prevention Program 2. Earthworks Contractor Accident Prevention Program	1. Daily inspection to make sure proper PPE is worn 2. Daily/beginning of shift inspection to ensure that all signage is in place and effective for the work to be performed and in accordance with the traffic control plan.

Activity Hazard Analysis (AHA)

Activity/Work Task: **Construction Site Hazards**	Overall Risk Assessment Code (RAC) (Use highest code)	**M**
Project Location: 516 West Cora Avenue, Spokane, WA 99205	**Risk Assessment Code (RAC) Matrix**	
SES Project Number: 5051	**Severity** / **Probability**	
Date Prepared: 10 April 2025		
Prepared by (Name/Title): Mike Wilkinson, SES		
Reviewed by (Name/Title):		
Notes: (Field Notes, Review Comments, etc.)		

Severity	Frequent	Likely	Occasional	Seldom	Unlikely
Catastrophic	E	E	H	H	M
Critical	E	H	H	M	L
Marginal	H	M	M	L	L
Negligible	M	L	L	L	L

Step 1: Review each **"Hazard"** with identified safety **"Controls"** and determine RAC (See above)

"Probability" is the likelihood to cause an incident, near miss, or accident and identified as: Frequent, Likely, Occasional, Seldom or Unlikely.

"Severity" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic, Critical, Marginal, or Negligible

Step 2: Identify the RAC (Probability/Severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.

RAC Chart

- E = Extremely High Risk
- H = High Risk
- M = Moderate Risk
- L = Low Risk

Job Steps	Hazards	Controls	RAC
1. Construction Site Work	1.A. Slips, Trips, Falls.	1.A.1. Ensure walking surfaces are clear of obstructions. 1.A.2. Ensure adequate lighting for clear visibility 1.A.3. Ensure proper PPE to include orange tear-away hi-visibility and safety toe boots, hard hats, eye protection, and hearing protection where posted.	L
	1.B. Pedestrian Traffic	1.B.1. Ensure that all pedestrian's walk in designated areas. 1.B.2. Control the flow of pedestrian's to allow for safe movement of vehicle traffic. 1.B.3. Prevent unauthorized personnel from entering the work site.	L
	1.C. Exposure to Weather	1.C.1. Wear appropriate clothing for the anticipated weather and time of day (night vs. day) conditions. 1.C.2. Ensure that employees hydrate well before and during all activities and take sufficient breaks to allow for such 1.C.3. Establish site/project-specific guidelines to cease operations in the event that weather conditions prevent employees from being able to work safely (high winds, extreme cold/high temperatures etc).	L
	1.D. Heavy Equipment Traffic	1.D.1. Properly don orange tear-away high visibility clothing at all times. 1.D.2. Use spotters when necessary to ensure safe movement	M

		around personnel and equipment. 1.D.3. Ensure that the flow of traffic and signage is in accordance with the approved traffic control plan.	

Equipment to be Used	Training Requirements/Competent or Qualified Personnel name(s)	Inspection Requirements
1. PPE - hard hats, safety toe boots, appropriate hand protection, ear protection (plugs/muffs) where posted, eye protection, orange tear-away high visibility clothing 2. Traffic signs per the traffic control plan	1. SES Accident Prevention Program 2. Earthworks Contactor Accident Prevention Program	1. Daily inspection to make sure proper PPE is worn 2. Daily/beginning of shift inspection to ensure that all signage is in place and effective for the work to be performed and in accordance with the traffic control plan

Activity Hazard Analysis (AHA)

Activity/Work Task: **Excavation**	Overall Risk Assessment Code (RAC) (Use highest code)	**M**
Project Location: 516 West Cora Avenue, Spokane, WA 99205	**Risk Assessment Code (RAC) Matrix**	
SES Project Number: 1810-003	**Severity** / **Probability**	
Date Prepared: 10 April 2025		
Prepared by: Mike Wilkinson, SES		
Reviewed by (Name/Title):		

Severity	Frequent	Likely	Occasional	Seldom	Unlikely
Catastrophic	E	E	H	H	M
Critical	E	H	H	M	L
Marginal	H	M	M	L	L
Negligible	M	L	L	L	L

Notes: (Field Notes, Review Comments, etc.)

REFER TO HEAVY EQUIPMENT OPERATION AHA

Step 1: Review each **"Hazard"** with identified safety **"Controls"** and determine RAC (See above)

"Probability" is the likelihood to cause an incident, near miss, or accident and identified as: Frequent, Likely, Occasional, Seldom or Unlikely.

"Severity" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic, Critical, Marginal, or Negligible

Step 2: Identify the RAC (Probability/Severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.

RAC Chart

- **E = Extremely High Risk**
- **H = High Risk**
- **M = Moderate Risk**
- **L = Low Risk**

Job Steps	Hazards	Controls	RAC
1. Excavations	1.A. Contact with utilities	1.A.1. Review underground survey reports and mark areas of known utility locations. 1.A.2. Review the plans for locations of existing utilities. 1.A.3. Use hand digging methods around all underground utilities as necessary.	**L**
	1.B. Personnel or vehicles fall into excavation	1.B.1. Install and maintain appropriate barricades or fencing with signage to communicate the presence of an excavation to personnel and vehicle traffic. 1.B.2. Provide a clear pathway for foot traffic to take near the excavation with appropriate barricades to keep them from falling into the excavation. 1.B.3. Ensure that the designed tie-off points are used in man-lifts to prevent falls and that safety lines are secured.	**L**
	1.C. Collapse of trench	1.C.1. Competent Person shall survey the excavation prior to each shift and determine / document the stability of the excavation prior to work commencing. 1.C.2. Install and maintain protective systems for excavations greater than 5' in depth or if the soil is unstable.	**L**

Equipment to be Used	Training Requirements/Competent or Qualified Personnel name(s)	Inspection Requirements
1. PPE - hard hats, safety toe boots, leather gloves, ear protection (plugs/muffs) where required, eye protection (goggles/ face shields where necessary, 2. Excavation equipment	1. SES Accident Prevention Program 2. Earthworks Contractor Accident Prevention Program	1. Daily inspection to make sure proper PPE is worn 2. Competent Person to survey the excavation prior to each shift 3. Survey of all barricades and fencing in place to maintain site control