

**Date:** April 27, 2021

**To:** FILE

**Through:** Paul Seidel, Manager  
Northwest Region Cleanup Section

Rebecca Wells-Albers, Acting Statewide Brownfields Coordinator  
Northwest Region Cleanup Section

**From:** Daniel Hafley, Hydrogeologist  
Northwest Region Cleanup Section

**Subject:** Troutdale Riverfront Redevelopment Site, ECSI # 5224; Staff Memorandum in support of a No Further Action determination

This document presents the basis for the Oregon Department of Environmental Quality's (DEQ's) recommended No Further Action (NFA) determination for the Troutdale Riverfront Redevelopment Site (hereafter Site or site), in Troutdale, Oregon. As discussed in this report, contaminant concentrations in environmental media at the site are below acceptable risk levels for public health and the environment unless otherwise noted. In addition to DEQ's NFA decision, this memorandum supports DEQ's forthcoming Certificate of Completion for actions outlined in the 2017 Prospective Purchaser Agreement signed between the Urban Renewal Agency of the City of Troutdale (URA) and DEQ.

The proposed NFA determination meets the requirements of Oregon Administrative Rules Chapter 340 Division 122, Sections 010 to 0140; and ORS 465.200 through 465.455.

The proposal is based on information documented in the administrative record for this site. A copy of the administrative record index is presented at the end of this report.

## 1. BACKGROUND

### Site location.

The site's location, as shown in [Figure 1](#), can be described as follows:

- Address: 302, 320, and 410 NW 257<sup>th</sup> Way, Troutdale, Multnomah County, Oregon.
- Latitude 45.5432° North, longitude 122.3866° West.
- Tax lots 1N3E25BD00104, 1N3E25BD00105, 1N3E25BD00106 ([Figure 8](#)) Township 1 North, Range 3 East, Section 25, of the Willamette Meridian.













### **Ecological risk.**

Data used in the residual risk assessment are presented in **Table 2**. The table shows that there are no H[FHHGDQ5FH] terrestrial ecological RBCs for the PAHs. There is a single exceedance for lead and arsenic against multiple RBCs above the background soil concentrations at the NW13 sampling location. This discrete sample was collected within the boundary of the proposed greenway trail but was sampled from 4 to 8 feet below ground surface. DEQ guidance designates that default soil exposure depth is generally 0 to 3 feet below ground surface which eliminates this sample location from the risk assessment (DEQ, 2020). The ISM surface soil sample from this portion of the greenway had PAH concentrations below RBCs. Therefore, the results of the residual risk assessment demonstrate that the contaminant concentrations remaining in soil at the Site do not pose a risk for exposure to terrestrial ecological receptors.

### **Residual Risk Evaluation Conclusion.**

Contaminants in site soil following site demolition activities and cleanup of impacted media (per the PPA) are below risk-based values for both human and ecological receptors, excepting two areas of subsurface soil where arsenic contamination is present but buried (EP-03 and LW-2). A Final CMMP has been developed addressing these areas.

## **5. RECOMMENDATION**

Based on Site information, including that presented in the Revised Remedial Investigation and Final Closure Report (Wood, 2021) and this staff memorandum, DEQ is prepared to proceed with issuance of a Certificate of Completion and NFA determination for the subject Site. Prior to issuance of the COC and NFA, DEQ will issue notice of the proposed decision and allow a 30-day period for public comment. All comments will be considered before final decision-making by DEQ.

Note that any future Site development requires oversight from the DEQ Cleanup Program and adherence to the Final CMMP. The purpose of the Final CMMP is to provide Site-specific information and guidance to contractors that may encounter contaminated media during Site development activities. Following strict adherence to the Final CMMP, and acknowledging that the Scope of Work required by the PPA has been completed, a No Further Action determination is recommended for this Site. The No Further Action determination should be recorded in DEQ's ESCI database (ESCI #5224).

## **6. ADMINISTRATIVE RECORD**

AMEC Environment & Infrastructure, Inc. (AMEC), 2014a. Quality Assurance Project Plan & sampling and Analysis Plan. Troutdale Riverfront Redevelopment Property. 302 NW 257th Way, Troutdale, Oregon. May 2, 2014.

AMEC, 2014b. Pre-Demolition Hazardous Building Materials Survey. Troutdale Riverfront Redevelopment Property, 302 NW 257th Way, Troutdale, Oregon. October 1, 2014.

AMEC, 2015. Former POTW Assessment and Closure Reporting. January 2015.

Amec Foster Wheeler, 2012. Supplemental Site Characterization Report, Troutdale Riverfront Redevelopment Site, Troutdale, Oregon. November 2012.

Amec Foster Wheeler, 2014a. Conceptual Site Model Development and Additional Soil Data Screening, Troutdale Riverfront Redevelopment Site, Troutdale, Oregon. February 2014.

Amec Foster Wheeler, 2014b. Incremental Surface Soil and Groundwater Sampling Report, Troutdale Riverfront Redevelopment Site, Troutdale, Oregon. February 21, 2014.

Amec Foster Wheeler, 2017. Revised Interim Remedial Action Measures Summary Report Animal Material Removal. Troutdale Riverfront Redevelopment Property. Troutdale, Oregon. June 30, 2017.

City of Portland Bureau of Environmental Services (BES), 2019. Updated: Material Evaluation Plan, NW 20th Ave. LID Clean Fill Assessment for Troutdale Riverfront Redevelopment Property, 302 and 410 NW 257th Way, Troutdale, Oregon. April 4, 2019.

City of Troutdale, 2018. NPDES 1200-C General Permit for Troutdale Riverfront Development Project. August 8, 2018.

Corpac Construction Co. (Corpac), 2018a. Health & Safety Plan. October 2018.

Corpac, 2018b. TRRP City of Troutdale Traffic Control Plan. October 2018.

Ecology & Environment, Inc., 2011. Troutdale Riverfront Redevelopment Site Targeted Brownfields Assessment, Troutdale, Oregon. July 2011.

GDSI, 2019a. Regulated Material Abatement Work Plan. Troutdale Water Treatment Plan Redevelopment. 302 NW 257th Way, Troutdale, Oregon. January 19, 2019.

GDSI, 2019b. Building #17 Central and Eastern ACM Machine Wreck/Demo ACM Removal. June 2019.

JSE Labs Inc., 2018. Limited Asbestos Survey Report. Project: Troutdale Riverfront Cleanup, Troutdale, Oregon. November 9, 2018.

Kleinfelder, Inc., 2006a. Phase I Environmental Site Assessment, City of Troutdale & Eastwind Development LLC Parcels 410, 320, & 302 NW 257th Way/NE Harlow Road. January 5, 2006.

Kleinfelder, Inc., 2006b. Phase II Environmental Site Assessment Report City of Troutdale WWTP Property and Eastwind Development, LLC Property 410, 320 and 302 NW 257th Way. May 12, 2006.

Kleinfelder Inc., 2006c. Hazardous Building Material Survey. City of Troutdale & Eastwind Development LLC Parcels 410, 320, & 302 NW 257th Way. Tax Lots: 400, 500, 100, & 00. Troutdale, Oregon. May 11, 2006.

Northstar, Inc., 2018. Project Specific Asbestos Abatement Work Plan. September 2018.

State of Oregon, Department of Justice, 2018. Consent Judgement (prospective purchaser's agreement). State of Oregon; Richard Whitman, Director Department of Environmental Quality v. Urban Renewal Agency of the City of Troutdale. February 18, 2018.

State of Oregon, Department of Environmental Quality, 2020. Conducting Ecological Risk Assessments. Land Quality Division, Cleanup Program. September 14, 2020.

Wood Environment & Infrastructure Solutions, Inc. (Wood), 2018a. Remedial Investigation Report. Troutdale Urban Renewal Agency Property. 410 & 302 NW 257th Way, Troutdale, Oregon. June 19, 2018.

Wood, 2018b. Stormwater Conveyance System Sampling Results and Analysis. Troutdale Riverfront Redevelopment Property, Troutdale, Oregon. June 19.

Wood, 2018c. Contaminated Media Management Plan. Troutdale Riverfront Redevelopment Property 410 & 302 NW 257th Way, Troutdale, Oregon. August 30, 2018.

Wood, 2018d. Amendment to Contaminated Media Management Plan Benzo(a)pyrene Area Troutdale Riverfront Redevelopment Property. 302 and 410 NW 257th Way, Troutdale, Oregon. October 3, 2018.

Wood, 2019. Lead Compliance Plan-Revision 2. Troutdale Riverfront Redevelopment Property. 410 & 302 NW 257th Way, Troutdale, Oregon. April 22, 2019.

Wood, 2020. Contaminated Media Management Plan. Troutdale Riverfront Redevelopment Property. 410 & 302 NW 257th Way, Troutdale, Oregon. May 2020.

Wood, 2021. Revised Remedial Investigation and Final Closure Report. Troutdale Riverfront Redevelopment Property. 302, 320, and 410 NW 257<sup>th</sup> Way, Troutdale, Oregon. January 2021.

## **7. ATTACHMENTS**

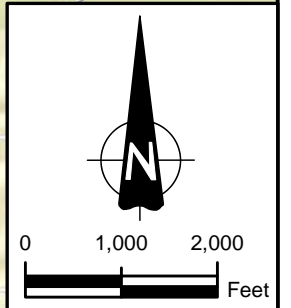
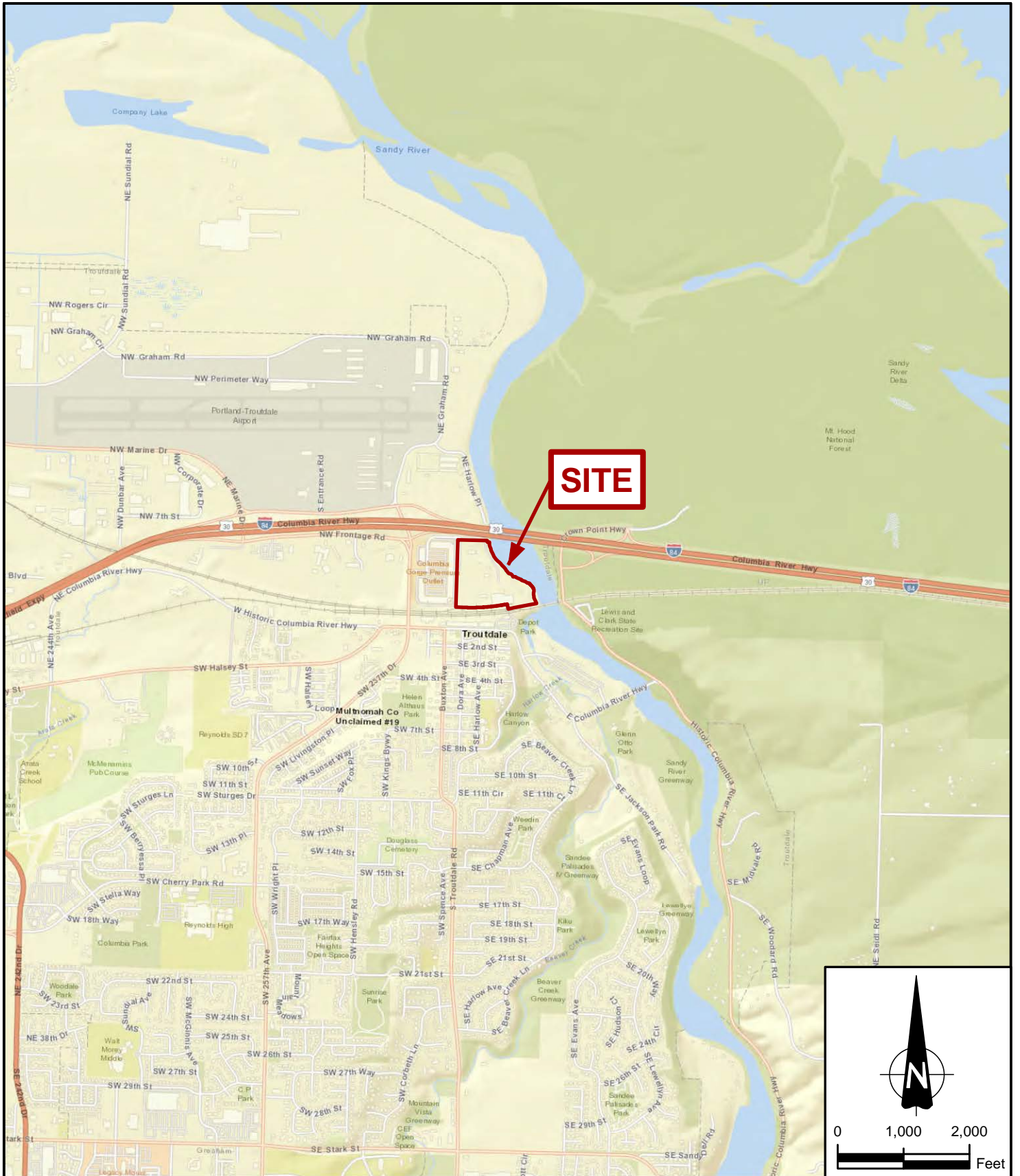
### **FIGURES**

1. Site Location Map
2. Site Plan with Discrete Sample Locations
3. ISM Soil Sample Locations and Decision Units
4. Building #17 Subgrade Features
5. Hazardous Building Materials in Site Buildings
6. RR Spur Sampling Area

7. Location of Residual Concentrations for Residual Risk Assessment
8. Current Platted Tax Lots

**TABLES**

1. Summary of Soil Data – Residual Risk Analysis for Human Health
2. Summary of Soil data – Residual Risk Analysis for Ecological Receptors



CITY OF TROUTDALE

**Wood Environment & Infrastructure Solutions, Inc.**  
 15862 S.W. 72nd Ave, #150  
 Portland, OR 97224

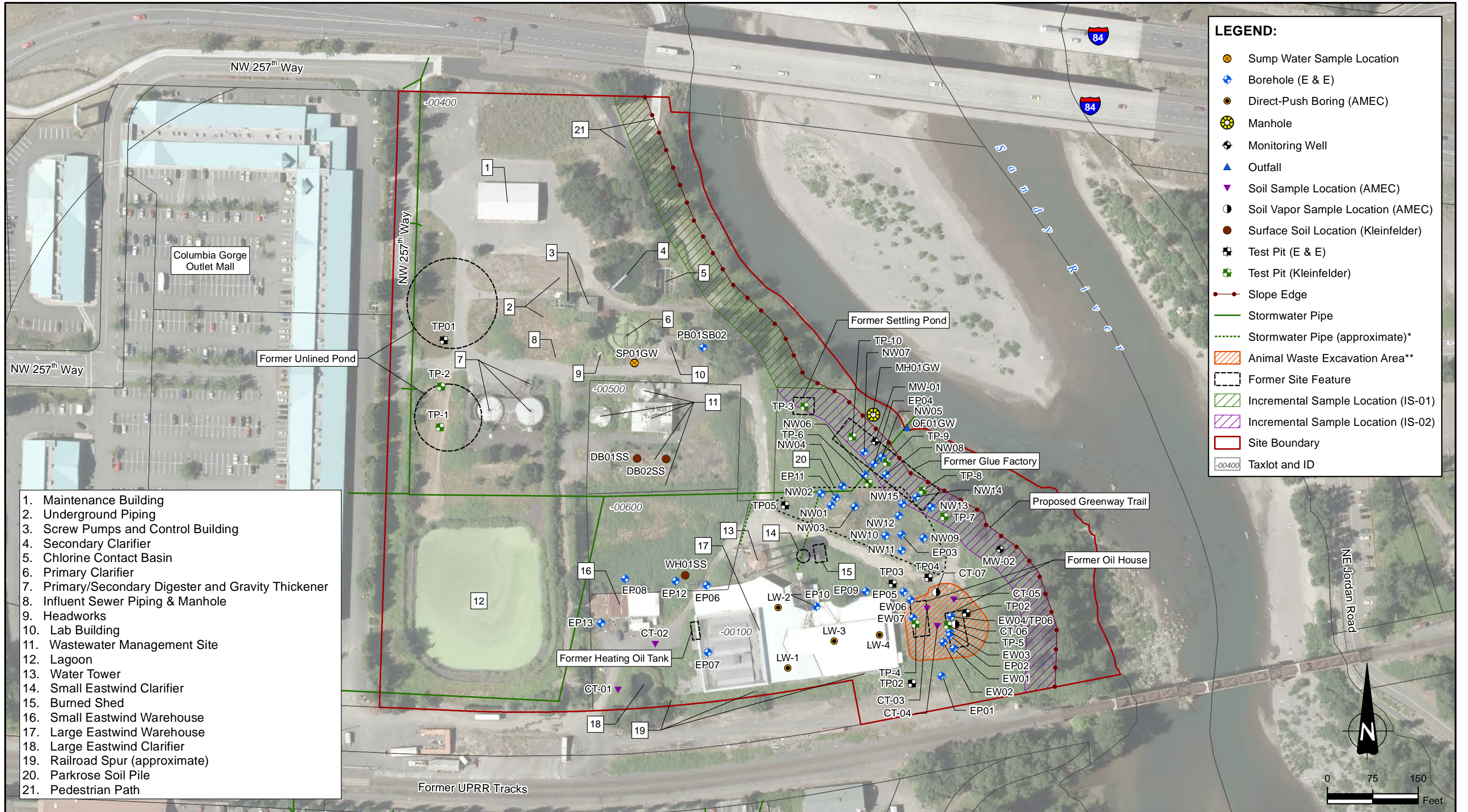


TROUTDALE URBAN RENEWAL AGENCY PROPERTY

SITE LOCATION MAP

DATE	OCTOBER 2020
SCALE	1" = 2,000 feet
PROJECT NO.	7-61M-125855
FIGURE	1

DRAWN BY: SD CHECKED BY: GT



NOTE: \* Approximate location of laterals are from outfall pipe reconnaissance performed on July 1, 2014.  
 \*\* Soil represented by samples within animal waste excavation area were removed during IRAM.

CITY OF TROUTDALE

**wood.**

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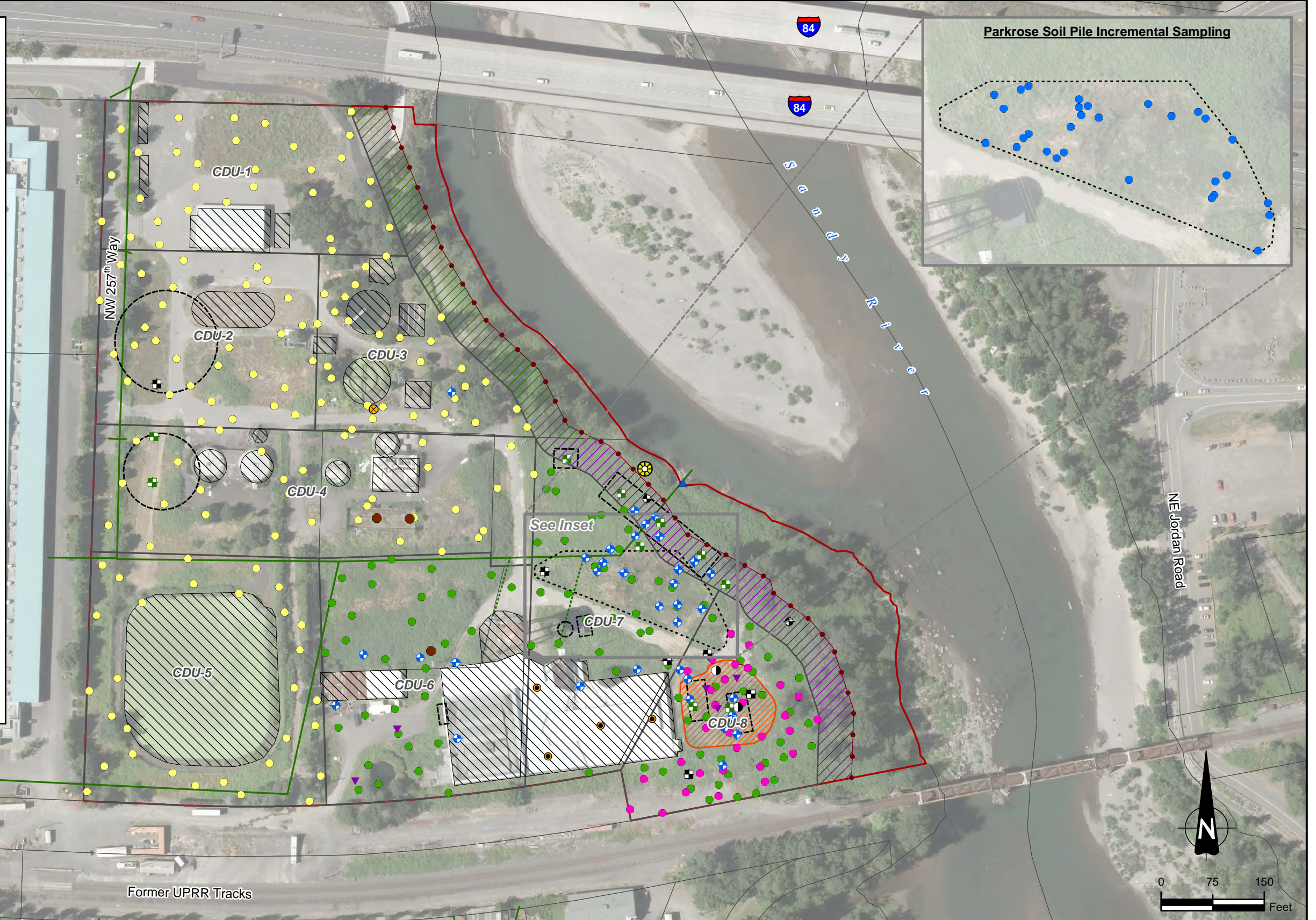
TROUTDALE URBAN RENEWAL AGENCY PROPERTY

**SITE PLAN WITH SAMPLE LOCATIONS**

DATE	OCTOBER 2020
SCALE	1" = 150'
PROJECT NO.	7-61M-125855
FIGURE	2

**LEGEND:**

- Sump Water Sample Location
- Borehole (E & E)
- Direct-Push Boring (AMEC)
- Manhole
- Monitoring Well
- Outfall
- Soil Sample Location (AMEC)
- Soil Vapor Sample Location (AMEC)
- Surface Soil Location (Kleinfelder)
- Test Pit (E & E)
- Test Pit (Kleinfelder)
- Parkrose Soil Pile Incremental Sample Location (January 2018)
- Incremental Sample Location (December 2016)
- Incremental Sample Location (August 2014)
- Incremental Sample Location (May 2013)
- Slope Edge
- Stormwater Pipe
- Stormwater Pipe (approximate)\*
- Animal Waste Excavation Area\*\*
- Former Site Feature
- Parkrose Soil Pile
- Incremental Sample Decision Unit
- Incremental Sample Location (IS-01)
- Incremental Sample Location (IS-02)
- Area Excluded from Incremental Sampling
- Site Boundary
- Taxlot and ID



NOTE: \* Approximate location of laterals are from outfall pipe reconnaissance performed on July 1, 2014.  
 \*\* Soil represented by samples within animal waste excavation area were removed during IRAM.

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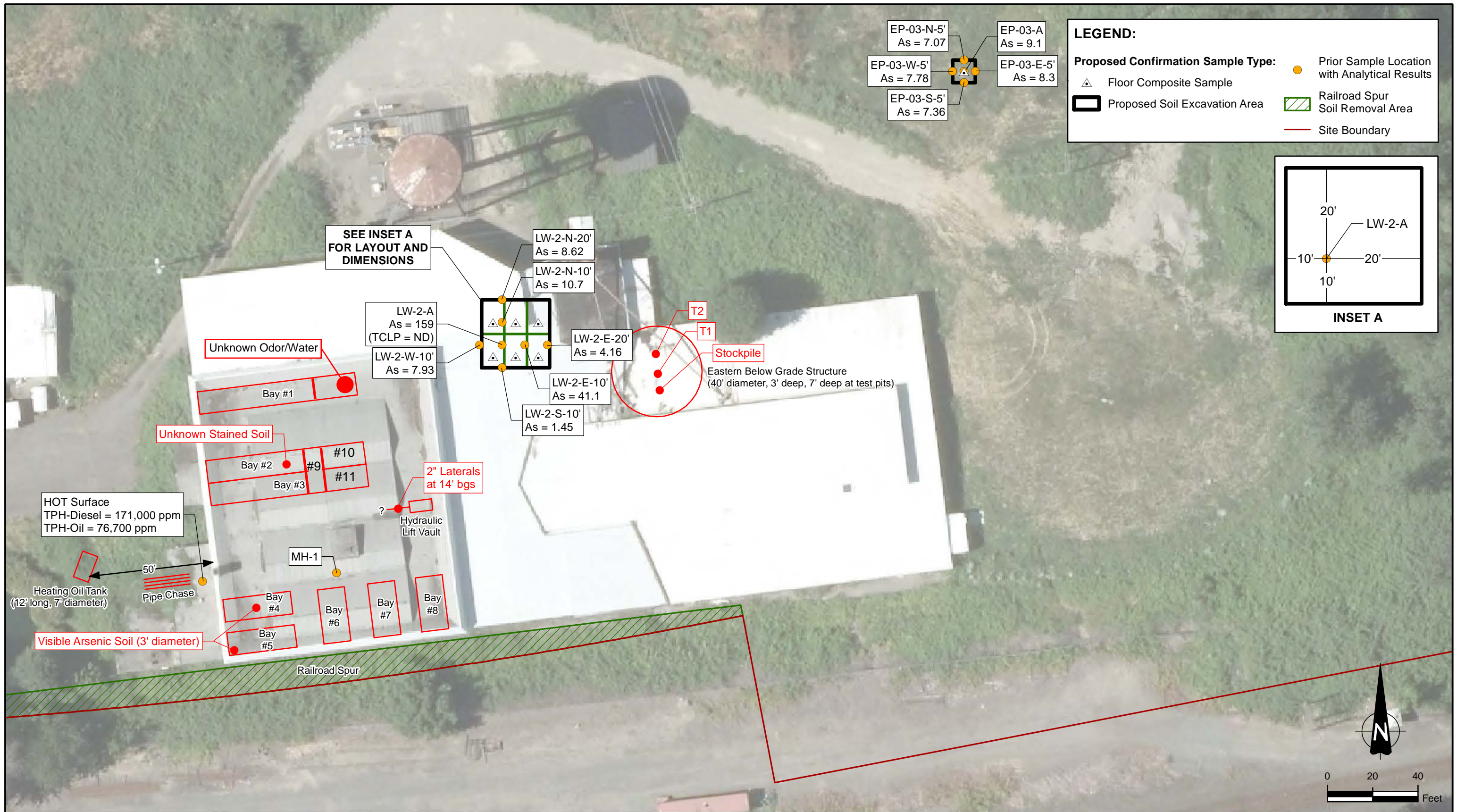


**TROUTDALE URBAN RENEWAL AGENCY PROPERTY**

**ISM SOIL SAMPLE LOCATIONS AND DECISION UNITS**

DATE	OCTOBER 2020
SCALE	1" = 150'
PROJECT NO.	7-61M-125855
FIGURE	3

DRAWN BY: SD CHECKED BY: GT



NOTE:  
As = Arsenic  
All bays have concrete bottoms

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Portland, OR 97224



TROUTDALE URBAN RENEWAL AGENCY PROPERTY

BUILDING #17 SUBGRADE FEATURES

DATE  
OCTOBER 2020

SCALE  
1" = 40'

PROJECT NO.  
7-61M-125855

FIGURE  
4

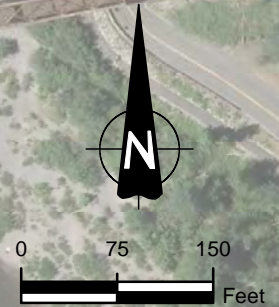


**LEGEND:**

- Site Boundary
- Building with HBM

Structure Name	ACM <sup>1</sup>	LIP <sup>2</sup>	Hg/PCB <sup>3</sup>
Control Building	X	X	X
Primary/Secondary Digester	X	X	X
Lab Building		X	X
Wastewater Management Site	X (AST's <sup>5</sup> )	X	X
Small Eastwind Warehouse		X	X
Large Eastwind Warehouse	X	X	X
Primary Clarifier		X	
Secondary Clarifier		X	

- <sup>1</sup>ACM = Asbestos Containing Materials
- <sup>2</sup>LIP = Lead In Paint Containing Materials
- <sup>3</sup>Hg = Mercury Containing Materials
- <sup>4</sup>PCB = Polychlorinated Biphenyl Containing Materials
- <sup>5</sup>AST = Above-Ground Storage Tank

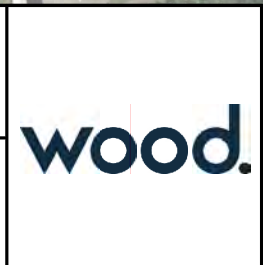


**NOTE:**

1. Hazardous Building Material (HBM) is identified from 2006 Kleinfelder HBM Survey and 2014 Amec HBM Survey
2. All work with material containing lead in building materials must be managed in accordance with an approved lead management plan.

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 Portland, OR 97224



**TROUTDALE RIVERFRONT REDEVELOPMENT PROPERTY**

**HAZARDOUS BUILDING MATERIALS (HBM) IN SITE BUILDINGS**

DATE	OCTOBER 2020
SCALE	1" = 150'
PROJECT NO.	7-61M-125855
FIGURE	5

DRAWN BY: SD CHECKED BY: GT



**LEGEND:**

- 10-Point Subset of 50-Point
- ▨ Track Removal and Soil Sampling Area
- ▭ Site Boundary
- ▭ Taxlot

**TRACK AREA  
50-POINT ISM SAMPLE  
(WITH 5 10-POINT SUB SAMPLES)**

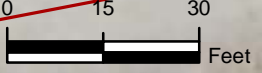
**Track-Comp #1 - East**

**Track-Comp #2**

**Track-Comp #3 - Middle**

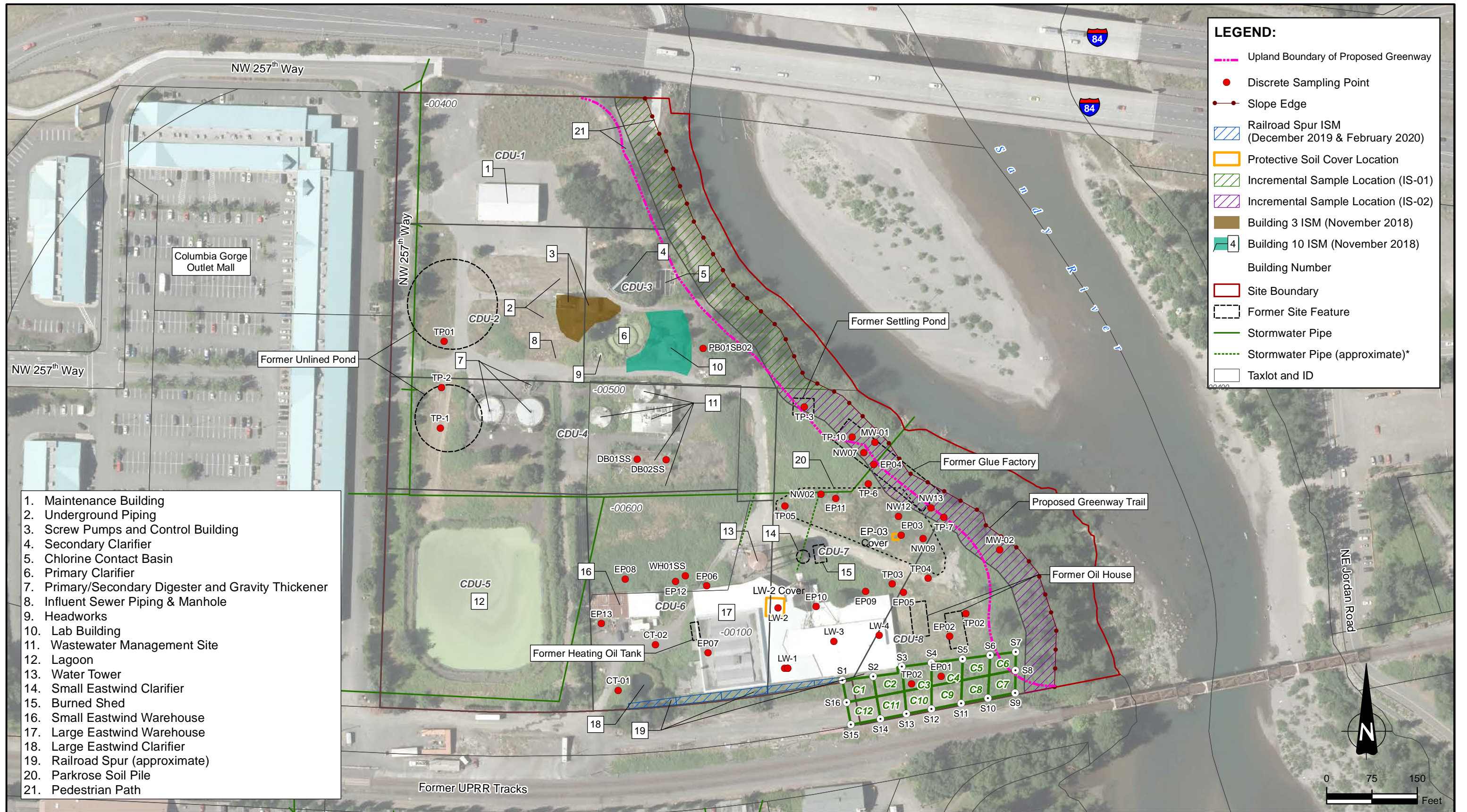
**Track-Comp #4**

**Track-Comp #5 - West**



DRAWN BY: SD CHECKED BY: GT

	<p>CITY OF TROUTDALE</p>		<p>TROUTDALE URBAN RENEWAL AGENCY PROPERTY</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">DATE</td> <td style="text-align: center;">OCTOBER 2020</td> </tr> <tr> <td style="font-size: small;">SCALE</td> <td style="text-align: center;">1" = 30'</td> </tr> <tr> <td style="font-size: small;">PROJECT NO.</td> <td style="text-align: center;">7-61M-125855</td> </tr> <tr> <td style="font-size: small;">FIGURE</td> <td style="text-align: center;">6</td> </tr> </table>	DATE	OCTOBER 2020	SCALE	1" = 30'	PROJECT NO.	7-61M-125855	FIGURE	6
DATE	OCTOBER 2020											
SCALE	1" = 30'											
PROJECT NO.	7-61M-125855											
FIGURE	6											
	<p>Wood Environment &amp; Infrastructure Solutions, Inc. 15862 S.W. 72nd Ave, #150 Portland, OR 97224</p>		<p>PROPOSED TRACK AREA SAMPLING</p>									



**LEGEND:**

- Upland Boundary of Proposed Greenway
- Discrete Sampling Point
- Slope Edge
- Railroad Spur ISM (December 2019 & February 2020)
- Protective Soil Cover Location
- Incremental Sample Location (IS-01)
- Incremental Sample Location (IS-02)
- Building 3 ISM (November 2018)
- Building 10 ISM (November 2018)
- Building Number
- Site Boundary
- Former Site Feature
- Stormwater Pipe
- Stormwater Pipe (approximate)\*
- Taxlot and ID

1. Maintenance Building
2. Underground Piping
3. Screw Pumps and Control Building
4. Secondary Clarifier
5. Chlorine Contact Basin
6. Primary Clarifier
7. Primary/Secondary Digester and Gravity Thickener
8. Influent Sewer Piping & Manhole
9. Headworks
10. Lab Building
11. Wastewater Management Site
12. Lagoon
13. Water Tower
14. Small Eastwind Clarifier
15. Burned Shed
16. Small Eastwind Warehouse
17. Large Eastwind Warehouse
18. Large Eastwind Clarifier
19. Railroad Spur (approximate)
20. Parkrose Soil Pile
21. Pedestrian Path

NOTE: \* Approximate location of laterals are from outfall pipe reconnaissance performed on July 1, 2014.

CITY OF TROUTDALE

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TROUTDALE RIVERFRONT REDEVELOPMENT PROPERTY

LOCATION OF RESIDUAL CONCENTRATIONS for RESIDUAL RISK ASSESSMENT

DATE	OCTOBER 2020
SCALE	1" = 150'
PROJECT NO.	7-61M-125855
FIGURE	7

DRAWN BY: SD CHECKED BY: GT



**LEGEND:**

- Site Boundary
- Taxlot and ID

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 Portland, OR 97224



TROUTDALE URBAN RENEWAL  
AGENCY PROPERTY

CURRENT PLATTED TAX LOTS

DATE	APRIL 2021
SCALE	1" = 150'
PROJECT NO.	7-61M-125855
FIGURE	<b>8</b>

**Table 1  
Summary of Arsenic, Lead and cPAH TEQ Results for Soil Samples**

							Arsenic	Lead	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Benzo(a)Pyrene Equivalents* Nondetects calculated as full RDL								
CAS-RN							7440-38-2	7439-92-1	56-55-3	50-32-8	205-99-2	191-24-2	207-08-9	218-01-9	53-70-3	193-39-5	50-32-8								
Background Soil Concentration (Portland Basin) <sup>1</sup>							8.8	28	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA							
DEQ RBC Soil Ingestion, Dermal Contact, and Inhalation (Urban Residential)							1.0	400	2.5	0.25	2.5	-	25*	250*	0.25	2.5*	0.25	0.25							
DEQ RBC Soil Ingestion, Dermal Contact, and Inhalation (Occupational)							1.9	800	21*	2.1	21*	-	210*	2100*	2.1	21*	2.1	2.1							
DEQ RBC Soil Ingestion, Dermal Contact, and Inhalation (Construction Worker)							15	800	170*	17*	170*	-	1700*	17000*	17*	170*	17**								
DEQ RBC Soil Ingestion, Demral Contact, and Inhalation (Excavation Worker)							420	800	4800*	490*	4900*	-	49000*	490000*	490*	4900*	490**								
Area	Sample ID	Sample Date	Initial or Confirmation	Start Depth (ft bgs)	End Depth (ft bgs)	ISM or Discrete	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	Capped or Left In Place			
<b>Former Eastwind Property</b>																									
West ISM	CDU-6	8/5/2014	Initial	0	0.5	ISM	3.40	53.7	0.06	0.07	0.18	0.05	NT	0.11	0.01	U	0.05	0.109	Left In Place						
Central ISM	CDU-7	8/5/2014	Initial	0	0.5	ISM	4.56	50.4 J	0.02	0.03	0.05	0.03	NT	0.03	0	0.03	0.043	Left In Place							
Central ISM	CDU-7	8/5/2014	Initial	0	0.5	ISM	4.99	59.0 J	0.02	0.03	0.05	0.03	NT	0.03	0	0.03	0.045	Left In Place							
Greenway ISM	IS-02	7/26/2012	Initial	0	0.5	ISM	1.00 J	15.0	0	U	0.02	0.03	0.02	0.01	0	U	0.02	0.034	Left In Place						
Greenway ISM	IS-02	7/26/2012	Initial	0	0.5	ISM	0.97 J	13.0	0.06	0.06	0.09	0.04	0.03	0.06	0.01	0.05	0.095	Left In Place							
Greenway ISM	MW-01	8/14/2012	Initial	18.5	19	Discrete	2.39	7.21	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.026	Left In Place			
Greenway ISM	MW-02	8/13/2012	Initial	16.5	17	Discrete	8.25	27.2	1.02	0.74	1.8	0.55	U	NT	1.58	0.55	U	0.65	1.643	Left In Place					
North	TP05	7/28/2010	Initial	0	14	Discrete	2.10	6.20	0	U	0	U	0	U	0	U	0	U	0	U	0	J	0.009	Left In Place	
North	NW09	7/27/2010	Initial	8	12	Discrete	149 J	0.61 J	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0.008	Left In Place	
North	NW13	7/27/2010	Initial	4	8	Discrete	28.7 J	38.7	0.47	U	0.47	U	0.47	U	0.47	U	0.47	U	0.47	U	0.47	U	1.091	Left In Place	
North	NW12	7/27/2010	Initial	4	8	Discrete	8.20 J	127	5.6	U	5.6	U	5.6	U	5.6	U	5.6	U	5.6	U	5.6	U	13.00	Left In Place	
North	NW07	7/27/2010	Initial	4	8	Discrete	0.96 J	19.3	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.017	Left In Place	
North	NW02	7/27/2010	Initial	8	12	Discrete	0.0015	0.0086	0	J	0.01	J	0.01	J	0	J	0	J	0.01	U	0	J	0.014	Left In Place	
North	NW07	7/27/2010	Initial	8	12	Discrete	1.50 J	8.60	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	Left In Place	
North	EP11	7/25/2010	Initial	16	20	Discrete	2.00 J	4.00	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0.009	Left In Place	
North	EP11	7/25/2010	Initial	12	16	Discrete	4.00 J	9.60	0	J	0	U	0	U	0	U	0	J	0	U	0	U	0.009	Left In Place	
North	EP11	7/25/2010	Initial	8	12	Discrete	2.10 J	3.10	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0.009	Left In Place	
North	EP11	7/25/2010	Initial	4	8	Discrete	4.90 J	21.8	0	J	0	0	J	0	J	0	J	0	U	0	U	0	J	0.009	Left In Place
North	EP04	7/25/2010	Initial	20	24	Discrete	3.10 J	5.10	0	U	0	J	0	U	0	U	0	U	0	U	0	U	0.009	Left In Place	
North	EP04	7/25/2010	Initial	16	20	Discrete	1.80 J	5.40	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0.010	Left In Place	
North	EP04	7/25/2010	Initial	12	16	Discrete	2.00 J	13.4	0.02	0.02	0.02	0.01	0.01	0.02	0	U	0.01	0.027	Left In Place						
North	EP04	7/25/2010	Initial	4	8	Discrete	1.70 J	11.8	0	J	0.01	J	0	J	0	J	0	J	0	U	0	J	0.010	Left In Place	
North	EP03	7/25/2010	Initial	20	24	Discrete	2.60 J	4.50	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0.010	Capped	
North	EP03	7/25/2010	Initial	16	20	Discrete	3.10 J	3.90	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0.010	Capped	
North	EP03	7/25/2010	Initial	8	12	Discrete	6.00 J	0.90 J	0	U	0	0	U	0	J	0	U	0	U	0	U	0	U	0.009	Capped
North	TP-10	3/16/2006	Initial	0	5	Discrete	1.64 U	7.88	0.07	U	0.07	U	0.07	U	0.07	U	0.07	U	0.07	U	0.07	U	0.155	Left In Place	
North	TP-7	3/16/2006	Initial	0	7.5	Discrete	NT	NT	0.07	U	0.07	U	0.07	U	0.07	U	0.07	U	0.07	U	0.07	U	0.155	Left In Place	
North	TP-6	3/16/2006	Initial	0	3	Discrete	2.33	14.9	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	Left In Place		
North	TP-3	3/16/2006	Initial	0	2.5	Discrete	1.92 U	1.92 U	0.07	U	0.07	U	0.07	U	NT	U	0.07	U	0.07	U	0.07	U	0.154	Left In Place	
Southeast	TP02	7/28/2010	Initial	0	10	Discrete	4.00	5.90	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0.009	Left In Place	
Southeast	TP04	7/28/2010	Initial	0	12	Discrete	11.7	80.2	0.19	0.21	J	0.21	J	0.09	J	0.14	J	0.19	0	U	NT	0.256	Left In Place		
Southeast	TP03	7/28/2010	Initial	0	12	Discrete	1.70	3.10	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0.009	Left In Place	
Southeast	EP09	7/25/2010	Initial	16	20	Discrete	6.40 J	5.60	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0.010	Left In Place	
Southeast	EP09	7/25/2010	Initial	12	16	Discrete	3.50 J	11.6	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0.009	Left In Place	
Southeast	EP09	7/25/2010	Initial	8	12	Discrete	1.80 J	8.40	0.01	0.01	0.01	0	J	0	J	0.01	0	U	0	0	0.017	Left In Place			
Southeast	EP09	7/25/2010	Initial	0	4	Discrete	4.30 J	73.8	0.06	0.03	0.01	U	0.03	0.01	U	0.03	0.01	U	0.02	0.049	Left In Place				

**Table 1  
Summary of Arsenic, Lead and cPAH TEQ Results for Soil Samples**

							Arsenic	Lead	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Benzo(a)Pyrene Equivalents* Nondetects calculated as full RDL									
CAS-RN							7440-38-2	7439-92-1	56-55-3	50-32-8	205-99-2	191-24-2	207-08-9	218-01-9	53-70-3	193-39-5	50-32-8									
Background Soil Concentration (Portland Basin) <sup>1</sup>							8.8	28	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA								
DEQ RBC Soil Ingestion, Dermal Contact, and Inhalation (Urban Residential)							1.0	400	2.5	0.25	2.5	-	25*	250*	0.25	2.5*		0.25								
DEQ RBC Soil Ingestion, Dermal Contact, and Inhalation (Occupational)							1.9	800	21*	2.1	21*	-	210*	2100*	2.1	21*		2.1								
DEQ RBC Soil Ingestion, Dermal Contact, and Inhalation (Construction Worker)							15	800	170*	17*	170*	-	1700*	17000*	17*	170*		17**								
DEQ RBC Soil Ingestion, Demral Contact, and Inhalation (Excavation Worker)							420	800	4800*	490*	4900*	-	49000*	490000*	490*	4900*		490**								
Area	Sample ID	Sample Date	Initial or Confirmation	Start Depth (ft bgs)	End Depth (ft bgs)	ISM or Discrete	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	Capped or Left In Place		
Southeast	EP05	7/22/2010	Initial	20	24	Discrete	6.20	6.10 J	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0.010	Left In Place		
Southeast	EP05	7/22/2010	Initial	16	20	Discrete	4.60	5.20 J	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0.010	Left In Place		
Southeast	EP05	7/22/2010	Initial	12	16	Discrete	1.60	4.00 J	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.019	Left In Place		
Southeast	EP05	7/22/2010	Initial	4	8	Discrete	1.20	2.70 J	0	J	0.01	U	0	J	0.01	U	0	J	0	J	0.01	U	0.016	Left In Place		
Southeast	EP02	7/22/2010	Initial	20	24	Discrete	6.60	5.90 J	0.01		0.01		0.01		0	J	0	J	0		0	U	0	J	0.011	Left In Place
Southeast	EP02	7/22/2010	Initial	12	16	Discrete	1.90	4.70 J	0	J	0	U	0	J	0	J	0	J	0	U	0	J	0.008	Left In Place		
Southeast	EP02	7/22/2010	Initial	8	12	Discrete	2.80	159 J	0.03		0.03		0.04		0.02	J	0.02	J	0.02		0.02	U	0.02		0.061	Left In Place
Southeast	EP02	7/22/2010	Initial	0	4	Discrete	1.70	13.0 J	0.02		0.02		0.02		0.02		0.02		0.01	U	0.01				0.037	Left In Place
Southeast	EP01	7/22/2010	Initial	12	16	Discrete	5.30	4.90 J	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0.010	Left In Place
Southeast	EP01	7/22/2010	Initial	6	10	Discrete	2.40	6.50 J	0	J	0	J	0	J	0	J	0	J	0	J	0.01	U	0	J	0.012	Left In Place
Southeast	EP01	7/22/2010	Initial	4	8	Discrete	0.93 J	2.60 J	0.01	J	0.01	J	0.01	J	0	J	0	J	0.02		0.01	U	0	J	0.015	Left In Place
Southeast	EP01	7/22/2010	Initial	0	4	Discrete	4.00	25.5 J	0.03		0.03		0.04		0.02		0.02	J	0.03		0.02	U	0.02		0.060	Left In Place
Southwest	CT-01	6/27/2012	Initial	12	13	Discrete	2.36 U	4.62	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.025	Left In Place
Southwest	CT-01	6/27/2012	Initial	0	0.5	Discrete	5.17	78.6	0.05	U	0.07		0.1	U	0.09		NT		0.06		0.05	U	0.08		0.140	Left In Place
Southwest	CT-02	6/27/2012	Initial	13.5	14	Discrete	4.00	5.40	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.027	Left In Place
Southwest	CT-02	6/27/2012	Initial	0	0.5	Discrete	4.11	23.3	0.02		0.04		0.05		0.04		NT		0.03		0.01	U	0.03		0.056	Left In Place
Southwest	EP12	7/21/2010	Initial	12	16	Discrete	2.40 J	3.90	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0.010	Left In Place
Southwest	EP12	7/21/2010	Initial	8	12	Discrete	0.85 J	4.40	0.01	U	0.01	U	0	U	0.01	U	0	U	0.01	U	0.01	U	0.01	U	0.017	Left In Place
Southwest	EP12	7/21/2010	Initial	4	8	Discrete	0.16 J	4.20	0	U	0	U	0.01	U	0.01	U	0	U	0.01	U	0.01	U	0	U	0.013	Left In Place
Southwest	EP12	7/21/2010	Initial	0	4	Discrete	1.20 J	18.7	0.02	U	0.01	U	0.02	U	0.01	U	0.01	U	0.02	U	0.02	U	0.01	U	0.033	Left In Place
Southwest	EP06	7/21/2010	Initial	12	16	Discrete	6.30 J	4.30	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.019	Left In Place
Southwest	EP06	7/21/2010	Initial	8	12	Discrete	2.40 J	3.70	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0.010	Left In Place
Southwest	EP06	7/21/2010	Initial	4	8	Discrete	0.32 J	1.70	0.01	U	0.01	U	0.02	U	0.02	U	0.02	U	0.01	U	0.02	U	0.02	U	0.030	Left In Place
Southwest	EP06	7/21/2010	Initial	0	4	Discrete	1.20 J	2.70	0.01	U	0.04	U	0.02	U	0.02	U	0.01	U	0.01	U	0.04	U	0.01	U	0.073	Left In Place
Southwest	EP08	7/21/2010	Initial	20	24	Discrete	8.50 J	2.70	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0.009	Left In Place
Southwest	EP08	7/21/2010	Initial	12	16	Discrete	2.60 J	3.90	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0.009	Left In Place
Southwest	EP08	7/21/2010	Initial	8	12	Discrete	0.47 J	2.10	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0.008	Left In Place
Southwest	EP08	7/21/2010	Initial	4	8	Discrete	0.34 J	0.63 J	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0.007	Left In Place
Southwest	EP13	7/20/2010	Initial	12	16	Discrete	5.90 J	5.00	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.046	Left In Place
Southwest	EP13	7/20/2010	Initial	8	12	Discrete	6.20 J	5.90	0.04	U	0.04	U	0.04	U	0.04	U	0.04	U	0.04	U	0.04	U	0.04	U	0.088	Left In Place
Southwest	EP13	7/20/2010	Initial	4	8	Discrete	4.10 J	3.60	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.018	Left In Place
Southwest	EP13	7/20/2010	Initial	0	4	Discrete	2.70 J	39.7	0.01	U	0.03	U	0.02	U	0.04	U	0.04	U	0.02	U	0.04	U	0.04	U	0.075	Left In Place
Southwest	WH01	7/20/2010	Initial	0	0.5	Discrete	1.20 J	34.8	0.04	U	0.04	U	0.03	U	0.01	U	0.01	U	0.02	U	0.04	U	0.01	U	0.080	Left In Place
Warehouse	LW-03	8/8/2014	Initial	0	10	Discrete	1.11 U	0.753	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0.009	Left In Place
Warehouse	LW-03	8/8/2014	Initial	0	3	Discrete	1.13 U	19.6	0	U	0	U	0.01	U	0	U	NT		0	U	0	U	0	U	0.010	Left In Place
Warehouse	LW-04	8/8/2014	Initial	0	10	Discrete	1.27 U	0.637	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0.010	Left In Place
Warehouse	LW-04	8/8/2014	Initial	0	3	Discrete	1.21 U	4.59	0	U	0	U	0.01	U	0	U	NT		0	U	0	U	0	U	0.010	Left In Place
Warehouse	LW-02	8/8/2014	Initial	0	10	Discrete	236	5.11	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0.010	Capped

**Table 1  
Summary of Arsenic, Lead and cPAH TEQ Results for Soil Samples**

							Arsenic	Lead	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Benzo(a)Pyrene Equivalents* Nondetects calculated as full RDL								
CAS-RN							7440-38-2	7439-92-1	56-55-3	50-32-8	205-99-2	191-24-2	207-08-9	218-01-9	53-70-3	193-39-5	50-32-8								
Background Soil Concentration (Portland Basin) <sup>1</sup>							8.8	28	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA							
DEQ RBC Soil Ingestion, Dermal Contact, and Inhalation (Urban Residential)							1.0	400	2.5	0.25	2.5	-	25*	250*	0.25	2.5*		0.25							
DEQ RBC Soil Ingestion, Dermal Contact, and Inhalation (Occupational)							1.9	800	21*	2.1	21*	-	210*	2100*	2.1	21*		2.1							
DEQ RBC Soil Ingestion, Dermal Contact, and Inhalation (Construction Worker)							15	800	170*	17*	170*	-	1700*	17000*	17*	170*		17**							
DEQ RBC Soil Ingestion, Demral Contact, and Inhalation (Excavation Worker)							420	800	4800*	490*	4900*	-	49000*	490000*	490*	4900*		490**							
Area	Sample ID	Sample Date	Initial or Confirmation	Start Depth (ft bgs)	End Depth (ft bgs)	ISM or Discrete	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	Capped or Left In Place		
Warehouse	LW-01	8/8/2014	Initial	0	10	Discrete	18.0	5.84	0	U	0	U	0	U	0	U	0	U	0	U	0	U	0.010	Left In Place	
Warehouse	EP10	7/22/2010	Initial	12	16	Discrete	5.60	4.70	0	U	0	J	0	U	0	U	0	U	0	U	0	U	0.010	Left In Place	
Warehouse	EP10	7/22/2010	Initial	16	20	Discrete	13.6	4.80	0	U	0	J	0	U	0	U	0	U	0	U	0	U	0.009	Left In Place	
Warehouse	EP10	7/22/2010	Initial	8	12	Discrete	1.50	1.90	0	U	0	J	0	U	0	U	0	U	0	U	0	U	0.009	Left In Place	
Warehouse	EP10	7/22/2010	Initial	4	8	Discrete	0.88	4.30	0	J	0		0	U	0	U	0	U	0	J	0	U	0.008	Left In Place	
Warehouse	EP07	7/21/2010	Initial	8	12	Discrete	5.70	13.3	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.019	Left In Place	
Warehouse	EP07	7/21/2010	Initial	4	8	Discrete	3.40	5.10	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.046	Left In Place	
Warehouse	EP07	7/21/2010	Initial	0	4	Discrete	0.81	6.50	0	U	0.01	U	0.01	U	0.01	U	0	U	0.01	U	0.01	U	0.016	Left In Place	
LW-1	LW-1-A	9/17/2019	Initial	0	2	Discrete	4.07	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	Capped		
Step Out	LW-1-W-5'	9/17/2019	Initial	0	2	Discrete	1.81	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	Capped		
Confirmation Sample	LW-2 NW	11/12/2019	Confirmation	3	3.5	Discrete	14.8	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	Capped		
Confirmation Sample	LW-2 N	11/12/2019	Confirmation	3	3.5	Discrete	23.2	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	Capped		
Confirmation Sample	LW-2 NE	11/12/2019	Confirmation	3	3.5	Discrete	32.1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	Capped		
Confirmation Sample	LW-2 SE	11/12/2019	Confirmation	3	3.5	Discrete	62.3	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	Capped		
Confirmation Sample	LW-2 S	11/12/2019	Confirmation	3	3.5	Discrete	12.3	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	Capped		
Confirmation Sample	LW-2 SW	11/12/2019	Confirmation	3	3.5	Discrete	16.0	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	Capped		
Confirmation Sample	EP-03	11/12/2019	Confirmation	4.5	5	Discrete	40.7	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	Capped		
CDU-8 Bottom	C1	11/15/2018	Confirmation	3	3.5	Discrete	NT	NT	0.08	0.1	0.14	0.08	0.04	0.12	0.02		0.08					0.143	Left In Place		
CDU-8 Bottom	C2	11/15/2018	Confirmation	3	3.5	Discrete	NT	NT	0.05	0.07	0.11	0.08	0.04	0.08	0.02		0.08					0.109	Left In Place		
CDU-8 Bottom	C3	11/15/2018	Confirmation	3	3.5	Discrete	NT	NT	0.11	0.12	0.15	0.1	0.07	0.15	0.02		0.1					0.175	Left In Place		
CDU-8 Bottom	C4	11/15/2018	Confirmation	3	3.5	Discrete	NT	NT	0.02	0.02	0.03	0.02	0.01	0.03	0.01	U	0.02					0.039	Left In Place		
CDU-8 Bottom	C5	11/15/2018	Confirmation	3	3.5	Discrete	NT	NT	0.06	0.06	0.08	0.05	0.03	0.07	0.01	J	0.05					0.091	Left In Place		
CDU-8 Bottom	C6	11/15/2018	Confirmation	3	3.5	Discrete	NT	NT	0.02	0.02	0.03	0.03	0.02	0.03	0.01	U	0.02					0.042	Left In Place		
CDU-8 Bottom	C7	11/15/2018	Confirmation	3	3.5	Discrete	NT	NT	0.01	0.01	0.02	0.01	0.01	J	0.02	U	0.01					0.027	Left In Place		
CDU-8 Bottom	C8	11/15/2018	Confirmation	3	3.5	Discrete	NT	NT	0.05	0.06	0.08	0.04	0.03	0.06	0.01	U	0.05					0.088	Left In Place		
CDU-8 Bottom	C9	11/15/2018	Confirmation	3	3.5	Discrete	NT	NT	0.07	0.08	0.11	0.05	0.05	0.09	0.01	U	0.06					0.116	Left In Place		
CDU-8 Bottom	C10	11/15/2018	Confirmation	3	3.5	Discrete	NT	NT	0.03	0.04	0.05	0.03	0.02	0.04	0.01	J	0.03					0.054	Left In Place		
CDU-8 Bottom	C11	11/15/2018	Confirmation	3	3.5	Discrete	NT	NT	0.08	0.09	0.13	0.07	0.05	0.11	0.02	U	0.07					0.138	Left In Place		
CDU-8 Bottom	C12	11/15/2018	Confirmation	3	3.5	Discrete	NT	NT	0.03	0.03	0.04	0.03	0.02	0.04	0.01	U	0.03					0.049	Left In Place		
CDU-8 Sidewall	S1	11/15/2018	Confirmation	1.5	1.5	Discrete	NT	NT	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.025	Left In Place	
CDU-8 Sidewall	S2	11/15/2018	Confirmation	1.5	1.5	Discrete	NT	NT	0.05		0.05		0.09		0.03		0.07					0.06		0.080	Left In Place
CDU-8 Sidewall	S3	11/15/2018	Confirmation	1.5	1.5	Discrete	NT	NT	0.22		0.19		0.24		0.17		0.12					0.18		0.366	Left In Place
CDU-8 Sidewall	S4	11/15/2018	Confirmation	1.5	1.5	Discrete	NT	NT	0.01	J	0.01	J	0.01	J	0.01	J	0.01	U	0.01	J	0.01	J	0.020	Left In Place	
CDU-8 Sidewall	S5	11/15/2018	Confirmation	1.5	1.5	Discrete	NT	NT	0.04		0.05		0.06		0.05		0.02					0.04		0.069	Left In Place
CDU-8 Sidewall	S6	11/15/2018	Confirmation	1.5	1.5	Discrete	NT	NT	0.04		0.05		0.07		0.07		0.03					0.06		0.083	Left In Place
CDU-8 Sidewall	S8	11/15/2018	Confirmation	1.5	1.5	Discrete	NT	NT	0.05		0.06		0.1		0.07		0.03					0.06		0.096	Left In Place
CDU-8 Sidewall	S9	11/15/2018	Confirmation	1.5	1.5	Discrete	NT	NT	0.05		0.07		0.1		0.07		0.04					0.07		0.107	Left In Place

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							Arsenic	Lead	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Benzo(a)Pyrene Equivalents* Nondetects calculated as full RDL					
CAS-RN							7440-38-2	7439-92-1	56-55-3	50-32-8	205-99-2	191-24-2	207-08-9	218-01-9	53-70-3	193-39-5	50-32-8					
Background Soil Concentration (Portland Basin) <sup>1</sup>							8.8	28	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
DEQ RBC Soil Ingestion, Dermal Contact, and Inhalation (Urban Residential)							1.0	400	2.5	0.25	2.5	-	25*	250*	0.25	2.5*		0.25				
DEQ RBC Soil Ingestion, Dermal Contact, and Inhalation (Occupational)							1.9	800	21*	2.1	21*	-	210*	2100*	2.1	21*		2.1				
DEQ RBC Soil Ingestion, Dermal Contact, and Inhalation (Construction Worker)							15	800	170*	17*	170*	-	1700*	17000*	17*	170*		17**				
DEQ RBC Soil Ingestion, Demral Contact, and Inhalation (Excavation Worker)							420	800	4800*	490*	4900*	-	49000*	490000*	490*	4900*		490**				
Area	Sample ID	Sample Date	Initial or Confirmation	Start Depth (ft bgs)	End Depth (ft bgs)	ISM or Discrete	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	Capped or Left In Place
CDU-8 Sidewall	S7	11/15/2018	Confirmation	1.5	1.5	Discrete	NT	NT	0.29	0.3	0.33	0.25	0.16	0.28	0.1	U	0.26		0.493		Left In Place	
CDU-8 Sidewall	S10	11/15/2018	Confirmation	1.5	1.5	Discrete	NT	NT	0.01	J 0	J 0.01	J 0.01	U 0.01	U 0.01	J 0.01	U 0	J 0.01	U 0	J 0.01	U 0	J 0.01	Left In Place
CDU-8 Sidewall	S11	11/15/2018	Confirmation	1.5	1.5	Discrete	NT	NT	0.03	0.03	0.04	0.03	0.02	0.04	0.01	J 0.03	J 0.03	J 0.03	J 0.03	J 0.03	J 0.03	Left In Place
CDU-8 Sidewall	S12	11/15/2018	Confirmation	1.5	1.5	Discrete	NT	NT	0.01	J 0	J 0.01	J 0.01	U 0.01	U 0.01	J 0.01	U 0.01	J 0.01	U 0.01	J 0.01	U 0.01	J 0.01	Left In Place
CDU-8 Sidewall	S13	11/15/2018	Confirmation	1.5	1.5	Discrete	NT	NT	0.11	0.11	0.17	0.08	0.07	0.19	0.02		0.08		0.167		Left In Place	
CDU-8 Sidewall	S14	11/15/2018	Confirmation	1.5	1.5	Discrete	NT	NT	0.21	0.29	0.38	0.27	0.15	0.37	0.05		0.26		0.433		Left In Place	
CDU-8 Sidewall	S15	11/15/2018	Confirmation	1.5	1.5	Discrete	NT	NT	0.02	0.02	0.03	0.02	0.02	0.03	0.01	U 0.02		0.038		Left In Place		
CDU-8 Sidewall	S16	11/15/2018	Confirmation	1.5	1.5	Discrete	NT	NT	0.29	0.340	0.47	0.23	0.17	0.37	0.05		0.25		0.497		Left In Place	
Railroad Spur	TRACK COMP #1 - AFTER PROCESSING	12/13/2019	Confirmation	0	0.2	ISM	3.27	31.5	0.01	0.02	0.02	0.01	0.01	J 0.01	0.01	U 0.01	0.01	U 0.01	0.01	U 0.01	0.01	Left In Place
Railroad Spur	DUP. COMP #1 - AFTER PROCESSING	12/13/2019	Confirmation	0	0.2	ISM	3.50	29.8	0.01	0.01	0.01	0.01	0.01	0.01	0	J 0.01	0.01	U 0.01	0.01	U 0.01	0.01	Left In Place
Railroad Spur	SPUR CONFIRMATION-- AFTER PROCESSING	2/7/2020	Confirmation	0	0.2	ISM	6.82	7.67	0	J 0	J 0	0	0	U 0	J 0	0	U 0	0	U 0	J 0	0.006	Left In Place
Railroad Spur	DUP CONFIRMATION-- AFTER PROCESSING	2/7/2020	Confirmation	0	0.2	ISM	8.39	8.24	0	U 0	U 0	0	U 0	U 0	U 0	U 0	U 0	U 0	U 0	U 0	U 0	Left In Place
<b>Former POTW Property</b>																						
CDU-1	CDU-1 - ISM COMPOSITE	5/21/2013	Initial	0	0.5	ISM	2.12 U	11.5	0.0459	0.0734	0.12	0.0913	NT	0.0741	0.04	U 0.0740	0.179				Left In Place	
CDU-2	CDU-2 - ISM COMPOSITE	5/21/2013	Initial	0	0.5	ISM	2.03 U	11.0	0.0501	0.0875	0.13	0.106	NT	0.0742	0.02	U 0.0869	0.172				Left In Place	
CDU-3	CDU-3 - ISM COMPOSITE	5/21/2013	Initial	0	0.5	ISM	2.08 U	8.97	0.0227	0.0320	0.06	0.0329	NT	0.0351	0.02	U 0.0307	0.095				Left In Place	
CDU-4	CDU-4 - ISM COMPOSITE	5/21/2013	Initial	0	0.5	ISM	2.13 U	9.95	0.0287	0.0356	0.06	0.0405	NT	0.0436	0.02	U 0.0352	0.097				Left In Place	
CDU-4	CDU-DUP - ISM COMPOSITE	5/21/2013	Initial	0	0.5	ISM	2.03 U	10.9	0.0224	0.0235	0.05	0.0262	NT	0.0330	0.02	U 0.0238	0.083				Left In Place	
CDU-5	CDU-5 - ISM COMPOSITE	5/21/2013	Initial	0	0.5	ISM	3.60	20.1	0.0234	0.0287	0.06	0.0325	NT	0.0360	0.02	U 0.0310	0.095				Left In Place	
IS-01	IS-01	7/26/2012	Initial	0	0.5	ISM	0.64 U	21.0	0.037	0.044	0.056	0.028	0.021	0.042	0.0085	0.032	0.076				Left In Place	
DB01SS	DB01SS	7/20/2010	Initial	0	0.5	Discrete	1.70 J	16.7	0.01	U 0.02	U 0.03	U 0.01	U 0.01	U 0.03	U 0.07	U 0.02	U 0.096				Left In Place	
DB02SS	DB02SS	7/20/2010	Initial	0	0.5	Discrete	2.70 J	8.20	0.01	U 0.02	U 0.03	U 0.01	U 0.01	U 0.02	U 0.07	U 0.01	U 0.107				Left In Place	
PB01SB02	PB01SB02	7/27/2010	Initial	0	2	Discrete	0.74 J	2.30 J	0	U 0	U 0	U 0	U 0	U 0	U 0	U 0	U 0.008				Left In Place	
TP01	TP01SB08	7/28/2010	Initial	0	8	Discrete	4.20	14.5	0.055	0.039	0.06	0.024	0.021	0.069	0.01	U 0.022	0.080				Left In Place	
TP01	TP01SB10	7/28/2010	Initial	0	10	Discrete	0.47 J	0.42 J	0	U 0	U 0	U 0	U 0	U 0	U 0	U 0	U 0.007				Left In Place	
TP-1	TP-1@5	3/16/2006	Initial	0	5	Discrete	1.96 U	1.96 U	0.07	U 0.07	U 0.07	U 0.07	U 0.07	U 0.07	U 0.07	U 0.07	U 0.155				Left In Place	

**Table 1  
Summary of Arsenic, Lead and cPAH TEQ Results for Soil Samples**

							Arsenic	Lead	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Benzo(a)Pyrene Equivalents*	Nondetects calculated as full RDL					
CAS-RN							7440-38-2	7439-92-1	56-55-3	50-32-8	205-99-2	191-24-2	207-08-9	218-01-9	53-70-3	193-39-5	50-32-8						
Background Soil Concentration (Portland Basin) <sup>1</sup>							8.8	28	NA	NA	NA	NA	NA	NA	NA	NA	NA						
DEQ RBC Soil Ingestion, Dermal Contact, and Inhalation (Urban Residential)							1.0	400	2.5	0.25	2.5	-	25*	250*	0.25	2.5*			0.25				
DEQ RBC Soil Ingestion, Dermal Contact, and Inhalation (Occupational)							1.9	800	21*	2.1	21*	-	210*	2100*	2.1	21*			2.1				
DEQ RBC Soil Ingestion, Dermal Contact, and Inhalation (Construction Worker)							15	800	170*	17*	170*	-	1700*	17000*	17*	170*			17**				
DEQ RBC Soil Ingestion, Demral Contact, and Inhalation (Excavation Worker)							420	800	4800*	490*	4900*	-	49000*	490000*	490*	4900*			490**				
Area	Sample ID	Sample Date	Initial or Confirmation	Start Depth (ft bgs)	End Depth (ft bgs)	ISM or Discrete	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	Capped or Left In Place
TP-2	TP-2@4.5	3/16/2006	Initial	0	4.5	Discrete	1.61 U	1.61 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.155	Left In Place
Building #10	Prim. Lab Bldg.	11/16/2018	Initial	0	0.25	ISM	NT	12.2	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	Left In Place
Building #3	Prim. Control Bldg.	11/16/2018	Initial	0	0.25	ISM	NT	18.1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	Left In Place

**Notes:**

**Bold** = Analyte detected above reporting limit

BaP = Benzo(a)pyrene

CAS-RN = Chemical Abstract Service Registry Number

ft bgs = feet below ground surface

ISM = Incremental Sampling Methodology

mg/kg = milligrams per kilogram

J = estimated result

U = not detected at or above the reporting limit

NA = background concentration not available

NT = not tested

RDL = reporting detection limit

POTW = Publicly Owned Treatment Works

DEQ RBC = Oregon Department of Environmental Quality Risk Based Concentration (Rev. 05/2018)

- = No applicable RBC: either not volatile, not soluble in groundwater, or no RBC available.


<sup>1</sup> = Metal background concentrations sourced from "Clean Fill Determinations" (DEQ, 2019).

\* = Total TEQ (toxic equivalent concentration) or Benzo(a)Pyrene Equivalents are calculated using toxic equivalency factors (TEFs) for carcinogenic PAHs from Table 3 of the DEQ Environmental Cleanup Program Human Health Risk Assessment Guidance (DEQ, October 2010).

Nondetects are included in calculation as one-half of reporting limit.

\*\* = RBC value is greater than or equal to Csat

Results reported as a combined Benzo (b+k)fluoranthene analyte are included in TEF calculations as Benzo(b)fluoranthene.

 Highlight indicates that metal result exceeds one or more RBCs and the background concentration.

 Highlight indicates that BaP Equivalent result exceeds one or more RBCs.

**Table 2**  
Ecological Risk Assessment RBCs and Sample Results

Chemical	Arsenic	Lead	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Indeno(1,2,3-cd)pyrene							
											Analyte Code / CASRN	As	Pb	BaA	BaP	BbF	BghiP
Risk Based Concentrations for Plants, Invertebrates, and Wildlife Exposed to Soils (mg/kg) <sup>1</sup>	Direct Toxicity	Plants	18	120	18	-	18	-	-	-	-	-	-	-	-	-	
		Inverts	6.8	1,700	-	-	-	-	-	-	-	-	-	-	-	-	-
	Ground Feeding	Birds	T&E	15	11	0.73	-	-	-	-	-	-	-	-	-	-	-
			Non-T&E	32	23	7.3	-	-	-	-	-	-	-	-	-	-	-
		Mammals	T&E	19	56	3.4	62	44	25	-	3.1	14	71	-	-	-	-
			Non-T&E	31	170	34	190	440	250	-	31	140	710	-	-	-	-
	Top Consumers	Birds	T&E	100	83	6.4	-	-	-	-	-	-	-	-	-	-	-
			Non-T&E	1,000	160	64	-	-	-	-	-	-	-	-	-	-	-
		Mammals	T&E	170	460	110	3,400	2,400	3,600	-	110	850	4,600	-	-	-	-
			Non-T&E	290	1,600	1,100	11,000	24,000	36,000	-	1,100	8,500	46,000	-	-	-	-
Background Soil Concentration (Portland Basin) <sup>2</sup>			8.8	28	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

Area	Sample ID	Sample Date	Initial or Confirmation	Start Depth (ft bgs)	End Depth (ft bgs)	ISM or Discrete	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	Capped or Left In Place
North	TP-3	3/16/2006	Intial	0	2.5	Discrete	1.92 U	1.92 U	0.0667 U	0.0667 U	0.0667 U	0.0667 U	0.0667 U	0.0667 U	0.0667 U	0.0667 U	Left In Place
North	TP-10	3/16/2006	Intial	0	5	Discrete	1.64 U	<b>7.88</b>	0.0667 U	0.0667 U	0.0667 U	0.0667 U	0.0667 U	0.0667 U	0.0667 U	0.0667 U	Left In Place
North	TP-7	3/16/2006	Intial	0	7.5	Discrete	NT	NT	0.0667 U	0.0667 U	0.0667 U	0.0667 U	0.0667 U	0.0667 U	0.0667 U	0.0667 U	Left In Place
North	EP04	7/25/2010	Intial	20	24	Discrete	<b>3.10 J</b>	<b>5.10</b>	0.0044 U	<b>0.003 J</b>	0.0044 U	0.0044 U	0.0044 U	0.0044 U	0.0044 U	0.0044 U	Left In Place
North	EP04	7/25/2010	Intial	16	20	Discrete	<b>1.80 J</b>	<b>5.40</b>	0.0043 U	0.0043 U	0.0043 U	0.0043 U	0.0043 U	0.0043 U	0.0043 U	0.0043 U	Left In Place
North	EP04	7/25/2010	Intial	12	16	Discrete	<b>2.00 J</b>	<b>13.4</b>	<b>0.018</b>	<b>0.019</b>	<b>0.018</b>	<b>0.01</b>	<b>0.0088</b>	<b>0.02</b>	0.0037 U	<b>0.0099</b>	Left In Place
North	EP04	7/25/2010	Intial	4	8	Discrete	<b>1.70 J</b>	<b>11.8</b>	<b>0.0021 J</b>	<b>0.0055 J</b>	<b>0.0032 J</b>	<b>0.0022 J</b>	<b>0.0016 J</b>	<b>0.0026 J</b>	0.0036 U	<b>0.0021 J</b>	Left In Place
North	NW07	7/27/2010	Intial	4	8	Discrete	<b>0.96 J</b>	<b>19.3</b>	0.0073 U	0.0073 U	0.0073 U	0.0073 U	0.0073 U	0.0073 U	0.0073 U	0.0073 U	Left In Place
North	NW07	7/27/2010	Intial	8	12	Discrete	<b>1.50 J</b>	<b>8.60</b>	NT	NT	NT	NT	NT	NT	NT	NT	Left In Place
North	NW13	7/27/2010	Intial	4	8	Discrete	<b>28.7 J</b>	<b>38.7</b>	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	Left In Place
Greenway ISM	IS-01	7/26/2012	Intial	0	0.5	ISM	0.64 U	<b>21.0</b>	<b>0.037</b>	<b>0.056</b>	<b>0.044</b>	<b>0.028</b>	<b>0.021</b>	<b>0.042</b>	<b>0.0085</b>	<b>0.032</b>	Left In Place
Greenway ISM	IS-02 Duplicate	7/26/2012	Intial	0	0.5	ISM	<b>1.00 J</b>	<b>15.0</b>	0.0022 U	<b>0.024</b>	<b>0.034</b>	<b>0.023</b>	<b>0.011</b>	0.0022 U	<b>0.0036</b>	<b>0.023</b>	Left In Place
Greenway ISM	IS-02	7/26/2012	Intial	0	0.5	ISM	<b>0.97 J</b>	<b>13.0</b>	<b>0.056</b>	<b>0.064</b>	<b>0.09</b>	<b>0.04</b>	<b>0.034</b>	<b>0.063</b>	<b>0.011</b>	<b>0.046</b>	Left In Place
CDU-8 Sidewall	S7	11/15/2018	Confirmation	1.5	1.5	Discrete	NT	NT	<b>0.289</b>	<b>0.298</b>	<b>0.326</b>	<b>0.254</b>	<b>0.156</b>	<b>0.279</b>	0.103 U	<b>0.259</b>	Left In Place
CDU-8 Sidewall	S8	11/15/2018	Confirmation	1.5	1.5	Discrete	NT	NT	<b>0.0455</b>	<b>0.0644</b>	<b>0.102</b>	<b>0.0663</b>	<b>0.0322</b>	<b>0.0908</b>	<b>0.00915 J</b>	<b>0.0623</b>	Left In Place
CDU-8 Bottom	C6	11/15/2018	Confirmation	3	3.5	Discrete	NT	NT	<b>0.0179</b>	<b>0.0228</b>	<b>0.0348</b>	<b>0.0269</b>	<b>0.0157</b>	<b>0.0305</b>	0.0113 U	<b>0.0249</b>	Left In Place

**Notes**

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 ft bgs = feet below ground surface  
 ISM = Incremental Sampling Methodology  
 - = No applicable RBC: either not volatile, not soluble in groundwater, or no RBC available.

J = estimated result  
 U = not detected at or above the reporting limit  
 NA = background concentration not available  
 mg/kg = milligrams per kilogram

NT = not tested  
 RDL = reporting detection limit  
 T&E = Threatened and Endangered

Highlight indicates that sample result exceeds one or more applicable RBCs and the Background Concentration

<sup>1</sup> = RBCs from: Tables and Appendices for: Conducting Ecological Risk Assessments, Oregon DEQ, September 2020.

<sup>2</sup> = Metal background concentrations sourced from "Clean Fill Determinations" (DEQ, 2019).