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RISK ASSESSMENT
WEST PROPERTY – TASS 2 SITE
10505 NORTH PORTLAND ROAD
PORTLAND, OREGON

by
Haley & Aldrich, Inc.
Portland, Oregon

for
City of Portland, Bureau of Environmental Services, TASS Program, and Brownfield Program
Portland, Oregon

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PREPARED FOR
CITY OF PORTLAND
PORTLAND, OREGON

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List of Abbreviations

Abbreviation	Definition
AMEC	AMEC Earth & Environmental, Inc.
Ash Creek	Ash Creek Associates, Inc.
BES	City of Portland, Bureau of Environmental Services
bgs	below ground surface
City	City of Portland
CSA	Coordinated Site Assessment
CMMP	Contaminated Media Management Plan
DEQ	Oregon Department of Environmental Quality
ECS	Enviro-Comp Services, Inc.
ECSI	Environmental Cleanup Site Information
ESA	Environmental Site Assessment
EPA	Environmental Protection Agency
Kleinfelder	Kleinfelder, Inc.
LEL	Lower Explosive Limit
Hahn	Hahn and Associates, Inc.
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PNG	PNG Environmental, Inc.
RA	Risk Assessment
RAP	Remedial Action Plan
RBC	Risk-Based Concentration
RCRA	Resource Conservation and Recovery Act
RSL	Regional Screening Level
RV	recreational vehicle
SLR	SLR International Corporation
SVOC	semi-volatile organic compound
TASS	Temporary Alternative Shelter Site
UEL	Upper Explosive Limit
UST	underground storage tank
VOC	volatile organic compound
µg/kg	micrograms per kilogram
µg/L	microgram per liter

1. Introduction

This Risk Assessment (RA) has been prepared for the City of Portland Bureau of Environmental Services (BES) for the West Property – TASS 2 development. The West Property is located at 10505 North Portland Road in Portland, Oregon (site). The TASS 2 development occupies an approximate 6-acre portion of the 22.5-acre West Property. Throughout this RA, the West Property is referred to as the site, and the TASS 2 development is referred to as TASS 2. The site is currently owned by BES. The TASS 2 development is being developed by the City of Portland (City) Mayor's Office Temporary Alternative Shelter Site (TASS) program. TASS 2 will be the second of two TASS locations in Portland and will be identified as TASS 2. Following temporary use of a portion of the site as TASS 2, the intended use of the site includes an expansion of the City's Columbia Boulevard Wastewater Treatment Plant located east of the site across North Portland Road, and the long-term use of the site will be for industrial purposes.

This RA was provided through the BES Coordinated Site Assessment (CSA) Program Environmental On-Call Contract No. 31001878, as part of the City's Brownfield Program funded by the U.S. Environmental Protection Agency (EPA). This RA is a Tier 1 assessment that compares existing site data to applicable screening levels. This RA documents the risk to human health from current conditions at the site related to the potential exposure pathways for TASS 2 construction and operation. Historical data for the entire site will be discussed; however, the RA will focus on human health and ecological exposure pathways and receptors for the TASS 2 portion of the site only. Additional potential exposure pathways for all future uses across the entire site will be evaluated in a future RA for the entire West Property.

2. Site Description

The site is located at 10505 North Portland Road in Portland, Oregon (Figure 1) and is located on tax lot 1000 of Multnomah County tax map 1N1E05B. The site was previously referred to as the North Larsen Property. The site is now referred to as the "West Property" within the BES CSA Program as the site is the planned western expansion of the Columbia Wastewater Treatment Plant. The site consists of 22.5 acres and is bordered by industrial properties to the west (Columbia Steel) and south (Truck Repair Enterprise), North Portland Road to the east, and the Columbia Slough to the north. A vicinity map is shown on Figure 1. A site plan is included in Attachment A (BES Figure 1).

The site formerly consisted of two tax lots including former tax lot TL22, which included the north-central and northeastern portion of the site, and former tax lot TL107, which included the western and southern portion of the site. The former tax lots are depicted on PNG Environmental, Inc. (PNG) Figure 2, "Site Map" included in Attachment B.

The eastern half of the site is currently developed with gravel parking and storage areas with sparse, overgrown vegetation. The western half of the site is undeveloped with grass vegetation cover. A riparian zone approximately 50 feet wide covers the site's northern border with Columbia Slough. The riparian zone consists mainly of mature trees with herbaceous ground cover and covers the slope from the upland areas of the site down to the water line of the slough.

2.1 GEOLOGY AND HYDROGEOLOGY

The site is approximately 43 feet above mean sea level and is generally flat, with a slight downwards slope north towards the Columbia Slough. Stormwater at the site appears to either infiltrate into the ground surface or surface flow to the south, east, or north.

Near surface soils mapped on the site are primarily comprised of Sauvie-Rafton-Urban land complex on the eastern portion of the site and Sauvie silt loam on the western portion of the site (Natural Resources Conservation Service, 2023). Subsurface conditions encountered at the site during previous investigations consisted of clayey to silty fill soils with varying amounts of debris (concrete, wood, plastic, brick, piping, and rebar). Abundant large concrete and asphalt debris (up to 3 feet in diameter) was encountered in a majority of the test pits excavated at the site by Kleinfelder, Inc. (Kleinfelder) in May 2000 (Kleinfelder, 2000). This debris was encountered generally between 6 to 14 feet below ground surface (bgs). The fill soils appeared to extend to a depth of approximately 21 to 30 feet bgs in some areas of the site.

Monitoring wells installed at the site documented sands (sand and silty sands) and silts (silt and silty sands) down to approximately 60 feet bgs. A gravel layer extends from approximately 60 feet to at least 87 feet (the bottom of the MW-D boring). The AMEC Monitoring Well Installation Report (AMEC Earth & Environmental, Inc. [AMEC], 2009) categorizes the soil intervals into groundwater zones with a shallow zone at approximately 15 to 35 feet bgs, intermediate at approximately 45 to 60 feet bgs, and deep at below approximately 65 feet.

Previous investigations conducted at the site indicate the static groundwater level ranges from approximately 15 to 27 feet bgs, with perched zones present on the central portion of the site at depths of approximately 5 feet bgs. Static groundwater at the site is generally between 20 and 25 feet deep

(GeoEngineers, Inc. [GeoEngineers], 2011). Regional groundwater is expected to flow to the north towards the Columbia Slough and follow the direction of flow to the west. Groundwater elevation contours and flow direction are shown on BES Figure 2 (Attachment A).

2.2 CURRENT AND FUTURE USE

The site is currently vacant, undeveloped, and consists of gravel ground cover. All structures have been demolished. A chain-link fence surrounds the site and consists of sections of permanent and temporary fencing.

The City intends to construct TASS 2 on a portion of the site using (EPA) Brownfield Grant funding. Preliminary plans indicate that TASS 2 will be located on the eastern portion of the West Property occupying the former diesel engine repair shop area and the former materials storage area. The footprint of TASS 2 is shown on the BES Figures included in Attachment A. Preliminary plans indicate TASS 2 will consist of recreational vehicle (RV) parking/storage areas; car parking areas; mobile manufactured housing units; shipping container based or temporary structures for common areas including kitchen areas, trash areas, picnic areas, and gathering areas; and sewage and stormwater infrastructure. Except for stormwater swales and a small, vegetated area along the eastern boundary, the entirety of TASS 2 will be paved following the completion of construction activities. Sewage infrastructure consists of three 1,500-gallon subsurface septic "trash tanks" connected to one 3,000-gallon equalizer tank. The equalizer tank is connected to ten 1,500-gallon subsurface septic holding tanks, which recycle through two 3,000-gallon recycling tanks. The septic holding tanks will be periodically pumped out and the sewage properly disposed of at the Clean Water Services facility located at 2550 SW Hillsboro Highway in Hillsboro, Oregon. Surface grading will slope the site slightly downward to the north, so that surface water at the site will flow to the north toward a curb along the northern edge of the pavement near the north boundary of the site. Stormwater will flow through curb openings to lined stormwater swales along the northern boundary of the site. The lined stormwater swales will discharge to an oil/water separator, which will ultimately discharge to the City storm sewer system. Preliminary development plans for TASS 2 are included in Attachment C. The remainder of the site will remain undeveloped and enclosed with a perimeter fence while TASS 2 is in operation.

Ground-disturbing activities will generally be limited to surface grading of imported gravel fill, installation of subsurface utility lines, subsurface wastewater and stormwater infrastructure, fencing, and surface improvements (i.e., walkways, parking areas, common areas, etc.). The specific locations of these excavations have not yet been determined. Excavations deeper than 18 feet bgs are not anticipated.

Following construction of the project, the entirety of TASS 2 except for the lined stormwater swales and a forested area along the east boundary of TASS 2, will be capped with a minimum of 8 inches of imported aggregate base rock fill underlying a minimum of 4 inches of asphalt paving. A demarcation layer consisting of geotextile fabric will be installed prior to the placement of the aggregate base rock and asphalt cap. The planned project will prevent direct contact of underlying soil by future TASS 2 residential occupants and eliminate exposure to the generally low concentrations of contaminants in soil.

TASS 2 will not be a permanent use of the site and after TASS 2 is discontinued the planned use for the site is for an expansion of the Columbia Wastewater Treatment Plant. The wastewater treatment plant is located on the eastern side of North Portland Road, directly across the road from the site. The design

for the wastewater treatment plant expansion has not been completed and future operations or facility layout and design are unknown at this time. The permanent future use of the site will be industrial use.

2.3 HISTORICAL OPERATIONS AND ACTIVITIES

Historical operations at the site have been summarized from the PNG Phase II Environmental Site Assessment (ESA; PNG, 1999a).

Historical aerial photographs show the site as undeveloped in 1935. Between 1935 and 1944, a lumber mill was constructed on site in former tax lot TL22. The site flooded in June 1948 and subsequent aerial photographs in October 1948 show the lumber mill gone and the site undeveloped.

The site and the property to the south (10145 North Portland Road) were purchased by Karen and Louis Larsen (operating as Larsen Enterprises) in 1961 and were collectively known as the Larsen Property. The Larsens began operating St John Hauling, a truck washing facility, in the southern portion of the site in former tax lot TL107. Wastewater from the truck washing facility was discharged to natural ponds located on the western portion of the site. By 1966, the northeastern portion of the site (former tax lot TL22) was developed with a shop building and vehicle storage area.

In 1967, Widing Transportation purchased the operations of St Johns Hauling while the Larsens retained ownership of the land. By 1972, Widing Transportation had expanded the pond system to include the western portion of former tax lot TL22. In 1975, Widing Transportation replaced the natural ponds with an approximate 3-acre retention pond and aeration treatment system. The retention pond footprints are shown on the Kleinfelder Figure “Site Plan and Test Pit Location Map” included in Attachment B.

By 1980, fill material had brought the elevation to approximately 20 feet above the elevation of Columbia Slough. The western portion of the site was previously at the approximate elevation of the slough. In 1980, Widing Transportation discontinued use of the ponds at the direction of the EPA due to phenols, phthalates, and heavy metals being detected in pond sludge and water samples. The concentrations were below Resource Conservation and Recovery Act (RCRA) hazardous waste levels, and the pond sludge was allowed to be left in place and the pond backfilled with a high-clay content backfill. A 1984 inspection by the EPA indicated the ponds had been filled. Truck washing operations continued with wastewater being discharged to the sanitary sewer. In 1980, Edwards Heavy Equipment Rebuilding operated in the eastern portion of former tax lot TL22.

In 1985, Peninsula Diesel began operation of a diesel engine repair facility in the eastern portion of former tax lot TL22. The facility consisted of a shop building, two storage sheds, an aboveground storage tank, an underground storage tank (UST), and a wash pad. Peninsula Diesel discontinued operations in 1988 and vacated the site.

In 1986, Arrow Transportation (the occupier of the South Larsen Property) purchased the operations from Widing Transportation. Arrow Transportation continued truck washing operations with discharge to the sanitary sewer until 1997 when they filed for bankruptcy. The site has remained vacant since this time. Operations from the truck washing facility on the South Larsen Property resulted in the spill and release of chlorinated solvents to soil and groundwater on that property. The solvent plume from the South Larsen Property extended beneath a small portion of the site along the southern border.

The City purchased the site in July 2001. The Larsens sold the Southern Larsen Property to North Portland Road LLC in December 2005.

In 2007, Columbia Steel entered into a lease agreement with the City to use the western portion of the site as a storage area for soil stockpiles generated from Columbia Steel's operations. Soil was placed in stockpiles and stored on site until 2020, and a ramp was created to bridge the elevation difference between the two properties. The soils contained elevated concentrations of metals. In 2020, Columbia Steel began removing the soil stockpiles for disposal. Columbia Steel removed the stockpiles before filing for bankruptcy, at which point they ceased all activities at the site. In late 2023, the City demolished the remaining site structures and removed all trash and debris from the site.

Site use over time, as shown by aerial photographs, is shown on BES Figures 3 through 8, beginning in 1996 for years where aerial photographs were available.

3. Conceptual Site Model

The Conceptual Site Model identifies exposure pathways and receptors for the entire site; however, the screening level risk assessment presented in Section 5 is limited to soil, groundwater, and soil vapor samples and exposure pathways relevant to TASS 2. The remaining pathways will be evaluated and discussed in a future update to this RA. Due to the presence of contaminants at the site, a Contaminated Media Management Plan (CMMP) was prepared for the TASS 2 site (Haley & Aldrich, 2024a) that instructs TASS 2 construction crews on the safe handling and disposal of media at the site. A forthcoming final Remedial Action Plan (RAP) for the TASS 2 site will be prepared specifying the remedial actions and control measures to be implemented for TASS 2.

Future use of the site will be industrial use; however, until the entire site is developed, the remainder of the site outside the limits of TASS 2 will remain undeveloped and vacant. To address exposure concerns in this area, a future RAP will also be prepared for the West Property to detail the remedial actions and control measures to be implemented during future redevelopment.

3.1 CONTAMINANT SOURCE AREAS

Contaminant source areas at the site include three onsite areas based on past use, including: 1) former diesel truck repair shop; 2) former materials storage area; 3) former retention pond area; and the offsite South Larsen site, located adjacent south of the site. These areas are shown on the BES figures included in Attachment A. In addition to these specific source areas, subsurface organic material and/or petroleum hydrocarbons in the subsurface throughout the West Property may generate methane gas.

3.1.1 Former Diesel Engine Repair Shop

The northeastern-most portion of the site was used as a diesel repair shop between 1985 through 1988. The shop used USTs, a wash pad, and a drywell as part of their operations. Remedial activities were performed in 1997 to remove the wash pad and drywell and an unknown 1,000-gallon gasoline UST was discovered. Signs of a past leak were present following UST decommissioning and removal. The UST pit and groundwater in the area were remediated with soil excavation and removal, and groundwater pumping from the excavation pit being performed. Further details regarding UST decommissioning activities are included in Section 4.1. Following UST decommissioning, residual concentrations of petroleum hydrocarbons were detected in soil samples; however, the concentrations did not exceed Oregon Department of Environmental Quality (DEQ) Risk-Based Concentrations (RBCs).

Groundwater samples collected from borings and monitoring wells in the vicinity of the former shop and downgradient of the UST have either not detected petroleum hydrocarbons or have detected residual concentrations below DEQ human health RBCs.

The Former Diesel Engine Repair Shop is located within the northeastern portion of the TASS 2 footprint, as shown on BES Figure 1 (Attachment A).

3.1.2 Former Materials Storage Area

The central portion of the site was used for materials storage and is indicated as the Former Storage Yard on BES figures included in Attachment A. Aerial photographs of the area between 1996 and 2021

are also included in Attachment A and show materials storage in various containers. The 2006 Data Gap Evaluation (Hahn and Associates, Inc. [Hahn] 2006) noted that paint, fluorescent light fixtures, air conditioning units, and old boiler components were stored in this area. Aerial photos beginning in 2005 (Attachment A) show the area was primarily used for semi-trailer storage.

Low concentrations of diesel- and oil-range hydrocarbons and metals were detected in soil samples from this area at concentrations below DEQ human health RBCs. Soil boring and test pit excavation sampling in this area has identified polycyclic aromatic hydrocarbons (PAHs) in shallow soil (less than 3 feet deep) and deep soil (greater than 3 feet deep) at concentrations that exceed DEQ Soil Ingestion, Dermal Contact, and Inhalation RBCs for residential or occupational receptors.

Limited groundwater data has been collected in this area and includes samples from one boring and two monitoring wells. Sample results yielded low concentrations of petroleum hydrocarbons, volatile organic compounds (VOCs), PAHs, and total metals; all below DEQ human health RBCs. PAH results were largely non-detect in groundwater samples.

The Former Materials Storage Yard covers the western half of the TASS 2 footprint, as shown on BES Figure 1 (Attachment A).

3.1.3 Former Retention Pond Area

The former retention pond area consists of the western half of the site. The ponds were reportedly 11 to 15 feet deep (Hahn, 2006) and had a sludge layer several inches thick that accumulated phenols, phthalates, and heavy metals deposited from the wash water disposed of in the ponds. The ponds were filled in to eliminate exposure to the sludge. The ponds were filled in with soil and construction debris (e.g., concrete) and other debris such as wood and metal. The sludge layer has not been identified in subsequent investigations and it is unknown if the sludge was removed or mixed in with the fill material. The retention pond area remained unchanged from approximately 1984 to 2007.

Beginning in 2007, Columbia Steel began using the area to store soil stockpiles. The soil stockpiles contained metal slag and grit byproduct from Columbia Steel's operations. Practices for preventing erosion of the stockpiles, known as best management practices, are unknown and the potential for precipitation to leach metals to the ground surface or erode and transport to nearby surface soils could have occurred. Stockpile removal occurred in 2020 and post-removal surface soil sampling indicates that elevated concentrations of manganese and nickel are present. The area is currently vegetated with weed cover.

Groundwater in the former retention ponds area has primarily been sampled from monitoring wells associated with the South Larsen Property VOC plume (MW-A and MW-6D) and sentinel wells downgradient of the plume (MW-C, MW-D, and MW-5). Groundwater has primarily been sampled for petroleum hydrocarbons and VOCs. Petroleum hydrocarbons have been detected at low concentrations below DEQ human health RBCs. VOCs from the South Larsen plume were treated with bioremediation injections in 2008, with minor concentrations of VOCs detected in MW-6D during post-remediation sampling in 2011. Vinyl chloride was detected at a concentration exceeding the residential Volatilization to Outdoor Air and Groundwater in Excavation RBCs. Groundwater from MW-6D is from a depth of 80 through approximately 60 feet of water column. Concentrations of VOCs are expected to attenuate through the water column and vadose zone, and not pose a risk to human health. Additional

information on the South Larsen VOC plume remediation is discussed in Section 4.6. Residual VOC concentrations are at a depth that will not be encountered by construction workers.

The Former Retention Pond Area is located outside the TASS 2 footprint with the exception of a small triangular wedge approximately 15 feet wide by 60 feet long overlapping the western border of TASS 2, as shown in BES Figure 1 (Attachment A).

3.1.4 South Larsen Site

The South Larsen site, located adjacent to the south of the site across the unnamed private road, was listed on the DEQ Environmental Cleanup Site Information (ECSI) database (ECSI No. 3337) because of releases of chlorinated solvents to groundwater that migrated beneath a small portion of the southern part of the site. A remedial action was performed on the South Larsen Property, as required by a Consent Judgement, that included bioremediation with injection of an emulsified oil and water mixture. The remedial action was completed, and a Certificate of Completion (DEQ, 2011) was issued for the South Larsen Property.

3.1.5 Subsurface Methane

During 24 April 2024 field activities for a previous soil vapor investigation (Haley & Aldrich, 2024b), methane was detected in soil vapor samples collected from beneath the TASS 2 site at concentrations up to 50 percent. The source(s) of methane beneath the TASS 2 site may be subsurface organic material, petroleum hydrocarbons in the subsurface, or a combination of the two.

3.2 EXPOSURE PATHWAYS

The following sections describe the exposure pathways present at the TASS 2 site.

3.2.1 Human Health Receptors

The following are potential exposure pathways for human health receptors at TASS 2.

- Soil Ingestion, Dermal Contact, and Inhalation for residential, occupational, and construction worker receptors. For residential and occupational receptors, this exposure pathway is only considered a complete exposure pathway for soil above 3 feet bgs.
- Volatilization to Outdoor Air from soil and groundwater for residential and occupational receptors.
- Groundwater in Excavation for construction and excavation worker receptors.

Surface soil at the site is currently exposed making the Soil Ingestion, Dermal Contact, and Inhalation pathways complete.

The following are incomplete exposure pathways for human health receptors at the site.

- Soil Leaching to Groundwater.
- Groundwater Ingestion and Inhalation from Tapwater.
- Vapor Intrusion to Indoor Air from soil and groundwater for residential and occupational receptors.

Groundwater beneath the site is not in use as a drinking water source. As a result, the Soil Leaching to Groundwater and Groundwater Ingestion and Inhalation from Tapwater exposure pathways are considered incomplete.

Given the construction of the temporary TASS 2 structures, vapor movement to outdoor air will be evaluated with the assumption that indoor air concentrations are equivalent to outdoor air concentrations. Therefore, vapor intrusion into buildings is not considered a complete pathway.

3.2.2 Ecological Receptors

The following are potential exposure pathways for ecological receptors at TASS 2.

- Groundwater Discharge to Columbia Slough for aquatic and surface water receptors.

Groundwater Discharge to the Columbia Slough is a potentially complete exposure pathway for ecological receptors as groundwater beneath TASS 2 has the potential to migrate the approximate 200 feet north/northeast and discharge to Columbia Slough.

The following are incomplete exposure pathways for ecological receptors at TASS 2.

- Direct contact with soil for mammals, birds, and invertebrates.
- Plant Uptake.
- Direct contact with sediment from surface soil erosion and discharge to Columbia Slough for aquatic receptors.

The site has a history of industrial use that prevented habitation of plants and animals at the site. Ground cover at TASS 2 consists of gravel with very sparse, weedy growth that does not provide habitat for animals or plants. The risk to plant and animal populations in the non-TASS 2 area will be evaluated in a future RA for the West Property.

Ecological receptors may come into contact with potentially contaminated surface soil that may be eroded and transported to the Columbia Slough through surface water runoff. Because soil deeper than 1 foot bgs is unlikely to erode from surface water runoff, this exposure pathway is only considered a potentially complete exposure pathway for soil above 1 foot bgs. The vast majority of surface water infiltrates into the subsurface during typical rain events. However, larger rain events have the potential for precipitation rates that exceed the infiltration rate of site soils. These larger rain events can cause stormwater runoff that may transport surface soil. The BES currently mitigates surface water runoff with silt fence surrounding the site as a temporary measure to prevent surface soil discharge to Columbia Slough from being a complete exposure pathway. Additionally, berms adjacent to the riparian edge of the site restrict stormwater runoff.

3.2.3 Methane

Methane is a non-toxic compound but can pose a fire or explosion risk if allowed to accumulate inside of structures or subsurface features (e.g., utility conduits or vaults) and can act as a simple asphyxiant. While the methane exposure pathway is currently incomplete because there are no structures affixed to the ground surface, the site is currently unoccupied, and the methane is contained within subsurface soil, there are potentially complete future exposure pathways for human receptors within unventilated

enclosed spaces. TASS 2 structures will be ventilated by the air gaps present beneath each structure; therefore, this pathway will remain an incomplete exposure pathway at the TASS 2 site. Regular methane monitoring will be performed to confirm that methane accumulation is not occurring such that the methane exposure pathway remains an incomplete exposure pathway.

3.3 SCREENING LEVELS

Site data was evaluated against multiple human health screening levels using DEQ's RBCs for individual chemicals (DEQ, 2023) and EPA Regional Screening Levels (RSLs; EPA 2023), where RBCs have not been established. Site data were not evaluated against ecological screening criteria as ecological pathways are considered incomplete within the TASS 2 development area. Ecological receptors will be evaluated in a future update of this RA and will be screened against DEQ Ecological RBCs (DEQ, 2020) and Lower Columbia Slough Screening Levels (DEQ, 2014).

3.3.1 Soil Screening Levels

Risk to human health from contact with soil was evaluated using the DEQ Soil Ingestion, Dermal Contact, and Inhalation RBCs for the residential, occupational, construction worker, and excavation worker receptors. Soil screening levels are presented in Tables 1A through 6B. For chemicals that do not have an RBC established, the EPA Soil Ingestion, Dermal Contact, and Inhalation RSLs for residential and industrial receptors using a target hazard quotient of 0.1. A hazard quotient of 0.1 were selected as conservative screening values as there are multiple contaminants being screened at the site.

The background concentration of arsenic in the Portland Basin is 8.8 milligrams per kilogram (mg/kg) (DEQ, 2019), which is greater than the DEQ Soil Ingestion, Dermal Contact, and Inhalation RBCs for residential and occupational receptors of 0.43 mg/kg and 1.9 mg/kg, respectively. Only arsenic concentrations above background concentrations are included in the risk screening in Section 5 and are highlighted as exceedances in Tables 4A through 4C (Attachment D).

The EPA recently updated their Soil Lead Guidance (EPA, 2024) to reduce the screening level for residential receptors from 400 to 200 mg/kg for sites where people may be exposed a single source of lead, and 100 mg/kg for sites where people may be exposed to multiple sources of lead. The Soil Ingestion, Dermal Contact, and Inhalation RBCs for residential receptors of 400 mg/kg is based on the previous EPA value. The DEQ is evaluating the updated EPA soil lead value for adoption as an RBC. The more conservative value of 100 mg/kg is presented in Tables 4A through 4C (Attachment D) for reference only; soil lead data in Section 5 is not evaluated against the 100 mg/kg value.

DEQ Clean Fill Screening Criteria Values area also presented in Tables 1A through 6B (Attachment D) for reference only; soil data are not screened against those values.

3.3.2 Groundwater Screening Levels

Risk to human health from contact with groundwater at the site was evaluated using the DEQ Groundwater in Excavation RBCs for the construction/excavation worker receptor. Results from the soil vapor investigation were screened against the site-specific Volatilization to Outdoor Air RBCs to assess indoor air concentrations for site structures. Groundwater screening levels are presented in Tables 7A and 7B.

3.3.3 Soil Vapor Screening Levels

Risk to human health from soil vapor was evaluated against the site-specific Volatilization to Outdoor RBCs developed by DEQ for residential and occupational receptors (DEQ, 2024). Given that the RVs, pods, and other structures at the site will be elevated a minimum of 5 inches above ground surface, RBCs for vapor intrusion based on a building directly contacting soil do not apply

Because methane is a non-toxic compound, human-health-based or ecological screening levels have not been established. While methane can pose a fire or explosion risk, methane is only considered a fire or explosion risk if present at concentrations between the LEL and UEL of 5 and 15 percent, respectively. The LEL and UEL apply to concentrations of methane in air and do not apply to methane concentrations in soil. Soil vapor screening levels are presented in Tables 8 and 9.

4. Previous Investigations

Numerous previous environmental investigations have been conducted at the site. Previous environmental investigations conducted consist of the following:

- UST Decommissioning by Enviro-Comp Services, Inc. (ECS) in July 1997 (AMEC, 2000);
- Phase II ESA conducted by PNG in December 1998 (PNG, 1999a);
- Phase II Investigation conducted by PNG in May 1999 (PNG, 1999b);
- Phase II ESA conducted by Kleinfelder in May 2000 (Kleinfelder, 2000);
- Geotechnical Investigation by Fujitani Hilts & Associates, Inc. (Fujitani) in May 2000 (Fujitani, 2000);
- Monitoring well installation conducted by AMEC in September 2009 (AMEC, 2009);
- South Larsen Groundwater Remediation conducted by Ash Creek Associates, Inc. (Ash Creek) in January 2011 (Ash Creek, 2011a);
- Groundwater monitoring event conducted by GeoEngineers in July 2011 (GeoEngineers, 2011);
- Columbia Steel soil stockpile removal confirmation sampling conducted by the BES in May and September 2020;
- Columbia Steel soil stockpile removal soil evaluation conducted by the SLR International Corporation (SLR) in June 2020 (SLR, 2024);
- Test Pit Investigation conducted by BES in October 2023; Soil Boring Investigation conducted by BES in November 2023; and
- Soil Vapor Investigation conducted by Haley & Aldrich in April 2024 (Haley & Aldrich, 2024b)

Analytical results from previous investigations were compiled into data tables by the BES and included in Attachment D. The tables included in Attachment D are as follows.

- Total petroleum hydrocarbon in soil and chemical group analytical results for shallow soil less than 3 feet deep (includes composite soil samples between 0 and 5 feet bgs that encompass shallow soil but extend deeper) in TASS 2 are summarized in Table 1A; for deep soil greater than 3 feet deep in TASS 2 in Table 1B; and for all soil depths in the entire West Property in Table 1C.
- VOCs in soil analytical results for TASS 2 are summarized in Table 2A and for the entire West Property in Table 2B.
- PAHs in soil analytical results for shallow soil less than 3 feet deep (includes composite soil samples between 0 and 5 feet bgs that encompass shallow soil but extend deeper) in TASS 2 are summarized in Table 3A; for deep soil greater than 3 feet deep in TASS 2 in Table 3B; and for the entire West Property in Table 3C.
- Metals in soil analytical results shallow soil less than 3 feet deep (includes composite soil samples between 0 and 5 feet bgs that encompass shallow soil but extend deeper) in TASS 2 are presented in Table 4A; for deep soil greater than 3 feet deep in Table 4B; and for the entire West Property in Table 4C.

- Pesticides in soil analytical results for TASS 2 are presented in Table 5A and for the entire West Property in Table 5B.
- Polychlorinated biphenyls (PCBs) in soil analytical results for TASS 2 are presented in Table 6A and for the entire West Property in Table 6B.
- Groundwater analytical results for TASS 2 are presented in Table 7A and for the entire West Property in Table 7B.
- Soil vapor sample analytical results for TASS 2 are presented in Tables 8 and 9.

Soil sample locations are shown on BES Figure 9 – Soil Sampling Location Map and groundwater sampling locations are shown on BES Figure 11 – Groundwater Data Map. Soil vapor sample location are shown on BES Figure 12. These figures are included in Attachment A.

4.1 UST DECOMMISSIONING – ENVIRO-COMP SERVICES, INC. – JULY 1997

In July 1997, ECS discovered a 1,000-gallon gasoline UST north of the shop building during excavation work. The UST was removed, and two soil samples were collected from beneath the north and south ends of the UST. Visible staining and odors were observed on soil in the UST cavity, indicating that a release had occurred. Gasoline-range hydrocarbons were detected at a concentration of 190 mg/kg in soil sample 1-N-UST-6'. After the initial analytical results were received, overexcavation of the UST cavity was performed down to approximately 16 to 17 feet bgs. Groundwater with an apparent petroleum-like sheen was observed seeping into the UST cavity upon reaching total depth of the overexcavation. The volume of soil excavated was not available. Two soil samples were collected from the overexcavated UST cavity floor.

Due to the impacted groundwater observed in the UST cavity, an additional test-pit was excavated southwest of the UST cavity to a depth of 15 feet. The test pit also contained groundwater with apparent petroleum hydrocarbon impacts. Groundwater was pumped out of the test pit and groundwater samples were collected. Total xylenes were detected in groundwater and resulted in multiple rounds of groundwater removal until total xylenes concentrations were reduced from a maximum of 15,000 micrograms per liter (µg/L) to 59 µg/L, less than applicable DEQ RBCs including Groundwater in Excavation for Construction Workers and Volatilization to Outdoor Air RBCs for residential receptors.

Following groundwater removal activities, final soil samples were collected from the UST cavity. Three samples were collected from the sidewalls and one from the cavity floor. Samples were analyzed for oil-range hydrocarbons only and resulted in detections with a maximum concentration of 647 mg/kg from the UST cavity floor. While site-specific TPH RBCs can be established using the results of hydrocarbon fraction analysis, DEQ has not established generic RBCs for oil-range hydrocarbons.

4.2 PHASE II ESA – PNG ENVIRONMENTAL, INC. – DECEMBER 1998

PNG conducted a Phase II ESA of the site in February 1999 (PNG, 1999a) that included advancing six direct-push borings (B-1 through B-6) to depths of up to 32 feet bgs. One soil sample was collected from each boring and groundwater samples were collected from borings B-1, B-2, and B-3 (B1-W, B2-W, and B3-W). The Phase II ESA by PNG noted that a soil probe investigation was conducted in June 1997 by an unknown party as part of the due diligence process by a potential purchaser of the property. According to the PNG report, benzene was detected in a groundwater sample collected from a push-probe boring at the site

during the June 1997 investigation at a concentration of 9 µg/L, less than applicable DEQ RBCs. The location and depth of this groundwater sample were not reported.

Soil Analytical Results. Soil samples were analyzed for hydrocarbon identification by Method NWTPH-HCID and diesel- and oil-range hydrocarbons by Method NWTPH-Dx. Lube oil-range hydrocarbons were detected in the six samples at concentrations of up to 1,410 mg/kg. Diesel-range hydrocarbons were detected in samples collected from borings B-3 and B-6 at concentrations of up to 148 mg/kg. The detected concentrations of diesel-range hydrocarbons were less than applicable DEQ Soil Ingestion, Dermal Contact, and Inhalation RBCs. DEQ has not established a Soil Ingestion, Dermal Contact, and Inhalation RBC for oil-range hydrocarbons.

The soil samples from borings B-1 and B-2 were analyzed for VOCs by EPA Method 8260B and the sample from B-2 (B2-12) was analyzed semi-volatile organic compounds (SVOCs) by EPA Method 8270C. VOCs were not detected in the soil samples analyzed. Naphthalene, fluoranthene, and pyrene were detected in soil sample B2-12 at concentrations less than applicable DEQ Residential Soil Ingestion, Dermal Contact, and Inhalation RBCs.

Groundwater Analytical Results. Groundwater samples were analyzed for hydrocarbon identification by Method NWTPH-HCID; diesel- and oil-range hydrocarbons by Method NWTPH-Dx; VOCs by EPA Method 8260B; and SVOCs by EPA Method 8270C. Diesel- and lube oil-range hydrocarbons were detected in groundwater sample B2-W at concentrations of 2,090 and 1,640 µg/L, respectively. The detected concentration of diesel-range hydrocarbons was less than applicable DEQ Groundwater in Excavation and Volatilization to Outdoor Air RBCs. Petroleum hydrocarbons were not detected in groundwater samples B1-W or B3-W. Several VOCs were detected in groundwater samples B1-W and B3-W; however, the detected concentrations of these VOCs were less than applicable DEQ Groundwater in Excavation RBCs. Several SVOCs were detected in groundwater sample BW-2; the detected concentrations were less than applicable DEQ Groundwater in Excavation RBCs and the Volatilization to Outdoor Air RBCs.

4.3 PHASE II INVESTIGATION – PNG ENVIRONMENTAL, INC. – MAY 1999

The results of the February 1999 Phase II ESA were used to inform a Phase II Investigation that was conducted in May 1999 and included excavating five test pits (TP-1 through TP-5) and installing six monitoring wells (MW-1 through MW-6). The following three areas of concern and exploration locations were investigated in the Phase II Investigation.

- Former UST at the former Peninsula Diesel facility shop: test pit TP-5.
- Materials storage area of the former shop: test pits TP-1 and TP-3; and monitoring wells MW-1 through MW-4.
- Former Retention Pond Area: test pits TP-2, TP-3, and TP-4; and monitoring wells MW-1, MW-5, and MW-6.

Soil samples were not collected from the monitoring well borings due to their proximity to test pit locations, and a soil sample was not collected from test pit TP-4. Test pits encountered fill to the total depths of their excavations and field screening evidence of petroleum impacts were observed in four of the five test pits (all but TP-4). Groundwater sampling was performed in May and July 1999 in the newly installed wells.

The locations of the explorations at the site are shown on the site plan included in Attachment A. Soil analytical results are presented in BES Tables 1A through 6B (Attachment D). Groundwater analytical results are presented in BES Tables 7A and 7B (Attachment D).

Soil Analytical Results. The soil samples were analyzed for gasoline-range hydrocarbons by Method NWTPH-Gx, diesel- and oil-range hydrocarbons by Method NWTPH-Dx, VOCs by EPA Method 8240, and SVOCs by EPA Method 8270B. Gasoline-range hydrocarbons were detected in three samples at concentrations ranging from 3.63 mg/kg (TP-2-17) to 1,470 mg/kg (TP-1-12). The detected concentration of gasoline-range hydrocarbons in TP-1-12 slightly exceeded the residential DEQ Soil Ingestion, Dermal Contact, and Inhalation RBC of 1,200 mg/kg, but was below all other applicable DEQ Soil Ingestion, Dermal Contact, and Inhalation RBCs. Diesel-range hydrocarbons were not detected in the soil samples analyzed. Oil-range hydrocarbons were detected in each sample at concentrations ranging from 116 mg/kg (TP-1-12) to 1,440 mg/kg (TP-5-8). DEQ has not established RBCs for oil-range hydrocarbons.

SVOCs were not detected in the soil samples analyzed. Except for benzene in soil sample TP-3-13, VOCs were not detected in the soil samples analyzed. Benzene was detected in soil sample TP-3-13 at a concentration of 956 micrograms per kilogram (µg/kg), less than applicable DEQ Soil Ingestion, Dermal Contact, and Inhalation RBCs.

Groundwater Analytical Results. Groundwater samples collected from the six monitoring wells were analyzed for gasoline-range hydrocarbons by Method NWTPH-Gx, diesel- and oil-range hydrocarbons by Method NWTPH-Dx, VOCs by EPA Method 624, and SVOCs by EPA Method 625.

During both events, gasoline-, diesel-, and/or oil- range hydrocarbons were detected in each sample analyzed. Gasoline-range hydrocarbons were detected at a maximum concentration of 0.310 milligrams per liter (mg/L; MW-5), diesel-range hydrocarbons at a maximum concentration of 0.764 mg/L (MW-5), and oil-range hydrocarbons at a maximum concentration of 2.13 mg/L (MW-2). The maximum detected concentrations of gasoline- and diesel-range hydrocarbons were less than applicable DEQ Groundwater in Excavation and Volatilization to Outdoor Air RBCs.

VOCS were detected in groundwater samples collected from MW-1 and MW-3, and SVOCs were detected in groundwater samples collected from MW-1, MW-2, and MW-3. The detected concentrations of VOCs and SVOCs were less than applicable DEQ Groundwater in Excavation and Volatilization to Outdoor Air RBCs.

4.4 PHASE II ESA – KLEINFELDER, INC. – MAY 2000

Kleinfelder completed a Phase II ESA at the site in May 2000. The Phase II ESA included excavating 16 test pits (TP-1 through TP-16) to depths ranging from 12 to 21 feet bgs. Two soil samples were collected from each test pit except for test pit TP-11, where three samples were collected. A grab groundwater sample was also collected from test pit TP-6 because petroleum-like odors and sheen were observed in the test pit. During Kleinfelder's 2000 investigation, groundwater samples were also collected from previously installed monitoring wells MW-1 through MW-6.

This Phase II ESA used the same nomenclature for test pit labeling as the previous Phase II ESA performed by PNG in 1999; however, the test pits of the same identification (TP-1 through TP-5) were not in the same location for both investigations. Both sets of test pits are shown on the BES figure "Sample Locations Map" included in Attachment A.

Subsurface conditions encountered in the test pits generally consisted of clayey to silty fill soils with varying amounts of debris (concrete, wood, plastic, brick, piping, and rebar). Abundant large concrete and asphalt debris (up to 3 feet in diameter) was encountered in a majority of the test pits excavated. This debris was encountered generally 6 to 14 feet bgs.

Soil Analytical Results. Soil samples were analyzed for VOCs by EPA Method 8260, SVOCs by EPA Method 8270D, and total RCRA 8 metals by EPA 6000/7000 series methods.

VOCs were detected in soil samples TP-2-19, TP-6-13, TP-11-11, and TP-15-21. The Kleinfelder report noted that 2-butanone was detected in all soil samples, but this was reportedly due to laboratory contamination and not site conditions; therefore, those results were not included in the result screening. Naphthalene and p-isopropyl toluene were detected in soil sample TP-2-19; 13 VOCs were detected in soil sample TP-6-13; and naphthalene and 1,2,4-trimethylbenzene were detected in soil sample TP-11-11. The detected concentrations of these VOCs were less than applicable DEQ Soil Ingestion, Dermal Contact, and Inhalation RBCs.

SVOCs were detected in soil samples TP-2-5, TP-3-10, TP-6-13, TP-7-17, and TP-15-21. Fluoranthene, phenanthrene, and pyrene were detected in each sample with the exception of TP-15-21, which only had a detection of butyl benzyl phthalate. The detected concentrations of these SVOCs were less than applicable DEQ Soil Ingestion, Dermal Contact, and Inhalation RBCs.

Arsenic, barium, cadmium, chromium, lead, and mercury were detected in each sample analyzed at maximum concentrations of 21.7, 220, 3.36, 35, 130, and 4.88 mg/kg, respectively. Selenium was detected in soil samples TP-10-16 and TP-13-19, with a maximum concentration of 0.32 mg/kg in TP-10-16. Silver was not detected in the soil samples analyzed. Arsenic was detected at concentrations up to 21.7 mg/kg (TP-6-13), with all arsenic concentrations exceeding the DEQ Soil Ingestion, Dermal Contact, and Inhalation RBCs for residential (0.43 mg/kg) and occupational (1.9 mg/kg) receptors. With the exception of four samples (TP-6-5, TP-6-13, TP-14-12, and TP-15-21), the detected concentrations of arsenic were below the background concentration of 8.8 mg/kg. The concentration of arsenic in TP-14-12 (9.11 mg/kg) was above background but below the Soil Ingestion, Inhalation, and Dermal Contact RBC for construction worker receptors of 15 mg/kg. The concentrations of arsenic in TP-6-5 (20.90 mg/kg), TP-6-13 (21.7 mg/kg), and TP-15-21 (16.30 mg/kg) exceeded the Soil Ingestion, Inhalation, and Dermal Contact RBCs for construction worker receptors. Because all soil samples are located greater than 3 feet bgs, this is an incomplete exposure pathway for residential and occupational receptors.

Groundwater Analytical Results. The groundwater sample from TP-6 was analyzed for VOCs by EPA Method 8260B, SVOCs by EPA Method 8270, and RCRA 8 metals by EPA Method 200 series. A total of 16 VOCs and 10 SVOCs were detected in TP-6. No VOC or SVOC detections exceeded the DEQ Groundwater in Excavation or Volatilization to Outdoor Air RBCs.

Groundwater samples collected from monitoring wells MW-1 through MW-6 underwent the same chemical analysis as TP-6. A total of nine VOCs were detected in one or more samples with all VOC results below the DEQ Groundwater in Excavation or Volatilization to Outdoor Air RBCs. SVOCs were not detected in any monitoring well sample. Metals were detected in most samples; however, no metals concentrations exceeded the DEQ Groundwater in Excavation RBC.

4.5 GEOTECHNICAL INVESTIGATION – FUJITANI HILTS & ASSOCIATES, INC. – MAY 2000

Fujitani advanced two geotechnical borings (B-1 and B-2) to evaluate soil conditions for a proposed expansion of the Columbia Boulevard Wastewater Treatment Plant located to the east across North Portland Road. Environmental samples were also collected from the two borings. Investigation results were reported in a Draft Environmental Field and Laboratory Report dated August 2000 prepared for Brown and Caldwell and BES. This report was unavailable for review; however, a memorandum by Fujitani evaluating the results of the geotechnical investigation and the Phase II ESA and Site Investigation by PNG was available.

Soil samples were collected from each boring at depths of 10, 15, and 20.5 feet for a total of six soil samples. One groundwater sample was collected from each boring at an unspecified depth.

Soil Analytical Results. Soil samples were analyzed for gasoline-, diesel-, and heavy oil-range hydrocarbons by Method NWTPH-HCID; VOCs by EPA Method 8260B; SVOCs by EPA Method 8270B; and metals by EPA Method 6010/6020/7471. Gasoline- and diesel range hydrocarbons, VOCs, and VOCs were not detected in any soil sample. Oil-range hydrocarbons were detected in samples from B-2 at 10 and 15 feet and analysis by NWTPH-Dx was performed. Heavy oil-range hydrocarbons were detected at concentration of 126 mg/kg (B2-S-4-10) and 1,420 mg/kg (B2-S-4-15). Neither detection exceeded DEQ Soil Ingestion, Dermal Contact, and Inhalation RBCs.

Arsenic was detected in all samples at concentrations above the DEQ Soil Ingestion, Inhalation, and Dermal Contact RBCs for residential and occupational receptors but below the background value. All other metals were not detected at concentrations above the DEQ Soil Ingestion, Inhalation, and Dermal Contact RBCs for residential receptors.

Groundwater Analytical Results. Groundwater samples were analyzed for gasoline-, diesel-, and heavy oil-range hydrocarbons by Method NWTPH-HCID; VOCs by EPA Method 8260B; SVOCs by EPA Method 8270B; and dissolved metals by EPA Method 200.7/200.8/245.1. With the exception of one VOC detection and one SVOC detection in B-2, petroleum hydrocarbons, VOCs, and SVOCs were not detected in either groundwater sample. Acetone and bis(2-ethylhexyl)phthalate were detected at concentrations just above the method reporting limit. DEQ does not have established RBCs for acetone, and the construction worker and excavation worker RBC for bis(2-ethylhexyl)phthalate in groundwater exceeds the solubility limit.

4.6 MONITORING WELL INSTALLATION – AMEC EARTH & ENVIRONMENTAL, INC. – SEPTEMBER 2009

AMEC installed four groundwater monitoring wells (MW-A through MW-D) at the site in September 2008 and collected soil samples from the monitoring well borings. MW-A was installed in the intermediate groundwater zone as a companion well to monitoring well MW-6D, which was located on the South Larsen Property adjacent to the south of the site at 10145 North Portland Road. Monitoring well MW-B was installed downgradient of the former UST associated with the former repair shop located in the northeast portion of the site. Monitoring wells MW-C and MW-D were installed in the intermediate and deep groundwater zones downgradient of MW-A and South Larsen Property well MW-6D.

Soil samples were collected from MW-A at 35 to 36 feet bgs, from MW-B at 6 to 7 and 26 to 27 feet bgs, and from MC-C at 30 to 31 feet bgs. Soil samples were not collected from MW-D, and groundwater samples were not collected during the September 2009 AMEC investigation.

Soil Analytical Results. Sample MW-A 35-36 was analyzed for VOCs by EPA Method 8260B only. Ten VOCs were detected with tetrachloroethene and trichloroethene detected at concentrations greater than the DEQ Soil Ingestion, Inhalation, and Dermal Contact RBCs for residential receptors. The two exceedances were from a depth of 35 feet and the exposure pathway for residential and occupational receptors is incomplete. All other VOC concentrations detected were less than applicable DEQ Soil Ingestion, Inhalation, and Dermal Contact RBCs.

Soil samples MW-B 6-7 and MW-B 26-27 were analyzed for gasoline-range hydrocarbons by Method NWTPH-Gx, diesel- and oil-range hydrocarbons by Method NWTPH-Dx, and RCRA 8 metals by EPA Method 6010. Sample MW-B 6-7 was also analyzed for PAHs by EPA Method 8270 due to a detection of oil-range hydrocarbons. Gasoline- and diesel-range hydrocarbons were not detected. Metals were not detected above applicable DEQ Soil Ingestion, Inhalation, and Dermal Contact RBCs. The DEQ Soil Ingestion, Inhalation, and Dermal Contact RBCs for residential and occupational receptors are not applicable as the sample depths were greater than 3 feet and the exposure pathway is incomplete.

Sample MW-C 30-31 was analyzed for VOCs by EPA Method 8260B and RCRA 8 metals by EPA Method 6010. VOCs were not detected at concentrations greater than applicable DEQ RBCs. Arsenic and lead were detected at concentrations of 1,860 mg/kg. The equivalent concentrations of arsenic and lead in this sample are elevated compared to all other soil data points and appear to be anomalously high, but were not discussed in the well installation report. The concentrations were confirmed to be accurate and were verified in the laboratory analytical report included in the report. Due to the age and brevity of the well installation report, no conclusions regarding the nature of these elevated detections could be made. The detected concentrations of arsenic and lead in this sample were greater than the corresponding DEQ Soil Ingestion, Inhalation, and Dermal Contact RBCs for construction and excavation workers. Because this sample is located greater than 3 feet bgs, this is an incomplete exposure pathway for residential and occupational receptors.

4.7 SOUTH LARSEN PROPERTY GROUNDWATER REMEDIATION – ASH CREEK ASSOCIATES, INC. – JANUARY 2011

The South Larsen Property was listed on the DEQ ECSI database (ECSI No. 3337) because of releases of chlorinated solvents to groundwater that migrated beneath a small portion of the southern part of site. A remedial action was performed on the South Larsen Property, as required by a Consent Judgement, that included bioremediation with injection of an emulsified oil and water mixture. The remedial action was completed, and a Certificate of Completion (DEQ, 2011) was issued for the South Larsen Property. In the Certificate on Completion, the DEQ indicated that the "*NPR (former South Larsen) site is protective of public health and the environment and requires no further action provided the land and water use restrictions outlined in the Certificate of Completion are observed*". These restrictions were outlined in a Site Management Plan prepared for the South Larsen Property by Ash Creek (Ash Creek, 2011b). The restrictions consist of the following:

1. Regular inspection of a constructed swale located on the northeast portion former South Larsen Property, along the southern site boundary;

2. Onsite maintenance of approximately 2,400 cubic yards of mildly contaminated soil within a soil placement cell and managed for truck and equipment parking and staging only; and
3. Limits on construction near the enhanced cleanup around the chlorinated solvent source area on the South Larsen Property.

Remedial injections for the South Larsen Property were performed in September and October 2008. Following completion of remedial injections, one round of groundwater sampling was performed in site wells MW-A, MW-C, and MW-D that are downgradient of the South Larsen Property source area. Groundwater samples were analyzed for VOCs by EPA Method 8260B. With the exception of chloroform, VOCs were not detected in wells MW-C and MW-D, which are located in the northern portion of the site. Multiple VOCs were detected in MW-A (located in the plume extension beneath the site) at low level concentrations that do not exceed the DEQ Groundwater in Excavation RBCs for the construction and excavation worker or the DEQ Volatilization to Outdoor Air RBCs for residential or occupational receptors.

As stated in the South Larsen Property Site Management Plan, the current soil and groundwater data beneath the South Larsen Property indicate that the remaining concentrations of VOCs did not result in an unacceptable risk from volatilization to outdoor air or risks to site workers from volatilization to outdoor air. The plan further stated that no additional actions were required due to any volatilization to outdoor air pathway.

4.8 GROUNDWATER MONITORING EVENT – GEOENGINEERS, INC. – JULY 2011

GeoEngineers performed a groundwater monitoring even in July 2011 to collect groundwater samples from wells MW-A through MW-D and MW-6D. The samples from MW-A, MW-C, and MW-6D were analyzed for VOCs by EPA Methods 8260C and 8260C-SIM only. The MW-B sample was analyzed for qualitative hydrocarbon identification by Method NWTPH-HCID only. The sample from MW-D was analyzed for VOCs by EPA Methods 8260C and 8260C-SIM, RCRA 8 metals plus copper and zinc by EPA Method 200, and dissolved arsenic by EPA Method 7470A.

Gasoline-, diesel-, and oil-range hydrocarbons were not detected in MW-B. Multiple VOCs were detected in one or more analyzed samples. Trichloroethene in well MW-A and vinyl chloride in well MW-6D were detected above the DEQ Groundwater in Excavation RBCs. The vinyl chloride concentration in MW-6 also exceeded the Volatilization to Outdoor Air RBCs for residential receptors. Well MW-6D is located further than 100 feet outside the TASS 2 footprint.

4.9 COLUMBIA STEEL SOIL STOCKPILE REMOVAL CONFIRMATION SAMPLING – CITY OF PORTLAND BES – MAY AND SEPTEMBER 2020

Following removal of the Columbia Steel soil stockpiles from the former retention pond area of the site, BES collected composite surface soil samples from the former stockpile footprints. BES collected samples from the ground surface and 6 inches bgs in two reference locations (HA-CS-1 and HACS-2) located outside the former stockpile footprints to establish baseline conditions, and in 13 decision units (HA-CS-3, HA-CS-4, HA-CS-10 through HA-CS-18, HA-CS-19 Ramp, and HA-CS-20) from the former stockpile areas. Sample CS-15-PIT was collected from a test pit located in the HA-CS-15 sampling grid (see BES Soil Sampling Map in Attachment A); however, the location of the test pit was not available and is not shown on the figure. Samples Sand Mix-Top Layer, Soil/Rock, and Soil/Clay were also collected from a test pit advanced by Columbia Steel. Note that soil analytical data for samples from decision unit

HA-CS-3 were collected from a soil stockpile that has since been removed from the site; and therefore, those sample results are no longer relevant to the site.

Samples HA-CS-10 through HA-CS-17 and HA-CS-19 Ramp were analyzed for total cadmium, chromium, copper, manganese, nickel, and selenium. The remaining samples were also analyzed for antimony, arsenic, beryllium, cobalt, lead, mercury, silver, thallium, and/or zinc. Samples HA-CS-18 and HA-CS-20 were also analyzed for aluminum and/or barium. Sample CS-15-PIT was analyzed for diesel-and oil-range hydrocarbons, VOCs, SVOCs, and PCBs.

One or more metals were detected in each of the soil samples analyzed. Arsenic was detected in all soil samples at concentrations above the DEQ Soil Ingestion, Inhalation, and Dermal Contact RBCs for residential and occupational receptors but were lower than the background concentration of 8.8 mg/kg with the exception of CS-17-PILE and CS-15-PIT at concentrations of 8.85 mg/kg and 17.5 mg/kg, respectively. Arsenic concentrations in CS-17-PILE exceeded background and in CS-15-PIT exceeded the DEQ Soil Ingestion, Dermal Contact, and Inhalation RBC for construction receptors.

Manganese was detected above the DEQ Soil Ingestion, Dermal Contact, and Inhalation RBC for residential receptors of 1,800 mg/kg in eight samples (HA-CS-3 0, HA-CS-3 6", HA-CS-10, HA-CS-11, HA-CS-15, HA-CS-18, HA-CS-19 Ramp, HA-CS-19-RAMP-2). Four of the manganese exceedances (HA-CS-3 0, HA-CS-3 6", HA-CS-19 Ramp, and HA-CS-19-RAMP-2) also exceeded the DEQ Soil Ingestion, Dermal Contact, and Inhalation RBC for residential receptors at 1,800 mg/kg. Subsequent to soil sampling activities, earthwork activities on site removed surface soil from the location of HA-CS-3. Analytical results for the two samples from HA-CS-3 are included in Table 4C (Attachment D) but are not included in the risk screening in Section 5.

Nickel was detected at a concentration of 1,790 mg/kg in HA-CS-18 above the DEQ Soil Ingestion, Dermal Contact, and Inhalation RBC for residential receptors of 1,500 mg/kg. All other metals concentrations were below applicable DEQ Soil Ingestion, Dermal Contact, and Inhalation RBCs.

Diesel-range hydrocarbons were detected in CS-15-PIT at a concentration of 4,900 mg/kg and exceeded the DEQ Soil Ingestion, Inhalation, and Dermal Contact RBCs for residential and construction worker receptors. Benzo(a)pyrene was detected at a concentration of 230 µg/kg and exceeded the DEQ Soil Ingestion, Inhalation, and Dermal Contact RBC for residential receptors.

Oil-range hydrocarbons, VOCs, total PCBs, and all other SVOCs were not detected above applicable DEQ Soil Ingestion, Inhalation, and Dermal Contact RBCs.

4.10 COLUMBIA STEEL SOIL STOCKPILE REMOVAL SOIL EVALUATION – SLR INTERNATIONAL CORPORATION – JUNE 2020

Columbia Steel placed soil stockpiles consisting of used foundry sand and slag in the leased portion of the site from 2007 through 2020 at which point the stockpiles were removed. Following removal of the stockpiles, SLR conducted confirmation sampling of surface soil beneath the former stockpiles. SLR established grid areas representing five former stockpiles (I North, I South, J, K, and M) and from the southwest corner of the site represented as SW. The grid areas are shown on the BES figure "Sample Overview Map" (Attachment A). SLR collected 9-point composite samples from depths of 0 to 4 inches and 12 to 16 inches in the six grid areas. The composite soil samples were analyzed for total metals by EPA Method 6020B.

All samples had detectable concentrations of arsenic, beryllium, cadmium (except sample Former I [south]), cobalt, copper, lead, manganese, nickel, and zinc. Isolated detections of antimony, mercury, and selenium occurred in three samples. Arsenic was not detected in any sample above background concentrations; however, all samples exceeded the DEQ Soil Ingestion, Inhalation, and Dermal Contact RBCs for residential and occupational receptors. Manganese was detected in four samples above the DEQ Soil Ingestion, Inhalation, and Dermal Contact RBCs for residential receptors of 1,800 mg/kg in Former I (south) at 4,250 mg/kg; Former I (north) at 1,980 mg/kg; Former M at 3,760 mg/kg; and SW at 3,950 mg/kg. All other metals detections were below applicable DEQ Soil Ingestion, Inhalation, and Dermal Contact RBCs.

4.11 TEST PIT INVESTIGATION – CITY OF PORTLAND BES – OCTOBER 2023

In preparation for planned development of TASS 2, the BES excavated 12 test pits (T-Pit-1 through T-Pit-12) along the northern border of the proposed footprint of the TASS 2 development in October 2023. The test pits were excavated to observe shallow subsurface soil conditions in the area where a proposed septic field may be installed.

BES analyzed 13 composite soil samples collected from 12 test pits. The composite soil samples included seven composite soil samples collected between 0 and 1.5 feet bgs, and six composite soil samples collected between 0 and 5 feet bgs. The composite soil samples were analyzed for one or more of the following: qualitative hydrocarbon identification by Method NWTPH-HCID; gasoline-range hydrocarbons by Method NWTPH-Gx; diesel- and oil-range hydrocarbons by Method NWTPH-Dx; PAHs by EPA Method 8270-SIM; total arsenic, cadmium, chromium, copper, lead, mercury, and zinc by EPA Method 6020; PCBs by EPA Method 8082; and/or organochlorine pesticides by EPA Method 8081B.

Gasoline-, diesel-, and oil-range hydrocarbons were either not detected or were detected at concentrations less than applicable DEQ Soil Ingestion, Inhalation, and Dermal Contact RBCs in the composite soil samples analyzed.

Benzo(a)pyrene was detected in seven soil samples (T-Pit-2 0-5', T-Pit-3 0-18", T-Pit-5 0-18", T-Pit-6 0-18", T-Pit-6 0-5', T-Pit-9 0-5', and T-Pit-11 0-5') at concentrations up to 1,400 mg/kg and exceeding the DEQ Soil Ingestion, Inhalation, and Dermal Contact RBCs for residential receptors of 110 µg/kg. Sample T-Pit-2 0-5' also detected concentrations of benzo(b)fluoranthene (1,100 µg/kg), dibenzo(a,h)anthracene (160 µg/kg), and indeno(1,2,3-cd)pyrene (1,300 µg/kg) that exceeded the DEQ Soil Ingestion, Inhalation, and Dermal Contact RBCs for residential receptors. All other PAHs were not detected at concentrations greater than applicable DEQ Soil Ingestion, Dermal Contact, and Inhalation RBCs.

Total arsenic, cadmium, chromium, copper, lead, mercury, and zinc were detected in each of the soil samples analyzed. Arsenic was detected above the DEQ Soil Ingestion, Dermal Contact, and Inhalation RBCs for occupational receptors in all samples, but were below background concentrations in all samples except for sample T-Pit-3 0-18". The detected concentration of arsenic in T-Pit-3 0-18" (9.27 mg/kg) exceeded the background value but was below the DEQ Soil Ingestion, Dermal Contact, and Inhalation RBC for construction worker receptor of 15 mg/kg. All other metals concentrations were less than applicable DEQ Soil Ingestion, Dermal Contact, and Inhalation RBCs.

Soil sample T-Pit-6 0-5’ was analyzed for PCBs, which were not detected.

Soil sample T-Pit-7 0-5’ was analyzed for organochlorine pesticides. Three pesticides including 4-4’-DDD, 4-4’-DDE, and 4-4’-DDT were detected in soil sample T-Pit-7 0-5’. The detected concentrations of these organochlorine pesticides were less than applicable DEQ Soil Ingestion, Dermal Contact, and Inhalation RBCs.

4.12 SOIL BORING INVESTIGATION – CITY OF PORTLAND BES – NOVEMBER 2023

In November 2023, BES advanced 13 direct-push soil borings (WP-1 through WP-13) in the central and eastern portions of the site. BES collected one discrete soil sample and 29 composite soil samples from the borings, including: one discrete soil sample collected from between 0 and 1 foot bgs; 13 composite soil samples collected from between 0 and 5 feet bgs; 13 composite soil samples collected from between 5 and 10 feet bgs; and two composite soil samples collected from between 10 and 15 feet bgs.

The soil samples were analyzed for qualitative hydrocarbon identification by Method NWTPH-HCID; gasoline-range hydrocarbons by Method NWTPH-Gx; diesel- and oil-range hydrocarbons by Method NWTPH-Dx; VOCs by EPA Method 8260, PAHs by EPA Method 8270-SIM; total arsenic, cadmium, chromium, copper, lead, mercury, and zinc by EPA Method 6020; and/or PCBs by EPA Method 8082.

Gasoline-range hydrocarbons were not detected in the soil samples analyzed. Diesel-range hydrocarbons were detected in four of the 29 soil samples analyzed. The detected concentrations of diesel-range hydrocarbons were less than applicable DEQ Soil Ingestion, Dermal Contact, and Inhalation RBCs. Oil-range hydrocarbons were detected at concentrations up to 1,000 mg/kg in 13 of the soil samples analyzed.

The discrete soil sample (WP-11 0-1) was analyzed for VOCs. Except for naphthalene, VOCs were not detected. The detected concentration of naphthalene in soil sample WP-11 0-1 of 44 µg/kg was less than applicable DEQ Soil Ingestion, Dermal Contact, and Inhalation RBC.

One or more PAHs were detected in each of the 29 soil samples analyzed. Benzo(a)anthracene (five detections), benzo(a)pyrene (12 detections), benzo(b)fluoranthene (five detections), dibenzo(a,h)anthracene (seven detections), and/or indeno(1,2,3-cd)pyrene (five detections) had concentrations that exceeded the Soil Ingestion, Dermal Contact, and Inhalation RBCs for residential receptors or occupational receptors.

Arsenic, cadmium, chromium, copper, lead, mercury, and zinc were detected in each of the soil samples analyzed. Arsenic detected in all samples exceeded the Soil Ingestion, Dermal Contact, and Inhalation RBCs for residential and construction worker receptors, but were below the background value except for samples WP-2 0-5, WP-2 5-10, and WP-4 5-10. The concentrations of arsenic in those three samples exceeded the background value but were below the DEQ Soil Ingestion, Dermal Contact, and Inhalation RBCs for construction worker receptors.

4.13 SOIL VAPOR INVESTIGATION – HALEY & ALDRICH – APRIL 2024

In April 2024, Haley & Aldrich conducted a Soil Vapor Investigation (SVI) of TASS 2 (Haley & Aldrich, 2024b) in general accordance with a DEQ-approved work plan (Haley & Aldrich, 2024c) dated 23 April 2024. The SVI included collecting nine soil vapor samples from throughout the TASS 2 site (SV-1-TO-15 through SV-6-TO-15 and SV-8-TO-15 through SV-10-TO-15) and analyzing the soil vapor samples for total

petroleum hydrocarbons as gasoline (TPHg) and VOCs by EPA Method TO-15. The analytical results from the nine soil vapor samples were compared to DEQ-developed, site-specific RBCs for Volatilization to Outdoor Air for residential and occupational receptors (DEQ, 2024).

One or more VOCs were detected in each of the soil vapor samples analyzed. The detected concentrations of these VOCs were generally between three and six orders of magnitude less than the DEQ-developed RBCs, where established. Based on the results of the soil vapor investigation and the results of previous soil and groundwater samples collected from the TASS 2 site, there is no volatilization risk to future workers or occupants of TASS 2.

During the soil vapor investigation, concentrations of methane, hydrogen sulfide, and oxygen were measured in the soil vapor probes using a multi-gas meter. Hydrogen sulfide was not detected. Methane was measured at concentrations up to 50 percent in each of the soil vapor probes; therefore, methane was added as an analyte during analysis of the TO-15 sample canisters. Methane was not detected in ambient air during VOC sampling activities. Methane was detected in each of the soil vapor samples analyzed except for soil vapor sample SV-10-TO-15; however, the absence of methane in soil vapor sample SV-10-TO-15 could be due to the introduction of ambient air in the sample. The detected concentrations of methane ranged from 3.7 to 49 percent.

Because of the detected concentrations of subsurface methane, Haley & Aldrich personnel returned to the TASS 2 site on 6 June 2024 and collected ambient air measurements for methane, hydrogen sulfide, and carbon dioxide at the ground surface at 18 locations throughout the West Property. Measurements were also collected from three septic treatment tanks, an open excavation for eight septic holding tanks, the eight septic holding tanks inside of this excavation, a portable restroom, a plumbing system standpipe, and three office spaces inside of a closed, unoccupied Conex box-type mobile office. Methane was not detected at the site, except for at two ground surface locations near the west boundary of the TASS 2 site (#7 and #8). The detected concentrations of methane at locations #7 and #8 were 0.07 and 0.08 percent total methane by volume, respectively. Hydrogen sulfide was not detected at any of the measurement locations. Carbon dioxide was detected at each measurement location at concentrations ranging from 0.02 to 0.10 parts per million.

5. Screening Level Risk Assessment

The following sections present a screening level assessment for the TASS 2 portion of the West Property using available soil, groundwater, and soil vapor data and applicable human health screening levels previously discussed in Section 3.3.

5.1 SOIL SCREENING LEVEL RISK ASSESSMENT

Soil data was evaluated against screening criteria based on the exposure pathway present. Data evaluation was performed as listed below.

- Shallow soil less than 3 feet bgs: DEQ human health RBCs for Soil Ingestion, Dermal Contact, and Inhalation for residential, occupational, construction, and excavation worker receptors for all contaminants.
- Deep soil greater than 3 feet bgs: DEQ human health RBCs for Soil Ingestion, Dermal Contact, and Inhalation for construction and excavation worker receptors.
- Shallow and deep soil: DEQ Soil Volatilization to Outdoor Air RBCs for residential and occupational receptors for petroleum hydrocarbons and VOCs.

Attachment D contains BES prepared Tables 1A through 6B with soil chemical results and screening levels. Unacceptable risk to human health receptors was identified in shallow soil for the contaminants summarized below.

5.1.1 PAHs

A total of 10 soil samples had exceedances of DEQ Soil Ingestion, Dermal Contact, and Inhalation RBCs from five PAHs in shallow soil. The exceedances for shallow soil are summarized as follows.

- Benz(a)anthracene: two detections above the residential receptor RBC of 1,100 µg/kg.
- Benzo(a)pyrene: five detections above the residential receptor RBC of 110 µg/kg and two above the occupational receptor RBC of 2,100 µg/kg.
- Benzo(b)fluoranthene: two detections above the residential receptor RBC of 1,100 µg/kg.
- Dibenz(a,h)anthracene: three detections above the residential receptor RBC of 110 µg/kg.
- Indeno(1,2,3-cd)pyrene: two detections above the residential receptor RBC of 1,100 µg/kg.

An additional 21 detections of PAHs exceeded the DEQ Soil Ingestion, Dermal Contact, and Inhalation residential or occupational RBCs, but were located in deep soil and do not represent a complete exposure pathway.

Detections above the DEQ Soil Ingestion, Dermal Contact, and Inhalation RBCs for residential receptors were distributed throughout TASS 2 with the highest concentrations above the occupational receptor from sample locations WP-7 and WP-9 in the center of TASS 2 and WP-13 located near the former diesel engine repair shop.

Chemical results for PAHs in TASS 2 are presented in BES Table 3A for shallow soil and BES Table 3B for deep soil (Attachment D).

5.1.2 Total Metals

Total arsenic was detected in all samples at concentrations above the DEQ Soil Ingestion, Dermal Contact, and Inhalation RBCs for residential and occupational receptors; the majority of which were below the background value of 8.8 mg/kg and do not pose additional risk to human health. Four soil samples had total arsenic concentrations above background, ranging from 9.12 to 12.1 mg/kg, but did not exceed the DEQ Soil Ingestion, Dermal Contact, and Inhalation RBCs for construction worker receptors of 15 mg/kg. Two of the four arsenic concentrations above background (10.4 and 12.1 mg/kg) were from soil samples deeper than 3 feet, and below the residential and occupational receptor exposure pathway.

All other metals did not exceed applicable DEQ Soil Ingestion, Dermal Contact, and Inhalation RBCs.

Chemical results for metals in TASS 2 are presented in BES Table 4A for shallow soil and BES Table 4B for deep soil (Attachment D).

5.2 GROUNDWATER SCREENING LEVEL ASSESSMENT

Groundwater data at TASS 2 was evaluated against DEQ Groundwater Ingestion, Dermal Contact, and Inhalation RBCs for construction and excavation worker receptors and Volatilization to Outdoor Air RBCs for residential and occupational receptors. Groundwater concentrations did not exceed any applicable RBCs. Groundwater chemical results and screening levels for TASS 2 sample locations are presented in BES Table 7A (Attachment D) and for the entire West Property in BES Table 7B (Attachment D).

Groundwater data from TASS 2 onsite groundwater monitoring wells MW-3 and MW-4 provide evidence that the South Larsen VOC plume did not travel cross gradient into TASS 2. Groundwater data from monitoring wells MW-2, MW-B, and borings B-1, B-2, and B-3 located immediately north of and downgradient of the TASS 2 site, the former diesel repair shop, the former UST, and other pertinent features, did not indicate the presence of contaminants that would pose a volatilization risk at TASS 2.

Groundwater does not contain contaminant concentrations that pose a risk to human health receptors.

5.3 SOIL VAPOR SCREENING LEVEL ASSESSMENT

Soil vapor data at TASS 2 was evaluated against DEQ-developed, site-specific RBCs for Volatilization to Outdoor Air. Soil vapor concentrations were generally between three and six orders of magnitude less than the DEQ-developed RBCs. Soil vapor sample chemical results and screening levels for TASS 2 sample locations are presented in Table 8 (Attachment D). Soil vapor does not contain contaminant concentrations that pose a risk to human receptors at the TASS 2 site.

Methane was evaluated following the precepts set forth in ASTM International (ASTM) E2993-23, Standard Guide for Evaluating Potential Hazard as a Result of Methane in the Vadose Zone. This calls for evaluating methane based on concentration, volume, and pressure. Due to the lack of oxygen, methane in a typical soil matrix will not burn or explode, and the LEL and UEL apply to concentrations of methane in air and do not apply to methane concentrations in soil.

The natural aeration of soil containing methane gas is not likely to generate hazardous atmospheres with respect to flammability. Additionally, except for two minor detections at the ground surface,

methane was not detected in ambient air, excavations, or enclosed spaces during the 6 June 2024 monitoring event. Biogas measurements at the TASS 2 site collected during the SVI investigation indicate that the amount of biogas generated appears to be too small to result in internal pressure associated with an increase in gas volume, so that gas transport to the ground surface will be limited by diffusion rather than advection. As the gas diffuses towards the ground surface, there should be more than sufficient oxygen to support aerobic biodegradation. However, even if there is no biodegradation, the future TASS 2 structures will have air gaps of between 5 and 18 inches above the ground surface, so any methane should not pose a risk to future occupants of TASS 2.

5.4 SCREENING LEVEL RISK ASSESSMENT UNCERTAINTIES

Risk screening using maximum concentrations instead of exposure point concentrations based on an upper confidence level on the arithmetic mean is a simple, conservative screening approach. Given that unacceptable risk from direct contact with surface soil was indicated, it is not necessary to collect additional data or conduct a more complex risk assessment, if the risks will be mitigated. Because development plans include actions to prevent contact with soil (thus removing the exposure pathway), summing of risk across chemicals and media is not necessary because the evaluation will not change the conclusion of unacceptable risk.

6. Conclusions

Based on a review of available existing data to human health RBCs and EPA RSLs (where applicable), there is risk to human health in shallow soil at TASS 2. The following sections discuss the risk and recommended actions to be performed for TASS 2. Impacts to the remaining portion of the site will be evaluated in a future RA for the entire West Property. The forthcoming final RAP will be prepared to address impacts outside the TASS 2 footprint.

6.1 SOIL

Shallow soil less than 3 feet deep at TASS 2 contains five PAHs at concentrations that exceed the DEQ Soil Ingestion, Dermal Contact, and Inhalation RBCs for residential and occupational receptors. Shallow soil also contains arsenic at concentrations that exceed the DEQ Soil Ingestion, Dermal Contact, and Inhalation RBCs for residential and occupational receptors. Only two shallow soil samples exceed the background value of 8.8 mg/kg. None of the exceedances are greater than the DEQ Soil Ingestion, Dermal Contact, and Inhalation RBCs for construction or excavation worker receptors.

To protect current and future users of TASS 2, the exposure pathway for human receptors to shallow soil should be addressed. The City plans to mitigate shallow soil impacts by constructing a cap (4 inches of pavement over 8 inches of gravel) over the central and western portions of the site to prevent exposure in that area. BES has prepared a draft RAP (Haley & Aldrich, 2024d) for TASS 2 to document the course of action selected for the area and a CMMP (Haley & Aldrich, 2024a) for use by TASS 2 construction workers. The City intends to require inspections for vehicle fluid leaks for all RVs entering the site and will use oil/water separators as an additional filter of surface water entering constructed bioswales for TASS 2 for stormwater management.

6.2 GROUNDWATER

Tetrachloroethylene (PCE), trichloroethylene (TCE), or other contaminants were not detected at concentrations greater than DEQ Vapor Intrusion into Buildings or Volatilization to Outdoor Air RBCs for residential receptors in groundwater samples collected from onsite groundwater monitoring wells MW-3 and MW-4 or in groundwater samples collected from monitoring wells MW-3, MW-B, and borings B-1, B-2, and B-3 located immediately north of and downgradient of the TASS 2 site, the former diesel repair shop, the former UST, and other pertinent features.

Groundwater data evaluated did not indicate that contaminants were present at concentrations that pose a risk to construction and excavation workers. The CMMP for TASS 2 (Haley & Aldrich, 2024a) includes procedures for handling and managing groundwater, should groundwater be encountered during excavation.

The focus of this RA is to evaluate exposure pathways and risk to human health at the site prior to construction of TASS 2; therefore, an evaluation for ecological receptors (specifically the Groundwater Discharge to Columbia Slough pathway) was not evaluated. Groundwater beneath TASS 2 will travel through adjacent portions of the West Property prior to potential discharge to Columbia Slough. Ecological receptor pathways will be evaluated in a future RA for the entire West Property.

6.3 SOIL VAPOR

Soil vapor data evaluated did not indicate the presence of contaminants at concentrations that pose a risk to occupational or residential receptors at the TASS 2 site. The results of subsurface biogas measurements indicate that elevated concentrations of subsurface methane will aerobically biodegrade as methane diffuses towards the ground surface, and future TASS 2 structures will have air gaps of between 5 and 18 inches, so there is little risk of accumulation of methane in onsite utility conduits, future living spaces, or future common spaces at ignitable concentrations.

In an abundance of caution and as a conservative measure, the City developed a methane-specific HASP for use during development of TASS 2. Further, to prevent potential future methane accumulation in future utility vaults and/or subsurface conduits at the TASS 2 site, utility trench plugs consisting of controlled density fill or similar materials will likely be installed in underground utility trenches at the point where they exit the property and/or exit the subsurface, and utility boxes present at the TASS 2 site will likely be passively vented to prevent potential methane accumulation in the utility boxes. Additionally, methane monitoring of accessible subsurface features will likely be conducted as part of routine cap inspection and maintenance activities. Details of the proposed methane mitigation measures and routine cap inspection and maintenance activities will be presented in a forthcoming RAP for the TASS 2 development.

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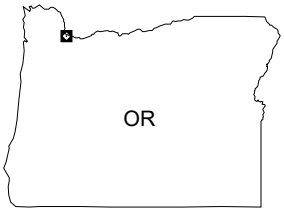
FIGURE



MAP SOURCE: ESRI
SITE COORDINATES: 45°35'59"N, 122°43'22"W

HALEY ALDRICH

CONTAMINATED MEDIA MANAGEMENT PLAN
WEST PROPERTY - RV SHELTER SITE
10505 N PORTLAND ROAD
PORTLAND, OREGON 97203

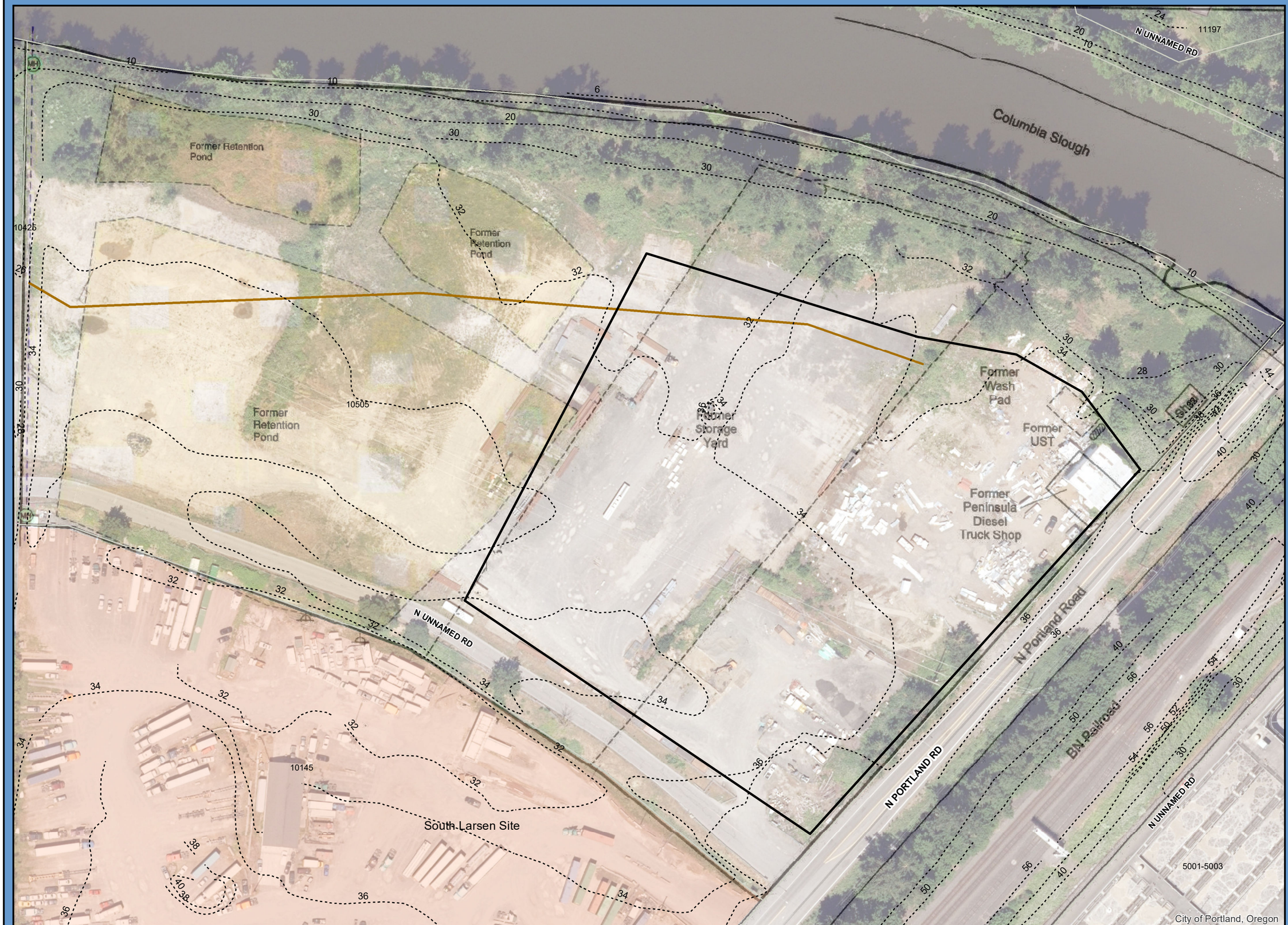
VICINITY MAP

APPROXIMATE SCALE: 1 IN = 2000 FT
DECEMBER 2023

FIGURE 1

GIS: \\haleyaldrich.com\share\CF\Projects\0209772\GIS\209772_COP_WEST_PARCEL.aprx - ayabu - 11/16/2023 11:32 AM

ATTACHMENT A
BES Figures



West Property
TASS 2 Site
10505 N Portland Rd

Figure 1

Site Plan with
Elevation Contours

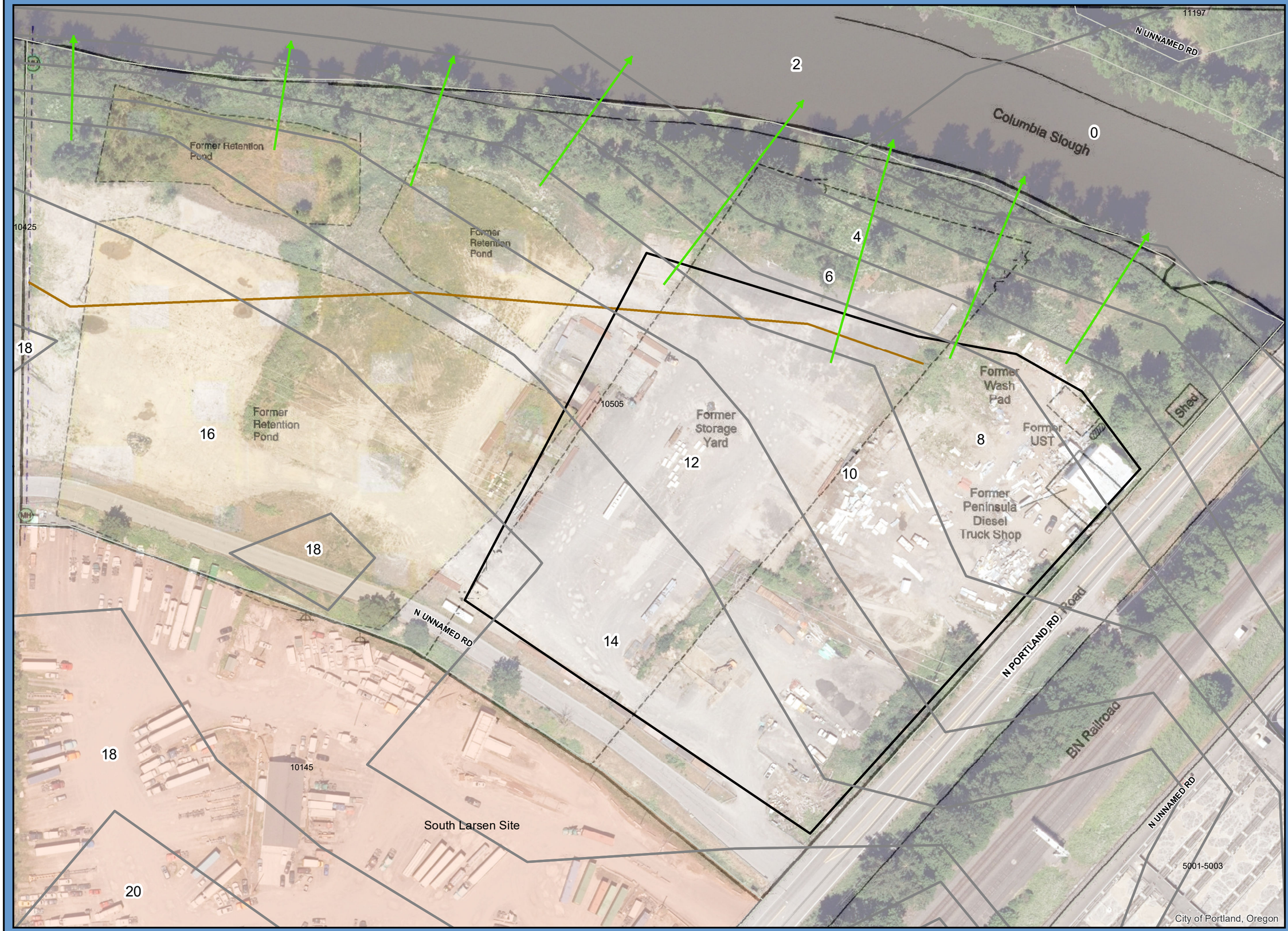
Map Symbols

- Contours 2ft by USGS
- RV Shelter Boundary
- Sewer Pipe Line

0 35 70 140 Feet

N
W E
S

Map Created by: Jonah Y July 2024



West Property
TASS 2 Site
10505 N Portland Rd

Figure 2

Groundwater Elevation Contour Map

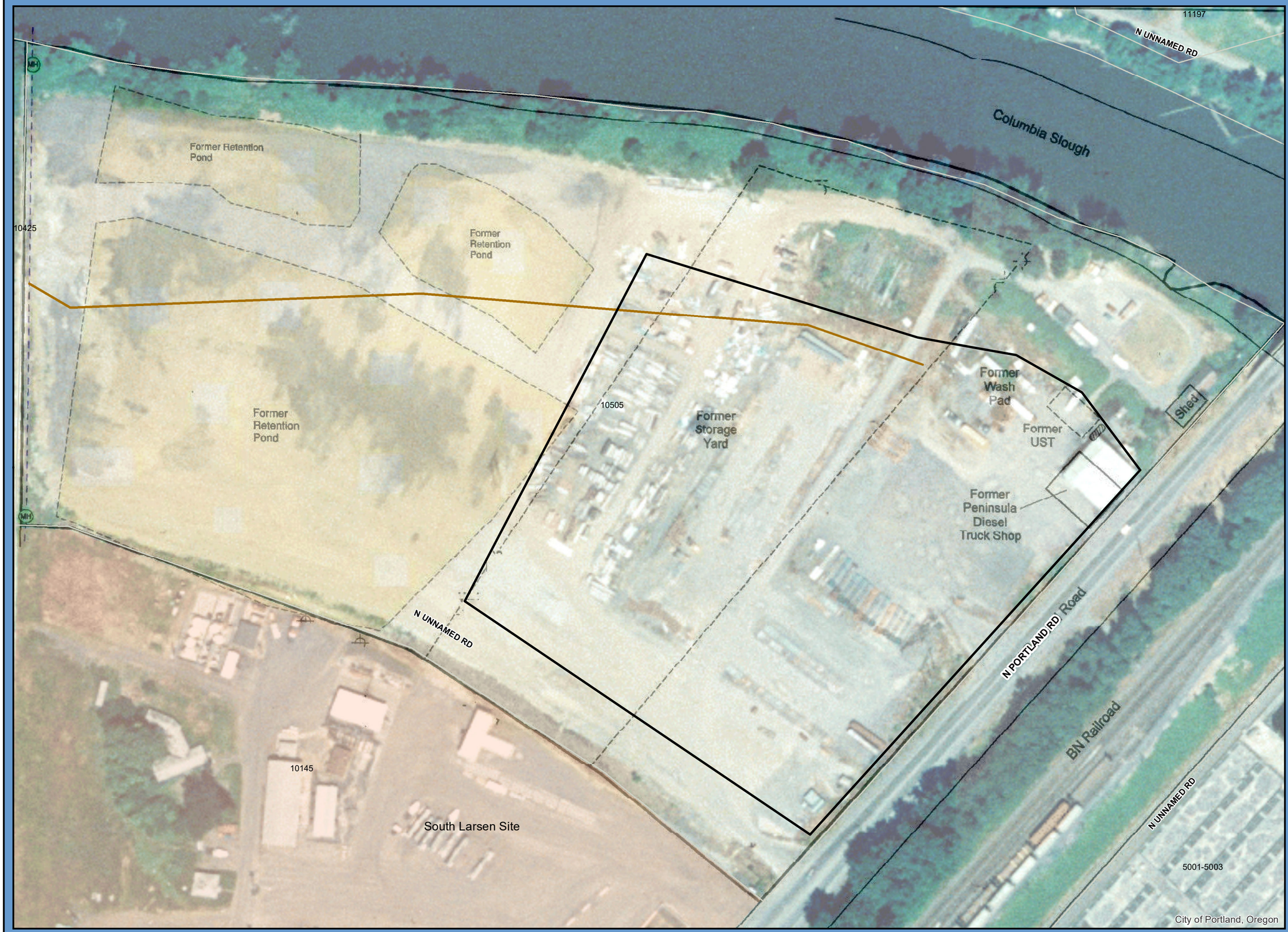
Map Symbols

- Groundwater Flow Arrows
- RV Shelter Boundary
- Sewer Pipe Line
- Depth to Groundwater 2ft Contours by USGS

0 35 70 140 Feet

N
W E
S

Map Created by: Jonah Y July 2024



West Property
TASS 2 Site
10505 N Portland Rd

Figure 3

Aerial Photo
1996

Map Symbols

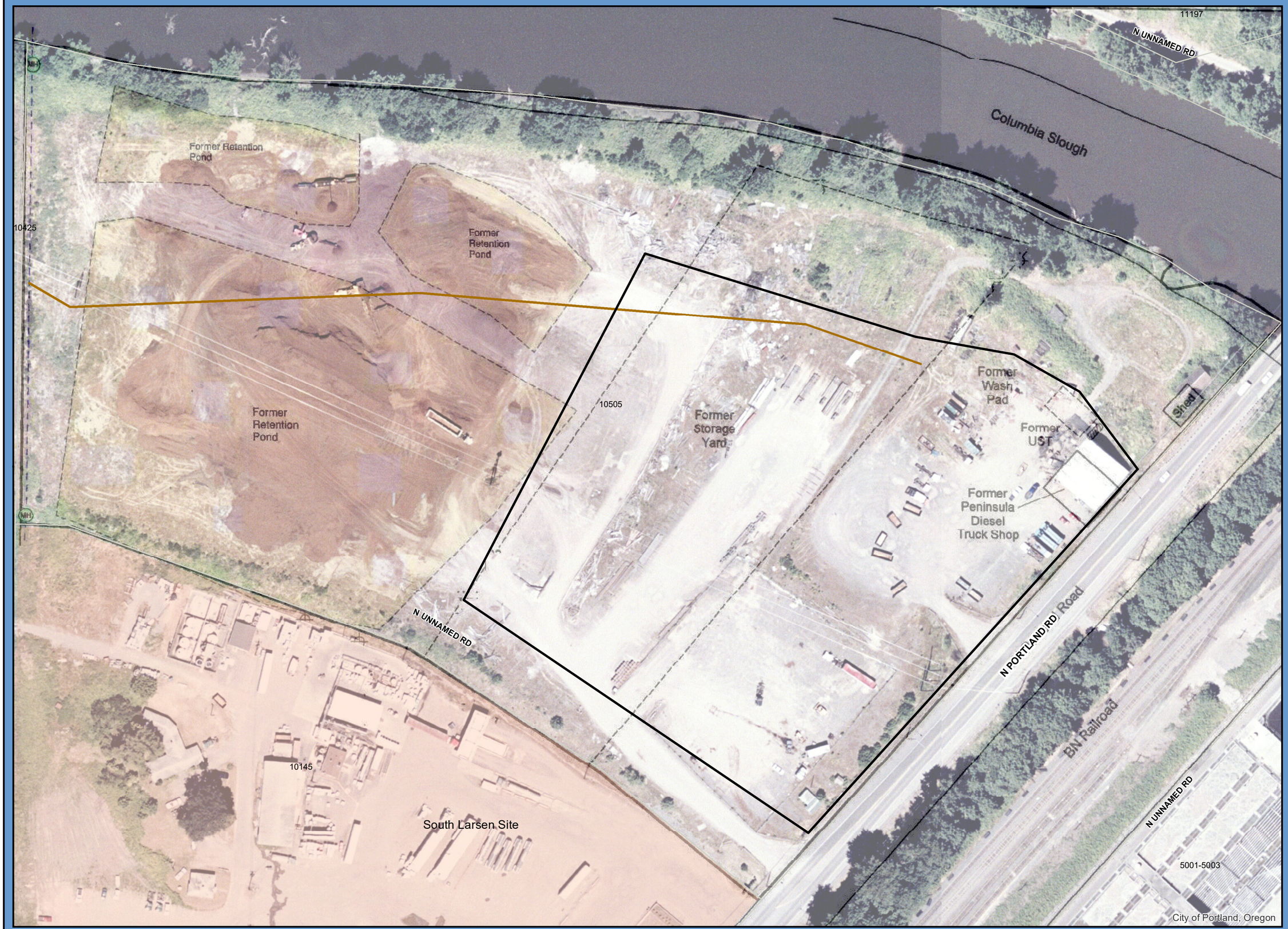
RV Shelter Boundary

Sewer Pipe Line

0 35 70 140 Feet

N
W E
S

Map Created by: Jonah Y July 2024



West Property
TASS 2 Site
10505 N Portland Rd

Figure 4

Aerial Photo
2000

Map Symbols

RV Shelter Boundary

Sewer Pipe Line

0 35 70 140 Feet

N
W E
S

Map Created by: Jonah Y July 2024

West Property
TASS 2 Site
10505 N Portland Rd

Figure 5

Aerial Photo
2005

Map Symbols

RV Shelter Boundary

Sewer Pipe Line

0 35 70 140 Feet

N
W E
S

Map Created by: Jonah Y July 2024

West Property
TASS 2 Site
10505 N Portland Rd

Figure 6

Aerial Photo
2010

Map Symbols

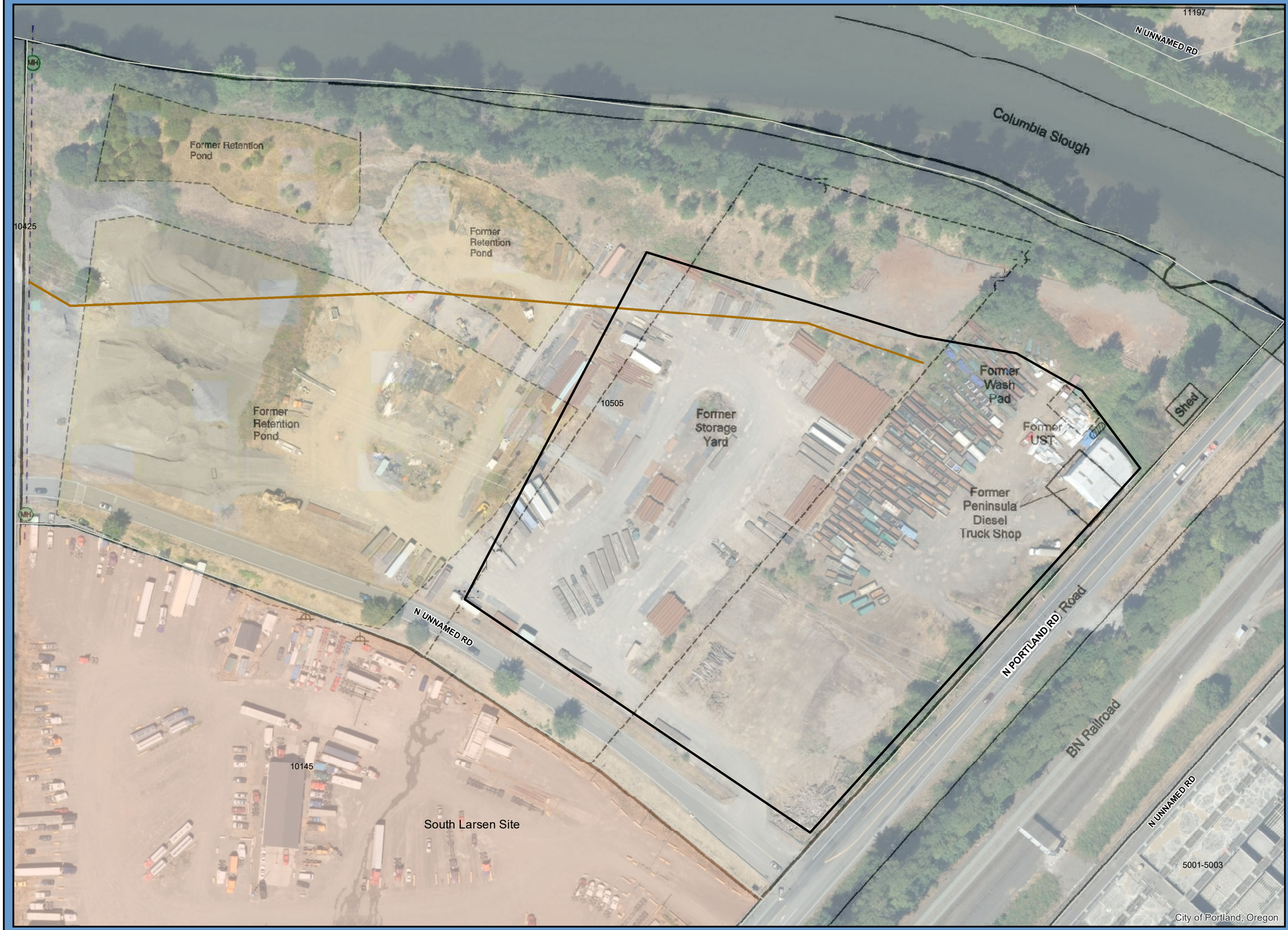
RV Shelter Boundary

Sewer Pipe Line

0 35 70 140 Feet

N
W E
S

Map Created by: Jonah Y July 2024



West Property
TASS 2 Site
10505 N Portland Rd

Figure 7

Aerial Photo
2015

Map Symbols

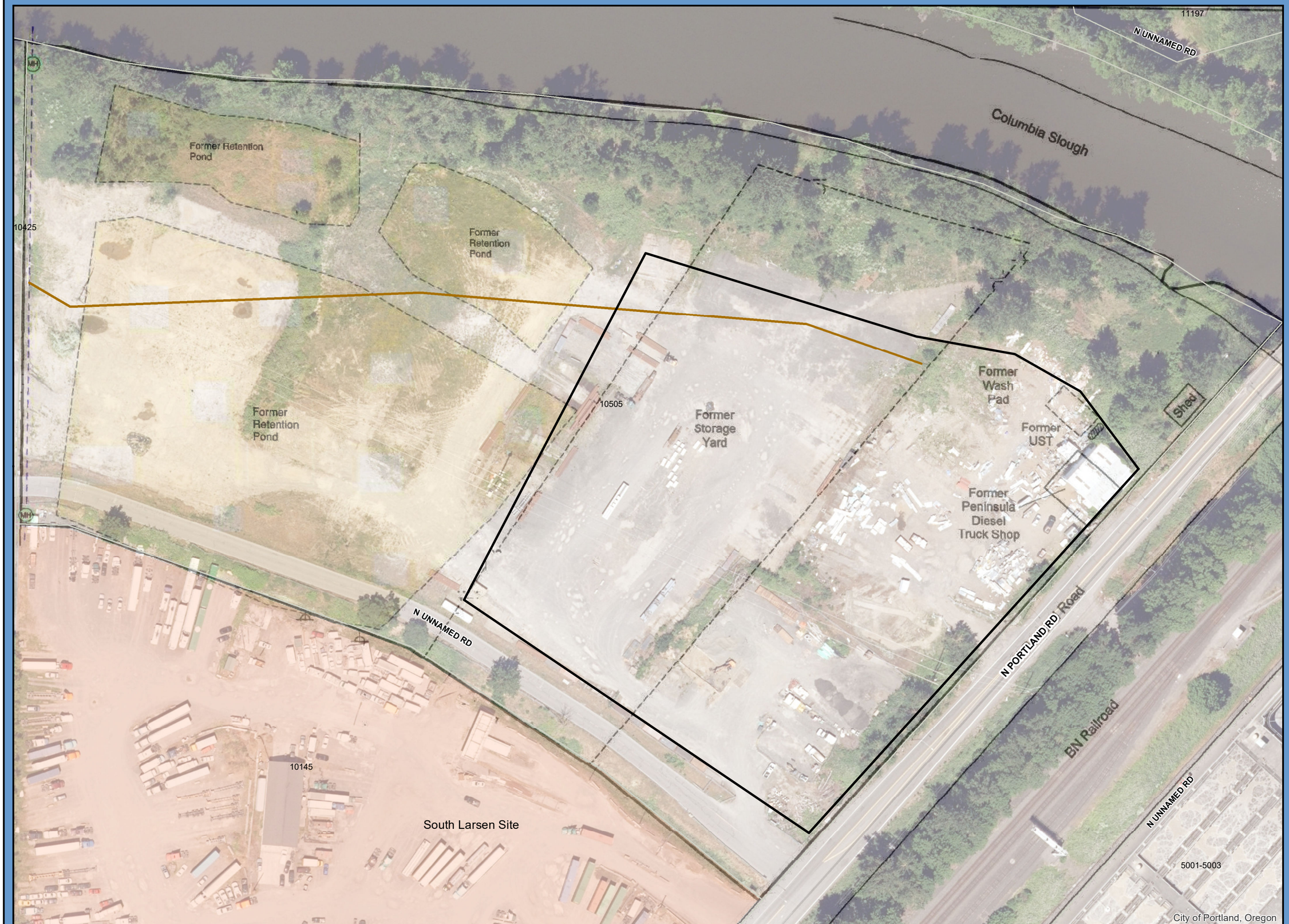
RV Shelter Boundary

Sewer Pipe Line

0 35 70 140 Feet

N
W E
S

Map Created by: Jonah Y July 2024



West Property
TASS 2 Site
10505 N Portland Rd

Figure 8

Aerial Photo
2021

Map Symbols

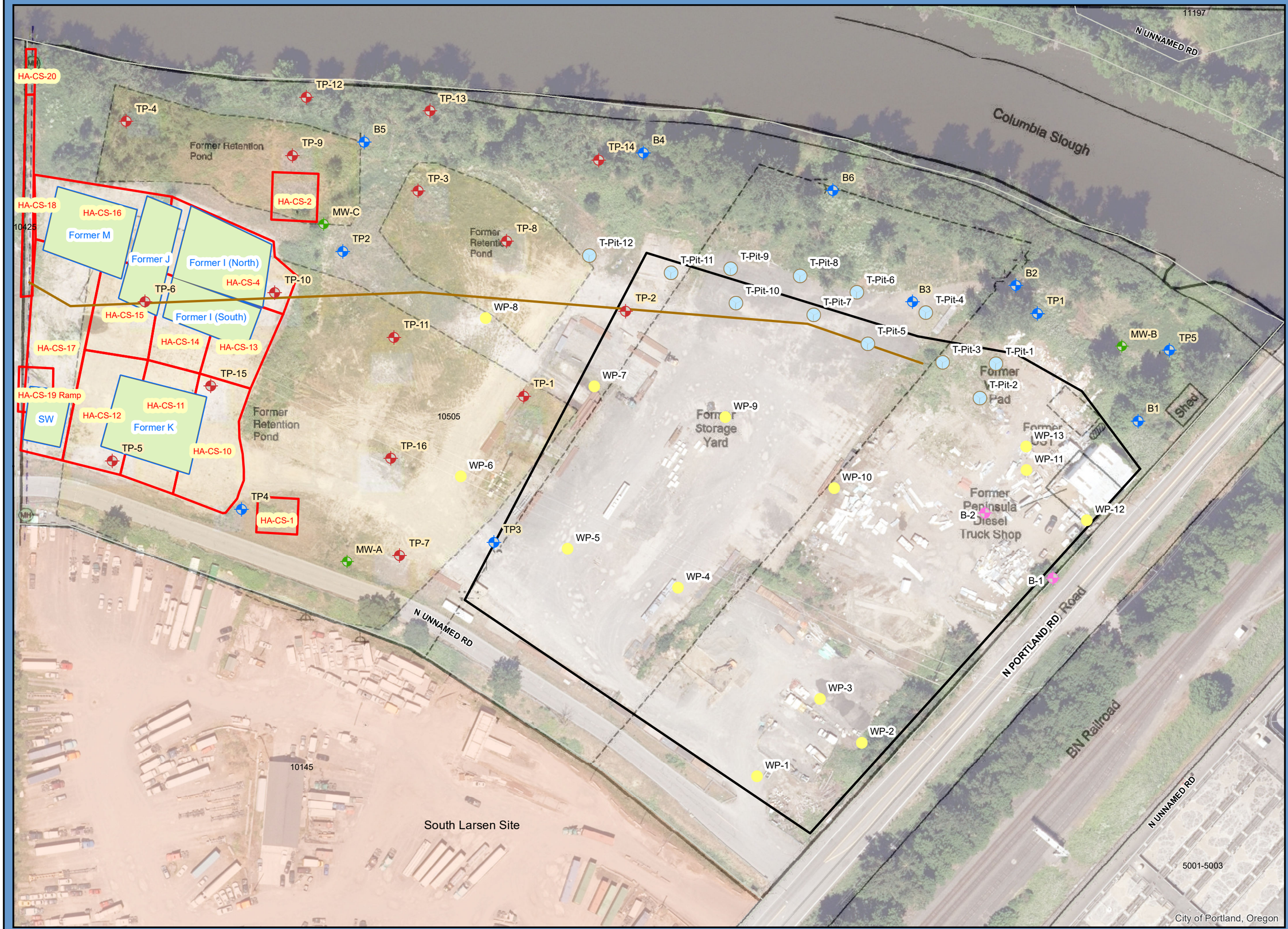
RV Shelter Boundary

Sewer Pipe Line

0 35 70 140 Feet

N
W E
S

Map Created by: Jonah Y July 2024



West Property
TASS 2 Site
10505 N Portland Rd

Figure 9

Soil Sampling
Location Map

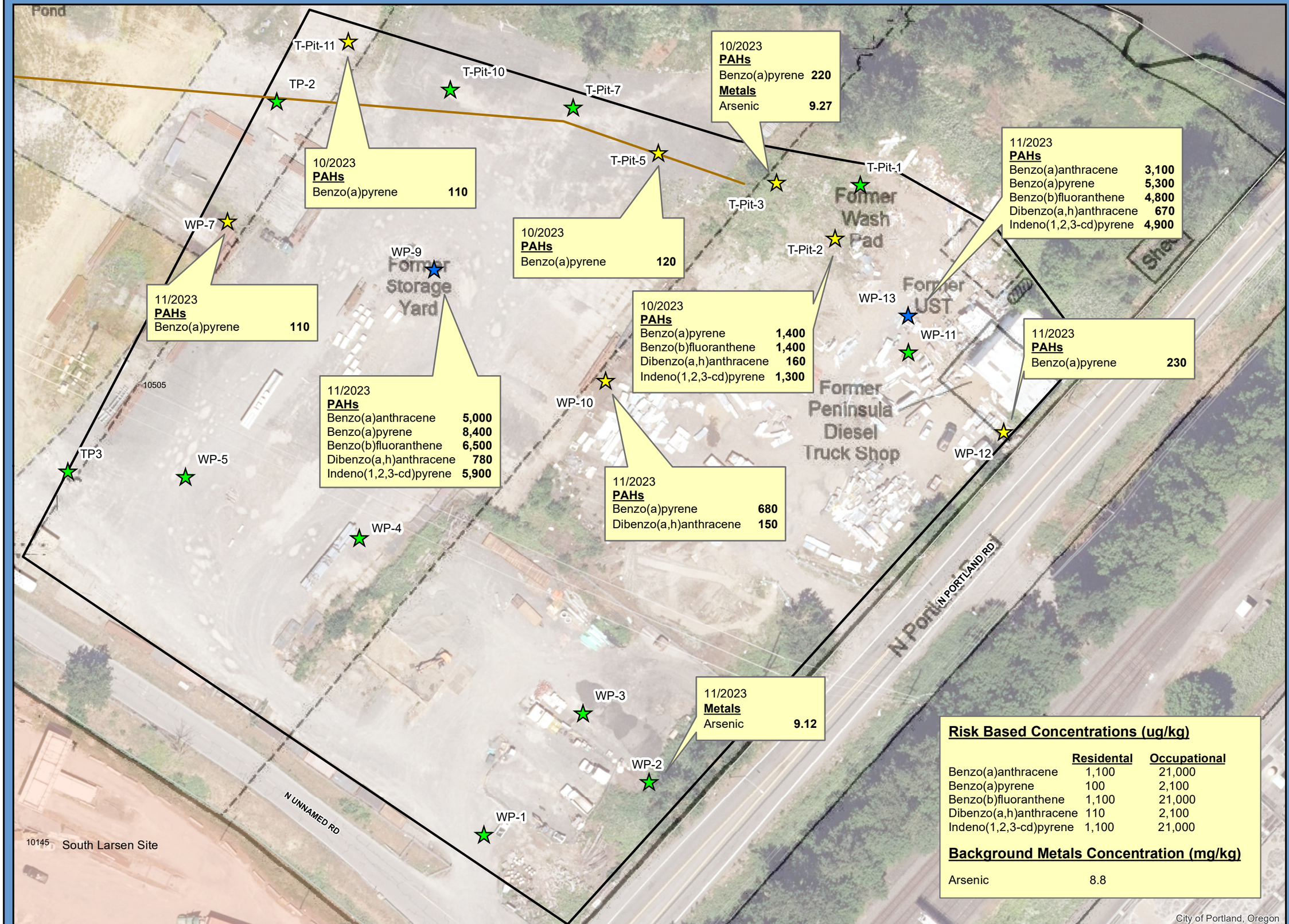
Map Symbols

- AMEC/GeoEngi... MW
- Fujitani Sample Points
- BES Sample Points
- BES Test Pit Sites
- PNG Sample Points
- Kleinfelder Sample Points
- Sewer Pipe Line
- SLR Sampling Grid
- COP Sampling Grid
- RV Shelter Boundary

0 35 70 140 Feet

N
W E
S

Map Created by: Jonah Y July 2024



West Property
TASS 2 Site
10505 N Portland Rd

Figure 10

Shallow Soil
Screening Results

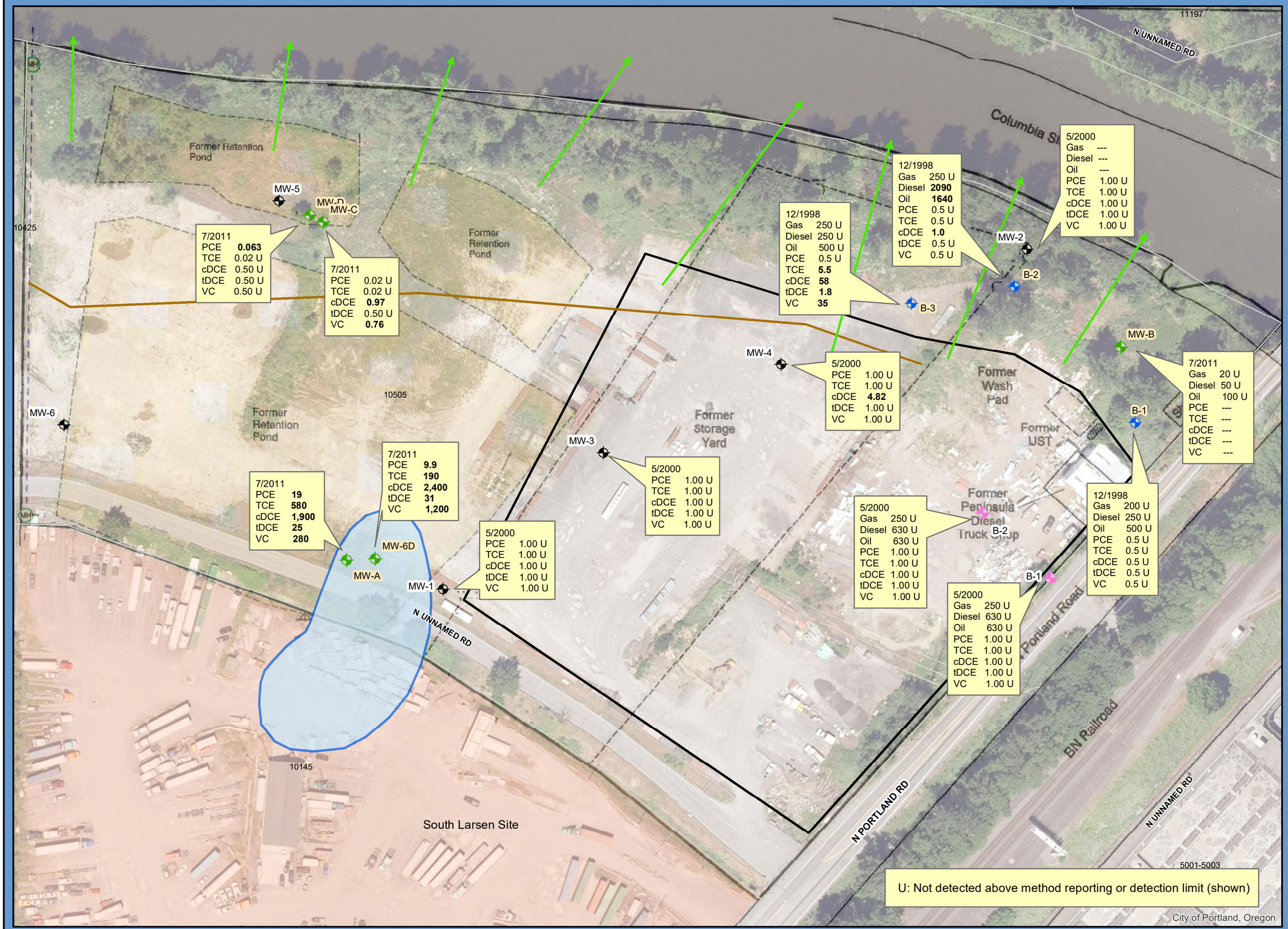
Map Symbols

- Not Detected above MRLs
- Exceeds Residential RBCs
- Exceeds Occupational RBCs
- Sewer Pipe Line
- RV Shelter Boundary

0 20 40 80 Feet

N
W E
S

Map Created by: Jonah Y July 2024



West Property
TASS 2 Site
10505 N Portland Rd

Figure 11

Groundwater
Data Map

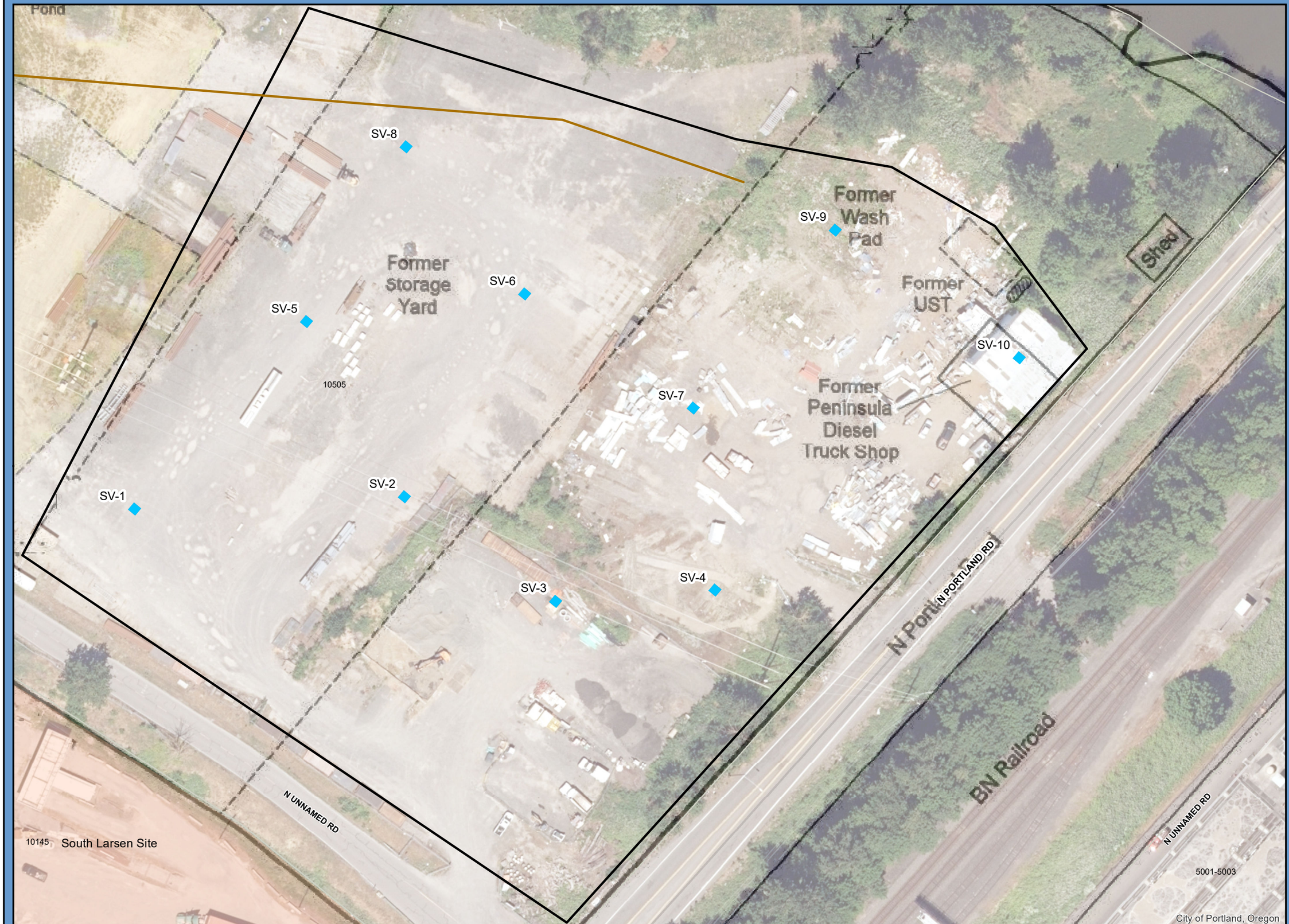
Map Symbols

- Fujitani Sample Points
- PNG Sample Points
- GeoEngineers MW
- Kleinfelder/PNG MW
- Groundwater Flow Arrows
- South Larsen Pre-treatment Plume
- Sewer Pipe Line
- RV Shelter Boundary

0 35 70 140 Feet

N
W E
S

Map Created by: Jonah Y July 2024



West Property
TASS 2 Site
10505 N Portland Rd

Figure 12

Soil Vapor
Sample Locations

Map Symbols

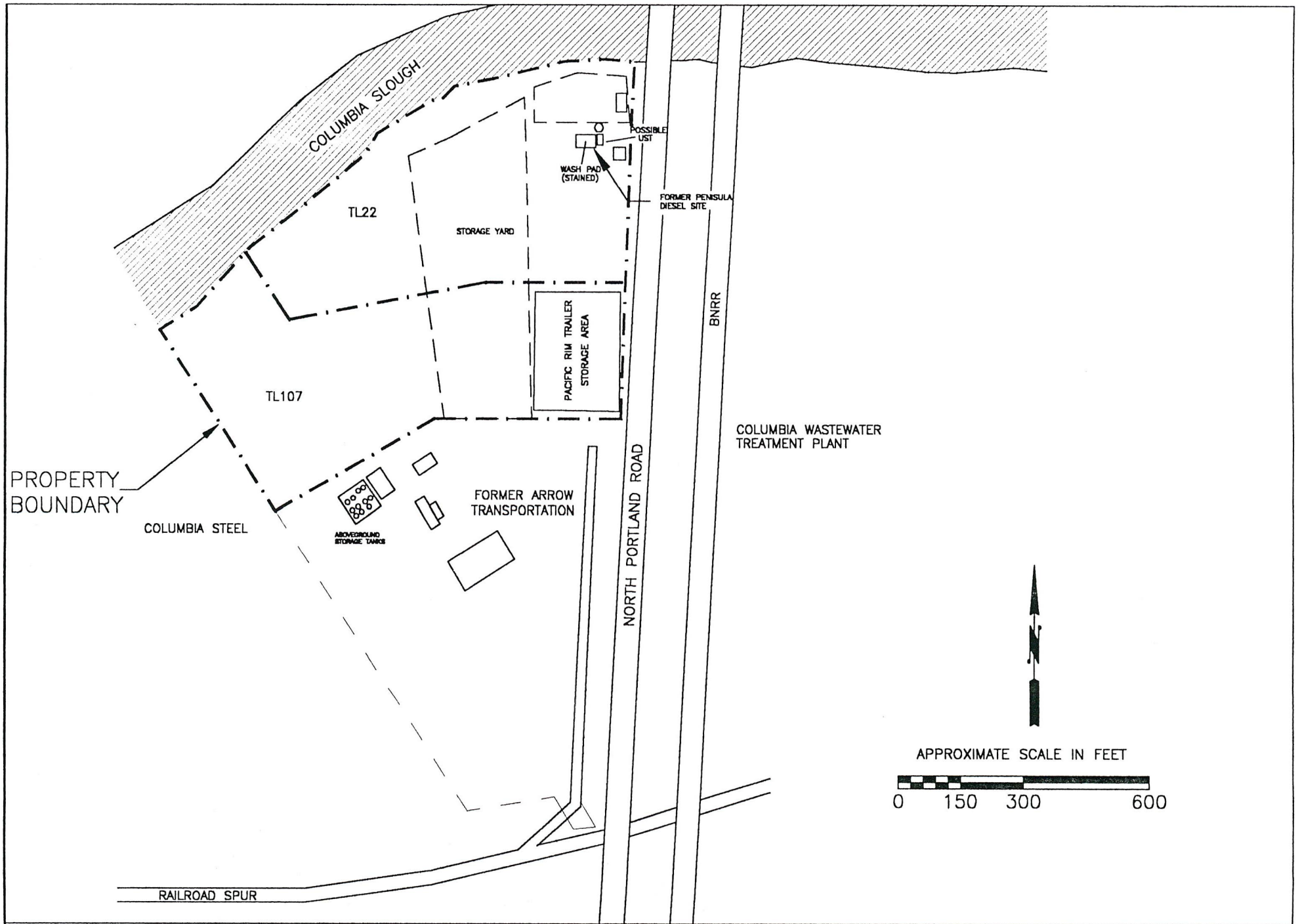
- Soil Vapor Sample Points
- Sewer Pipe Line
- RV Shelter Boundary

0 20 40 80 Feet

N
W E
S

Map Created by: Jonah Y July 2024

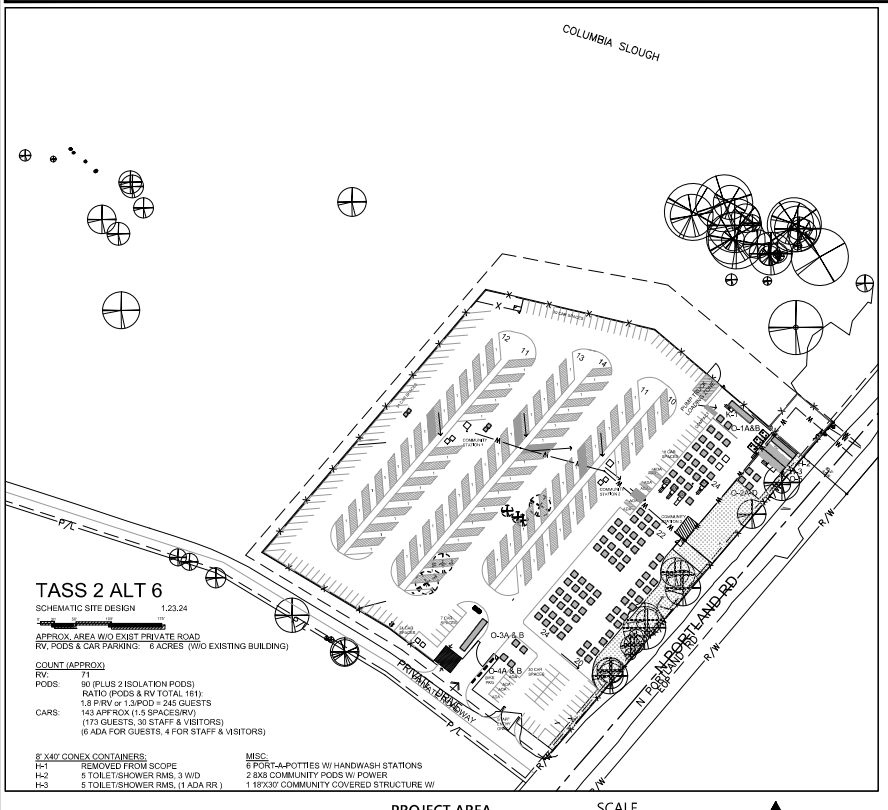
ATTACHMENT B
Supporting Document Figures



	PNG Environmental, Inc. 7130 SW Elmhurst Street (503) 620-2387 Tigard, Oregon 97223 FAX (503) 620-2877	CURRENT DATE: 2/4/08 CAD FILE NAME: 850-01 DRAWN BY: BEB APPROVED BY:	Phase II Assessment Portland, Oregon for Portland BES	SITE MAP Property Boundary Present Features	Project No. 850-01 Figure No. 2

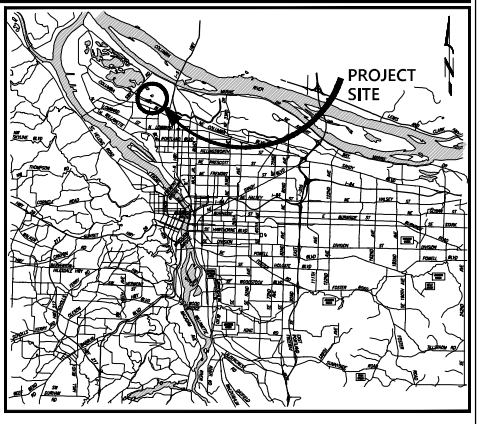
ATTACHMENT C
TASS 2 Development Plans

TEMPORARY ALTERNATE SHELTER - SITE 2



SHEET INDEX:

SHEET NUMBER	SHEET TITLE	SHEET DESCRIPTION
01	G01	COVER SHEET
02	G02	LEGEND, ABBREVIATIONS, & CONSTRUCTION NOTES
03	C01	EXISTING CONDITIONS AND DEMOLITION
04	C02	SITE PLAN
05	C03	OVERALL GRADING PLAN
06	C04	GRADING PLAN - NORTH
07	C05	GRADING PLAN - SOUTH
08	C06	SWALE GRADING PLAN - 1
09	C07	CIVIL DETAILS - 1
10	C08	CIVIL DETAILS - 2
11	CE01	ESC PLAN
12	CE02	ESC DETAILS



PORTLAND, OREGON
VICINITY MAP
NOT TO SCALE

NOTICE TO EXCAVATORS:
ATTENTION: OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THE RULES BY CALLING THE CENTER. (NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS 503-232-1987).

POTENTIAL UNDERGROUND FACILITY OWNERS

Dig Safely.

Call the Oregon One-Call Center
DIAL 811 or 1-800-332-2344

EMERGENCY TELEPHONE NUMBERS

NW NATURAL GAS	
M-F 7am-6pm	503-226-4211 Ext.4313
AFTER HOURS	503-226-4211
PGE	503-464-7777
CENTURYLINK	1-800-573-1311
CITY BUREAU OF MAINTENANCE	503-823-1700
CITY WATER	503-823-4874
VERIZON	1-800-483-1000

DESIGN CRITERIA AND ASSUMPTIONS:

1. NO EXCEPTIONS TO CITY STANDARDS OR OTHER REGULATORY REQUIREMENTS WERE TAKEN DURING THE DESIGN OF THIS PROJECT.
2. WATER QUALITY TREATMENT AND DETENTION ARE NOT REQUIRED FOR THIS PROJECT PER THE CURRENT STORMWATER MANAGEMENT MANUAL.
3. NO ENVIRONMENTAL ZONES EXIST WITHIN THE PROJECT BOUNDARY.
4. DESIGN IS BASED ON THE HYDRAULIC MODELING REPORT DATED <MONTH> <YEAR>.
5. ENVIRONMENTAL ZONES EXIST WITHIN THE PROJECT BOUNDARY. NO WORK ALLOWED EXCEPT WHAT IS AUTHORIZED.
6. STORMWATER FACILITIES SIZED BASED ON STORMWATER MANAGEMENT MANUAL REQUIREMENTS AND DESIGN EXCEPTIONS.
7. STORMWATER NARRATIVE: SUMMARIZE ANY OF THE DESIGN ASSUMPTIONS AND SERVICE LEVELS IN THIS SECTION. IF THERE IS A DESIGN REPORT, PLEASE REFERENCE IT HERE. FOR STORMWATER FACILITIES, DOCUMENT THE CATCHMENT AREA AND RUNOFF COEFFICIENTS AND/OR PEAK FLOW RATES (FOR MANUFACTURED TREATMENT) IF LESS THAN 5 FACILITIES OR CAPTURED IN ONE STATEMENT.

DESIGN EXCEPTIONS TO CITY STANDARDS OR OTHER REGULATORY REQUIREMENTS THAT WERE TAKEN DURING THE DESIGN OF THIS PROJECT:

WHERE PROPOSED 8-INCH OR 10-INCH DIAMETER SEWER MAINS ARE BEING CONSTRUCTED INSTEAD OF 12-INCH DIAMETER SEWER MAINS. FUTURE CONDITION DESIGN FLOWS ARE CONVEYED WITHOUT SURCHARGE AND A LARGER PIPE IS NOT NECESSARY.

NOT ALL TERMINAL CLEANOUTS USED ON 8-INCH DIAMETER PIPE MEET THE SEWER DESIGN MANUAL REQUIREMENTS OF 100 FEET OF PIPE OR LESS.

THIS PROJECT USES A FLAT TOP MAINTENANCE HOLE INSTEAD OF STANDARD MAINTENANCE HOLE WITH A CONE.

INSIDE DROP ASSEMBLIES LARGER THAN 12 INCHES (SHEETS CXX & CXX) DUE TO MAINTENANCE HOLE DEPTHS GREATHER THAN 20 FEET.

GENERAL NOTES:

1. EXISTING GRADES AND ELEVATIONS SHOWN IN PROFILE WERE PROVIDED BY THE CITY OF PORTLAND AND TAKEN ALONG THE CENTERLINE STATIONED ALIGNMENT OF SEWER MAIN. VERIFY ALL ELEVATIONS AND GRADES.
2. UTILITIES AND SERVICE LATERALS AS SHOWN IN THE CONTRACT DOCUMENTS ARE AT APPROXIMATE LOCATIONS. VERIFY ALL LOCATIONS IN THE FIELD PRIOR TO CONSTRUCTION.
3. NOT ALL WATER OR GAS SERVICE LATERALS ARE SHOWN.
4. SEWER SERVICE LATERALS SHALL CONNECT TO A SEWER MAIN AND EXTEND TO THE CURB LINE UNLESS OTHERWISE SHOWN OR DIRECTED BY OWNER'S REPRESENTATIVE.
5. REINSTATE ALL ACTIVE SERVICE LATERAL CONNECTIONS UNLESS OTHERWISE SHOWN OR DIRECTED BY THE OWNER'S REPRESENTATIVE.
6. SEWER LATERALS SHALL BE 6-INCH ASTM D3034 PVC, SDR-35 AT 2% SLOPE (MINIMUM) UNLESS OTHERWISE SHOWN IN THE CONTRACT DOCUMENTS OR APPROVED BY THE OWNER'S REPRESENTATIVE.
7. RECONNECT EXISTING INLET OR CATCH BASIN LEADS AS SHOWN IN THE CONTRACT DOCUMENTS. UNLESS OTHERWISE DIRECTED BY THE OWNER'S REPRESENTATIVE.
8. SUPPORT UTILITIES, AS REQUIRED, TO PROTECT IN PLACE.
9. CONSTRUCT PER CURRENT CITY OF PORTLAND STANDARD DETAILS AND DRAWINGS, UNLESS OTHERWISE NOTED IN THE CONTRACT DOCUMENTS OR DIRECTED BY THE OWNER'S REPRESENTATIVE.
10. ALL INLET PIPING SHALL BE EITHER ASTM F714 DR 26 HDPE OR ASTM D3034 PVC SDR-35. FOR G-1 INLETS INSTALL 10-INCH DIAMETER PIPE AND FOR G-2 INLETS INSTALL 12-INCH DIAMETER PIPE.

CITY OF PORTLAND VERTICAL DATUM AND OCRS83.PORTLANDIF

P:\0493--017 TEMPORARY ALTERNATE SHELTER SITE 2\DWG\CIVIL\EXXXXXX_G01.DWG 2/9/2024 STEVE HANSEN

NO.	DATE	DESCRIPTION	APPD.
		REVISION	

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CONSTRUCTED BY:
PROJECT COMPLETED:
MAP CORRECTED BY: CHECKED BY:
FINAL MAP DATA
DRAWING NAME: EXXXXXX_G01.dwg

DESIGNED BY | DATE APPROVED
DRAWN BY | ENGR. SUPV.
CHECKED BY | ENGR. DIV. MGR.
RES. DESIGN LEAD | CONST. DIV. MGR.

CITY OF PORTLAND
ENVIRONMENTAL SERVICES

MINGUS MAPPS
COMMISSIONER

PAUL SUTO, P.E.
CHIEF ENGINEER

APPROVAL

ENVIRONMENTAL SERVICES CHIEF ENGINEER
REG. PROF. ENGR. NO. 82245

REGISTERED PROFESSIONAL ENGINEER
Steve Hansen
OREGON
JULY 12, 1989
STEVEN WELLS HANSEN
EXPIRES: 6/30/2025

TEMPORARY ALTERNATE SHELTER
SITE 2

COVER SHEET

UTM ZONE(S): 1924, 1925
JOB NO.: Exxxxx
SHEET NO.: G01
01 OF 12

LEGEND:

EXISTING	PROPOSED
ROAD SIGN	CLEANOUT
CLEANOUT	INLET
FIELD INLET	G2 INLET
MAINTENANCE HOLE	BEEHIVE
CULVERT INLET	FIELD INLET
CULVERT OUTLET	MAINTENANCE HOLE
BOLLARD	PERMANENT PLUG
POLE ANCHOR	TEMPORARY PLUG
POLE WITH STREET LIGHT	BOREHOLE
STREET LIGHT	BIO-BAG
BUSH	INLET PROTECTION
DECIDUOUS TREE	PROTECT TREE
CONIFEROUS TREE	REMOVE TREE
STUMP	CHAIN LINK FFENCE
FIRE HYDRANT	COMBINED SEWER MAIN
WATER METER	CONDUIT
WATER VALVE	CURB
EDGE OF GRAVEL	FENCE
EDGE OF PAVEMENT	INLET PIPE
EDGE OF WATER	MAJOR CONTOUR LINE
ENVIRONMENTAL CONSERVATION	MINOR CONTOUR LINE
ENVIRONMENTAL PROTECTION	PERMANENT DISTURBANCE LIMITS
ENVIRONMENTAL TRANSITION	TEMPORARY DISTURBANCE LIMITS
FENCE	PLUGGED LATERAL
GAS LINE	PROJECT SITE BOUNDARY
GUARD RAIL	PRIVATE SEWER LATERAL
MAJOR CONTOUR LINE	PRIVATE SEWER MAIN
MINOR CONTOUR LINE	PROPERTY LINE
OVERHEAD LINE	RIGHT-OF-WAY
PROPERTY LINE	SANITARY SEWER MAIN
RIGHT-OF-WAY	SAW CUT
STORM SEWER MAIN	SEWER SERVICE LATERAL
TOE OF SLOPE	SILT FENCE
TOP OF SLOPE	STORM DITCH
WATER LINE	

STORM SEWER MAIN	
MATTING	
AGGREGATE	
SEEDING AREA	
NATIVE PLANTING	

ABBREVIATIONS:

AC.	ACRE
AC	ASPHALTIC CONCRETE
AGGR	AGGREGATE
APPROX	APPROXIMATE
ASPH	ASPHALT
BES	BUREAU OF ENVIRONMENTAL SERVICES
BOTT	BOTTOM
BDRY	BOUNDARY
BR	BRIDGE
BKFL	BACKFILL
BLK	BLOCK
BLDG	BUILDING
CIP	CAST IRON PIPE
CL	CENTERLINE
CLSM	CONCRETE LOW STRENGTH MIX
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT OR COUNTY
COMP	COMPACTED
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCT
CORR	
CP	CONTROL POINT
CSP	CONCRETE SEWER PIPE
CULV	CULVERT
DI	DUCTILE IRON
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
EL, ELEV	ELEVATION
EXIST, EXTG, EX.	EXISTING
FDTN	FOUNDATION
FL	FLOW LINE
FT	FOOT OR FEET
GEN	GENERAL
GPM	GALLONS PER MINUTE
GR	GUARDRAIL
HDPE	HIGH-DENSITY POLYETHYLENE
HMAC	HOT-MIXED ASPHALT CONCRETE
HORIZ	HORIZONTAL
IE	INVERT ELEVATION
IN.	INCHES
J	JUNCTION BOX
JCT	JUNCTION
LB	POUND
LP	LIGHT POLE
LT	LEFT
MAX	MAXIMUM
MH	MAINTENANCE HOLE
MIN	MINIMUM
MSTF	MANUFACTURED STORMWATER TREATMENT FACILITY
N	NORTH
NE	NORTHEAST
NO.	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
NW	NORTHWEST
PE	PROFESSIONAL ENGINEER
PED	PEDESTRIAN
PERM	PERMANENT
PGE	PORTLAND GENERAL ELECTRIC
PP	POWER POLE
PROF	PROFILE
PVMT	PAVEMENT
R	RADIUS
REQ'D	REQUIRED
RT	RIGHT
S	SOUTH, SLOPE OR SEWER
SALV	SALVAGE
SE	SOUTHEAST
SED	SEDIMENTATION
SF, SQ FT	SQUARE FEET
SHT	SHEET
SL	STREET LIGHT OR SLOPE
STA	STATION
STD	STANDARD
SU	SUMP
SW	SOUTHWEST
TEMP	TEMPORARY
TOPO	TOPOGRAPHY
TYP	TYPICAL
VAR	VARIES OR VARIABLE
W	WEST, WIDTH OR WATER
WM	WATER METER
WV	WATER VALVE
W/	WITH
W/O	WITHOUT

CONSTRUCTION NOTES:

1. DEMOLISH BUILDING. FOUNDATION PAD TO REMAIN
2. EXISTING HYDRANT TO BE REMOVED AND REPLACED.
3. DEMOLISH CHAIN LINK FENCE.
4. REMOVE TREE.
5. PROTECT TREE.
6. REMOVE VEGETATION.
7. DEMOLISH GATE.
8. CONSTRUCT STANDARD CURB ALONG ENTIRE NORTH EDGE WITH 2-FOOT KNOCK OUTS AT DRAINAGE SWALE OUTFALLS PER STD. DWG. P-540
9. CONSTRUCT 24-FT OF LOW PROFILE MOUNTABLE CURB AT WASTE WATER HOLDING TANK ACCESS ENTRANCE PER STD. DWG. P-540
10. CONSTRUCT CURB OUTLET
11. CONSTRUCT PAVEMENT SECTION WITH 4" ASPHALT OVER 8" AGGREGATE BASE ROCK
12. CONSTRUCT WALKWAY/UTILITY ALLEY
13. CONSTRUCT FULLY LINED STORMWATER SWALE, SEE SHEET C06
14. CONSTRUCT FULLY LINED STORMWATER SWALE, SEE SHEET C06
15. DITCH INLET PER DETAIL P-212, SEE SHEET C08
16. STORM DRAIN MAINTENANCE HOLE PER DETAIL P-151, SEE SHEET C08
17. SEDIMENTATION MAINTENANCE HOLE PER DETAIL P-161, SEE SHEET C08
18. GATE VALVE
19. CONNECT TO EXISTING MAINTENANCE HOLE AAG066
20. PROVIDE 1 FT BENCH BEYOND PAVEMENT AND SLOPE DOWN AT 3:1 TO MATCH EXISTING GRADE
21. PROVIDE 2 FT KNOCKOUT IN CURB FOR DRAINAGE OUTFALL TO SWALE
22. INSTALL CLASS 50 RIPRAP CHANNEL TO SWALE
23. CONSTRUCT LINED GRASSY SWALE PER DETAIL ON SHEET C08
24. PORTLAND WATER BUREAU TO KILL EXISTING METER SERVICE
25. SAWCUT AND REMOVE EXISTING ASPHALT AT DRIVEWAY ENTRANCE. EXTEND 1-FT MINIMUM INTO EXISTING ASPHALT ROAD
26. SEE ARCHITECTURAL PLANS FOR NEW WATER LINE SERVICES, INCLUDING HYDRANT, METERS, BACKFLOW PREVENTION AND ROUTING.
27. CONNECT TO EXISTING MH (ASG066). CONTRACTOR TO FIELD LOCATE EXISTING MANHOLE LOCATION, CONFIRM EXISTING INVERT INFORMATION, RAISE MANHOLE TO FINISH GRADE.
28. CONSTRUCT DITCH INLET. TEE INTO EXISTING 8" STORM LINE WITH 8-INCH PVC PIPE. SLOPE =1.0% MIN.
29. ADJUST EXISTING INLET AS NECESSARY TO MATCH FINISH GRADE.
30. INSTALL A FLOW-SPREADING DEVICE AT THE INLET TO DISTRIBUTE FLOWS EVENLY ACROSS THE BOTTOM OF THE SWALE. IN SWALES WITH A BOTTOM WIDTH GREATER THAN 6-FT, INSTALL A FLOW SPREADER AT LEAST EVERY 50-FT

P:\0493-017 TEMPORARY ALTERNATE SHELTER SITE 2\DWG\CIV\EXXXXXX_G02.DWG 2/9/2024 STEVE HANSEN

NO.	DATE	DESCRIPTION	APPD.
		REVISION	

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DESIGNED BY	DATE APPROVED
DRAWN BY	ENGR, SUPV.
CHECKED BY	ENGR. DIV. MGR.
RES DESIGN LEAD	CONST. DIV. MGR.

CITY OF PORTLAND
ENVIRONMENTAL SERVICES

REGISTERED PROFESSIONAL ENGINEER
STEVEN WELLS HANSEN
EXPIRES: 6/30/2025

TEMPORARY ALTERNATE SHELTER
SITE 2

LEGEND, ABBREVIATIONS, & CONSTRUCTION NOTES

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JOB NO.	Exxxxx
SHEET NO.	G02
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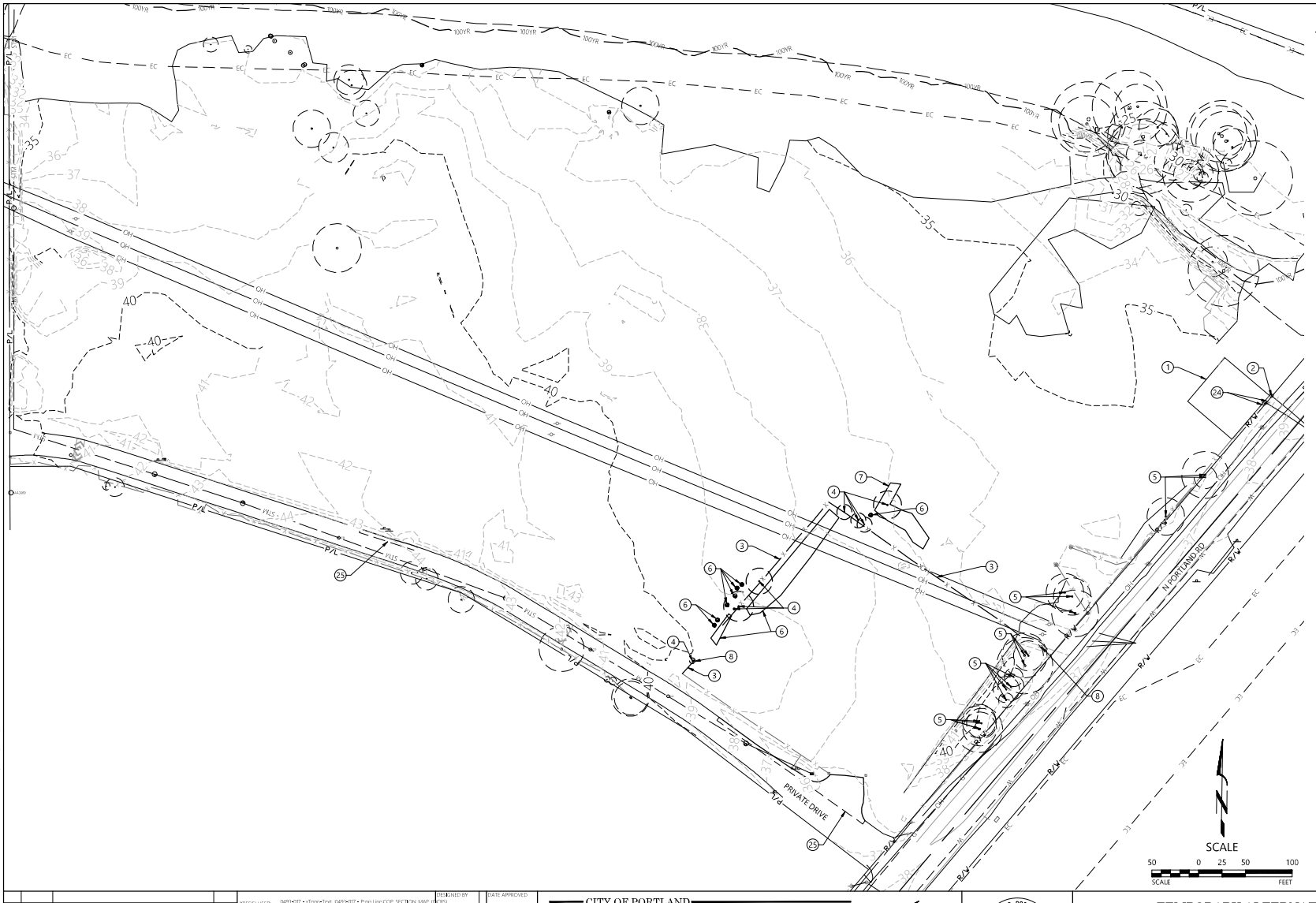

CONSTRUCTION NOTES:

1. DEMOLISH BUILDING. FOUNDATION PAD TO REMAIN
2. EXISTING HYDRANT TO BE REMOVED AND REPLACED.
3. DEMOLISH CHAIN LINK FENCE.
4. REMOVE TREE.
5. PROTECT TREE.
6. REMOVE VEGETATION.
7. DEMOLISH GATE.
8. CONSTRUCT STANDARD CURB ALONG ENTIRE NORTH EDGE WITH 2-FOOT KNOCK OUTS AT DRAINAGE SWALE OUTFALLS PER STD. DWG. P-540
24. PORTLAND WATER BUREAU TO KILL EXISTING METER SERVICE
25. SAWCUT AND REMOVE EXISTING ASPHALT AT DRIVEWAY ENTRANCE. EXTEND 1-FT MINIMUM INTO EXISTING ASPHALT ROAD

P:\0493-017 TEMPORARY ALTERNATE SHELTER SITE 2\DWG\CIVL\EXXXXXX_C01.DWG 2/9/2024 STEVE HANSEN

NO.	DATE	DESCRIPTION	APPD.
		REVISION	

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MAP CORRECTED BY: CHECKED BY:
FINAL MAP DATA
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DESIGNED BY | DRAWN BY | CHECKED BY | RES. DESIGN LEAD
DATE APPROVED | ENGR. SUPV. | ENGR. DIV. MGR. | CONST. DIV. MGR.

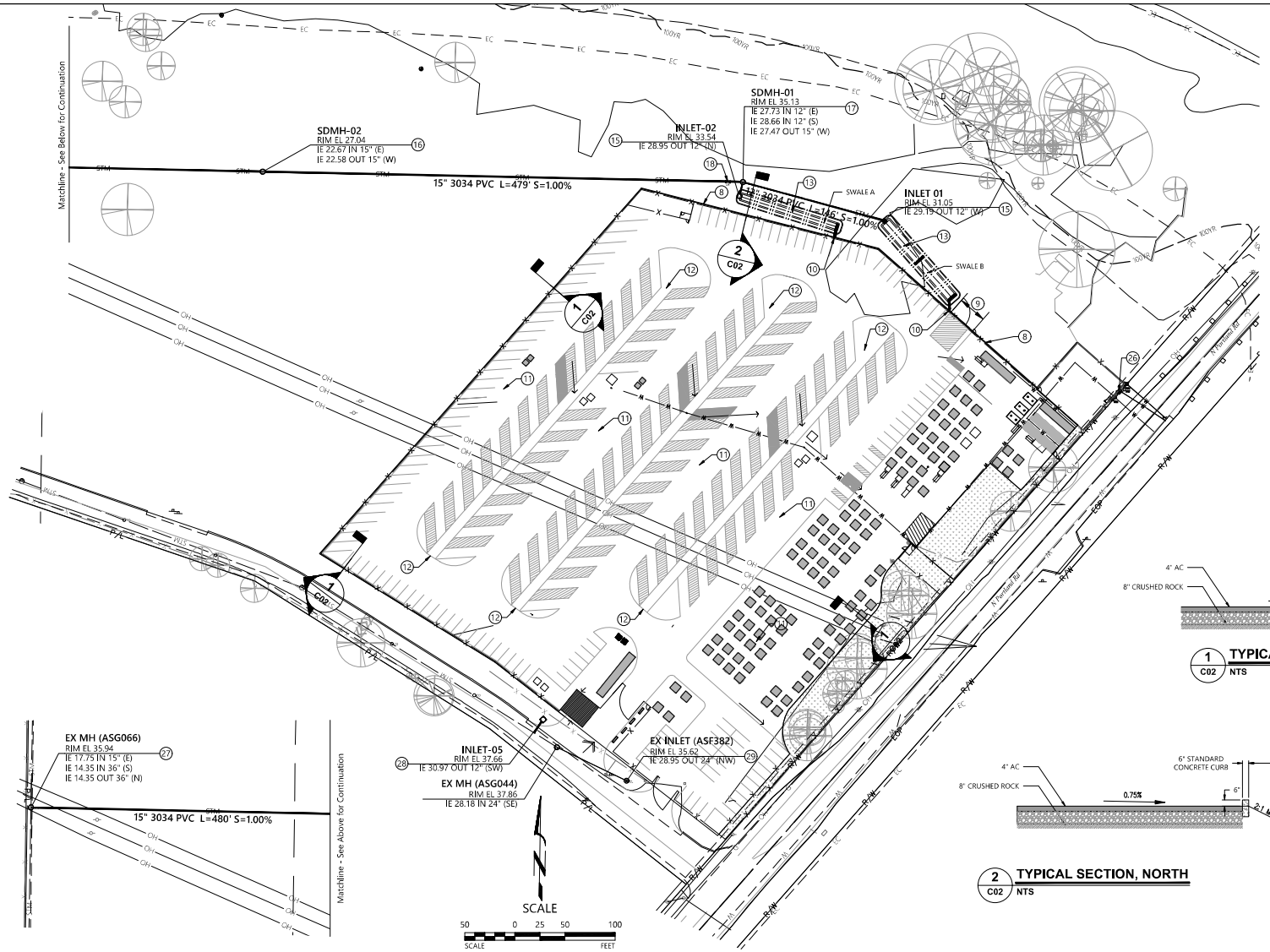
CITY OF PORTLAND
ENVIRONMENTAL SERVICES

REGISTERED PROFESSIONAL ENGINEER
Steve Hansen
OREGON
JULY 12, 2005
STEVEN WELLS HANSEN
EXPIRES: 6/30/2025

TEMPORARY ALTERNATE SHELTER SITE 2

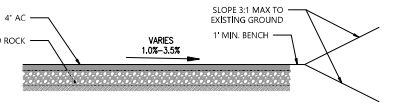
EXISTING CONDITIONS AND DEMOLITION

1/4 SECTION: 1924, 1925
JOB NO.: Exxxxx
SHEET NO.: C01
03 OF 12

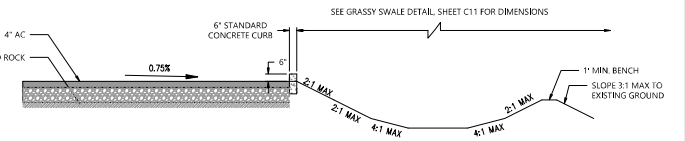


CONSTRUCTION NOTES:

6. CONSTRUCT STANDARD CURB ALONG ENTIRE NORTH EDGE WITH 2-FOOT KNOCK OUTS AT DRAINAGE SWALE OUTFALLS PER STD. DWG. P-540
9. CONSTRUCT 24-FT OF LOW PROFILE MOUNTABLE CURB AT WASTE WATER HOLDING TANK ACCESS ENTRANCE PER STD. DWG. P-540
10. CONSTRUCT CURB OUTLET
11. CONSTRUCT PAVEMENT SECTION WITH 4" ASPHALT OVER 8" AGGREGATE BASE ROCK
12. CONSTRUCT WALKWAY/UTILITY ALLEY
13. CONSTRUCT FULLY LINED STORMWATER SWALE, SEE SHEET C06
15. DITCH INLET PER DETAIL P-212, SEE SHEET C08
16. STORM DRAIN MAINTENANCE HOLE PER DETAIL P-151, SEE SHEET C08
17. SEDIMENTATION MAINTENANCE HOLE PER DETAIL P-161, SEE SHEET C08
18. GATE VALVE
24. SEE ARCHITECTURAL PLANS FOR NEW WATER LINE SERVICES, INCLUDING HYDRANT, METERS, BACKFLOW PREVENTION AND ROUTING.
27. CONNECT TO EXISTING MH (ASG066). CONTRACTOR TO FIELD LOCATE EXISTING MANHOLE LOCATION, CONFIRM EXISTING INVERT INFORMATION, RAISE MANHOLE TO FINISH GRADE.
28. CONSTRUCT DITCH INLET. TEE INTO EXISTING 8" STORM LINE WITH 8-INCH PVC PIPE. SLOPE =1.0% MIN.
29. ADJUST EXISTING INLET AS NECESSARY TO MATCH FINISH GRADE.



1 C02 **TYPICAL SECTION, SOUTH EAST & WEST**
NTS



2 C02 **TYPICAL SECTION, NORTH**
NTS

P:\0493--017 TEMPORARY ALTERNATE SHELTER SITE 2\DWG\CIVIL\EXXXXXX_C02.DWG 2/9/2024 STEVE HANSEN

NO.	DATE	DESCRIPTION	APPD.
		REVISION	

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DRAWN BY | ENGR. SUPV.
CHECKED BY | ENGR. DIV. MGR.
RES. DESIGN LEAD | CONST. DIV. MGR.

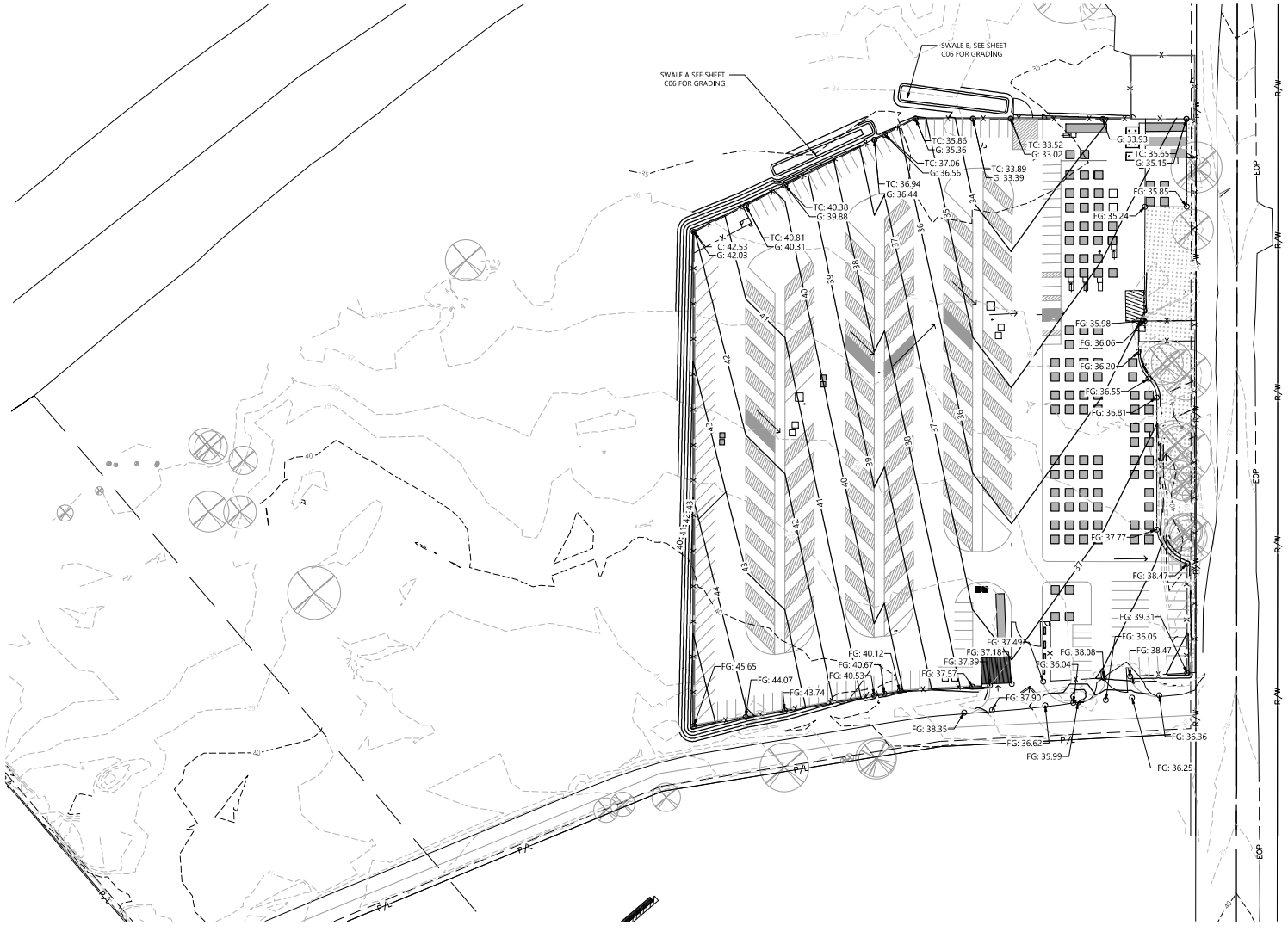
CITY OF PORTLAND
ENVIRONMENTAL SERVICES

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 12, 1985
STEVEN WELLS HANSEN
EXPIRES: 6/30/2025

TEMPORARY ALTERNATE SHELTER
SITE 2

SITE PLAN

1/4 SECTION: 1924, 1925
JOB NO.: Exxxxx
SHEET NO.: C02
04 OF 12



CONSTRUCTION NOTES:

SCALE
50 0 25 50 100
SCALE FEET

P:\.0493--017 TEMPORARY ALTERNATE SHELTER SITE 2\DWG\CIVIL\EXXXXXX_C03.DWG 2/9/2024 STEVE HANSEN

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DESIGNED BY:
DRAWN BY:
CHECKED BY:
RES DESIGN LEAD:

DATE APPROVED: Site Plan UPDATE
ENGR. SUPV.:
ENGR. DIV. MGR.:
CONST. DIV. MGR.:
SUP.
ENG.

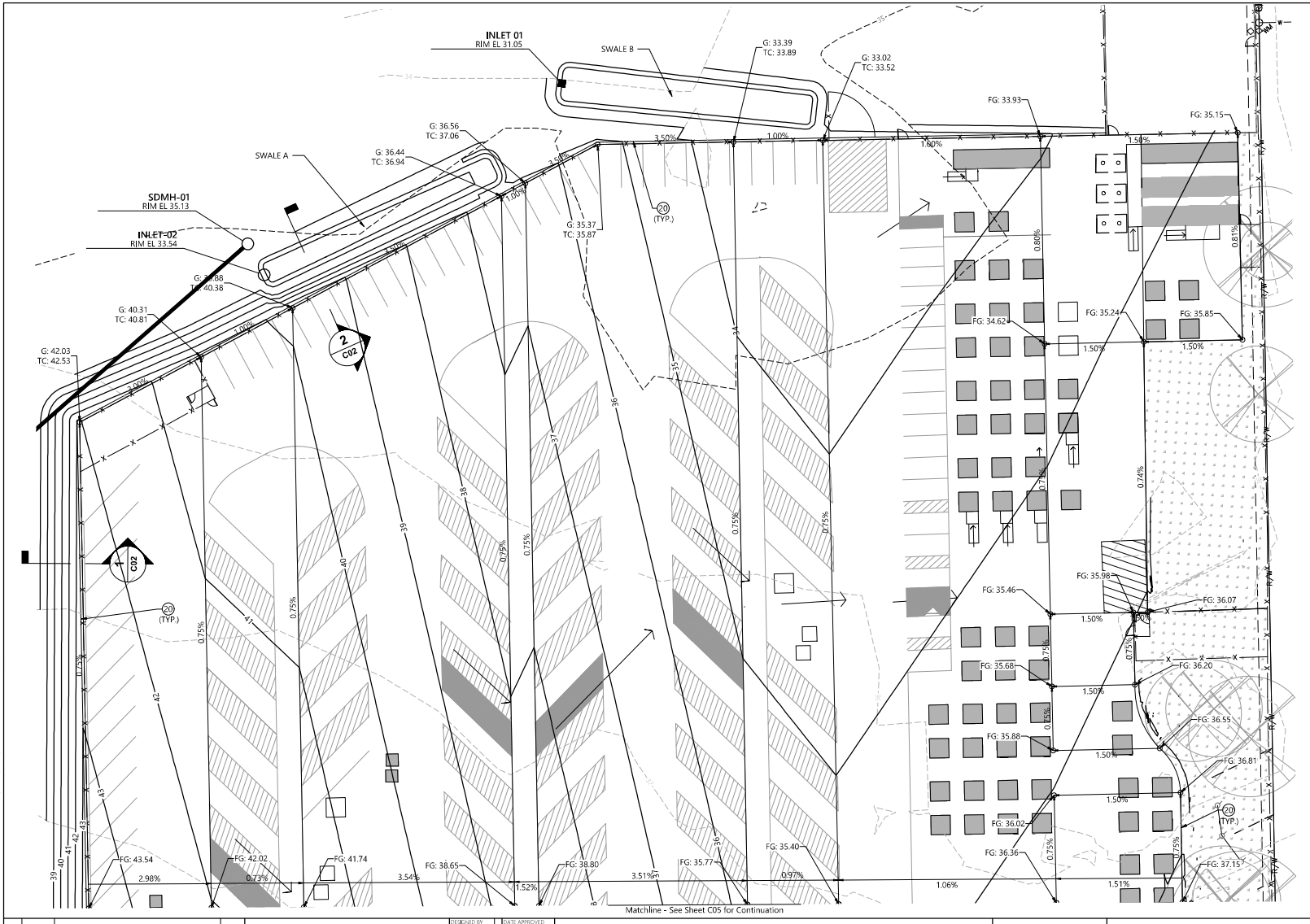
CITY OF PORTLAND
ENVIRONMENTAL SERVICES

REGISTERED PROFESSIONAL ENGINEER
Steve Hansen
OREGON
JULY 12, 1985
STEVEN WELLS HANSEN
EXPIRES: 6/30/2025

TEMPORARY ALTERNATE SHELTER SITE 2

OVERALL GRADING PLAN

1/4 SECTION:
JOB NO.: Exxxxx
SHEET NO.: C03
05 OF 12



CONSTRUCTION NOTES:

⑳ PROVIDE 1 FT BENCH BEYOND PAVEMENT AND SLOPE DOWN AT 3:1 TO MATCH EXISTING GRADE

SCALE
20 0 10 20 40
SCALE FEET

P:\.0493--017 TEMPORARY ALTERNATE SHELTER SITE 2\DWG\CIVIL\EXXXXXX_C04.DWG 2/9/2024 STEVE HANSEN

NO.	DATE	DESCRIPTION	APPD.
		REVISION	

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PROJECT COMPLETED
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DESIGNED BY | DRAWN BY | CHECKED BY | RES DESIGN LEAD
DATE APPROVED | ENGR. SUPV. | ENGR. DIV. MGR. | CONST. DIV. MGR.

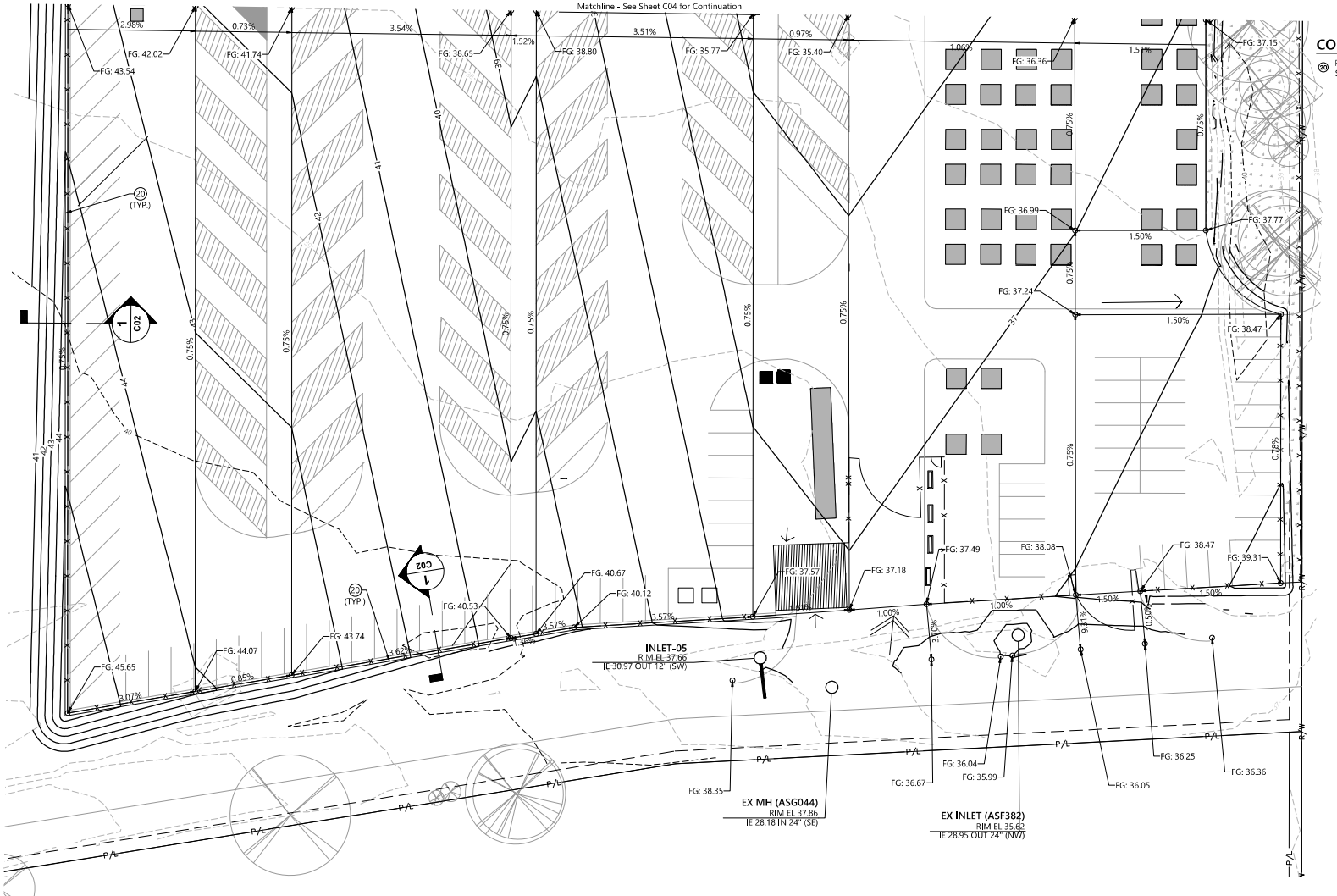
CITY OF PORTLAND
ENVIRONMENTAL SERVICES

REGISTERED PROFESSIONAL ENGINEER
Steve Hansen
7/31/2023
OREGON
JULY 12, 1988
STEVEN WELLS HANSEN
EXPIRES: 6/30/2025

TEMPORARY ALTERNATE SHELTER SITE 2

GRADING PLAN - NORTH

1/4 SECTION	
JOB NO.	Exxxxx
SHEET NO.	C04
	06 OF 12



CONSTRUCTION NOTES:

(20) PROVIDE 1 FT BENCH BEYOND PAVEMENT AND SLOPE DOWN AT 3:1 TO MATCH EXISTING GRADE

SCALE
20 0 10 20 40
SCALE FEET

P:\0493--017 TEMPORARY ALTERNATE SHELTER SITE 2\DWG\CIVIL\EXXXXXX_C05.DWG 2/9/2024 STEVE HANSEN

NO.	DATE	DESCRIPTION	APPD.
		REVISION	

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CONSTRUCTED BY:
PROJECT COMPLETED:
MAP CORRECTED BY: CHECKED BY:
FINAL MAP DATA
DRAWING NAME: EXXXXXX_C05.dwg

DESIGNED BY | DRAWN BY | CHECKED BY | RES DESIGN LEAD
DATE APPROVED
ENGR. SUPV. | ENGR. DIV. MGR. | CONST. DIV. MGR.

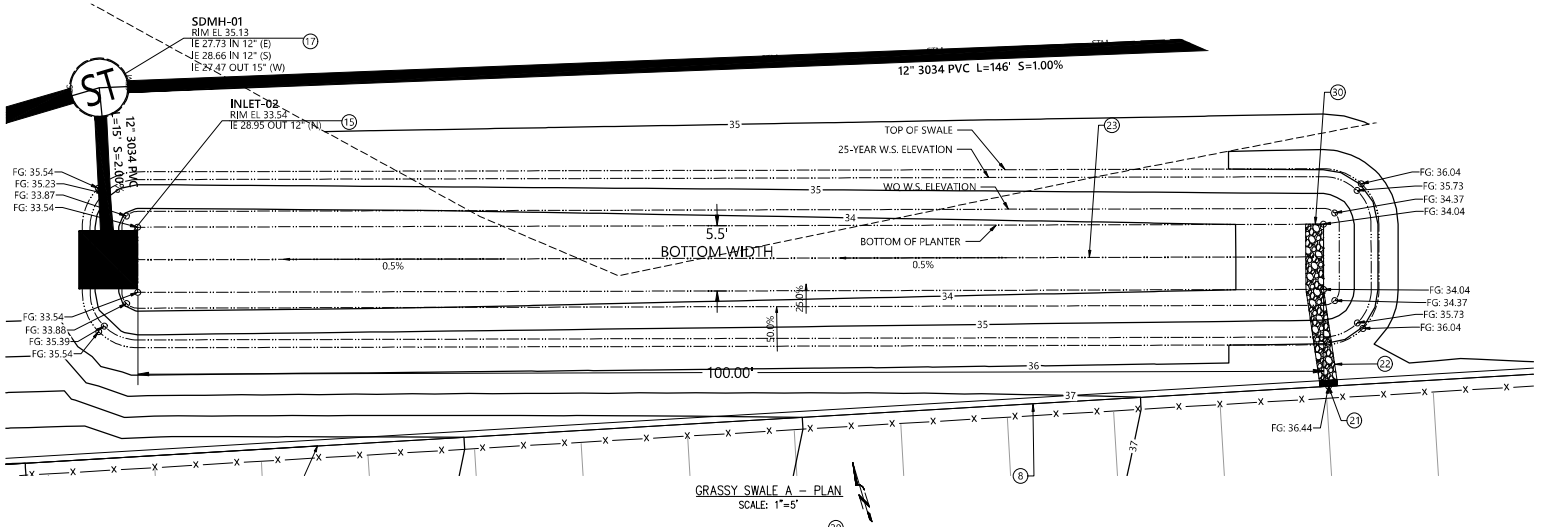
CITY OF PORTLAND
ENVIRONMENTAL SERVICES

REGISTERED PROFESSIONAL ENGINEER
Steve Hansen
OREGON JULY 12, 1994
STEVEN WELLS HANSEN
EXPIRES: 6/30/2025

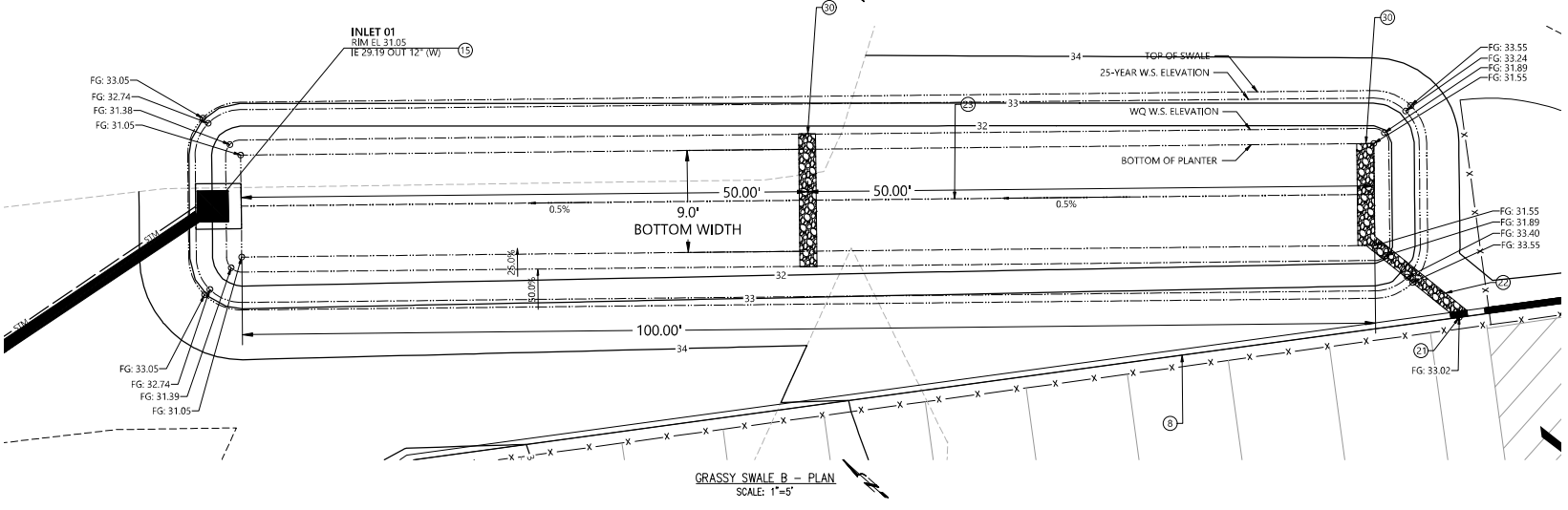
TEMPORARY ALTERNATE SHELTER SITE 2

GRADING PLAN - SOUTH

1/4 SECTION
JOB NO. Exxxxx
SHEET NO. C05
07 OF 12



GRASSY SWALE A – PLAN
SCALE: 1"=5'



GRASSY SWALE B – PLAN
SCALE: 1"=5'

CONSTRUCTION NOTES:

8. CONSTRUCT STANDARD CURB ALONG ENTIRE NORTH EDGE WITH 2-FOOT KNOCK OUTS AT DRAINAGE SWALE OUTFALLS PER STD. DWG. P-540
19. DITCH INLET PER DETAIL P-212, SEE SHEET C08
17. SEDIMENTATION MAINTENANCE HOLE PER DETAIL P-161, SEE SHEET C08
21. PROVIDE 2 FT KNOCKOUT IN CURB FOR DRAINAGE OUTFALL TO SWALE
22. INSTALL CLASS 50 RIPRAP CHANNEL TO SWALE
23. CONSTRUCT LINED GRASSY SWALE PER DETAIL ON SHEET C08
30. INSTALL A FLOW-SPREADING DEVICCE AT THE INLET TO DISTRIBUTE FLOWS EVENLY ACROSS THE BOTTOM OF THE SWALE. IN SWALES WITH A BOTTOM WIDTH GREATER THAN 6-FT, INSTALL A FLOW SPREADER AT LEAST EVERY 50-FT

SCALE
5 0 2.5 5 10
SCALE FEET

P:\0493--017 TEMPORARY ALTERNATE SHELTER SITE 2\DWG\CIVIL\EXXXXXX_C06.DWG 2/9/2024 STEVE HANSEN

NO.	DATE	DESCRIPTION	APPD.
		REVISION	

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PROJECT COMPLETED:
MAP CORRECTED BY: CHECKED BY:
FINAL MAP DATA
DRAWING NAME: EXXXXXX_C06.dwg

DESIGNED BY | DRAWN BY | CHECKED BY | RES DESIGN LEAD
DATE APPROVED | ENGR. SUPV. | ENGR. DIV. MGR. | CONST. DIV. MGR.

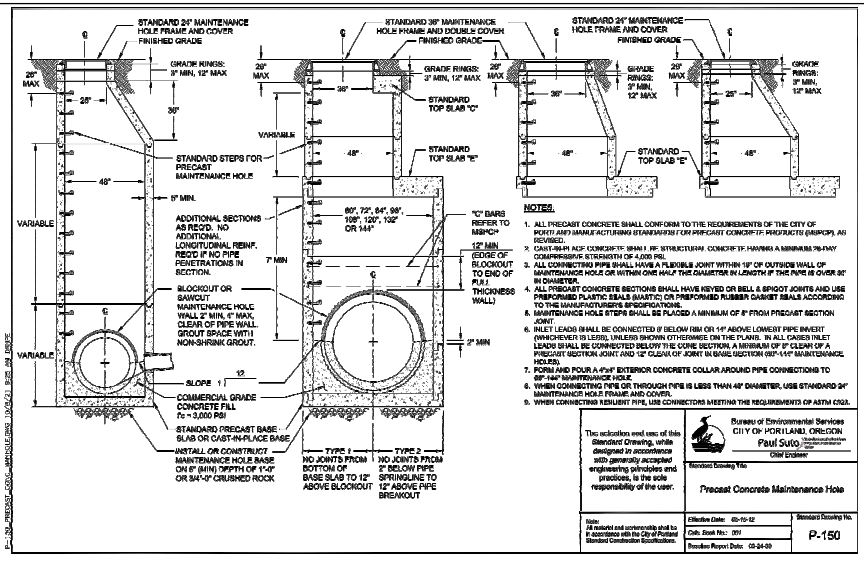
CITY OF PORTLAND
ENVIRONMENTAL SERVICES

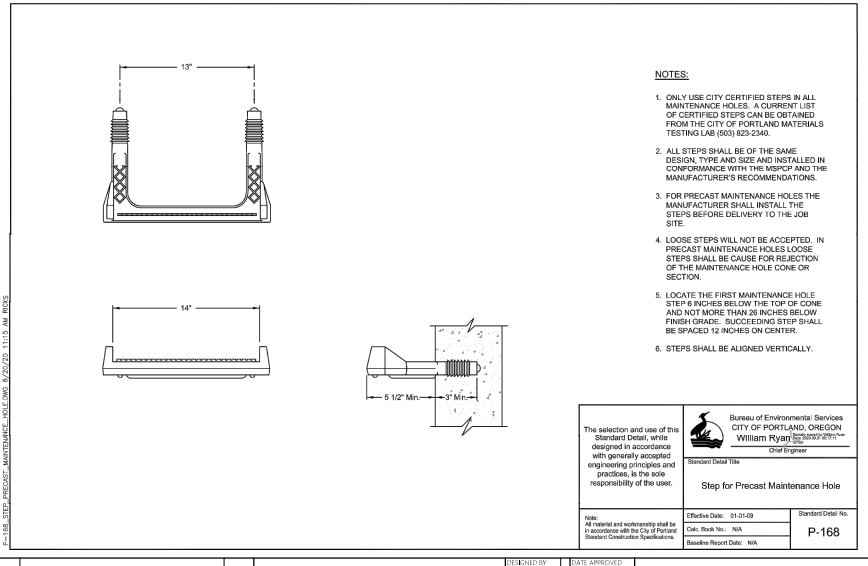
REGISTERED PROFESSIONAL ENGINEER
9/29/15
Steve Hansen
OREGON
JULY 12, 1994
STEVEN WELLS HANSEN
EXPIRES: 6/30/2025

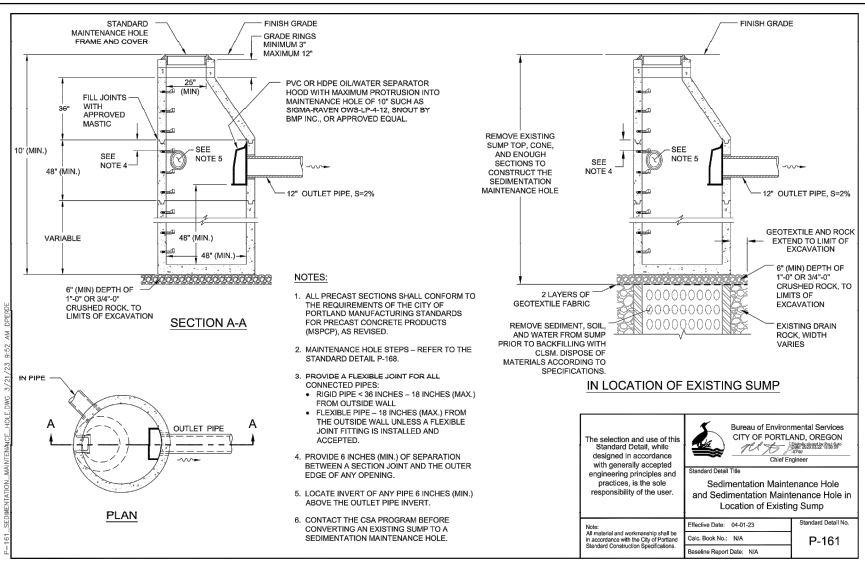
TEMPORARY ALTERNATE SHELTER SITE 2

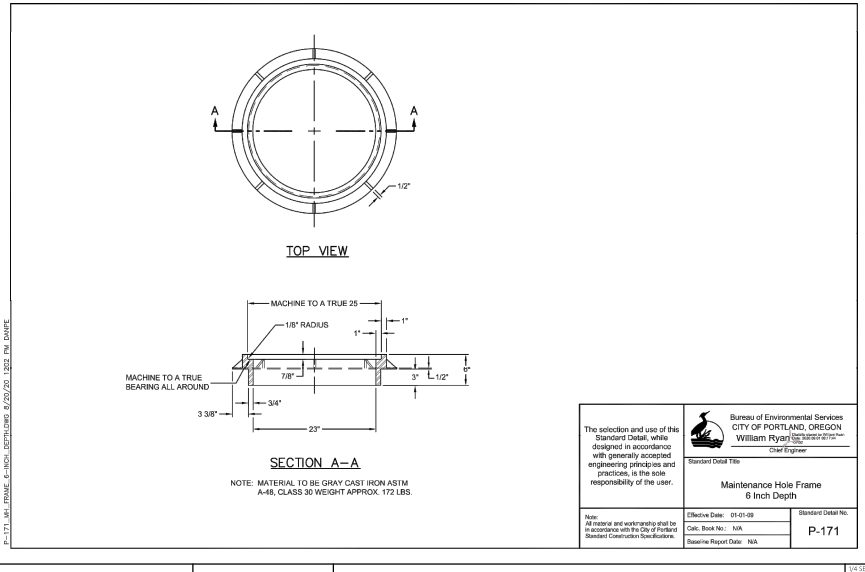
SWALE GRADING PLAN - 1

1/4 SECTION
JOB NO. Exxxxx
SHEET NO. C06
08 OF 12









P:\0493--017 TEMPORARY ALTERNATE SHELTER SITE 2\DWG\CIVIL\EXXXXX_C07.DWG 2/9/2024 STEVE HANSEN

NO.	DATE	DESCRIPTION	APPD.
		REVISION	

ARP(S) USED:
ROTATION ANGLE: 0d0'0"
CONSTRUCTED BY
PROJECT COMPLETED
MAP CORRECTED BY _____ CHECKED BY _____
FINAL MAP DATA
DRAWING NAME: EXXXXX_C07.dwg

DESIGNED BY | DRAWN BY | CHECKED BY | RES DESIGN LEAD | DATE APPROVED | ENGR. SUPV. | ENGR. DIV. MGR. | CONST. DIV. MGR. | VIS | EAT

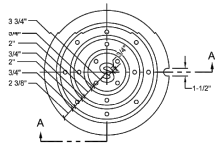
CITY OF PORTLAND
ENVIRONMENTAL SERVICES

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 12, 1985
STEVEN WELLS HANSEN
Steve Hansen PE
9/21/2023
EXPIRES: 6/30/2025

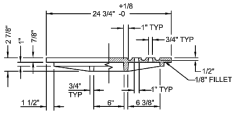
TEMPORARY ALTERNATE SHELTER
SITE 2

CIVIL DETAILS - 1

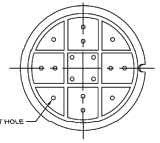
1/4 SECTION
JOB NO. Exxxxx
SHEET NO. C07
09 OF 12



TOP VIEW



SECTION A-A



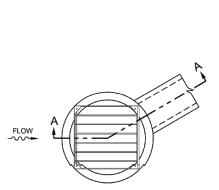
BOTTOM VIEW

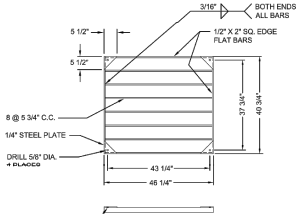
NOTES:

1. MATERIAL TO BE GRAY CAST IRON, ASTM A48, CLASS 30, WEIGHT APPROX. 139 LBS.
2. MACHINE TO A TRUE BEARING ALL AROUND.

The selection and use of this Standard Detail, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user.	Bureau of Environmental Services CITY OF PORTLAND, OREGON William Ryan Chief Engineer	
	Standard Detail Title: Maintenance Hole Cover	
Note: All material and workmanship shall be in accordance with the City of Portland Standard Construction Specifications.	Effective Date: 01-01-09	Standard Detail No. P-176
	Calc. Book No.: N/A	
	Baseline Report Date: N/A	

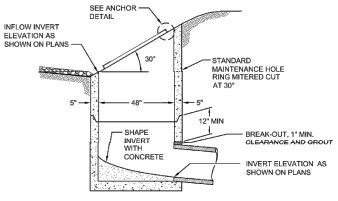
P-176_MAINTENANCE_HOLE_COVER.DWG 8/22/20 12:38 PM RICKS



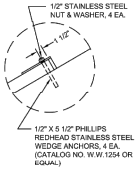


GRATE DETAIL

NOTE: MATERIAL TO BE NEW STRUCTURAL STEEL, ASTM A-36.



SECTION A-A



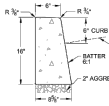
ANCHOR DETAIL

NOTES:

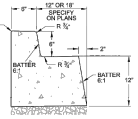
1. ALL PRECAST SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE CITY OF PORTLAND MANUFACTURING STANDARDS FOR PRECAST CONCRETE PRODUCTS (MSPCP), AS REVISED.
2. CONCRETE SHALL BE COMMERCIAL GRADE.

The selection and use of this Standard Detail, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user.	Bureau of Environmental Services CITY OF PORTLAND, OREGON William Ryan Chief Engineer	
	Standard Detail Title: 48" Precast Field Inlet	
Note: All material and workmanship shall be in accordance with the City of Portland Standard Construction Specifications.	Effective Date: 01-01-09	Standard Detail No. P-212
	Calc. Book No.: N/A	
	Baseline Report Date: N/A	

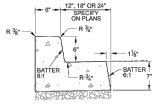
P-212_48-INCH_PRECAST_FIELD_INLET.DWG 8/20/20 2:24 PM RICKS



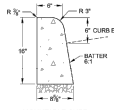
STANDARD CURB



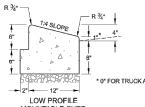
THICKENED CURB AND GUTTER (SEE NOTE 5)



CURB AND GUTTER (SEE NOTE 4)

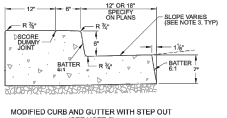


MOUNTABLE CURB



LOW PROFILE MOUNTABLE CURB

* "0" FOR TRUCK APRONS



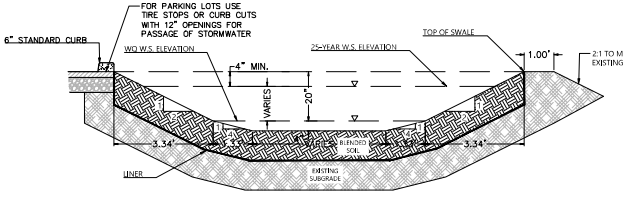
MODIFIED CURB AND GUTTER WITH STEP OUT (SEE NOTE 5)

GENERAL NOTES:

1. TRANSITION CURBS OF DIFFERENT EXPOSURES OVER A LENGTH EQUAL TO 2' FOR EACH INCH IN DIFFERENCE OF EXPOSURE.
2. TOPS OF ALL CURBS SHALL SLOPE TOWARD THE ROADWAY AT 2% MAX.
3. GUTTER PAN SLOPE TO MATCH EXISTING STREET CROSS SLOPE UP TO A MAXIMUM OF 5% AND PER P-549 AT CURB RAMPS.
4. 18" GUTTER PAN TYPICAL. USE 12" GUTTER PAN WHEN ADJACENT TO BIKE LANES. USE 24" GUTTER PAN FOR GRADE BREAK DIFFERENCE AT CURB RAMPS (SEE STD. DRG. NO. P-549).
5. MODIFIED CURB AND GUTTER, AND THICKENED CURB AND GUTTER FOR USE ADJACENT TO SURFACE STORMWATER FACILITIES.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user.	PBOT PORTLAND BUREAU OF TRANSPORTATION Steve Townsend City Engineer	
	Standard Drawing Title: CURBS	
Note: All material and workmanship shall be in accordance with the City of Portland Standard Construction Specifications.	Effective Date: 03/18/2022	Standard Drawing No. P-540
	Calc. Book No.: N/A	
	Std. Dwg. Report Date: 03/18/2022	

P:\0493-017 TEMPORARY ALTERNATE SHELTER SITE 2\DWG\CIV\EXXXXX_C08.DWG 2/9/2024 STEVE HANSEN



1. Detail intended as an example. Detail must match PAC assumptions and/or design report.
2. Setbacks: 5' from property lines except next to right-of-way; 10' from building foundations.
3. Rock Gallery/Storage Layer, as required: Size per the PAC. Construct rock galleries of 3" washed drain rock overlain by a 3–4" filter layer of ¾" No.10 washed angular aggregate. Alternative configurations and materials such as cellular storage systems, drainage mats, and non-standard aggregates may be used under the Performance Approach, with BES approval.
4. Overflow: Overflow elevation must allow for 4' of freeboard, minimum. Protect from debris and sediment with strainer or grate.
5. Blended Soil: Use BES standard soil blend for stormwater facilities (SWMM Section 6.3) unless otherwise approved. Install minimum of 12" on native soil. Install minimum of 24" if there's a drainage layer or storage layer below the imported soil. WATERPROOF LINER: 30 MIL EPDM, HDPE OR APPROVED EQUIVALENT.
6. Vegetation: PLANT THE ENTIRE SURFACE AREA OF THE GRASSY SWALE WITH NATIVE GRASS OR SWALE SEED MIX TO PROVIDE 100% COVERAGE OF BOTH THE SWALE BOTTOM AND THE SIDE SLOPES. FOR BES-MAINTAINED FACILITIES, SELECT NATIVE WILDFLOWERS AND GRASSES THAT REQUIRE MINIMAL MOWING (I.E., NO MORE THAN ONCE OR TWICE ANNUALLY). BES DOES NOT ALLOW LAWN-TYPE AREAS IN BES-MAINTAINED FACILITIES AND EXCEPTIONS REQUIRE BES APPROVAL. GRASSY SWALES IN ENVIRONMENTAL ZONES MUST MEET REQUIREMENTS ESTABLISHED BY PCC TITLE 33 FOR GRASS SPECIES IN ENVIRONMENTAL ZONES.
7. Entrance Erosion Control: Install river rock, flagstone, or similar to dissipate the energy of incoming water at entrances and ends of downspout extensions.
8. FLOW SPREADER: INSTALL A FLOW-SPREADING DEVICE AT THE INLET TO DISTRIBUTE FLOWS EVENLY ACROSS THE BOTTOM OF THE SWALE. IN SWALES WITH A BOTTOM WIDTH GREATER THAN 6 FT, INSTALL A FLOW SPREADER AT LEAST EVERY 50 FT.
9. Inspections: Call BDS IVR Inspection Line, (503) 823-7000, request 487. 3 inspections required.

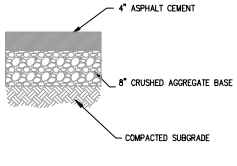
CONSTRUCTION REQUIREMENTS

Mark the location of future facilities, and fence or cover facility locations after excavation. Do not allow vehicular traffic, foot traffic, material storage, or heavy equipment within 10 feet of the infiltration area except as needed to excavate, grade, and construct the facility. Do not allow entry of runoff or sediment during construction.

SEED NATIVE GRASS MIXES IN THE SWALE FLOW PATH. APPLY SEED AT THE RATES SPECIFIED BY THE SUPPLIER. PLANTS MUST BE ESTABLISHED BY THE TIME THE FACILITY IS COMPLETED AND AT LEAST 3 MONTHS AFTER SEEDING. ESTABLISH GRASSES AS SOON AS POSSIBLE AFTER THE SWALE IS COMPLETED AND BEFORE WATER IS ALLOWED TO ENTER THE FACILITY. DO NOT ALLOW ENTRY OF CONCENTRATED STORMWATER FLOWS UNTIL THE VEGETATION IS FULLY ESTABLISHED.

UNLESS VEGETATION IS ESTABLISHED PRIOR TO COMPLETION OF CONSTRUCTION, INSTALL BIODEGRADABLE EROSION CONTROL MATTING THAT IS APPROPRIATE FOR LOW-VELOCITY FLOWS (APPROXIMATELY 1 FT/S) IN THE FLOW PATH BEFORE ALLOWING WATER INTO THE FACILITY.

GRASSY SWALE DTAIL
NTS



ASPHALT PAVEMENT SECTION
NTS

NOTE: REFER TO GEOTECHNICAL REPORT PREPARED BY XX ON XXX FOR MORE INFORMATION. CONTRACTOR TO COORDINATE WITH GEOTECHNICAL ENGINEER TO DETERMINE ACCEPTABLE COMPACTION.

NO.	DATE	DESCRIPTION	APPD.
		REVISION	

ARF(S) USED:
ROTATION ANGLE: 0d0'0"
CONSTRUCTED BY:
PROJECT COMPLETED:
MAP CORRECTED BY: CHECKED BY:
FINAL MAP DATA
DRAWING NAME: EXXXXX_C08.dwg

DESIGNED BY | DRAWN BY | CHECKED BY | RES DESIGN LEAD
DATE APPROVED | ENGR. SUPV. | ENGR. DIV. MGR. | CONST. DIV. MGR.

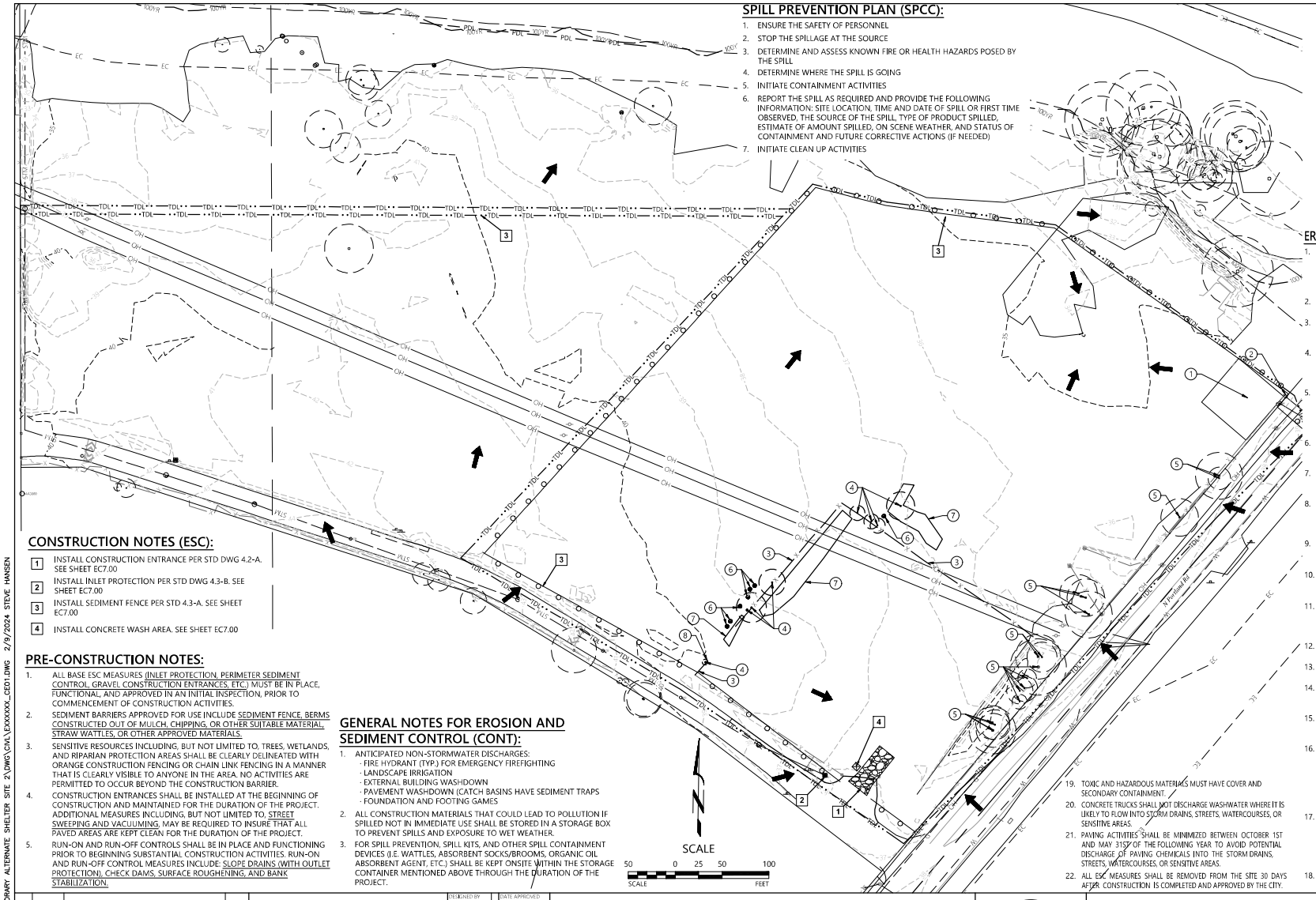
CITY OF PORTLAND
ENVIRONMENTAL SERVICES

REGISTERED PROFESSIONAL ENGINEER
21181
Steve Hansen
OREGON
MAY. 12, 1995
STEVEN WELLS HANSEN
EXPIRES: 6/30/2025

TEMPORARY ALTERNATE SHELTER SITE 2

CIVIL DETAILS - 2

1/4 SECTION	
JOB NO.	Exxxxx
SHEET NO.	C08
	10 OF 12



SPILL PREVENTION PLAN (SPCC):

1. ENSURE THE SAFETY OF PERSONNEL
2. STOP THE SPILLAGE AT THE SOURCE
3. DETERMINE AND ASSESS KNOWN FIRE OR HEALTH HAZARDS POSED BY THE SPILL
4. DETERMINE WHERE THE SPILL IS GOING
5. INITIATE CONTAINMENT ACTIVITIES
6. REPORT THE SPILL AS REQUIRED AND PROVIDE THE FOLLOWING INFORMATION: SITE LOCATION, TIME AND DATE OF SPILL OR FIRST TIME OBSERVED, THE SOURCE OF THE SPILL, TYPE OF PRODUCT SPILLED, ESTIMATE OF AMOUNT SPILLED, ON SCENE WEATHER, AND STATUS OF CONTAINMENT AND FUTURE CORRECTIVE ACTIONS (IF NEEDED)
7. INITIATE CLEAN UP ACTIVITIES

CONSTRUCTION NOTES:

1. DEMOLISH BUILDING. FOUNDATION PAD TO REMAIN
2. EXISTING HYDRANT TO BE REMOVED AND REPLACED.
3. DEMOLISH CHAIN LINK FENCE.
4. REMOVE TREE.
5. PROTECT TREE.
6. REMOVE VEGETATION.
7. DEMOLISH GATE.
8. CONSTRUCT STANDARD CURB ALONG ENTIRE NORTH EDGE WITH 2-FOOT KNOCK OUTS AT DRAINAGE SWALE OUTFALLS PER STD. DWG. P-540

EROSION CONTROL GENERAL NOTES:

1. THE IMPLEMENTATION OF THIS ESC PLAN AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THE ESC FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED, APPROVED AND VEGETATION/LANDSCAPING IS ESTABLISHED.
2. THE ESC PLAN, ANY REVISIONS, AND INSPECTION LOGS SHALL BE KEPT ONSITE AT ALL TIMES.
3. THE ESC MEASURES SHOWN ON THE PLAN ARE THE MINIMUM REQUIREMENTS FOR THE PROJECT SITE AND SHALL BE UPGRADED AS NEEDED TO MAINTAIN COMPLIANCE WITH ALL REGULATIONS.
4. ALL ESC MEASURES SHALL BE APPROVED, IN PLACE, AND FUNCTIONAL PRIOR TO ANY GROUND DISTURBANCE OF THE SITE. CONTRACTOR SHALL MAINTAIN ALL ESC MEASURES THROUGHOUT CONSTRUCTION.
5. CLEARING LIMITS, CRITICAL RIPARIAN AREAS, BUFFER ZONES, AND PRESERVED VEGETATION (INCLUDING IMPORTANT TREES AND ASSOCIATED CRITICAL ROOT ZONES) SHALL HAVE HIGH VISIBILITY FENCE INSTALLED BEFORE GRADING OR CONSTRUCTION TO IDENTIFY, MARK, AND PROTECT THE AREAS.
6. CONSTRUCTION ACTIVITIES WILL AVOID OR MINIMIZE ANY EXCAVATION OR OTHER SOIL DESTABILIZATION FROM OCTOBER 1ST TO MAY 31ST OF THE FOLLOWING YEAR.
7. TEMPORARY SITE STABILIZATION MEASURES WILL BE INSTALLED AT THE END OF THE SHIFT BEFORE A HOLIDAY OR WEEKEND OR AT THE END OF EACH WORKDAY IF RAIN IS FORECAST IN THE NEXT 24 HOURS.
8. SEDIMENT CONTROLS MUST BE INSTALLED AND MAINTAINED ALONG THE SITE PERIMETER ON ALL DOWN-GRADIENT SIDES OF THE CONSTRUCTION SITE AND AT ALL ACTIVE AND OPERATIONAL INTERNAL STORMDRAINS AT ALL TIMES DURING CONSTRUCTION.
9. DRY METHODS MUST BE USED TO REMOVE SEDIMENT AND CONCRETE SWEEPINGS FROM AREAS WHERE DISCHARGE IS LIKELY TO THE STORM DRAINS, STREETS, WATERCOURSES, OR SENSITIVE AREAS.
10. ALL DIRT AND DEBRIS TRACKED ONTO STREETS MUST BE REMOVED IMMEDIATELY IF IT CAN BE SPREAD BY TRAFFIC OR OTHERWISE REACH STORM DRAINS, WATERCOURSES, OR SENSITIVE AREAS.
11. SEDIMENT DISCHARGED OFFSITE MUST BE PLACED BACK ONSITE WITHIN 24 HOURS AND STABILIZED. IN-STREAM WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROCEDURES AND TIMEFRAMES OF THE OREGON DEPARTMENT OF STATE LANDS.
12. NO SEDIMENT-LADEN WATER MAY BE PUMPED, DIVERTED, OR OTHERWISE DISCHARGED OFFSITE UNLESS APPROVED BY THE ESC PLAN.
13. SEDIMENT MUST BE REMOVED WHEN IT HAS REACHED THE LEVEL SPECIFIED IN THE STANDARD DETAIL.
14. SEDIMENT MUST BE REMOVED FROM SUMPED STRUCTURES WHEN THE SEDIMENT RETENTION CAPACITY HAS BEEN REDUCED BY 1/3RD AND WITHIN 30 DAYS OF PROJECT COMPLETION.
15. WHEN REMOVING SATURATED SOILS FROM THE SITE, EITHER WATERTIGHT TRUCKS MUST BE USED OR LOADS MUST BE DRAINED ONSITE UNTIL DRIPPING HAS BEEN REDUCED TO MINIMIZE SPILLAGE.
16. EROSION CONTROL MEASURES WILL BE INSPECTED ON ACTIVE SITES AT LEAST WEEKLY OR AFTER PRECIPITATION IN EXCESS OF 0.5 INCHES IN 24 HOURS. IF A SITE WILL BE INACTIVE MORE THAN CITY OF NEWBERG EROSION CONTROL MANUAL 2014 PAGE 30 FOURTEEN (14) DAYS, EROSION CONTROL MEASURES WILL BE INSPECTED PRIOR TO THE INACTIVE PERIOD AND EVERY TWO (2) WEEKS DURING THE INACTIVE PERIOD.
17. ALL CONSTRUCTION SITES MUST FOLLOW PROPER STORAGE, APPLICATION, AND DISPOSAL PROCEDURES OF CONSTRUCTION MATERIALS. NO DUMPING OR DISPOSAL OF CONSTRUCTION DEBRIS, WASTE, OR SPOIL MATERIAL WILL OCCUR IN ANY STREAM, STORMWATER SYSTEM, WETLANDS, SURFACE WATERS, OR OTHER WATERCOURSES OR SENSITIVE AREAS.
18. WRITTEN SPILL PREVENTION AND RESPONSE PROCEDURES ARE REQUIRED FOR ALL SITES.
19. TOXIC AND HAZARDOUS MATERIALS MUST HAVE COVER AND SECONDARY CONTAINMENT.
20. CONCRETE TRUCKS SHALL NOT DISCHARGE WASHWATER WHERE IT IS LIKELY TO FLOW INTO STORM DRAINS, STREETS, WATERCOURSES, OR SENSITIVE AREAS.
21. PAVING ACTIVITIES SHALL BE MINIMIZED BETWEEN OCTOBER 1ST AND MAY 31ST OF THE FOLLOWING YEAR TO AVOID POTENTIAL DISCHARGE OF PAVING CHEMICALS INTO THE STORM DRAINS, STREETS, WATERCOURSES, OR SENSITIVE AREAS.
22. ALL ESC MEASURES SHALL BE REMOVED FROM THE SITE 30 DAYS AFTER CONSTRUCTION IS COMPLETED AND APPROVED BY THE CITY.

CONSTRUCTION NOTES (ESC):

1. INSTALL CONSTRUCTION ENTRANCE PER STD DWG 4.2-A. SEE SHEET EC7.00
2. INSTALL INLET PROTECTION PER STD DWG 4.3-B. SEE SHEET EC7.00
3. INSTALL SEDIMENT FENCE PER STD 4.3-A. SEE SHEET EC7.00
4. INSTALL CONCRETE WASH AREA. SEE SHEET EC7.00

PRE-CONSTRUCTION NOTES:

1. ALL BASE ESC MEASURES (INLET PROTECTION, PERIMETER SEDIMENT CONTROL, GRAVEL CONSTRUCTION ENTRANCES, ETC.) MUST BE IN PLACE, FUNCTIONAL, AND APPROVED IN AN INITIAL INSPECTION, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
2. SEDIMENT BARRIERS APPROVED FOR USE INCLUDE SEDIMENT FENCE, BERMS CONSTRUCTED OUT OF MULCH, CHIPPING, OR OTHER SUITABLE MATERIAL, STRAW WATTLES, OR OTHER APPROVED MATERIALS.
3. SENSITIVE RESOURCES INCLUDING, BUT NOT LIMITED TO, TREES, WETLANDS, AND RIPARIAN PROTECTION AREAS SHALL BE CLEARLY DELINEATED WITH ORANGE CONSTRUCTION FENCING OR CHAIN LINK FENCING IN A MANNER THAT IS CLEARLY VISIBLE TO ANYONE IN THE AREA. NO ACTIVITIES ARE PERMITTED TO OCCUR BEYOND THE CONSTRUCTION BARRIER.
4. CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES INCLUDING, BUT NOT LIMITED TO, STREET SWEEPING AND VACUUMING, MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
5. RUN-ON AND RUN-OFF CONTROLS SHALL BE IN PLACE AND FUNCTIONING PRIOR TO BEGINNING SUBSTANTIAL CONSTRUCTION ACTIVITIES. RUN-ON AND RUN-OFF CONTROL MEASURES INCLUDE: SLOPE DRAINS (WITH OUTLET PROTECTION), CHECK DAMS, SURFACE ROUGHENING, AND BANK STABILIZATION.

GENERAL NOTES FOR EROSION AND SEDIMENT CONTROL (CONT):

1. ANTICIPATED NON-STORMWATER DISCHARGES:
   - FIRE HYDRANT (TYP.) FOR EMERGENCY FIREFIGHTING
   - LANDSCAPE IRRIGATION
   - EXTERNAL BUILDING WASHDOWN
   - PAVEMENT WASHDOWN (CATCH BASINS HAVE SEDIMENT TRAPS
   - FOUNDATION AND FOOTING GAMES
2. ALL CONSTRUCTION MATERIALS THAT COULD LEAD TO POLLUTION IF SPILLED NOT IN IMMEDIATE USE SHALL BE STORED IN A STORAGE BOX TO PREVENT SPILLS AND EXPOSURE TO WET WEATHER.
3. FOR SPILL PREVENTION, SPILL KITS, AND OTHER SPILL CONTAINMENT DEVICES (I.E. WATTLES, ABSORBENT SOCKS/BROOMS, ORGANIC OIL ABSORBENT AGENT, ETC.) SHALL BE KEPT ONSITE WITHIN THE STORAGE CONTAINER MENTIONED ABOVE THROUGH THE DURATION OF THE PROJECT.

SCALE
50 0 25 50 100
SCALE FEET

P:\0493-017 TEMPORARY ALTERNATE SHELTER SITE 2\DWG\CIVIL\EXXXXXX_CE01.DWG 2/9/2024 STEVE HANSEN

NO.	DATE	DESCRIPTION	APPD.
		REVISION	

XRFF(S) USED: 0493-017 - xTopo - xSet 0493-017 - xProp Line 0493-017 - xXrds
ROTATION ANGLE: ######
CONSTRUCTED BY
PROJECT COMPLETED
MAP CORRECTED BY ____ CHECKED BY ____
FINAL MAP DATA
DRAWING NAME: EXXXXXX_CE01.dwg

DESIGNED BY | DATE APPROVED
DRAWN BY | ENGR. SUPV.
CHECKED BY | ENGR. DIV. MGR.
RES. DESIGN LEAD | CONST. DIV. MGR.

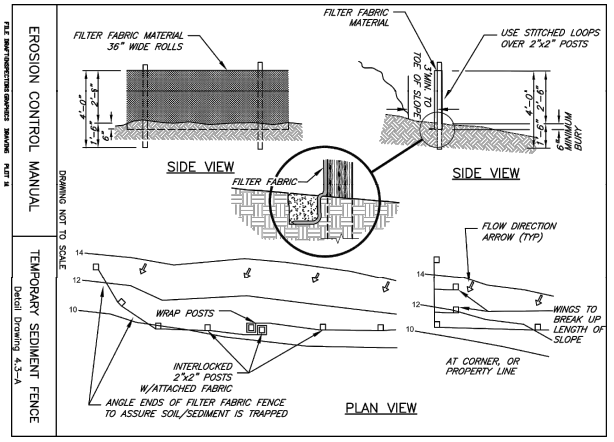
CITY OF PORTLAND
ENVIRONMENTAL SERVICES

REGISTERED PROFESSIONAL ENGINEER
OREGON
Steve Hansen
MAY 12, 1998
STEVEN WELLS HANSEN
EXPIRES: 6/30/2025

TEMPORARY ALTERNATE SHELTER
SITE 2

EXISTING CONDITIONS, DEMOLITION, AND EROSION AND SEDIMENT CONTROL PLAN

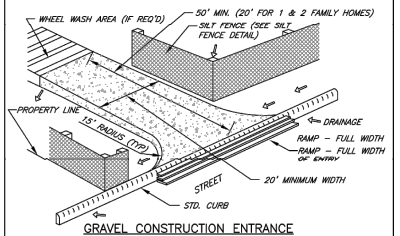
1/4 SECTION
JOB NO. Exxxxx
SHEET NO. CE01
11 OF 12



EROSION CONTROL MANUAL

TEMPORARY SEDIMENT FENCE

Detail Drawing 4.3-A



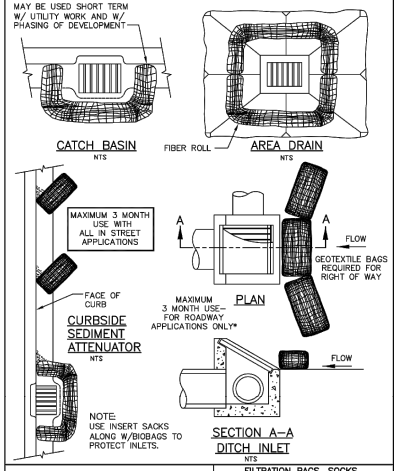
GRAVEL CONSTRUCTION ENTRANCE

EROSION CONTROL MANUAL | GRAVEL CONSTRUCTION ENTRANCE

Detail Drawing 4.2-A

FILE DRAFT:INSPECTORS GRAPHICS DRAWING DR 3.51 PLOT 1:1

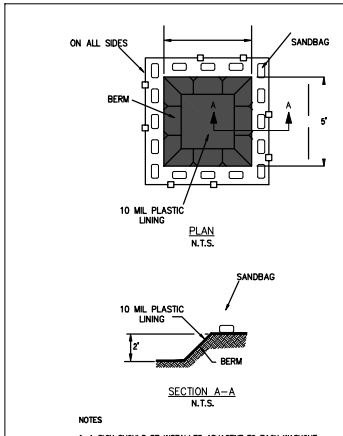
*BIOBAGS MUST BE REMOVED AT END OF JOB



EROSION CONTROL MANUAL | FILTRATION BAGS, SOCKS, & ROLLS FOR TEMPORARY INLET PROTECTION

Detail Drawing 4.3-B

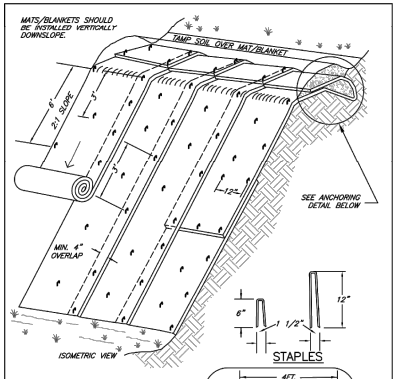
FILE DRAFT:INSPECTORS GRAPHICS DRAWING PLOT 1:1



NOTES

1. A SIGN SHOULD BE INSTALLED ADJACENT TO EACH WASHOUT FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES.
2. ONCE CONCRETE WASTES ARE WASHED INTO THE DESIGNATED AREA AND ALLOWED TO HARDEN, THE CONCRETE SHOULD BE BROKEN UP, REMOVED, AND DISPOSED OF OFFSITE IN A LEGAL MANNER.

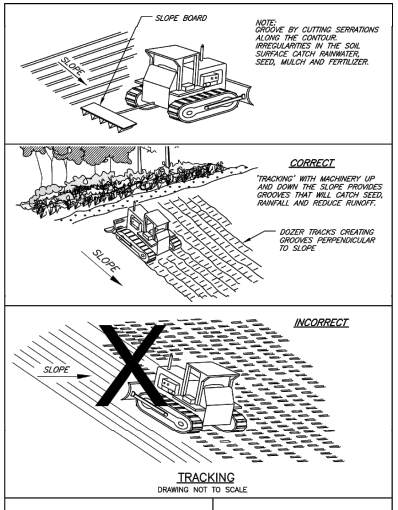
"BELOW GRADE" CONCRETE WASHOUT



NOT TO SCALE

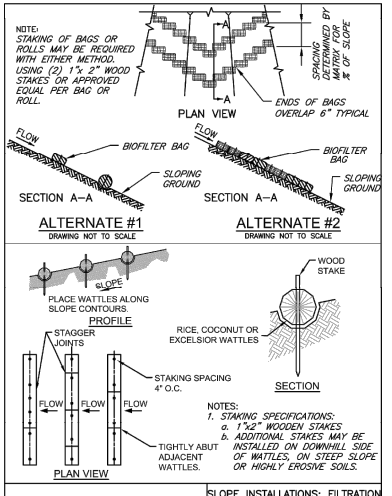
EROSION CONTROL MANUAL | EROSION BLANKETS SLOPE INSTALLATION

Detail Drawing 4.5-C



EROSION CONTROL MANUAL | SURFACE ROUGHENING

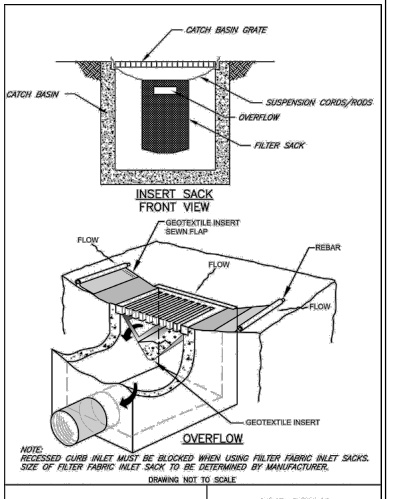
Detail Drawing 4.5-B



EROSION CONTROL MANUAL | SLOPE INSTALLATIONS: FILTRATION BAGS, SOCKS, & ROLLS

Detail Drawing 4.3-C

FILE DRAFT:INSPECTORS GRAPHICS DRAWING PLOT 1:1



NOTE: RECESSED CURB INLET MUST BE BLOCKED WHEN USING FILTER FABRIC INLET SACKS. SIZE OF FILTER FABRIC INLET SACK TO BE DETERMINED BY MANUFACTURER.

DRAWING NOT TO SCALE

EROSION CONTROL MANUAL | INLET INSERT

Detail Drawing 4.3-G

FILE DRAFT:INSPECTORS GRAPHICS DRAWING PLOT 1:1

P:\0493-017 TEMPORARY ALTERNATE SHELTER SITE 2\DWG\CIVIL\EXXXXXX_CE02.DWG 2/9/2024 STEVE HANSEN

NO.	DATE	DESCRIPTION	APPD.
		REVISION	

APP'D(S) LIST:	
ROTATION ANGLE:	0d0'0"
CONSTRUCTED BY	
PROJECT COMPLETED	
MAP CORRECTED BY	CHECKED BY
FINAL MAP DATA	
DRAWING NAME:	EXXXXXX_CE02.dwg

DESIGNED BY	DATE APPROVED	
DRAWN BY	ENGR. SUPV.	
CHECKED BY	ENGR. DIV. MGR.	
RES. DESIGN LEAD	CONST. DIV. MGR.	

CITY OF PORTLAND

ENVIRONMENTAL SERVICES

REGISTERED PROFESSIONAL ENGINEER 92915PE Steve Hansen OREGON JULY 12, 1985 STEVEN WELLS HANSEN EXPIRES: 6/30/2025

TEMPORARY ALTERNATE SHELTER SITE 2

EROSION AND SEDIMENT CONTROL DETAILS

1/4 SECTION	
JOB NO.	Exxxxx
SHEET NO.	CE02
	12 OF 12

ATTACHMENT D
BES Data Tables 1 through 9

Table 1A - TASS 2 Shallow (< 3 feet bgs[1]) Soil Total Petroleum Hydrocarbons (TPH) and Soil Summary

Sample ID	Sample Date	Sampled By	Sample Depth	Laboratory Analytical Testing Results (mg/kg)							
				NWTPH-HCID	NWTPH-Gx	NWTPH-Dx		EPA 8260 or 8240	EPA 8270	EPA 8081B	EPA 8082
					Gasoline	Diesel	Lube Oil	VOCs	SVOCs/PAHs	Pesticides	PCBs
BES Test Pits			(ft. bgs)								
T-Pit-1 0-18"	10/5/2023	BES	0-1.5	**Oil**	--	**28**	**520**	--	**Table 3**	--	--
T-Pit-2 0-5'	10/5/2023	BES	0-5	**Oil**	--	**30**	**480**	--	**Table 3**	--	--
T-Pit-3 0-18"	10/5/2023	BES	0-1.5	**Oil**	--	26 U	**280**	--	**Table 3**	--	--
T-Pit-5 0-18"	10/5/2023	BES	0-1.5	**Diesel, Oil**	--	**64**	**1,700**	--	**Table 3**	--	--
T-Pit-7 0-5'	10/5/2023	BES	0-5	**Oil**	--	24 U	**390**	--	**Table 3**	**Table 5**	--
T-Pit-10 0-18"	10/5/2023	BES	0-1.5	**Oil**	--	47 U	**450**	--	**Table 3**	--	--
T-Pit-11 0-5'	10/5/2023	BES	0-5	**Oil**	--	26 U	**200**	--	**Table 3**	--	--
BES Geoprobe Samples			(ft. bgs)								
WP-1 0-5	11/21/2023	BES	0-5	--	--	--	--	--	**Table 3**	**--**	--
WP-2 0-5	11/21/2023	BES	0-5	**Oil**	--	29 U	**340**	--	**Table 3**	--	--
WP-3 0-5	11/21/2023	BES	0-5	--	--	--	--	--	**Table 3**	--	**Table 6**
WP-4 0-5	11/21/2023	BES	0-5	**Diesel, Oil**	--	**93**	**740**	--	**Table 3**	--	--
WP-5 0-5	11/21/2023	BES	0-5	--	--	--	--	--	**Table 3**	--	--
WP-7 0-5	11/21/2023	BES	0-5	**Oil**	--	**26**	**490**	--	**Table 3**	--	--
WP-9 0-5	11/21/2023	BES	0-5	**Oil**	--	**100**	**910**	--	**Table 3**	--	--
WP-10 0-5	11/21/2023	BES	0-5	**Oil**	--	26 U	**180**	--	**Table 3**	--	--
WP-11 0-1	11/21/2023	BES	0-1	--	4.78 U	--	--	**Table 2**	--	--	--
WP-11 0-5	11/21/2023	BES	0-5	21 U	--	--	--	--	--	--	--
WP-12 0-5	11/21/2023	BES	0-5	**Oil**	--	26 U	**1,000**	--	**Table 3**	--	--
WP-13 0-5	11/21/2023	BES	0-5	**Diesel, Oil**	--	**150**	**1,000**	--	**Table 3**	--	--
ODEQ Cleanfill											
Clean Fill Screening Value				--	31	1,100	2,800	--	--	--	--
ODEQ Risk Based Concentration											
Soil Ingestion, Dermal Contact, and Inhalation RBC - Residential				--	1,200	1,100	--	--	--	--	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Occupational				--	20,000	14,000	--	--	--	--	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Construction Worker				--	9,700	4,600	--	--	--	--	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Excavation Worker				--	>Max	>Max	--	--	--	--	--
Volatilization to Outdoor Air - Site-Specific RBC				--	24,000,000	--	--	--	--	--	--
EPA Regional Screening Levels - Target hazard quotients = 0.1											
Soil Ingestion, Dermal Contact, and Inhalation for Residential				--	--	--	--	--	--	--	--
Soil Ingestion, Dermal Contact, and Inhalation for Industrial Worker				--	--	--	--	--	--	--	--

Table 1A - TASS 2 Shallow (< 3 feet bgs[1]) Soil Total Petroleum Hydrocarbons (TPH) and Soil Summary

Notes

ODEQ - Oregon Department of Enviornmental Quality

EPA - Enviornmental Protection Agency

RBCs- Risk-Based Concentrations

NWTPH-HCID - Total petroleum hydrocarbon identification

NWTPH-Dx - Diesel-range hydrcarbon quantification

NWTPH-Gx - Gasoline-range hydrocarbon quantification

VOCs - Volatile organic compounds

PAHs - Polycyclic aromatic hydrocarbons

PCBs - Polychlorinated biphenyls

bgs - Below ground surface

mg/kg - Milligrams per kilogram

U - analyte not detected above concentration indicated

-- - Analyte not analyzed, or no screening value for this analyte in this scenario

>Max - Substance is deemed not to pose risks in this scenario

Bolded - Anaylte detected in the sample

- Analyte detected at a concentration at or above ODEQ Risk Based Concentrations

4 - 2-Butanone detection attributed to laboratory contamination

1. Because of the limited data set for soil samples between 0 and 3 feet bgs, composite samples collected from between 0 and 5 feet bgs are also considered shallow soil.

Table 1B - TASS 2 Deep (> 3 feet bgs) Soil Total Petroleum Hydrocarbons (TPH) and Soil Summary

Sample ID	Sample Date	Sampled By	Sample Depth	**Laboratory Analytical Testing Results** (mg/kg)							
				NWTPH-HCID	NWTPH-Gx	NWTPH-Dx		EPA 8260 or 8240	EPA 8270	EPA 8081B	EPA 8082
					Gasoline	Diesel	Oil	VOCs	SVOCs/PAHs	Pesticides	PCBs
Enviro-Comp Samples			(ft. bgs)								
1-S-UST-6'	7/23/1997	Enviro-Comp	6	20.0 U	--	--	--	--	--	--	--
1-N-UST-6'	7/23/1997	Enviro-Comp	6	**Gas, Diesel**	**190**	--	--	--	--	--	--
#2 S.G.-16'-South	7/25/1997	Enviro-Comp	16	--	**8.3**	--	--	--	--	--	--
#2 S.G.-16'-West	7/25/1997	Enviro-Comp	16	--	**12.7**	--	--	--	--	--	--
Kleinfelder & PNG Test Pits			(ft. bgs)								
TP-2-5	5/17/2000	Kleinfelder	5	--	--	--	--	U[4]	**Table 3**	--	--
TP-2-19	5/17/2000	Kleinfelder	19	--	--	--	--	**Table 2**[4]	U	--	--
Fujitani Hilts Samples			(ft. bgs)								
B1-S-4-10'	5/17/2000	Fujitani	4-10	20.0 U	--	--	--	U	U	--	--
B1-S-7-15	5/17/2000	Fujitani	7-15	20.0 U	--	--	--	U	U	--	--
B1-S-10-21	5/17/2000	Fujitani	10-21	20.0 U	--	--	--	U	U	--	--
B2-S-4-10	5/18/2000	Fujitani	4-10	**Oil**	--	25 U	**126**	U	U	--	--
B2-S-7-15	5/18/2000	Fujitani	7-15	**Oil**	--	25 U	**1,420**	U	U	--	--
B2-S-10-20	5/18/2000	Fujitani	10-20	20.0 U	--	--	--	U	U	--	--
BES Geoprobe Samples			(ft. bgs)								
WP-1 5-10	11/21/2023	BES	5-10	**Oil**	--	27 U	**190**	--	**Table 3**		--
WP-2 5-10	11/21/2023	BES	5-10	--	--	--	--	--	**Table 3**		--
WP-3 5-10	11/21/2023	BES	5-10	**Oil**	--	26 U	**260**	--	**Table 3**		--
WP-4 5-10	11/21/2023	BES	5-10	--	--	--	--	--	**Table 3**		--
WP-5 5-10	11/21/2023	BES	5-10	20 U	--	--	--	--	--		--
WP-7 5-10	11/21/2023	BES	5-10	**Oil**	--	29 U	**220**	--	**Table 3**		--
WP-9 5-10	11/21/2023	BES	5-10	**--**	--	--	--	--	**Table 3**		--
WP-10 5-10	11/21/2023	BES	5-10	--	--	--	--	--	**Table 3**		U
WP-11 5-10	11/21/2023	BES	5-10	--	--	--	--	--	**Table 3**		--
WP-11 10-15	11/21/2023	BES	10-15	22 U	--	--	--	--	--		--
WP-12 5-10	11/21/2023	BES	5-10	--	--	--	--	--	**Table 3**		--
WP-13 5-10	11/21/2023	BES	5-10	--	--	--	--	--	**Table 3**		--
WP-13 10-15	11/21/2023	BES	10-15	**Oil**	--	31 U	**180**	--	**Table 3**		--
ODEQ Cleanfill											
Clean Fill Screening Value				--	31	1,100	2,800	--	--	--	--
ODEQ Risk Based Concentration											
Soil Ingestion, Dermal Contact, and Inhalation RBC - Construction Worker				--	9,700	4,600	--	--	--	--	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Excavation Worker				--	>Max	>Max	--	--	--	--	--
Volatilization to Outdoor Air - Residential				--	5,900	>Max	--	--	--	--	--
Volatilization to Outdoor Air - Occupational				--	69,000	>Max	--	--	--	--	--
EPA Regional Screening Levels - Target hazard quotients = 0.1											
Soil Ingestion, Dermal Contact, and Inhalation for Residential				--	--	--	--	--	--	--	--
Soil Ingestion, Dermal Contact, and Inhalation for Industrial Worker				--	--	--	--	--	--	--	--

Table 1B - TASS 2 Deep (> 3 feet bgs) Soil Total Petroleum Hydrocarbons (TPH) and Soil Summary

Notes

ODEQ - Oregon Department of Enviornmental Quality

EPA - Enviornmental Protection Agency

RBCs- Risk-Based Concentrations

NWTPH-HCID - Total petroleum hydrocarbon identification

NWTPH-Dx - Diesel-range hydrcarbon quantification

NWTPH-Gx - Gasoline-range hydrocarbon quantification

VOCs - Volatile organic compounds

PAHs - Polycyclic aromatic hydrocarbons

PCBs - Polychlorinated biphenyls

bgs - Below ground surface

mg/kg - Milligrams per kilogram

U - analyte not detected above concentration indicated

-- - Analyte not analyzed, or no screening value for this analyte in this scenario

>Max - Substance is deemed not to pose risks in this scenario

Bolded - Anaylte detected in the sample

- Analyte detected at a concentration at or above ODEQ Risk Based Concentrations

4 - 2-Butanone detection attributed to laboratory contamination

Table 1C - West Property Soil Total Petroleum Hydrocarbons (TPH) and Soil Summary

Sample ID	Sample Date	Sampled By	Sample Depth	Laboratory Analytical Testing Results (mg/kg)							
				NWTPH-HCID	NWTPH-Gx	NWTPH-Dx		EPA 8260 or 8240	EPA 8270	EPA 8081B	EPA 8082
					Gasoline	Diesel	Oil	VOCs	SVOCs/PAHs	Pesticides	PCBs
Enviro-Comp Samples			(ft. bgs)								
1-S-UST-6'	7/23/1997	Enviro-Comp	6	20.0 U	--	--	--	--	--	--	--
1-N-UST-6'	7/23/1997	Enviro-Comp	6	**Gas, Diesel**	**190**	--	--	--	--	--	--
#2 S.G.-16'-South	7/25/1997	Enviro-Comp	16	--	**8.3**	--	--	--	--	--	--
#2 S.G.-16'-West	7/25/1997	Enviro-Comp	16	--	**12.7**	--	--	--	--	--	--
#1-P-SW-3'	7/30/1997	Enviro-Comp	3	--	--	--	**320**	--	--	--	--
#1-P-SW-3'	7/30/1997	Enviro-Comp	3	--	--	--	**320**	--	--	--	--
#2-P-SE-3'	7/30/1997	Enviro-Comp	3	--	--	--	**246**	--	--	--	--
#3-P-E-3'	7/30/1997	Enviro-Comp	3	--	--	--	**150**	--	--	--	--
#4-P-B-5'	7/30/1997	Enviro-Comp	5	--	--	--	**647**	--	--	--	--
PNG Geoprobe Samples			(ft. bgs)								
B1-5	12/17/1998	PNG	5	**Oil**	--	25 U	**100**	--	--	--	--
B1-17	12/17/1998	PNG	17	U	--	25 U	100 U	--	--	--	--
B2-5	12/17/1998	PNG	5	**Oil**	--	25 U	**1,410**	--	--	--	--
B2-12	12/17/1998	PNG	12	**Oil**	--	25 U	**809**	**Table 2**	**Table 3**	--	--
B3-7	12/17/1998	PNG	7	**Oil, Diesel**	--	**133**	**856**	--	--	--	--
B3-15	12/17/1998	PNG	15	**Oil**	--	25 U	**292**	--	--	--	--
B4-7	12/17/1998	PNG	7	**Oil**	--	25 U	**168**	--	--	--	--
B5-6	12/17/1998	PNG	6	**Oil**	--	25 U	**617**	--	--	--	--
B6-8	12/17/1998	PNG	8	**Oil, Diesel**	--	**148**	**740**	--	--	--	--
Kleinfelder & PNG Test Pits			(ft. bgs)								
TP1-12	5/18/1999	PNG	12	--	**1,470**	250 U	**116**	U[4]	U	--	--
TP2-17	5/18/1999	PNG	17	--	**3.63**	125 U	**423**	U[4]	U	--	--
TP3-13	5/18/1999	PNG	13	--	**4.77**	250 U	**1,000**	**Table 2**[4]	U	--	--
TP5-8	5/18/1999	PNG	8	--	2.50 U	125 U	**1,440**	U[4]	U		
TP-1-7	5/17/2000	Kleinfelder	7	--	--	--	--	U[4]	U	--	--
TP-1-19	5/17/2000	Kleinfelder	19	--	--	--	--	U[4]	U	--	--
TP-2-5	5/17/2000	Kleinfelder	5	--	--	--	--	U[4]	**Table 3**	--	--
TP-2-19	5/17/2000	Kleinfelder	19	--	--	--	--	**Table 2**[4]	U	--	--
TP-310	5/17/2000	Kleinfelder	10	--	--	--	--	U[4]	**Table 3**	--	--
TP-3-21	5/17/2000	Kleinfelder	21	--	--	--	--	U[4]	U	--	--
TP-4-11	5/17/2000	Kleinfelder	11	--	--	--	--	U[4]	U	--	--
TP-4-21	5/17/2000	Kleinfelder	21	--	--	--	--	U[4]	U	--	--
TP-5-11	5/17/2000	Kleinfelder	11	--	--	--	--	U[4]	U	--	--
TP-5-21	5/17/2000	Kleinfelder	21	--	--	--	--	U[4]	U	--	--
TP-6-5	5/17/2000	Kleinfelder	5	--	--	--	--	U[4]	U	--	--
TP-6-13	5/17/2000	Kleinfelder	13	--	--	--	--	**Table 2**[4]	**Table 3**	--	--
TP-7-5	5/17/2000	Kleinfelder	5	--	--	--	--	U[4]	U	--	--
TP-7-17	5/17/2000	Kleinfelder	17	--	--	--	--	U[4]	**Table 3**	--	--
TP-8-5	5/17/2000	Kleinfelder	5	--	--	--	--	U[4]	U	--	--
TP-8-19	5/17/2000	Kleinfelder	19	--	--	--	--	U[4]	U	--	--
TP-9-5	5/17/2000	Kleinfelder	5	--	--	--	--	U[4]	U	--	--
TP-9-11	5/17/2000	Kleinfelder	11	--	--	--	--	U[4]	U	--	--
TP-10-10	5/17/2000	Kleinfelder	10	--	--	--	--	U[4]	U	--	--
TP-10-16	5/17/2000	Kleinfelder	16	--	--	--	--	U[4]	U	--	--
TP-11-5	5/17/2000	Kleinfelder	5	--	--	--	--	U[4]	U	--	--
TP-11-11	5/17/2000	Kleinfelder	11	--	--	--	--	**Table 2**[4]	U	--	--
TP-11-21	5/17/2000	Kleinfelder	21	--	--	--	--	U[4]	U	--	--
TP-12-5	5/17/2000	Kleinfelder	5	--	--	--	--	U[4]	U	--	--
TP-12-21	5/17/2000	Kleinfelder	21	--	--	--	--	U[4]	U	--	--
TP-13-19	5/17/2000	Kleinfelder	19	--	--	--	--	U[4]	U	--	--
TP-13-21	5/17/2000	Kleinfelder	21	--	--	--	--	U[4]	U	--	--
TP-14-12	5/17/2000	Kleinfelder	12	--	--	--	--	U[4]	U	--	--
TP-14-20	5/17/2000	Kleinfelder	20	--	--	--	--	U[4]	U	--	--
TP-15-12	5/17/2000	Kleinfelder	12	--	--	--	--	U[4]	U	--	--
TP-15-21	5/17/2000	Kleinfelder	21	--	--	--	--	U[4]	**Table 3**	--	--
TP-16-5	5/17/2000	Kleinfelder	5	--	--	--	--	U[4]	U	--	--
TP-16-9	5/17/2000	Kleinfelder	9	--	--	--	--	U[4]	U	--	--
Fujitani Hilts Samples			(ft. bgs)								
B1-S-4-10'	5/17/2000	Fujitani	4-10	20.0 U	--	--	--	U	U	--	--
B1-S-7-15	5/17/2000	Fujitani	7-15	20.0 U	--	--	--	U	U	--	--
B1-S-10-21	5/17/2000	Fujitani	10-21	20.0 U	--	--	--	U	U	--	--
B2-S-4-10	5/18/2000	Fujitani	4-10	**Oil**	--	25 U	**126**	U	U	--	--
B2-S-7-15	5/18/2000	Fujitani	7-15	**Oil**	--	25 U	**1,420**	U	U	--	--
B2-S-10-20	5/18/2000	Fujitani	10-20	20.0 U	--	--	--	U	U	--	--
AMEC Soil Samples			(ft. bgs)								
MW-A 35-36	3/30/2009	AMEC	35-36	--	--	--	--	**Table 2**	--	--	--
MW-B 6-7	3/31/2009	AMEC	6-7	--	4.46 U	5.56 U	**133**	--	**Table 3**	--	--
MW-B 26-27	3/31/2009	AMEC	26-27	--	5.56 U	30 U	60 U	--	--	--	--
MW- C 30-31	4/1/2009	AMEC	30-31	--	--	--	--	**Table 2**	--	--	--
Columbia Steel Pile Removal Area			(ft. bgs)								
HA-CS-4 0	5/12/2020	BES	0	--	--	--	--	--	--	--	--
HA-CS-4 6"	5/12/2020	BES	0.5	--	--	--	--	--	--	--	--
HA-CS-10	5/27/2020	BES	0.5	--	--	--	--	--	--	--	--
HA-CS-11	5/27/2020	BES	0.5	--	--	--	--	--	--	--	--
HA-CS-12	5/27/2020	BES	0.5	--	--	--	--	--	--	--	--
HA-CS-13	9/28/2020	BES	0.5	--	--	--	--	--	--	--	--
HA-CS-14	9/28/2020	BES	0.5	--	--	--	--	--	--	--	--
HA-CS-15	9/28/2020	BES	0.5	--	--	--	--	--	--	--	--
HA-CS-16	5/28/2020	BES	0.5	--	--	--	--	--	--	--	--
HA-CS-17	9/28/2020	BES	0.5	--	--	--	--	--	--	--	--
CS-17-PILE	6/23/2020	BES	0.5	--	--	--	--	--	--	--	--
HA-CS-18	9/28/2020	BES	0.5	--	--	29 U	59 U	--	U	**Table 5**	U
HA-CS-19 Ramp	9/28/2020	BES	0.5	--	--	--	--	--	--	--	--
HA-CS-19-Ramp-2	1/3/2024	BES	0.5	--	--	--	--	--	--	--	--
HA-CS-20	9/28/2020	BES	0.5	--	--	26 U	51 U	--	**Table 3**	**Table 5**	U
CS-15-PIT	5/28/2020	BES	~ 0-6	--	**191**	**4,900**	**6,400**	**Table 2**	**Table 3**	--	**Table 6**
BES Baseline			(ft. bgs)								
HA-CS-1 0	5/8/2020	BES	0	--	--	--	--	--	--	--	--
HA-CS-1 6"	5/8/2020	BES	0.5	--	--	--	--	--	--	--	--
HA-CS-2 0	5/8/2020	BES	0	--	--	--	--	--	--	--	--
HA-CS-2 6"	5/8/2020	BES	0.5	--	--	--	--	--	--	--	--
BES Test Pits			(ft. bgs)								
T-Pit-1 0-18"	10/5/2023	BES	0-1.5	**Oil**	--	**28**	**520**	--	**Table 3**	--	--
T-Pit-2 0-5'	10/5/2023	BES	0-5	**Oil**	--	**30**	**480**	--	**Table 3**	--	--
T-Pit-3 0-18"	10/5/2023	BES	0-1.5	**Oil**	--	26 U	**280**	--	**Table 3**	--	--
T-Pit-4 0-5'	10/5/2023	BES	0-5	**Diesel, Gasoline, Oil**	--	**190**	**2,100**	--	**Table 3**	--	--
T-Pit-5 0-18"	10/5/2023	BES	0-1.5	**Diesel, Oil**	--	**64**	**1,700**	--	**Table 3**	--	--
T-Pit-6 0-18"	10/5/2023	BES	0-1.5	**Oil**	--	27 U	**390**	--	**Table 3**	--	--
T-Pit-6 0-5'	10/5/2023	BES	0-5	**Oil**	--	**43**	**600**	--	**Table 3**	--	U
T-Pit-7 0-5'	10/5/2023	BES	0-5	**Oil**	--	24 U	**390**	--	**Table 3**	**Table 5**	--
T-Pit-8 0-18"	10/5/2023	BES	0-1.5	**Oil**	--	49 U	**1,400**	--	**Table 3**	--	--
T-Pit-9 0-5'	10/5/2023	BES	0-5	**Oil**	--	**27**	**550**	--	**Table 3**	--	--
T-Pit-10 0-18"	10/5/2023	BES	0-1.5	**Oil**	--	47 U	**450**	--	**Table 3**	--	--
T-Pit-11 0-5'	10/5/2023	BES	0-5	**Oil**	--	26 U	**200**	--	**Table 3**	--	--

Table 1C - West Property Soil Total Petroleum Hydrocarbons (TPH) and Soil Summary

Sample ID	Sample Date	Sampled By	Sample Depth	Laboratory Analytical Testing Results (mg/kg)							
				NWTPH-HCID	NWTPH-Gx	NWTPH-Dx		EPA 8260 or 8240	EPA 8270	EPA 8081B	EPA 8082
					Gasoline	Diesel	Oil	VOCs	SVOCs/PAHs	Pesticides	PCBs
T-Pit-12 0-18"	10/5/2023	BES	0-1.5	**Oil**	--	24 U	**410**	--	**Table 3**	--	--
BES Geoprobe Samples			(ft. bgs)								
WP-1 0-5	11/21/2023	BES	0-5	--	--	--	--	--	**Table 3**		--
WP-1 5-10	11/21/2023	BES	5-10	**Oil**	--	27 U	**190**	--	**Table 3**		--
WP-2 0-5	11/21/2023	BES	0-5	**Oil**	--	29 U	**340**	--	**Table 3**		--
WP-2 5-10	11/21/2023	BES	5-10	--	--	--	--	--	**Table 3**		--
WP-3 0-5	11/21/2023	BES	0-5	--	--	--	--	--	**Table 3**		**Table 6**
WP-3 5-10	11/21/2023	BES	5-10	**Oil**	--	26 U	**260**	--	**Table 3**		--
WP-4 0-5	11/21/2023	BES	0-5	**Diesel, Oil**	--	**93**	**740**	--	**Table 3**		--
WP-4 5-10	11/21/2023	BES	5-10	--	--	--	--	--	**Table 3**		--
WP-5 0-5	11/21/2023	BES	0-5	--	--	--	--	--	**Table 3**		--
WP-5 5-10	11/21/2023	BES	5-10	20 U	--	--	--	--	--		--
WP-6 0-5	11/21/2023	BES	0-5	**Oil**	--	28 U	**96**	--	**Table 3**		--
WP-6 5-10	11/21/2023	BES	5-10	--	--	--	--	--	**Table 3**		--
WP-7 0-5	11/21/2023	BES	0-5	**Oil**	--	**26**	**490**	--	**Table 3**		--
WP-7 5-10	11/21/2023	BES	5-10	**Oil**	--	29 U	**220**	--	**Table 3**		--
WP-8 0-5	11/21/2023	BES	0-5	**--**	--	--	--	--	**Table 3**		U
WP-8 5-10	11/21/2023	BES	5-10	**Oil**	--	29 U	**200**	--	**Table 3**		--
WP-9 0-5	11/21/2023	BES	0-5	**Oil**	--	**100**	**910**	--	**Table 3**		--
WP-9 5-10	11/21/2023	BES	5-10	**--**	--	--	--	--	**Table 3**		--
WP-10 0-5	11/21/2023	BES	0-5	**Oil**	--	26 U	**180**	--	**Table 3**		--
WP-10 5-10	11/21/2023	BES	5-10	--	--	--	--	--	**Table 3**		U
WP-11 0-1	11/21/2023	BES	0-1	--	4.78 U	--	--	**Table 2**	--		--
WP-11 0-5	11/21/2023	BES	0-5	21 U	--	--	--	--	--		--
WP-11 5-10	11/21/2023	BES	5-10	--	--	--	--	--	**Table 3**		--
WP-11 10-15	11/21/2023	BES	10-15	22 U	--	--	--	--	--		--
WP-12 0-5	11/21/2023	BES	0-5	**Oil**	--	26 U	**1,000**	--	**Table 3**		--
WP-12 5-10	11/21/2023	BES	5-10	--	--	--	--	--	**Table 3**		--
WP-13 0-5	11/21/2023	BES	0-5	**Diesel, Oil**	--	**150**	**1,000**	--	**Table 3**		--
WP-13 5-10	11/21/2023	BES	5-10	--	--	--	--	--	**Table 3**		--
WP-13 10-15	11/21/2023	BES	10-15	**Oil**	--	31 U	**180**	--	**Table 3**		--
ODEQ Cleanfill											
Clean Fill Screening Value				--	31	1,100	2,800	--	--	--	--
ODEQ Risk Based Concentration											
Soil Ingestion, Dermal Contact, and Inhalation RBC - Residential				--	1,200	1,100	--	--	--	--	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Occupational				--	20,000	14,000	--	--	--	--	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Construction Worker				--	9,700	4,600	--	--	--	--	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Excavation Worker				--	>Max	>Max	--	--	--	--	--
Volatilization to Outdoor Air - Residential				--	5,900	>Max	--	--	--	--	--
Volatilization to Outdoor Air - Occupational				--	69,000	>Max	--	--	--	--	--
EPA Regional Screening Levels - Target hazard quotients = 0.1											
Soil Ingestion, Dermal Contact, and Inhalation for Residential				--	--	--	--	--	--	--	--
Soil Ingestion, Dermal Contact, and Inhalation for Industrial Worker				--	--	--	--	--	--	--	--

Notes

ODEQ - Oregon Department of Enviornmental Quality

EPA - Enviornmental Protection Agency

RBCs- Risk-Based Concentrations

NWTPH-HCID - Total petroleum hydrocarbon identification

NWTPH-Dx - Diesel-range hydrcarbon quantification

NWTPH-Gx - Gasoline-range hydrocarbon quantification

VOCs - Volatile organic compounds

PAHs - Polycyclic aromatic hydrocarbons

PCBs - Polychlorinated biphenyls

bgs - Below ground surface

mg/kg - Milligrams per kilogram

U - analyte not detected above concentration indicated

-- - Analyte not analyzed, or no screening value for this analyte in this scenario

>Max - Substance is deemed not to pose risks in this scenario

Bolded - Anaylte detected in the sample

- Analyte detected at a concentration at or above ODEQ Risk Based Concentrations

4 - 2-Butanone detection attributed to laboratory contamination

Table 2A - TASS 2 Soil Analytical Results: Volatile Organic Compounds (VOCs)

Sample ID	Sample Date	Sampled By	Sample Depth	Analytical Testing Results Volatile Organic Compounds by EPA 8260 or 8240 (ug/kg) 1,1,1-Trichloroethane	1,1,2-Trichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	cis-1,2-Dichloroethene	2-Chlorotoluene	Acetone	Benzene	Chlorobenzene	Ethylbenzene
Kleinfelder & PNG Test Pits			(ft. bgs)													
TP-2-5	5/17/2000	Kleinfelder	5	100 U	100 U	100 U	100 U	100 U	--	100 U	100 U	--	1,000 U	100 U	100 U	100 U
TP-2-19	5/17/2000	Kleinfelder	19	100 U	100 U	100 U	100 U	100 U	--	100 U	100 U	--	1,000 U	100 U	100 U	100 U
BES Sample Points			(ft. bgs)													
WP-11 0-1	11/21/2023	BES	0-1	23.9 U	23.9 U	23.9 U	23.9 U	23.9 U	23.9 U	23.9 U	23.9 U	23.9 U	957 U	23.9 U	23.9 U	23.9 U
ODEQ Cleanfill																
Clean Fill Screening Value				190,000	3.6	200	11,000	920	740	57	--	14,000	1,200	23	2,400	230
ODEQ Risk Based Concentrations																
Soil Ingestion, Dermal Contact, and Inhalation RBC - Residential				53,000,000	3,200	430,000	430,000	2,200,000	--	14,000	160,000	--	--	8,200	530,000	34,000
Soil Ingestion, Dermal Contact, and Inhalation RBC - Occupational				870,000,000	26,000	6,900,000	6,900,000	36,000,000	--	64,000	2,300,000	--	--	37,000	8,700,000	150,000
Soil Ingestion, Dermal Contact, and Inhalation RBC - Construction Worker				470,000,000	54,000	2,900,000	2,900,000	20,000	--	1,300,000	710,000	--	--	380,000	4,700,000	1,700,000
Soil Ingestion, Dermal Contact, and Inhalation RBC - Excavation Worker				>Max	1,500,000	81,000,000	81,000,000	560,000,000	--	36,000,000	20,000,000	--	--	11,000,000	130,000,000	49,000,000
Volatilization to Outdoor Air - Residential				>Csat	5,600	>Csat	>Csat	>Csat	--	8,100	>Max	--	--	11,000	>Csat	36,000
Volatilization to Outdoor Air - Occupational				>Csat	24,000	>Csat	>Csat	>Csat	--	36,000	>Max	--	--	50,000	>Csat	160,000
Regional Screening Levels - Target hazard quotients = 0.1																
Soil Ingestion, Dermal Contact, and Inhalation for Residential				810,000	150	30,000	27,000	180,000	--	2,600	6,300	160,000	7,000,000	1,200	28,000	5,800
Soil Ingestion, Dermal Contact, and Inhalation for Industrial Worker				3,600,000	630	180,000	150,000	930,000	--	11,000	37,000	2,300,000	110,000,000	5,100	130,000	25,000

Sample ID	Sample Date	Sampled By	Sample Depth	**Analytical Testing Results** Volatile Organic Compounds by EPA 8260 or 8240 (ug/kg)														
				Isopropylbenzene	p-Isopropyltoluene	m,p-Xylene	Naphthalene	n-Butylbenzene	n-Propylbenzene	o-Xylene	sec-Butylbenzene	Styrene	Tetrachloroethene	Trichloroethene	Toluene	Total Xylenes	Other VOCs	Total VOCs (less 2-butanone
Kleinfelder & PNG Test Pits			(ft. bgs)															
TP-2-5	5/17/2000	Kleinfelder	5	100 U	100 U	200 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	200 U	**1,170**	U
TP-2-19	5/17/2000	Kleinfelder	19	100 U	**126**	200 U	**408**	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	200 U	**1,850**	**530**
BES Sample Points			(ft. bgs)															
WP-11 0-1	11/21/2023	BES	0-1	23.9 U	--	47.8 U	**44.0**	23.9 U	23.9 U	23.9 U	23.9 U	23.9 U	23.9 U	23.9 U	23.9 U	--	--	--
ODEQ Cleanfill																		
Clean Fill Screening Value				--	--	11,000	77	190,000	72,000	1,000	350,000	120	180	13	23,000	1,400	--	--
ODEQ Risk Based Concentrations																		
Soil Ingestion, Dermal Contact, and Inhalation RBC - Residential				3,500	--	1,400,000	5,300	--	--	1,400,000	--	7,900,000	220,000	6,700	5,800,000	1,400,000	--	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Occupational				57,000,000	--	25,000,000	23,000	--	--	25,000,000	--	130,000,000	1,000,000	51,000	88,000,000	25,000,000	--	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Construction Worker				27,000,000	--	20,000,000	580,000	--	--	20,000,000	--	56,000,000	1,800,000	130,000	28,000,000	20,000,000	--	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Excavation Worker				750,000,000	--	560,000,000	16,000,000	--	--	560,000,000	--	>Max	50,000,000	3,700,000	770,000,000	560,000,000	--	--
Volatilization to Outdoor Air - Residential				>Csat	--	>Csat	6,400	--	--	>Csat	--	>Csat	>Csat	15,000	>Csat	>Csat	--	--
Volatilization to Outdoor Air - Occupational				>Csat	--	>Csat	83,000	--	--	>Csat	--	>Csat	>Csat	96,000	>Csat	>Csat	--	--
Regional Screening Levels - Target hazard quotients = 0.1																		
Soil Ingestion, Dermal Contact, and Inhalation for Residential				190,000	--	56,000	2,000	390,000	--	64,000	780,000	600,000	--	--	490,000	--	--	--
Soil Ingestion, Dermal Contact, and Inhalation for Industrial Worker				990,000	--	240,000	8,600	5,800,000	--	280,000	12,000,000	3,500,000	--	--	4,700,000	--	--	--

Table 2B - West Property Soil Analytical Results: Volatile Organic Compounds (VOCs)

Sample ID	Sample Date	Sampled By	Sample Depth	Analytical Testing Results Volatile Organic Compounds by EPA 8260 or 8240 (ug/kg) 1,1,1-Trichloroethane	1,1,2-Trichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	cis-1,2-Dichloroethene	2-Chlorotoluene	Acetone	Benzene	Chlorobenzene	Ethylbenzene
PNG Geoprobe Samples			(ft. bgs)													
B1-17	12/17/1998	PNG	17	5 U	5 U	20 U	20 U	5 U	5 U	5 U	5 U	20 U	**160**	5 U	5 U	5 U
B2-12	12/17/1998	PNG	12	5 U	5 U	20 U	20 U	5 U	5 U	5 U	5 U	20 U	50 U	5 U	5 U	5 U
Kleinfelder & PNG Test Pits			(ft. bgs)													
TP3-13	5/18/1999	PNG	13	200 U	--	200 U	200 U	200 U	--	200 U	--	--	200 U	**956**	200 U	200 U
TP-2-5	5/17/2000	Kleinfelder	5	100 U	100 U	100 U	100 U	100 U	--	100 U	100 U	--	1,000 U	100 U	100 U	100 U
TP-2-19	5/17/2000	Kleinfelder	19	100 U	100 U	100 U	100 U	100 U	--	100 U	100 U	--	1,000 U	100 U	100 U	100 U
TP-3-10	5/17/2000	Kleinfelder	10	100 U	100 U	100 U	100 U	100 U	--	100 U	100 U	--	1,000 U	100 U	100 U	100 U
TP-6-13	5/17/2000	Kleinfelder	13	204 U	**249**	204 U	204 U	**1,100**	--	**1,460**	204 U	--	2,040 U	204 U	**8,650**	204 U
TP-7-13	5/17/2000	Kleinfelder	13	100 U	100 U	100 U	100 U	100 U	--	100 U	100 U	--	1,000 U	100 U	100 U	100 U
TP-11-11	5/17/2000	Kleinfelder	11	100 U	100 U	**299**	100 U	100 U	--	100 U	100 U	--	1,000 U	100 U	100 U	100 U
TP-15-21	5/17/2000	Kleinfelder	21	100 U	100 U	100 U	100 U	100 U	--	100 U	100 U	--	1,000 U	100 U	100 U	100 U
AMEC Soil Samples			(ft. bgs)													
MW-A 35-36	3/30/2009	AMEC	35-36	**21,600**	11,110 U	11,110 U	11,110 U	11,110 U	11,110 U	11,110 U	**14,300**	11,110 U	278,000 U	2,220 U	11,110 U	**21,500**
MW-C 30-31	4/1/2009	AMEC	30-31	117 U	117 U	**718**	**165**	117 U	117 U	117 U	117 U	117 U	2930 U	23.5 U	117 U	117 U
Columbia Steel Pile Removal Area			(ft. bgs)													
CS-15-PIT	5/28/2020	BES	0.5	88.5 U	88.5 U	88.5 U	88.5 U	**228**	**202**	**1,630**	88.5 U	**110**	3540 U	88.5 U	**6,390**	88.5 U
BES Sample Points			(ft. bgs)													
WP-11 0-1	11/21/2023	BES	0-1	23.9 U	23.9 U	23.9 U	23.9 U	23.9 U	23.9 U	23.9 U	23.9 U	23.9 U	957 U	23.9 U	23.9 U	23.9 U
ODEQ Cleanfill																
Clean Fill Screening Value				190,000	3.6	200	11,000	920	740	57	--	14,000	1,200	23	2,400	230
ODEQ Risk Based Concentrations																
Soil Ingestion, Dermal Contact, and Inhalation RBC - Residential				53,000,000	3,200	430,000	430,000	2,200,000	--	14,000	160,000	--	--	8,200	530,000	34,000
Soil Ingestion, Dermal Contact, and Inhalation RBC - Occupational				870,000,000	26,000	6,900,000	6,900,000	36,000,000	--	64,000	2,300,000	--	--	37,000	8,700,000	150,000
Soil Ingestion, Dermal Contact, and Inhalation RBC - Construction Worker				470,000,000	54,000	2,900,000	2,900,000	20,000	--	1,300,000	710,000	--	--	380,000	4,700,000	1,700,000
Soil Ingestion, Dermal Contact, and Inhalation RBC - Excavation Worker				>Max	1,500,000	81,000,000	81,000,000	560,000,000	--	36,000,000	20,000,000	--	--	11,000,000	130,000,000	49,000,000
Volatilization to Outdoor Air - Residential				>Csat	5,600	>Csat	>Csat	>Csat	--	8,100	>Max	--	--	11,000	>Csat	36,000
Volatilization to Outdoor Air - Occupational				>Csat	24,000	>Csat	>Csat	>Csat	--	36,000	>Max	--	--	50,000	>Csat	160,000
Regional Screening Levels - Target hazard quotients = 0.1																
Soil Ingestion, Dermal Contact, and Inhalation for Residential				810,000	150	30,000	27,000	180,000	--	2,600	6,300	160,000	7,000,000	1,200	28,000	5,800
Soil Ingestion, Dermal Contact, and Inhalation for Industrial Worker				3,600,000	630	180,000	150,000	930,000	--	11,000	37,000	2,300,000	110,000,000	5,100	130,000	25,000

Table 2B - West Property Soil Analytical Results: Volatile Organic Compounds (VOCs)

Sample ID	Sample Date	Sampled By	Sample Depth	Analytical Testing Results Volatile Organic Compounds by EPA 8260 or 8240 (ug/kg) Isopropylbenzene	p-Isopropyltoluene	m,p-Xylene	Naphthalene	n-Butylbenzene	n-Propylbenzene	o-Xylene	sec-Butylbenzene	Styrene	Tetrachloroethene	Trichloroethene	Toluene	Total Xylenes	Other VOCs	Total VOCs (less 2-butanone
PNG Geoprobe Samples			(ft. bgs)															
B1-17	12/17/1998	PNG	17	20 U	--	5 U	20 U	20 U	20 U	5 U	20 U	5 U	5 U	5 U	5 U	5 U	U	**160**
B2-12	12/17/1998	PNG	12	20 U	--	5 U	**68**	20 U	20 U	5 U	20 U	5 U	5 U	5 U	5 U	5 U	U	**68**
Kleinfelder & PNG Test Pits			(ft. bgs)															
TP3-13	5/18/1999	PNG	13	--	--	--	--	--	--	--	--	--	500 U	200 U	200 U	--	U	**956**
TP-2-5	5/17/2000	Kleinfelder	5	100 U	100 U	200 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	200 U	**1,170**	U
TP-2-19	5/17/2000	Kleinfelder	19	100 U	**126**	200 U	**408**	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	200 U	**1,850**	**530**
TP-3-10	5/17/2000	Kleinfelder	10	100 U	100 U	200 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	200 U	**1,100**	U
TP-6-13	5/17/2000	Kleinfelder	13	**402**	**642**	**2,040**	**3,020**	**571**	**646**	**1,350**	**232**	204 U	204 U	204 U	204 U	**3,390**	U	**20,360**
TP-7-13	5/17/2000	Kleinfelder	13	100 U	100 U	200 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	200 U	**1,220**	U
TP-11-11	5/17/2000	Kleinfelder	11	100 U	100 U	200 U	**148**	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	200 U	**1,300**	**450**
TP-15-21	5/17/2000	Kleinfelder	21	100 U	100 U	200 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	200 U	**1,200**	U
AMEC Soil Samples			(ft. bgs)															
MW-A 35-36	3/30/2009	AMEC	35-36	22,200 U	22,200 U	**77,900**	22,200 U	55,600 U	11,110 U	**20,800**	11,110 U	**11,300**	**729,000**	**39,100**	**169,000**	**98,700**	--	--
MW-C 30-31	4/1/2009	AMEC	30-31	235 U	235 U	235 U	**648**	587 U	117 U	117 U	117 U	117 U	117 U	117 U	117 U	117 U	--	--
Columbia Steel Pile Removal Area			(ft. bgs)															
CS-15-PIT	5/28/2020	BES	0.5	**446**	--	177 U	88.5 U	**623**	**800**	**95.6**	**200**	88.5 U	88.5 U	88.5 U	88.5 U	--	--	--
BES Sample Points			(ft. bgs)															
WP-11 0-1	11/21/2023	BES	0-1	23.9 U	--	47.8 U	**44.0**	23.9 U	23.9 U	23.9 U	23.9 U	23.9 U	23.9 U	23.9 U	23.9 U	--	--	--
ODEQ Cleanfill																		
Clean Fill Screening Value				--	--	11,000	77	190,000	72,000	1,000	350,000	120	180	13	23,000	1,400	--	--
ODEQ Risk Based Concentrations																		
Soil Ingestion, Dermal Contact, and Inhalation RBC - Residential				3,500	--	1,400,000	5,300	--	--	1,400,000	--	7,900,000	220,000	6,700	5,800,000	1,400,000	--	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Occupational				57,000,000	--	25,000,000	23,000	--	--	25,000,000	--	130,000,000	1,000,000	51,000	88,000,000	25,000,000	--	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Construction Worker				27,000,000	--	20,000,000	580,000	--	--	20,000,000	--	56,000,000	1,800,000	130,000	28,000,000	20,000,000	--	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Excavation Worker				750,000,000	--	560,000,000	16,000,000	--	--	560,000,000	--	>Max	50,000,000	3,700,000	770,000,000	560,000,000	--	--
Volatilization to Outdoor Air - Residential				>Csat	--	>Csat	6,400	--	--	>Csat	--	>Csat	>Csat	15,000	>Csat	>Csat	--	--
Volatilization to Outdoor Air - Occupational				>Csat	--	>Csat	83,000	--	--	>Csat	--	>Csat	>Csat	96,000	>Csat	>Csat	--	--
Regional Screening Levels - Target hazard quotients = 0.1																		
Soil Ingestion, Dermal Contact, and Inhalation for Residential				190,000	--	56,000	2,000	390,000	--	64,000	780,000	600,000	--	--	490,000	--	--	--
Soil Ingestion, Dermal Contact, and Inhalation for Industrial Worker				990,000	--	240,000	8,600	5,800,000	--	280,000	12,000,000	3,500,000	--	--	4,700,000	--	--	--

Table 2B - West Property Soil Analytical Results: Volatile Organic Compounds (VOCs)

Notes
DEQ - Department of Enviornmental Quality
EPA - Environmental Protection Angency
RBCs - Risk-Based Concentrations
bgs - Below ground surface
ug/kg - Micrograms per kilogram
U - analyte not detected above concentration indicated
-- - Analyte not analyzed, or no screening value for this analyte in this scenario
>Max - Substance is deemed not to pose risks in this scenario
>Csat - Soil RBC exceeds the limit of three-phase equilibrium partitioning. Soil concentrations in excess of Csat indicate that free product might be present.
Bolded - Analyte detected in the sample
 - Analyte detected at a concentration at or above ODEQ RBCs

Table 3A - TASS 2 Shallow (< 3 feet bgs) Soil Analytical Results: Polynulcear Aromatic Hydrocarbons (PAHs)

Sample ID	Sample Date	Sampled By	Sample Depth	Laboratory Analytical Testing Results: Polynuclear Aromatic Hydrocarbons (PAHs) by EPA 8270-SIM (ug/kg)										
				Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Butyl benzyl phthalate	Chrysene	Dibenzo(a,h)anthracene
BES Test Pits			(ft. bgs)											
T-Pit-1 0-18"	10/5/2023	BES	0-1.5	40 U	40 U	40 U	**35**	**72**	**93**	**100**	**23**	--	**52**	20 U
T-Pit-2 0-5'	10/5/2023	BES	0-5	**50**	**430**	**250**	**490**	**1,400**	**1,100**	**1,400**	**390**	--	**700**	**160**
T-Pit-3 0-18"	10/5/2023	BES	0-1.5	41 U	**80**	**83**	**95**	**220**	**260**	**300**	**100**	--	**160**	**49**
T-Pit-5 0-18"	10/5/2023	BES	0-1.5	110 U	110 U	110 U	53 U	**120**	**170**	**210**	53 U	--	**65**	53 U
T-Pit-7 0-5'	10/5/2023	BES	0-5	43 U	**66**	**62**	**91**	**110**	**140**	**36**	--	**89**	**22**	**160**
T-Pit-10 0-18"	10/5/2023	BES	0-1.5	38 U	38 U	38 U	19 U	**40**	**58**	**95**	19 U	--	**19**	19 U
T-Pit-11 0-5'	10/5/2023	BES	0-5	42 U	**49**	**52**	**31**	**110**	**100**	**160**	**27**	--	**36**	**35**
BES Geoprobe Samples			(ft. bgs)											
WP-1 0-5	11/21/2023	BES	0-5	44 U	44 U	44 U	22 U	**26**	**28**	**35**	22 U	--	22 U	22 U
WP-2 0-5	11/21/2023	BES	0-5	47 U	47 U	47 U	23 U	**35**	**39**	**53**	23 U	--	**24**	23 U
WP-30-5	11/21/2023	BES	0-5	46 U	46 U	46 U	23 U	**29**	**29**	**42**	23 U	--	23 U	23 U
WP-4 0-5	11/21/2023	BES	0-5	42 U	42 U	42 U	**24**	21 U	**34**	**29**	21 U	--	**28**	21 U
WP-5 0-5	11/21/2023	BES	0-5	46 U	46 U	**53**	**39**	**57**	**80**	**73**	**28**	--	**110**	23 U
WP-7 0-5	11/21/2023	BES	0-5	42 U	42 U	42 U	**54**	**110**	**110**	**120**	**28**	--	**57**	**24**
WP-9 0-5	11/21/2023	BES	0-5	**370**	**4,300**	**1,900**	**5,000**	**8,400**	**6,500**	**6,400**	**6,400**	--	**5,800**	**780**
WP-10 0-5	11/21/2023	BES	0-5	21 U	21 U	21 U	**360**	**680**	**880**	**540**	**270**	--	**600**	**150**
WP-12 0-5	11/21/2023	BES	0-5	21 U	**47**	**23**	**94**	**230**	**240**	**850**	**89**	--	**210**	**100**
WP-13 0-5	11/21/2023	BES	0-5	**340**	**2,600**	**1,200**	**3,100**	**5,300**	**4,800**	**5,300**	**1,500**	--	**4,400**	**670**
ODEQ Cleanfill														
Clean Fill Screening Value				250	120,000	6,800	730	110	1,100	25,000	11,000	14,000	3,100	110
ODEQ Risk Based Concentrations														
Soil Ingestion, Dermal Contact, and Inhalation RBC - Residential				4,700,000	--	23,000,000	1,100	110	1,100	--	11,000	--	110,000	110
Soil Ingestion, Dermal Contact, and Inhalation RBC - Occupational				70,000,000	--	350,000,000	21,000	2,100	21,000	--	210,000	--	2,100,000	2,100
Soil Ingestion, Dermal Contact, and Inhalation RBC - Construction Worker				21,000,000	--	110,000,000	170,000	17,000	4,900,000	--	49,000,000	--	490,000,000	490,000
Soil Ingestion, Dermal Contact, and Inhalation RBC - Excavation Worker				590,000,000	--	>Max	4,900,000	490,000	170,000	--	1,700,000	--	17,000,000	17,000
Regional Screening Levels - Target hazard quotients = 0.1														
Soil Ingestion, Dermal Contact, and Inhalation for Residential				360,000	--	1,800,000	1,100	110	1,100	--	11,000	290,000	110,000	110
Soil Ingestion, Dermal Contact, and Inhalation for Industrial Worker				4,500,000	--	23,000,000	21,000	2,100	21,000	--	210,000	1,200,000	2,100,000	2,100

Notes
DEQ - Department of Enviornmental Quality
EPA - Environmental Protection Angency
RBCs - Risk-Based Concentrations
bgs - Below ground surface
ug/kg - Micrograms per kilogram
U - analyte not detected above concentration indicated
-- - Analyte not analyzed, or no screening value for this analyte in this scenario
>Max - Substance is deemed not to pose risks in this scenario
Bolded - Analyte detected in the sample
- Analyte detected at a concentration at or above ODEQ RBCs

Table 3A - TASS 2 Shallow (< 3 feet bgs) Soil Analytical Results: Polynulcear Aromatic Hydrocarbons (PAHs)

Sample ID	Sample Date	Sampled By	Sample Depth	Laboratory Analytical Testing Results Polynuclear Aromatic Hydrocarbons (PAHs) by EPA 8270-SIM (ug/kg) Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	Total PAHs
BES Test Pits			(ft. bgs)							
T-Pit-1 0-18"	10/5/2023	BES	0-1.5	**69**	40 U	**79**	81 U	40 U	**91**	--
T-Pit-2 0-5'	10/5/2023	BES	0-5	**580**	42 U	**1,300**	84 U	**130**	**960**	--
T-Pit-3 0-18"	10/5/2023	BES	0-1.5	**140**	41 U	**270**	82 U	41 U	**180**	--
T-Pit-5 0-18"	10/5/2023	BES	0-1.5	**78**	110 U	**150**	210 U	110 U	**150**	--
T-Pit-7 0-5'	10/5/2023	BES	0-5	43 U	**120**	86 U	**110**	**180**	--	--
T-Pit-10 0-18"	10/5/2023	BES	0-1.5	**42**	38 U	**52**	76 U	38 U	**62**	--
T-Pit-11 0-5'	10/5/2023	BES	0-5	**63**	42 U	**150**	85 U	42 U	**92**	--
BES Geoprobe Samples			(ft. bgs)							
WP-1 0-5	11/21/2023	BES	0-5	**42**	44 U	**28**	88 U	44 U	**61**	--
WP-2 0-5	11/21/2023	BES	0-5	**51**	47 U	**33**	94 U	47 U	**71**	--
WP-30-5	11/21/2023	BES	0-5	23 U	46 U	23 U	92 U	46 U	**38**	--
WP-4 0-5	11/21/2023	BES	0-5	**85**	42 U	**23**	84 U	42 U	**100**	--
WP-5 0-5	11/21/2023	BES	0-5	**56**	46 U	**62**	93 U	46 U	**75**	--
WP-7 0-5	11/21/2023	BES	0-5	**100**	21 U	**96**	84 U	**54**	**150**	--
WP-9 0-5	11/21/2023	BES	0-5	**18,000**	**290**	**5,900**	80 U	**10,000**	**24,000**	--
WP-10 0-5	11/21/2023	BES	0-5	**350**	21 U	**600**	42 U	**83**	**470**	--
WP-12 0-5	11/21/2023	BES	0-5	**130**	21 U	**730**	41 U	**57**	**210**	--
WP-13 0-5	11/21/2023	BES	0-5	**8,800**	**820**	**4,900**	**1,100**	**7,300**	**12,000**	--
ODEQ Cleanfill										
Clean Fill Screening Value				10,000	3,700	1,100	77	5,500	10,000	--
ODEQ Risk Based Concentrations										
Soil Ingestion, Dermal Contact, and Inhalation RBC - Residential				2,400,000	3,100,000	1,100	5,300	--	1,800,000	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Occupational				30,000,000	47,000,000	21,000	23,000	--	23,000,000	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Construction Worker				280,000,000	390,000,000	4,900,000	16,000,000	--	210,000,000	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Excavation Worker				10,000,000	14,000,000	170,000	580,000	--	7,500,000	--
Regional Screening Levels - Target hazard quotients = 0.1										
Soil Ingestion, Dermal Contact, and Inhalation for Residential				240,000	240,000	1,100	2,000	--	180,000	--
Soil Ingestion, Dermal Contact, and Inhalation for Industrial Worker				3,000,000	3,000,000	21,000	8,600	--	2,300,000	--

Notes
DEQ - Department of Enviornmental Quality
EPA - Environmental Protection Angency
RBCs - Risk-Based Concentrations
bgs - Below ground surface
ug/kg - Micrograms per kilogram
U - analyte not detected above concentration indicated
-- - Analyte not analyzed, or no screening value for this analyte in this scenario
>Max - Substance is deemed not to pose risks in this scenario
Bolded - Analyte detected in the sample
- Analyte detected at a concentration at or above ODEQ RBCs

Table 3B - TASS 2 Deep (> 3 feet bgs) Soil Analytical Results: Polynulcear Aromatic Hydrocarbons (PAHs)

Sample ID	Sample Date	Sampled By	Sample Depth	Laboratory Analytical Testing Results Polynuclear Aromatic Hydrocarbons (PAHs) by EPA 8270-SIM (ug/kg) Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Butyl benzyl phthalate	Chrysene	Dibenzo(a,h)anthracene
Kleinfelder Test Pits			(ft. bgs)											
TP-2-5	5/17/2000	Kleinfelder	5	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U
TP-2-19	5/17/2000	Kleinfelder	19	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U
BES Geoprobe Samples			(ft. bgs)											
WP-1 5-10	11/21/2023	BES	5-10	44 U	44 U	44 U	**66**	**100**	**120**	**80**	**40**	--	**89**	22 U
WP-2 5-10	11/21/2023	BES	5-10	**50**	**190**	**140**	**180**	**430**	**350**	**390**	**100**	--	**240**	**31**
WP-3 5-10	11/21/2023	BES	5-10	41 U	41 U	41 U	**130**	**170**	**180**	**130**	**66**	--	**150**	**26**
WP-4 5-10	11/21/2023	BES	5-10	**570**	**42**	**450**	**730**	**950**	**1,000**	**660**	**310**	--	**800**	**110**
WP-7 5-10	11/21/2023	BES	5-10	**54**	**1,200**	**620**	**2,700**	**2,800**	**2,500**	**1,600**	**830**	--	**2,700**	**340**
WP-9 5-10	11/21/2023	BES	5-10	**1,900**	**110**	**1,100**	**530**	**480**	**550**	**300**	**180**	--	**630**	**74**
WP-10 5-10	11/21/2023	BES	5-10	22 U	22 U	22 U	11 U	**14**	**14**	**15**	11 U	--	**11**	11 U
WP-11 5-10	11/21/2023	BES	5-10	21 U	21 U	21 U	10 U	**16**	**16**	**18**	10 U	--	**13**	10 U
WP-12 5-10	11/21/2023	BES	5-10	20 U	20 U	30 U	**16**	**34**	**33**	**66**	**11**	--	**24**	10 U
WP-13 5-10	11/21/2023	BES	5-10	130 U	130 U	130 U	**80**	**78**	**110**	**72**	65 U	--	**150**	65 U
WP-13 10-15	11/21/2023	BES	10-15	**120**	**700***	**560**	**1,200**	**1,700**	**1,400**	**1,300**	**450**	--	**1,500**	**190**
ODEQ Cleanfill														
Clean Fill Screening Value				250	120,000	6,800	730	110	1,100	25,000	11,000	14,000	3,100	110
ODEQ Risk Based Concentrations														
Soil Ingestion, Dermal Contact, and Inhalation RBC - Construction Worker				21,000,000	--	110,000,000	170,000	17,000	4,900,000	--	49,000,000	--	490,000,000	490,000
Soil Ingestion, Dermal Contact, and Inhalation RBC - Excavation Worker				590,000,000	--	>Max	4,900,000	490,000	170,000	--	1,700,000	--	17,000,000	17,000
Regional Screening Levels - Target hazard quotients = 0.1														
Soil Ingestion, Dermal Contact, and Inhalation for Residential				360,000	--	1,800,000	1,100	110	1,100	--	11,000	290,000	110,000	110
Soil Ingestion, Dermal Contact, and Inhalation for Industrial Worker				4,500,000	--	23,000,000	21,000	2,100	21,000	--	210,000	1,200,000	2,100,000	2,100

Table 3B - TASS 2 Deep (> 3 feet bgs) Soil Analytical Results: Polynulcear Aromatic Hydrocarbons (PAHs)

Sample ID	Sample Date	Sampled By	Sample Depth	Laboratory Analytical Testing Results Polynuclear Aromatic Hydrocarbons (PAHs) by EPA 8270-SIM (ug/kg) Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	Total PAHs
Kleinfelder Test Pits			(ft. bgs)							
TP-2-5	5/17/2000	Kleinfelder	5	**3,830**	3,300 U	3,300 U	3,300 U	3,300 U	**3,980**	**7,810**
TP-2-19	5/17/2000	Kleinfelder	19	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	--
BES Geoprobe Samples			(ft. bgs)							
WP-1 5-10	11/21/2023	BES	5-10	**120**	44U	**78**	88 U	**68**	**140**	--
WP-2 5-10	11/21/2023	BES	5-10	**490**	**80**	**360**	86 U	**390**	**660**	--
WP-3 5-10	11/21/2023	BES	5-10	**240**	41 U	**130**	83 U	**120**	**260**	--
WP-4 5-10	11/21/2023	BES	5-10	**1,700**	**480**	**730**	**270**	**1,400**	**1,600**	--
WP-7 5-10	11/21/2023	BES	5-10	**5,000**	**180**	**1,800**	**190**	**2,300**	**6,500**	--
WP-9 5-10	11/21/2023	BES	5-10	**2,100**	**1,400**	**330**	**3,800**	**3,800**	**2,100**	--
WP-10 5-10	11/21/2023	BES	5-10	**16**	22 U	**13**	43 U	22 U	**22**	--
WP-11 5-10	11/21/2023	BES	5-10	**20**	21 U	**17**	42 U	21 U	**26**	--
WP-12 5-10	11/21/2023	BES	5-10	**30**	20 U	**56**	41 U	20 U	**45**	--
WP-13 5-10	11/21/2023	BES	5-10	**170**	130 U	65 U	260 U	**320**	**280**	--
WP-13 10-15	11/21/2023	BES	10-15	**3,900**	**420**	**1,300**	**400**	**4,300**	**4,500**	--
ODEQ Cleanfill										
Clean Fill Screening Value				10,000	3,700	1,100	77	5,500	10,000	--
ODEQ Risk Based Concentrations										
Soil Ingestion, Dermal Contact, and Inhalation RBC - Construction Worker				280,000,000	390,000,000	4,900,000	16,000,000	--	210,000,000	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Excavation Worker				10,000,000	14,000,000	170,000	580,000	--	7,500,000	--
Regional Screening Levels - Target hazard quotients = 0.1										
Soil Ingestion, Dermal Contact, and Inhalation for Residential				240,000	240,000	1,100	2,000	--	180,000	--
Soil Ingestion, Dermal Contact, and Inhalation for Industrial Worker				3,000,000	3,000,000	21,000	8,600	--	2,300,000	--

Table 3C - West Property Soil Analytical Results: Polynulcear Aromatic Hydrocarbons (PAHs)

Sample ID	Sample Date	Sampled By	Sample Depth	Laboratory Analytical Testing Results Polynuclear Aromatic Hydrocarbons (PAHs) by EPA 8270-SIM (ug/kg) Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Butyl benzyl phthalate	Chrysene	Dibenzo(a,h)anthracene
PNG Geoprobe Samples			(ft. bgs)											
B2-12	12/17/1998	PNG	12	300 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U
Kleinfelder Test Pits			(ft. bgs)											
TP-2-5	5/17/2000	Kleinfelder	5	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U
TP-2-19	5/17/2000	Kleinfelder	19	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U
TP-3-10	5/17/2000	Kleinfelder	10	660 U	660 U	660 U	660 U	660 U	660 U	660 U	660 U	660 U	660 U	660 U
TP-6-13	5/17/2000	Kleinfelder	13	26,900 U	26,900 U	26,900 U	26,900 U	26,900 U	26,900 U	26,900 U	26,900 U	26,900 U	26,900 U	26,900 U
TP-7-13	5/17/2000	Kleinfelder	13	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U
TP-11-11	5/17/2000	Kleinfelder	11	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U
TP-15-21	5/17/2000	Kleinfelder	21	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	**460**	330 U	330 U
AMEC Soil Samples			(ft. bgs)											
MW-B 6-7	3/31/2009	AMEC	6-7	20 U	20 U	20 U	**30**	**49**	**46**	**46**	20 U	--	**35**	20 U
Columbia Steel Pile Removal Area			(ft. bgs)											
HA-CS-20	9/28/2020	BES	0.5	21 U	21 U	21 U	10 U	10 U	10 U	10 U	10 U	--	10 U	10 U
CS-15-PIT	5/28/2020	BES	0.5	**880**	120 U	**2,000**	**320**	**230**	**310**	**230**	**100**	--	**400**	60 U
BES Test Pits			(ft. bgs)											
T-Pit-1 0-18"	10/5/2023	BES	0-1.5	40 U	40 U	40 U	**35**	**72**	**93**	**100**	**23**	--	**52**	20 U
T-Pit-2 0-5'	10/5/2023	BES	0-5	**50**	**430**	**250**	**490**	**1,400**	**1,100**	**1,400**	**390**	--	**700**	**160**
T-Pit-3 0-18"	10/5/2023	BES	0-1.5	41 U	**80**	**83**	**95**	**220**	**260**	**300**	**100**	--	**160**	**49**
T-Pit-4 0-5'	10/5/2023	BES	0-5	39 U	39 U	39 U	**43**	**66**	**77**	**69**	**29**	--	**77**	20 U
T-Pit-5 0-18"	10/5/2023	BES	0-1.5	110 U	110 U	110 U	53 U	**120**	**170**	**210**	53 U	--	**65**	53 U
T-Pit-6 0-18"	10/5/2023	BES	0-1.5	38 U	**48**	**65**	**180**	**190**	**210**	**170**	**79**	--	**190**	**42**
T-Pit-6 0-5'	10/5/2023	BES	0-5	44 U	**88**	**110**	**150**	**220**	**230**	**320**	**68**	--	**170**	**48**
T-Pit-7 0-5'	10/5/2023	BES	0-5	43 U	**66**	**62**	**91**	**110**	**140**	**36**	--	**89**	**22**	**160**
T-Pit-8 0-18"	10/5/2023	BES	0-1.5	97 U	97 U	97 U	49 U	**52**	**80**	**130**	49 U	--	49 U	49 U
T-Pit-9 0-5'	10/5/2023	BES	0-5	40 U	**100**	**110**	**110**	**260**	**300**	**370**	**100**	--	**200**	**69**
T-Pit-10 0-18"	10/5/2023	BES	0-1.5	38 U	38 U	38 U	19 U	**40**	**58**	**95**	19 U	--	**19**	19 U
T-Pit-11 0-5'	10/5/2023	BES	0-5	42 U	**49**	**52**	**31**	**110**	**100**	**160**	**27**	--	**36**	**35**
T-Pit-12 0-18"	10/5/2023	BES	0-1.5	38 U	38 U	38 U	19 U	**46**	**48**	**76**	19 U	--	**22**	19 U
BES Geoprobe Samples			(ft. bgs)											
WP-1 0-5	11/21/2023	BES	0-5	44 U	44 U	44 U	22 U	**26**	**28**	**35**	22 U	--	22 U	22 U
WP-1 5-10	11/21/2023	BES	5-10	44 U	44 U	44 U	**66**	**100**	**120**	**80**	**40**	--	**89**	22 U
WP-2 0-5	11/21/2023	BES	0-5	47 U	47 U	47 U	23 U	**35**	**39**	**53**	23 U	--	**24**	23 U
WP-2 5-10	11/21/2023	BES	5-10	**50**	**190**	**140**	**180**	**430**	**350**	**390**	**100**	--	**240**	**31**
WP-30-5	11/21/2023	BES	0-5	46 U	46 U	46 U	23 U	**29**	**29**	**42**	23 U	--	23 U	23 U
WP-3 5-10	11/21/2023	BES	5-10	41 U	41 U	41 U	**130**	**170**	**180**	**130**	**66**	--	**150**	**26**
WP-4 0-5	11/21/2023	BES	0-5	42 U	42 U	42 U	**24**	21 U	**34**	**29**	21 U	--	**28**	21 U
WP-4 5-10	11/21/2023	BES	5-10	**570**	**42**	**450**	**730**	**950**	**1,000**	**660**	**310**	--	**800**	**110**
WP-5 0-5	11/21/2023	BES	0-5	46 U	46 U	**53**	**39**	**57**	**80**	**73**	**28**	--	**110**	23 U
WP-6 0-5	11/21/2023	BES	0-5	22 U	22 U	22 U	11 U	**13**	**17**	11 U	11 U	--	**14**	11 U
WP-6 5-10	11/21/2023	BES	5-10	43 U	43 U	43 U	**61**	**69**	**79**	**58**	**25**	--	**78**	22 U
WP-7 0-5	11/21/2023	BES	0-5	42 U	42 U	42 U	**54**	**110**	**110**	**120**	**28**	--	**57**	**24**
WP-7 5-10	11/21/2023	BES	5-10	**54**	**1,200**	**620**	**2,700**	**2,800**	**2,500**	**1,600**	**830**	--	**2,700**	**340**
WP-8 0-5	11/21/2023	BES	0-5	22 U	**23**	22 U	**27**	**47**	**40**	**46**	**12**	--	**33**	11 U
WP-8 5-10	11/21/2023	BES	5-10	**55**	**600**	**310**	**1,300**	**2,000**	**1,800**	**1,800**	**520**	--	**1,800**	**210**
WP-9 0-5	11/21/2023	BES	0-5	**370**	**4,300**	**1,900**	**5,000**	**8,400**	**6,500**	**6,400**	**6,400**	--	**5,800**	**780**

Table 3C - West Property Soil Analytical Results: Polynulcear Aromatic Hydrocarbons (PAHs)

Sample ID	Sample Date	Sampled By	Sample Depth	Laboratory Analytical Testing Results Polynuclear Aromatic Hydrocarbons (PAHs) by EPA 8270-SIM (ug/kg) Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Butyl benzyl phthalate	Chrysene	Dibenzo(a,h)anthracene
WP-9 5-10	11/21/2023	BES	5-10	**1,900**	**110**	**1,100**	**530**	**480**	**550**	**300**	**180**	--	**630**	**74**
WP-10 0-5	11/21/2023	BES	0-5	21 U	21 U	21 U	**360**	**680**	**880**	**540**	**270**	--	**600**	**150**
WP-10 5-10	11/21/2023	BES	5-10	22 U	22 U	22 U	11 U	**14**	**14**	**15**	11 U	--	**11**	11 U
WP-11 5-10	11/21/2023	BES	5-10	21 U	21 U	21 U	10 U	**16**	**16**	**18**	10 U	--	**13**	10 U
WP-12 0-5	11/21/2023	BES	0-5	21 U	**47**	**23**	**94**	**230**	**240**	**850**	**89**	--	**210**	**100**
WP-12 5-10	11/21/2023	BES	5-10	20 U	20 U	30 U	**16**	**34**	**33**	**66**	**11**	--	**24**	10 U
WP-13 0-5	11/21/2023	BES	0-5	**340**	**2,600**	**1,200**	**3,100**	**5,300**	**4,800**	**5,300**	**1,500**	--	**4,400**	**670**
WP-13 5-10	11/21/2023	BES	5-10	130 U	130 U	130 U	**80**	**78**	**110**	**72**	65 U	--	**150**	65 U
WP-13 10-15	11/21/2023	BES	10-15	**120**	**700***	**560**	**1,200**	**1,700**	**1,400**	**1,300**	**450**	--	**1,500**	**190**
ODEQ Cleanfill														
Clean Fill Screening Value				250	120,000	6,800	730	110	1,100	25,000	11,000	14,000	3,100	110
ODEQ Risk Based Concentrations														
Soil Ingestion, Dermal Contact, and Inhalation RBC - Residential				4,700,000	--	23,000,000	1,100	110	1,100	--	11,000	--	110,000	110
Soil Ingestion, Dermal Contact, and Inhalation RBC - Occupational				70,000,000	--	350,000,000	21,000	2,100	21,000	--	210,000	--	2,100,000	2,100
Soil Ingestion, Dermal Contact, and Inhalation RBC - Construction Worker				21,000,000	--	110,000,000	170,000	17,000	4,900,000	--	49,000,000	--	490,000,000	490,000
Soil Ingestion, Dermal Contact, and Inhalation RBC - Excavation Worker				590,000,000	--	>Max	4,900,000	490,000	170,000	--	1,700,000	--	17,000,000	17,000
Regional Screening Levels - Target hazard quotients = 0.1														
Soil Ingestion, Dermal Contact, and Inhalation for Residential				360,000	--	1,800,000	1,100	110	1,100	--	11,000	290,000	110,000	110
Soil Ingestion, Dermal Contact, and Inhalation for Industrial Worker				4,500,000	--	23,000,000	21,000	2,100	21,000	--	210,000	1,200,000	2,100,000	2,100

Table 3C - West Property Soil Analytical Results: Polynulcear Aromatic Hydrocarbons (PAHs)

Sample ID	Sample Date	Sampled By	Sample Depth	Laboratory Analytical Testing Results Polynuclear Aromatic Hydrocarbons (PAHs) by EPA 8270-SIM (ug/kg) Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	Total PAHs
PNG Geoprobe Samples			(ft. bgs)							
B2-12	12/17/1998	PNG	12	**600**	300 U	300 U	300 U	300 U	**400**	**1,000**
Kleinfelder Test Pits			(ft. bgs)							
TP-2-5	5/17/2000	Kleinfelder	5	**3,830**	3,300 U	3,300 U	3,300 U	3,300 U	**3,980**	**7,810**
TP-2-19	5/17/2000	Kleinfelder	19	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	--
TP-3-10	5/17/2000	Kleinfelder	10	**1,110**	660 U	660 U	660 U	**670**	**1,340**	**3,120**
TP-6-13	5/17/2000	Kleinfelder	13	26,900 U	26,900 U	26,900 U	26,900 U	**28,900**	26,900 U	**28,900**
TP-7-13	5/17/2000	Kleinfelder	13	**950**	3,300 U	3,300 U	3,300 U	3,300 U	**872**	**1,822**
TP-11-11	5/17/2000	Kleinfelder	11	3300 U	3,300 U	3,300 U	3,300 U	3,300 U	3,300 U	--
TP-15-21	5/17/2000	Kleinfelder	21	330 U	330 U	330 U	330 U	330 U	330 U	**460**
AMEC Soil Samples			(ft. bgs)							
MW-B 6-7	3/31/2009	AMEC	6-7	**77**	20 U	**32**	**37**	**43**	**80**	--
Columbia Steel Pile Removal Area			(ft. bgs)							
HA-CS-20	9/28/2020	BES	0.5	10 U	21 U	10 U	41 U	**22**	10 U	--
CS-15-PIT	5/28/2020	BES	0.5	**1,200**	**1,700**	**160**	**790**	**5,000**	**1,500**	--
BES Test Pits			(ft. bgs)							
T-Pit-1 0-18"	10/5/2023	BES	0-1.5	**69**	40 U	**79**	81 U	40 U	**91**	--
T-Pit-2 0-5'	10/5/2023	BES	0-5	**580**	42 U	**1,300**	84 U	**130**	**960**	--
T-Pit-3 0-18"	10/5/2023	BES	0-1.5	**140**	41 U	**270**	82 U	41 U	**180**	--
T-Pit-4 0-5'	10/5/2023	BES	0-5	**57**	39 U	**58**	78 U	**85**	**88**	--
T-Pit-5 0-18"	10/5/2023	BES	0-1.5	**78**	110 U	**150**	210 U	110 U	**150**	--
T-Pit-6 0-18"	10/5/2023	BES	0-1.5	**290**	38 U	**160**	77 U	**150**	**400**	--
T-Pit-6 0-5'	10/5/2023	BES	0-5	**250**	44 U	**240**	88 U	**100**	**370**	--
T-Pit-7 0-5'	10/5/2023	BES	0-5	43 U	**120**	86 U	**110**	**180**	--	--
T-Pit-8 0-18"	10/5/2023	BES	0-1.5	**52**	97 U	**60**	190 U	97 U	**80**	--
T-Pit-9 0-5'	10/5/2023	BES	0-5	**230**	40 U	**360**	80 U	**110**	**290**	--
T-Pit-10 0-18"	10/5/2023	BES	0-1.5	**42**	38 U	**52**	76 U	38 U	**62**	--
T-Pit-11 0-5'	10/5/2023	BES	0-5	**63**	42 U	**150**	85 U	42 U	**92**	--
T-Pit-12 0-18"	10/5/2023	BES	0-1.5	**28**	38 U	**50**	75 U	38 U	**43**	--
BES Geoprobe Samples			(ft. bgs)							
WP-1 0-5	11/21/2023	BES	0-5	**42**	44 U	**28**	88 U	44 U	**61**	--
WP-1 5-10	11/21/2023	BES	5-10	**120**	44U	**78**	88 U	**68**	**140**	--
WP-2 0-5	11/21/2023	BES	0-5	**51**	47 U	**33**	94 U	47 U	**71**	--
WP-2 5-10	11/21/2023	BES	5-10	**490**	**80**	**360**	86 U	**390**	**660**	--
WP-30-5	11/21/2023	BES	0-5	23 U	46 U	23 U	92 U	46 U	**38**	--
WP-3 5-10	11/21/2023	BES	5-10	**240**	41 U	**130**	83 U	**120**	**260**	--
WP-4 0-5	11/21/2023	BES	0-5	**85**	42 U	**23**	84 U	42 U	**100**	--
WP-4 5-10	11/21/2023	BES	5-10	**1,700**	**480**	**730**	**270**	**1,400**	**1,600**	--
WP-5 0-5	11/21/2023	BES	0-5	**56**	46 U	**62**	93 U	46 U	**75**	--
WP-6 0-5	11/21/2023	BES	0-5	**25**	22 U	11 U	45 U	22 U	**27**	--
WP-6 5-10	11/21/2023	BES	5-10	**110**	43 U	**48**	86 U	**79**	**140**	--
WP-7 0-5	11/21/2023	BES	0-5	**100**	21 U	**96**	84 U	**54**	**150**	--
WP-7 5-10	11/21/2023	BES	5-10	**5,000**	**180**	**1,800**	**190**	**2,300**	**6,500**	--
WP-8 0-5	11/21/2023	BES	0-5	**58**	22 U	**40**	43 U	22 U	**83**	--
WP-8 5-10	11/21/2023	BES	5-10	**3,800**	**49**	**1,700**	92 U	**1,000**	**5,200**	--
WP-9 0-5	11/21/2023	BES	0-5	**18,000**	**290**	**5,900**	80 U	**10,000**	**24,000**	--

Table 3C - West Property Soil Analytical Results: Polynulcear Aromatic Hydrocarbons (PAHs)

Sample ID	Sample Date	Sampled By	Sample Depth	Laboratory Analytical Testing Results Polynuclear Aromatic Hydrocarbons (PAHs) by EPA 8270-SIM (ug/kg) Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	Total PAHs
WP-9 5-10	11/21/2023	BES	5-10	**2,100**	**1,400**	**330**	**3,800**	**3,800**	**2,100**	--
WP-10 0-5	11/21/2023	BES	0-5	**350**	21 U	**600**	42 U	**83**	**470**	--
WP-10 5-10	11/21/2023	BES	5-10	**16**	22 U	**13**	43 U	22 U	**22**	--
WP-11 5-10	11/21/2023	BES	5-10	**20**	21 U	**17**	42 U	21 U	**26**	--
WP-12 0-5	11/21/2023	BES	0-5	**130**	21 U	**730**	41 U	**57**	**210**	--
WP-12 5-10	11/21/2023	BES	5-10	**30**	20 U	**56**	41 U	20 U	**45**	--
WP-13 0-5	11/21/2023	BES	0-5	**8,800**	**820**	**4,900**	**1,100**	**7,300**	**12,000**	--
WP-13 5-10	11/21/2023	BES	5-10	**170**	130 U	65 U	260 U	**320**	**280**	--
WP-13 10-15	11/21/2023	BES	10-15	**3,900**	**420**	**1,300**	**400**	**4,300**	**4,500**	--
ODEQ Cleanfill										
Clean Fill Screening Value				10,000	3,700	1,100	77	5,500	10,000	--
ODEQ Risk Based Concentrations										
Soil Ingestion, Dermal Contact, and Inhalation RBC - Residential				2,400,000	3,100,000	1,100	5,300	--	1,800,000	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Occupational				30,000,000	47,000,000	21,000	23,000	--	23,000,000	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Construction Worker				280,000,000	390,000,000	4,900,000	16,000,000	--	210,000,000	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Excavation Worker				10,000,000	14,000,000	170,000	580,000	--	7,500,000	--
Regional Screening Levels - Target hazard quotients = 0.1										
Soil Ingestion, Dermal Contact, and Inhalation for Residential				240,000	240,000	1,100	2,000	--	180,000	--
Soil Ingestion, Dermal Contact, and Inhalation for Industrial Worker				3,000,000	3,000,000	21,000	8,600	--	2,300,000	--

Table 3C - West Property Soil Analytical Results: Polynulcear Aromatic Hydrocarbons (PAHs)

Notes
DEQ - Department of Enviornmental Quality
EPA - Environmental Protection Angency
RBCs - Risk-Based Concentrations
bgs - Below ground surface
ug/kg - Micrograms per kilogram
U - analyte not detected above concentration indicated
-- - Analyte not analyzed, or no screening value for this analyte in this scenario
>Max - Substance is deemed not to pose risks in this scenario
Bolded - Analyte detected in the sample
- Analyte detected at a concentration at or above ODEQ RBCs

Table 4A -TASS 2 Property Shallow (< 3 feet bgs) Soil Analytical Results: Total Metals

Sample ID	Sample Date	Sampled By	Sample Depth (ft. bgs)	Laboratory Analytical Testing Results Total Metals by EPA 6020 (mg/kg)																
				Aluminum	Antimony	Arsenic	Barium	Berylium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
BES Test Pits			(ft. bgs)																	
T-Pit-1 0-18"	10/5/2023	BES	0-1.5	--	--	**4.44**	--	--	**0.449**	**113**	--	**34.4**	**84.1**	--	**0.0670**	--	--	--	--	**142**
T-Pit-2 0-5'	10/5/2023	BES	0-5	--	--	**5.00**	--	--	**0.352**	**51.8**	--	**30.6**	**59.2**	--	**0.161**	--	--	--	--	**127**
T-Pit-3 0-18"	10/5/2023	BES	0-1.5	--	--	**9.27**	--	--	**0.893**	**169**	--	**82.4**	**123**	--	**0.0719**	--	--	--	--	**232**
T-Pit-5 0-18"	10/5/2023	BES	0-1.5	--	--	**2.62**	--	--	**0.166**	**20.4**	--	**24.5**	**27.7**	--	**0.0226**	--	--	--	--	**84.1**
T-Pit-7 0-5'	10/5/2023	BES	0-5	--	--	**5.09**	--	--	**0.291**	**23.3**	--	**28.2**	**51.8**	--	**0.0639**	--	--	--	--	**145**
T-Pit-10 0-18"	10/5/2023	BES	0-1.5	--	--	**2.22**	--	--	**0.138**	**447**	--	**28.7**	**25.1**	--	**0.0180**	--	--	--	--	**70.8**
T-Pit-11 0-5'	10/5/2023	BES	0-5	--	--	**4.27**	--	--	**0.171**	**330**	--	**29.8**	**32.6**	--	**0.0246**	--	--	--	--	**104**
BES Geoprobe Samples			(ft. bgs)																	
WP-1 0-5	11/21/2023	BES	0-5	--	--	**5.63**	--	--	**0.149**	**22.9**	--	**21.3**	**76.7**	--	**0.0211**	--	--	--	--	**67.8**
WP-2 0-5	11/21/2023	BES	0-5	--	--	**9.12**	--	--	**0.137**	**26.8**	--	**20.8**	**24.0**	--	**0.0207**	--	--	--	--	**70.7**
WP-3 0-5	11/21/2023	BES	0-5	--	--	**3.86**	--	--	**0.084**	**22.5**	--	**18.7**	**13.0**	--	**0.0175**	--	--	--	--	**51.1**
WP-4 0-5	11/21/2023	BES	0-5	--	--	**2.49**	--	--	**0.120**	**21.2**	--	**14.4**	**12.4**	--	**0.0214**	--	--	--	--	**47.2**
WP-5 0-5	11/21/2023	BES	0-5	--	--	**6.91**	--	--	**0.141**	**99.5**	--	**22.4**	**15.3**	--	**0.0245**	--	--	--	--	**60.6**
WP-7 0-5	11/21/2023	BES	0-5	--	--	**7.07**	--	--	**0.145**	**22.5**	--	**20.7**	**20.2**	--	**0.0259**	--	--	--	--	**64.7**
WP-9 0-5	11/21/2023	BES	0-5	--	--	**4.06**	--	--	**0.098**	**22.6**	--	**17.4**	**16.4**	--	**0.0217**	--	--	--	--	**56.6**
WP-10 0-5	11/21/2023	BES	0-5	--	--	**3.76**	--	--	**0.208**	**23.4**	--	**24.0**	**25.6**	--	**0.0284**	--	--	--	--	**79.5**
WP-11 0-5	11/21/2023	BES	0-5	--	--	**5.47**	--	--	**0.218**	**21.9**	--	**24.2**	**27.7**	--	**0.0234**	--	--	--	--	**97.3**
WP-12 0-5	11/21/2023	BES	0-5	--	--	**4.54**	--	--	**0.223**	**20.8**	--	**23.6**	**88.4**	--	**0.0340**	--	--	--	--	**111**
WP-13 0-5	11/21/2023	BES	0-5	--	--	**2.84**	--	--	**0.273**	**20.8**	--	**34.3**	**63.3**	--	**0.0263**	--	--	--	--	**105**
ODEQ Cleanfill																				
Clean Fill Screening Value				--	0.56	8.8	790	2	0.63	76	43	34	28	1,800	0.23	47	0.71	0.82	5.2	180
ODEQ Risk Based Concentrations																				
Soil Ingestion, Dermal Contact, and Inhalation RBC - Residential				--	--	0.43*	15,000	160	78	120,000	--	3,100	400	1,800	23	1,500	--	390	--	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Occupational				--	--	1.9*	220,000	2,300	1,100	>Max	--	47,000	800	25,000	350	22,000	--	5,800	--	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Construction Worker				--	--	15	69,000	700	350	530,000	--	14,000	800	8,200	110	7,000	--	1,800	--	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Excavation Worker				--	--	420	>Max	19,000	9,700	>Max	--	390,000	800	230,000	2,900	190,000	--	49,000	--	--
Regional Screening Levels - Target hazard quotients = 0.1																				
Soil Ingestion, Dermal Contact, and Inhalation for Residential				7,700	3	0.68*	1,500	16	0.71	8,500	2.3	310	100 / 200**	--	1.1	--	39	39	--	2,300
Soil Ingestion, Dermal Contact, and Inhalation for Industrial Worker				110,000	47	3*	22,000	230	10	36,000	35	4,700	800	--	4.6	--	580	580	--	35,000

Notes

DEQ - Department of Enviornmental Quality

EPA - Environmental Protection Angency

RBCs - Risk-Based Concentrations

bgs - Below ground surface

mg/kg - Milligrams per kilogram

U - analyte not detected above concentration indicated

-- - Analyte not analyzed, or no screening value for this analyte in this scenario

>Max - Substance is deemed not to pose risks in this scenario

Bolded - Analyte detected in the sample

- Analyte detected at a concentration at or above ODEQ RBCs

* - Arsenic screening level values are below the naturally occuring background level of 8.8 mg/kg for this region

** - Pending forhcoming RBC values

Table 4B -TASS 2 Deep (> 3 feet bgs)Soil Analytical Results: Total Metals

Sample ID	Sample Date	Sampled By	Sample Depth (ft. bgs)	Laboratory Analytical Testing Results Total Metals by EPA 6020 (mg/kg)															
				Aluminum	Antimony	Arsenic	Barium	Berylium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganesese	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
Kleinfelder Test Pits			(ft. bgs)																	
TP-2-5	5/17/2000	Kleinfelder	5	--	--	**6.93**	**110**	--	**0.40**	**22**	--	--	**24**	--	**0.030**	--	0.25 U	0.3 U	--	--
TP-2-19	5/17/2000	Kleinfelder	19	--	--	**6.45**	**120**	--	**0.19**	**14**	--	--	**76**	--	**4.88**	--	0.25 U	0.3 U	--	--
Fujitani Hilts Sampling			(ft. bgs)																	
B1-S-4-10	5/17/2000	Fujitani	4-10	--	--	**1.08**	**52**	--	**0.042**	**11**	--	--	1.9 U	--	**0.0047**	--	0.25 U	0.30 U	--	--
B1-S-7-15	5/17/2000	Fujitani	7-15	--	--	**1.17**	**59**	--	**0.052**	**12**	--	--	2.3 U	--	**0.0095**	--	0.25 U	0.30 U	--	--
B1-S-10-21	5/17/2000	Fujitani	10-21	--	--	**8.24**	**160**	--	**0.10**	**25**	--	--	**7.0**	--	**0.021**	--	0.25 U	0.30 U	--	--
B2-S-4-10	5/18/2000	Fujitani	4-10	--	--	**3.69**	**120**	--	**0.21**	**16**	--	--	**28**	--	**0.219**	--	0.25 U	0.30 U	--	--
B2-S-7-15	5/18/2000	Fujitani	7-15	--	--	**3.29**	**160**	--	**0.14**	**20**	--	--	**17**	--	**0.011**	--	0.25 U	0.30 U	--	--
B2-S-10-20	5/18/2000	Fujitani	10-20	--	--	**3.63**	**120**	--	**0.16**	**15**	--	--	**11**	--	**0.018**	--	0.25 U	0.30 U	--	--
BES Geoprobe Samples			(ft. bgs)																	
WP-1 5-10	11/21/2023	BES	5-10	--	--	**5.42**	--	--	**0.219**	**22.8**	--	**22.3**	**52.3**	--	**0.0487**	--	--	--	--	**95.5**
WP-2 5-10	11/21/2023	BES	5-10	--	--	**10.4**	--	--	**0.147**	**24.1**	--	**15.9**	**17.2**	--	**0.0197**	--	--	--	--	**66.4**
WP-3 5-10	11/21/2023	BES	5-10	--	--	**7.96**	--	--	**0.199**	**28.2**	--	**38.5**	**38.4**	--	**0.0358**	--	--	--	--	**81.7**
WP-4 5-10	11/21/2023	BES	5-10	--	--	**12.1**	--	--	**0.226**	**28.3**	--	**97.3**	**71.2**	--	**0.0579**	--	--	--	--	**102**
WP-5 5-10	11/21/2023	BES	5-10	--	--	**3.10**	--	--	**0.106**	**21.5**	--	**17.1**	**18.4**	--	**0.0274**	--	--	--	--	**58.8**
WP-7 5-10	11/21/2023	BES	5-10	--	--	**5.17**	--	--	**0.131**	**21.3**	--	**30.0**	**32.9**	--	**0.0740**	--	--	--	--	**68.9**
WP-9 5-10	11/21/2023	BES	5-10	--	--	**4.12**	--	--	**0.177**	**21.6**	--	**24.8**	**23.5**	--	**0.0365**	--	--	--	--	**77.3**
WP-10 5-10	11/21/2023	BES	5-10	--	--	**4.44**	--	--	**0.195**	**21.5**	--	**18.1**	**41.7**	--	**0.0465**	--	--	--	--	**94.6**
WP-11 5-10	11/21/2023	BES	5-10	--	--	**8.40**	--	--	**0.186**	**22.2**	--	**15.5**	**26.5**	--	**0.0225**	--	--	--	--	**89.5**
WP-11 10-15	11/21/2023	BES	10-15	--	--	**5.58**	--	--	**0.255**	**24.4**	--	**31.1**	**105**	--	**0.0226**	--	--	--	--	**130**
WP-12 5-10	11/21/2023	BES	5-10	--	--	**2.95**	--	--	**0.169**	**16.8**	--	**25.3**	**29.3**	--	**0.0253**	--	--	--	--	**84.7**
WP-13 5-10	11/21/2023	BES	5-10	--	--	**3.09**	--	--	**0.210**	**17.2**	--	**14.6**	**33.3**	--	**0.0831**	--	--	--	--	**102**
WP-13 10-15	11/21/2023	BES	10-15	--	--	**4.66**	--	--	**0.243**	**21.0**	--	**16.8**	**111**	--	**0.0297**	--	--	--	--	**136**
ODEQ Cleanfill																				
Clean Fill Screening Value				--	0.56	8.8	790	2	0.63	76	43	34	28	1,800	0.23	47	0.71	0.82	5.2	180
ODEQ Risk Based Concentrations																				
Soil Ingestion, Dermal Contact, and Inhalation RBC - Residential				--	--	0.43*	15,000	160	78	120,000	--	3,100	400	1,800	23	1,500	--	390	--	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Occupational				--	--	1.9*	220,000	2,300	1,100	>Max	--	47,000	800	25,000	350	22,000	--	5,800	--	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Construction Worker				--	--	15	69,000	700	350	530,000	--	14,000	800	8,200	110	7,000	--	1,800	--	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Excavation Worker				--	--	420	>Max	19,000	9,700	>Max	--	390,000	800	230,000	2,900	190,000	--	49,000	--	--
Regional Screening Levels - Target hazard quotients = 0.1																				
Soil Ingestion, Dermal Contact, and Inhalation for Residential				7,700	3	0.68*	1,500	16	0.71	8,500	2.3	310	100 / 200 **	--	1.1	--	39	39	--	2,300
Soil Ingestion, Dermal Contact, and Inhalation for Industrial Worker				110,000	47	3*	22,000	230	10	36,000	35	4,700	800	--	4.6	--	580	580	--	35,000

Notes

DEQ - Department of Enviornmental Quality

EPA - Environmental Protection Angency

RBCs - Risk-Based Concentrations

bgs - Below ground surface

mg/kg - Milligrams per kilogram

U - analyte not detected above concentration indicated

-- - Analyte not analyzed, or no screening value for this analyte in this scenario

>Max - Substance is deemed not to pose risks in this scenario

Bolded - Analyte detected in the sample

- Analyte detected at a concentration at or above ODEQ RBCs

* - Arsenic screening level values are below the naturally occuring background level of 8.8 mg/kg for this region

** - Pending forhcoming RBC values

Table 4C -West Property Soil Analytical Results: Total Metals

Sample ID	Sample Date	Sampled By	Sample Depth (ft. bgs)	Laboratory Analytical Testing Results															
				Total Metals by EPA 6020 (mg/kg)															
				Aluminum	Antimony	Arsenic	Barium	Berylium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
Kleinfelder Test Pits			(ft. bgs)																	
TP-1-7	5/17/2000	Kleinfelder	7	--	--	**2.62**	**120**	--	**0.078**	**24**	--	--	**7.8**	--	**0.0075**	--	0.25 U	0.3 U	--	--
TP-1-19	5/17/2000	Kleinfelder	19	--	--	**7.19**	**220**	--	**0.26**	**24**	--	--	**74**	--	**0.030**	--	0.25 U	0.3 U	--	--
TP-2-5	5/17/2000	Kleinfelder	5	--	--	**6.93**	**110**	--	**0.40**	**22**	--	--	**24**	--	**0.030**	--	0.25 U	0.3 U	--	--
TP-2-19	5/17/2000	Kleinfelder	19	--	--	**6.45**	**120**	--	**0.19**	**14**	--	--	**76**	--	**4.88**	--	0.25 U	0.3 U	--	--
TP-3-10	5/17/2000	Kleinfelder	10	--	--	**7.70**	**180**	--	**0.20**	**26**	--	--	**31**	--	**0.077**	--	0.25 U	0.3 U	--	--
TP-3-21	5/17/2000	Kleinfelder	21	--	--	**5.23**	**220**	--	**0.19**	**31**	--	--	**20**	--	**0.027**	--	0.25 U	0.3 U	--	--
TP-4-11	5/17/2000	Kleinfelder	11	--	--	**4.91**	**170**	--	**0.17**	**25**	--	--	**22**	--	**0.032**	--	0.25 U	0.3 U	--	--
TP-4-21	5/17/2000	Kleinfelder	21	--	--	**4.97**	**190**	--	**0.25**	**26**	--	--	**130**	--	**0.053**	--	0.25 U	0.3 U	--	--
TP-5-11	5/17/2000	Kleinfelder	11	--	--	**2.76**	**150**	--	**0.08**	**27**	--	--	**7.4**	--	**0.021**	--	0.25 U	0.3 U	--	--
TP-5-21	5/17/2000	Kleinfelder	21	--	--	**6.94**	**150**	--	**0.27**	**23**	--	--	**13**	--	**0.025**	--	0.25 U	0.3 U	--	--
TP-6-5	5/17/2000	Kleinfelder	5	--	--	**20.90**	**210**	--	**0.13**	**30**	--	--	**17**	--	**0.037**	--	0.25 U	0.3 U	--	--
TP-6-13	5/17/2000	Kleinfelder	13	--	--	**21.70**	**140**	--	**3.36**	**45**	--	--	**81**	--	**0.130**	--	0.25 U	0.3 U	--	--
TP-7-5	5/17/2000	Kleinfelder	5	--	--	**2.69**	**130**	--	**0.13**	**18**	--	--	**27**	--	**0.040**	--	0.25 U	0.3 U	--	--
TP-7-17	5/17/2000	Kleinfelder	17	--	--	**2.56**	**80**	--	**0.11**	**21**	--	--	**17**	--	**0.024**	--	0.25 U	0.3 U	--	--
TP-8-5	5/17/2000	Kleinfelder	5	--	--	**6.38**	**130**	--	**0.17**	**20**	--	--	**10**	--	**0.018**	--	0.25 U	0.3 U	--	--
TP-8-19	5/17/2000	Kleinfelder	19	--	--	**3.56**	**110**	--	**0.12**	**17**	--	--	**7.3**	--	**0.011**	--	0.25 U	0.3 U	--	--
TP-9-5	5/17/2000	Kleinfelder	5	--	--	**3.00**	**110**	--	**0.13**	**18**	--	--	**18**	--	**0.021**	--	0.25 U	0.3 U	--	--
TP-9-11	5/17/2000	Kleinfelder	11	--	--	**6.04**	**200**	--	**0.11**	**25**	--	--	**17**	--	**0.017**	--	0.25 U	0.3 U	--	--
TP-10-10	5/17/2000	Kleinfelder	10	--	--	**5.25**	**150**	--	**0.14**	**27**	--	--	**56**	--	**0.025**	--	0.25 U	0.3 U	--	--
TP-10-16	5/17/2000	Kleinfelder	16	--	--	**4.45**	**200**	--	**0.47**	**25**	--	--	**74**	--	**0.064**	--	**0.32**	0.3 U	--	--
TP-11-5	5/17/2000	Kleinfelder	5	--	--	**3.80**	**150**	--	**0.13**	**22**	--	--	**17**	--	**0.020**	--	0.25 U	0.3 U	--	--
TP-11-11	5/17/2000	Kleinfelder	11	--	--	**4.51**	**110**	--	**0.30**	**17**	--	--	**45**	--	**0.028**	--	0.25 U	0.3 U	--	--
TP-11-21	5/17/2000	Kleinfelder	21	--	--	**2.00**	**100**	--	**0.08**	**21**	--	--	**11**	--	**0.009**	--	0.25 U	0.3 U	--	--
TP-12-5	5/17/2000	Kleinfelder	5	--	--	**2.40**	**140**	--	**0.07**	**35**	--	--	**8.4**	--	**0.036**	--	0.25 U	0.3 U	--	--
TP-12-21	5/17/2000	Kleinfelder	21	--	--	**7.62**	**180**	--	**0.11**	**25**	--	--	**15**	--	**0.024**	--	0.25 U	0.3 U	--	--
TP-13-19	5/17/2000	Kleinfelder	19	--	--	**3.33**	**140**	--	**0.15**	**22**	--	--	**4.8**	--	**0.021**	--	**0.27**	0.3 U	--	--
TP-13-21	5/17/2000	Kleinfelder	21	--	--	**2.97**	**140**	--	**0.10**	**25**	--	--	**4.7**	--	**0.020**	--	0.25 U	0.3 U	--	--
TP-14-12	5/17/2000	Kleinfelder	12	--	--	**9.11**	**180**	--	**0.19**	**26**	--	--	**19**	--	**0.042**	--	0.25 U	0.3 U	--	--
TP-14-20	5/17/2000	Kleinfelder	20	--	--	**3.60**	**160**	--	**0.14**	**19**	--	--	**6.7**	--	**0.024**	--	0.25 U	0.3 U	--	--
TP-15-12	5/17/2000	Kleinfelder	12	--	--	**4.78**	**200**	--	**0.21**	**22**	--	--	**22**	--	**0.031**	--	0.25 U	0.3 U	--	--
TP-15-21	5/17/2000	Kleinfelder	21	--	--	**16.30**	**140**	--	**0.14**	**28**	--	--	**8.9**	--	**0.018**	--	0.25 U	0.3 U	--	--
TP-16-5	5/17/2000	Kleinfelder	5	--	--	**2.98**	**150**	--	**0.13**	**19**	--	--	**11**	--	**0.014**	--	0.25 U	0.3 U	--	--
TP-16-9	5/17/2000	Kleinfelder	9	--	--	**2.35**	**100**	--	**0.11**	**17**	--	--	**12**	--	**0.026**	--	0.25 U	0.3 U	--	--
Fujitani Hilts Sampling			(ft. bgs)																	
B1-S-4-10'	5/17/2000	Fujitani	4-10	--	--	**1.08**	**52**	--	**0.042**	**11**	--	--	1.9 U	--	**0.0047**	--	0.25 U	0.30 U	--	--
B1-S-7-15	5/17/2000	Fujitani	7-15	--	--	**1.17**	**59**	--	**0.052**	**12**	--	--	2.3 U	--	**0.0095**	--	0.25 U	0.30 U	--	--
B1-S-10-21	5/17/2000	Fujitani	10-21	--	--	**8.24**	**160**	--	**0.10**	**25**	--	--	**7.0**	--	**0.021**	--	0.25 U	0.30 U	--	--
B2-S-4-10	5/18/2000	Fujitani	4-10	--	--	**3.69**	**120**	--	**0.21**	**16**	--	--	**28**	--	**0.219**	--	0.25 U	0.30 U	--	--
B2-S-7-15	5/18/2000	Fujitani	7-15	--	--	**3.29**	**160**	--	**0.14**	**20**	--	--	**17**	--	**0.011**	--	0.25 U	0.30 U	--	--
B2-S-10-20	5/18/2000	Fujitani	10-20	--	--	**3.63**	**120**	--	**0.16**	**15**	--	--	**11**	--	**0.018**	--	0.25 U	0.30 U	--	--
AMEC Soil Samples			(ft. bgs)																	
MW-B 6-7	3/31/2009	AMEC	6-7	--	--	**3.00**	**146**	--	**0.40**	**14.0**	--	--	**110**	--	**0.682**	--	1.00 U	0.10 U	--	--
MW-B 26-27	3/31/2009	AMEC	26-27	--	--	**1.08**	**144**	--	**0.12**	**20.4**	--	--	**5.08**	--	**0.023**	--	1.00 U	0.10 U	--	--
MW-C 30-31	4/1/2009	AMEC	30-31	--	--	**1,860**	**837**	--	**21.5**	**161**	-	--	**1,860**	--	**0.021**	--	1.00 U	**2.24**	--	--
Columbia Steel Test Pit			(ft. bgs)																	
SandMix-Top Layer	4/3/2020	BES	0.5	--	ND	ND	--	ND	**19.0**	**633**	--	**168**	**19.0**	--	ND	**1,190**	**2.8**	**0.3**	ND	**82.0**
Soil/Rock	4/3/2020	BES	0.5	--	**1.62**	**5.7**	--	**0.324**	**0.696**	**181**	--	**80.6**	**43.4**	--	ND	**452**	**2.83**	ND	ND	**114**
Soil/Clay	4/3/2020	BES	0.5	--	ND	**6.7**	--	**0.448**	**0.288**	**47.6**	--	**50.7**	**31.6**	--	ND	**43.7**	ND	ND	ND	**108**
BES Baseline			(ft. bgs)																	
HA-CS-1 0	5/8/2020	BES	0	--	**1.23**	**5.61**	--	0.055 U	**0.362**	**31.3**	**11.6**	**41.6**	**28.8**	**595**	**0.0455**	**26.1**	1.11 U	**0.0650**	**0.126**	**101**
HA-CS-1 6"	5/8/2020	BES	0.5	--	**1.16**	**4.84**	--	0.054 U	**0.232**	**25.0**	**11.8**	**38.0**	**37.5**	**643**	**0.0430**	**25.9**	1.08 U	**0.0700**	**0.116**	**96.3**
HA-CS-2 0	5/8/2020	BES	0	--	**0.759**	**4.58**	--	0.055 U	**0.193**	**22.3**	**12.3**	**28.0**	**20.9**	**512**	**0.0148**	**20.9**	1.10 U	0.055 U	**0.118**	**79.0**
HA-CS-2 6"	5/8/2020	BES	0.5	--	**0.915**	**6.45**	--	0.055 U	**0.197**	**20.5**	**13.1**	**38.8**	**21.8**	**584**	**0.0250**	**18.6**	1.10 U	0.055 U	**0.139**	**92.7**
HA-CS-1 0	5/8/2020	BES	0	--	**1.23**	**5.61**	--	0.055 U	**0.362**	**31.3**	**11.6**	**41.6**	**28.8**	**595**	**0.0455**	**26.1**	1.11 U	**0.0650**	**0.126**	**101**
Columbia Steel Pile Removal Area			(ft. bgs)																	
HA-CS-3	5/12/2020	BES	0	--	**0.852**	**3.37**	--	**0.286**	**0.352**	**307**	**46.6**	**238**	**20.9**	**5,200**	**0.0236**	**961**	2.17 U	0.108 U	0.108 U	**76.0**
HA-CS-3 6"	5/12/2020	BES	0.5	--	**1.04**	**3.95**	--	**0.334**	**0.344**	**671**	**39.0**	**100**	**26.9**	**6,130**	**0.0260**	**853**	2.10 U	0.105 U	0.105 U	**74.7**

Table 4C -West Property Soil Analytical Results: Total Metals

Sample ID	Sample Date	Sampled By	Sample Depth (ft. bgs)	Laboratory Analytical Testing Results															
				Total Metals by EPA 6020 (mg/kg)															
				Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
HA-CS-4 0	5/12/2020	BES	0	--	**0.877**	**4.17**	--	**0.569**	**0.306**	**27.2**	**13.4**	**32.8**	**70.3**	**485**	**0.0202**	**32.8**	2.29 U	**0.159**	**0.141**	**122**
HA-CS-4 6"	5/12/2020	BES	0.5	--	**0.736**	**4.47**	--	**0.677**	**0.321**	**28.1**	**12.9**	**37.0**	**74.7**	**530**	**0.0234**	**26.0**	2.16 U	**0.177**	**0.139**	**129**
HA-CS-10	5/27/2020	BES	0.5	--	--	--	--	--	**0.240**	**85.2**	--	**107**	--	**2,710**	--	**85.9**	1.32 U	--	--	--
HA-CS-11	5/27/2020	BES	0.5	--	--	--	--	--	**0.294**	**127**	--	**46.5**	--	**2,220**	--	**134**	1.30 U	--	--	--
HA-CS-12	5/27/2020	BES	0.5	--	--	--	--	--	**0.428**	**73.4**	--	**47.7**	--	**1,710**	--	**154**	1.31 U	--	--	--
HA-CS-13	9/28/2020	BES	0.5	--	--	--	--	--	**0.240**	**89.9**	--	**72.7**	--	**1,140**	--	**72.1**	1.30 U	--	--	--
HA-CS-14	9/28/2020	BES	0.5	--	--	--	--	--	**0.211**	**34.6**	--	**55.8**	--	**627**	--	**26.9**	1.33 U	--	--	--
HA-CS-15	9/28/2020	BES	0.5	--	--	--	--	--	**0.265**	**84.4**	--	**87.1**	--	**3,000**	--	**115**	1.32 U	--	--	--
HA-CS-16	5/28/2020	BES	0.5	--	--	--	--	--	**0.451**	**67.9**	--	**86.1**	--	**1,050**	--	**49.7**	1.34 U	--	--	--
HA-CS-17	9/28/2020	BES	0.5	--	--	--	--	--	**0.295**	**67.8**	--	**70.8**	--	**1,310**	--	**125**	1.33 U	--	--	--
CS-17-PILE	6/23/2020	BES	0.5	--	**1.20**	**8.85**	--	**0.693**	**0.414**	**75.6**	--	**42.1**	**48.6**	**1,040**	**0.0253**	**70.2**	1.09 U	**0.092**	**0.169**	**157**
HA-CS-18	9/28/2020	BES	0.5	**12,200**	**0.510**	**3.28**	**949**	**0.283**	**0.254**	**304**	**83.4**	**114**	**27.3**	**3,270**	0.0167 U	**1,790**	2.23 U	**0.148**	0.112 U	**136**
HA-CS-19 Ramp	9/28/2020	BES	0.5	--	--	--	--	--	**0.258**	**385**	--	**103**	--	**11,500**	--	**936**	**1.38**	--	--	--
HA-CS-19-RAMP-2	1/3/2024	BES	0.5	--	**1.26**	**5.49**	--	**0.548**	**0.334**	**209**	--	**97.1**	**39.2**	**4,860**	**0.0478**	**259**	2.02 U	0.101 U	**0.129**	**135**
HA-CS-20	9/28/2020	BES	0.5	**12,300**	**0.532**	**3.29**	--	**0.234**	**0.306**	**173**	**74.0**	**125**	**33.2**	--	0.0171 U	--	2.28 U	**0.171**	0.114 U	**153**
CS-15-PIT	5/28/2020	BES	0.5	--	**2.02**	**17.5**	--	**0.707**	**3.11**	**60.6**	--	**58.5**	**171**	**530**	**0.402**	**25.8**	1.76 U	**0.121**	**0.167**	**459**
SLR Sampling			(ft. bgs)																	
Former I (south)	6/29/2020	SLR	0-4	--	1.16 U	**4.01**	--	**0.439**	**0.339**	--	**82.4**	**93.7**	**24.4**	**4,250**	0.0930 U	**353**	**1.24**	0.233 U	0.233 U	**79.1**
Former I (south)	6/29/2020	SLR	12-16	--	1.22 U	**6.03**	--	**0.548**	0.245 U	--	**32.8**	**142**	**40.7**	**740**	0.0979 U	**32.6**	1.22 U	0.245 U	0.245 U	**131**
Former I (north)	6/29/2020	SLR	0-4	--	1.14 U	**4.14**	--	**0.515**	**0.445**	--	**53.3**	**46.2**	**241**	**1,980**	0.0910 U	**151**	1.14 U	0.227 U	0.227 U	**104**
Former I (north)	6/29/2020	SLR	12-16	--	1.19 U	**6.62**	--	**0.536**	**0.285**	--	**53.0**	**320**	**110**	**907**	**0.147**	**45.3**	1.19 U	0.239 U	0.239 U	**205**
Former M	6/29/2020	SLR	0-4	--	1.15 U	**4.51**	--	**0.380**	**0.287**	--	**33.5**	**78.7**	**30.6**	**3,760**	0.0922 U	**61.2**	1.15 U	0.230 U	0.230 U	**76**
Former M	6/29/2020	SLR	12-16	--	1.26 U	**6.75**	--	**0.514**	**0.462**	--	**39.5**	**136**	**28.9**	**595**	0.101 U	**24.7**	1.126 U	0.252 U	0.252 U	**94.8**
Former J	6/29/2020	SLR	0-4	--	1.12 U	**6.52**	--	**0.511**	**0.374**	--	**43.9**	**131**	**38.8**	**984**	0.0897 U	**65.9**	1.12 U	0.224 U	0.224 U	**140**
Former J	6/29/2020	SLR	12-16	--	1.15 U	**7.17**	--	**0.610**	**0.394**	--	**66.8**	**123**	**38.2**	**922**	0.0922 U	**53.1**	1.15 U	0.230 U	0.230 U	**117**
SW	6/29/2020	SLR	0-4	--	1.20 U	**4.80**	--	**0.370**	**0.414**	--	**70.3**	**66.4**	**30.0**	**3,950**	0.0962 U	**147**	1.20 U	0.240 U	0.240 U	**128**
SW	6/29/2020	SLR	12-16	--	1.19 U	**6.65**	--	**0.472**	**0.348**	--	**21.1**	**43.2**	**33.6**	**748**	0.0950 U	**25.7**	1.19 U	0.238 U	0.238 U	**83.5**
Former K	6/29/2020	SLR	0-4	--	1.18 U	**4.68**	--	**0.380**	**0.288**	--	**38.4**	**66.9**	**24.1**	**1,160**	0.0944 U	**103**	1.18 U	0.236 U	0.236 U	**77.9**
Former K	6/29/2020	SLR	12-16	--	**1.82**	**7.10**	--	**0.453**	**0.480**	--	**27.7**	**136**	**36.4**	**732**	0.100 U	**37.7**	1.25 U	0.251 U	0.251 U	**119**
BES Test Pits			(ft. bgs)																	
T-Pit-1 0-18"	10/5/2023	BES	0-1.5	--	--	**4.44**	--	--	**0.449**	**113**	--	**34.4**	**84.1**	--	**0.0670**	--	--	--	--	**142**
T-Pit-2 0-5'	10/5/2023	BES	0-5	--	--	**5.00**	--	--	**0.352**	**51.8**	--	**30.6**	**59.2**	--	**0.161**	--	--	--	--	**127**
T-Pit-3 0-18"	10/5/2023	BES	0-1.5	--	--	**9.27**	--	--	**0.893**	**169**	--	**82.4**	**123**	--	**0.0719**	--	--	--	--	**232**
T-Pit-4 0-5'	10/5/2023	BES	0-5	--	--	**3.63**	--	--	**0.252**	**21.3**	--	**21.6**	**69.9**	--	**0.048**	--	--	--	--	**112**
T-Pit-5 0-18"	10/5/2023	BES	0-1.5	--	--	**2.62**	--	--	**0.166**	**20.4**	--	**24.5**	**27.7**	--	**0.0226**	--	--	--	--	**84.1**
T-Pit-6 0-18"	10/5/2023	BES	0-1.5	--	--	**5.15**	--	--	**0.193**	**29.0**	--	**25.4**	**30.9**	--	**0.0391**	--	--	--	--	**90.4**
T-Pit-6 0-5'	10/5/2023	BES	0-5	--	--	**6.44**	--	--	**0.270**	**27.5**	--	**34.0**	**74.7**	--	**0.101**	--	--	--	--	**138**
T-Pit-7 0-5'	10/5/2023	BES	0-5	--	--	**5.09**	--	--	**0.291**	**23.3**	--	**28.2**	**51.8**	--	**0.0639**	--	--	--	--	**145**
T-Pit-8 0-18"	10/5/2023	BES	0-1.5	--	--	**2.72**	--	--	**0.165**	**18.9**	--	**30.9**	**16.0**	--	**0.0213**	--	--	--	--	**81.2**
T-Pit-9 0-5'	10/5/2023	BES	0-5	--	--	**3.70**	--	--	**0.168**	**24.3**	--	**26.2**	**29.0**	--	**0.0252**	--	--	--	--	**93.9**
T-Pit-10 0-18"	10/5/2023	BES	0-1.5	--	--	**2.22**	--	--	**0.138**	**447**	--	**28.7**	**25.1**	--	**0.0180**	--	--	--	--	**70.8**
T-Pit-11 0-5'	10/5/2023	BES	0-5	--	--	**4.27**	--	--	**0.171**	**330**	--	**29.8**	**32.6**	--	**0.0246**	--	--	--	--	**104**
T-Pit-12 0-18"	10/5/2023	BES	0-1.5	--	--	**3.12**	--	--	**0.153**	**19.7**	--	**19.9**	**16.1**	--	**0.0273**	--	--	--	--	**78.1**
BES Geoprobe Samples			(ft. bgs)																	
WP-1 0-5	11/21/2023	BES	0-5	--	--	**5.63**	--	--	**0.149**	**22.9**	--	**21.3**	**76.7**	--	**0.0211**	--	--	--	--	**67.8**
WP-1 5-10	11/21/2023	BES	5-10	--	--	**5.42**	--	--	**0.219**	**22.8**	--	**22.3**	**52.3**	--	**0.0487**	--	--	--	--	**95.5**
WP-2 0-5	11/21/2023	BES	0-5	--	--	**9.12**	--	--	**0.137**	**26.8**	--	**20.8**	**24.0**	--	**0.0207**	--	--	--	--	**70.7**
WP-2 5-10	11/21/2023	BES	5-10	--	--	**10.4**	--	--	**0.147**	**24.1**	--	**15.9**	**17.2**	--	**0.0197**	--	--	--	--	**66.4**
WP-3 0-5	11/21/2023	BES	0-5	--	--	**3.86**	--	--	**0.084**	**22.5**	--	**18.7**	**13.0**	--	**0.0175**	--	--	--	--	**51.1**
WP-3 5-10	11/21/2023	BES	5-10	--	--	**7.96**	--	--	**0.199**	**28.2**	--	**38.5**	**38.4**	--	**0.0358**	--	--	--	--	**81.7**
WP-4 0-5	11/21/2023	BES	0-5	--	--	**2.49**	--	--	**0.120**	**21.2**	--	**14.4**	**12.4**	--	**0.0214**	--	--	--	--	**47.2**
WP-4 5-10	11/21/2023	BES	5-10	--	--	**12.1**	--	--	**0.226**	**28.3**	--	**97.3**	**71.2**	--	**0.0579**	--	--	--	--	**102**
WP-5 0-5	11/21/2023	BES	0-5	--	--	**6.91**	--	--	**0.141**	**99.5**	--	**22.4**	**15.3**	--	**0.0245**	--	--	--	--	**60.6**
WP-5 5-10	11/21/2023	BES	5-10	--	--	**3.10**	--	--	**0.106**	**21.5**	--	**17.1**	**18.4**	--	**0.0274**	--	--	--	--	**58.8**
WP-6 0-5	11/21/2023	BES	0-5	--	--	**6.38**	--	--	**0.126**	**23.3**	--	**16.6**	**16.9**	--	**0.0292**	--	--	--	--	**98.2**
WP-6 5-10	11/21/2023	BES	5-10	--	--	**4.99**	--	--	**0.130**	**25.7**	--	**26.6**	**23.7**	--	**0.0656**	--	--	--	--	**70.7**
WP-7 0-5	11/21/2023	BES	0-5	--	--	**7.07**	--	--	**0.145**	**22.5**	--	**20.7**	**20.2**	--	**0.0259**	--	--	--	--	**64.7**

Table 4C -West Property Soil Analytical Results: Total Metals

Sample ID	Sample Date	Sampled By	Sample Depth (ft. bgs)	Laboratory Analytical Testing Results															
				Total Metals by EPA 6020 (mg/kg)															
				Aluminum	Antimony	Arsenic	Barium	Berylium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
WP-7 5-10	11/21/2023	BES	5-10	--	--	**5.17**	--	--	**0.131**	**21.3**	--	**30.0**	**32.9**	--	**0.0740**	--	--	--	--	**68.9**
WP-8 0-5	11/21/2023	BES	0-5	--	--	**6.51**	--	--	**0.122**	**19.8**	--	**15.5**	**18.0**	--	**0.0182**	--	--	--	--	**66.5**
WP-8 5-10	11/21/2023	BES	5-10	--	--	**3.58**	--	--	**0.133**	**20.9**	--	**17.4**	**22.0**	--	**0.0250**	--	--	--	--	**75.9**
WP-9 0-5	11/21/2023	BES	0-5	--	--	**4.06**	--	--	**0.098**	**22.6**	--	**17.4**	**16.4**	--	**0.0217**	--	--	--	--	**56.6**
WP-9 5-10	11/21/2023	BES	5-10	--	--	**4.12**	--	--	**0.177**	**21.6**	--	**24.8**	**23.5**	--	**0.0365**	--	--	--	--	**77.3**
WP-10 0-5	11/21/2023	BES	0-5	--	--	**3.76**	--	--	**0.208**	**23.4**	--	**24.0**	**25.6**	--	**0.0284**	--	--	--	--	**79.5**
WP-10 5-10	11/21/2023	BES	5-10	--	--	**4.44**	--	--	**0.195**	**21.5**	--	**18.1**	**41.7**	--	**0.0465**	--	--	--	--	**94.6**
WP-11 0-5	11/21/2023	BES	0-5	--	--	**5.47**	--	--	**0.218**	**21.9**	--	**24.2**	**27.7**	--	**0.0234**	--	--	--	--	**97.3**
WP-11 5-10	11/21/2023	BES	5-10	--	--	**8.40**	--	--	**0.186**	**22.2**	--	**15.5**	**26.5**	--	**0.0225**	--	--	--	--	**89.5**
WP-11 10-15	11/21/2023	BES	10-15	--	--	**5.58**	--	--	**0.255**	**24.4**	--	**31.1**	**105**	--	**0.0226**	--	--	--	--	**130**
WP-12 0-5	11/21/2023	BES	0-5	--	--	**4.54**	--	--	**0.223**	**20.8**	--	**23.6**	**88.4**	--	**0.0340**	--	--	--	--	**111**
WP-12 5-10	11/21/2023	BES	5-10	--	--	**2.95**	--	--	**0.169**	**16.8**	--	**25.3**	**29.3**	--	**0.0253**	--	--	--	--	**84.7**
WP-13 0-5	11/21/2023	BES	0-5	--	--	**2.84**	--	--	**0.273**	**20.8**	--	**34.3**	**63.3**	--	**0.0263**	--	--	--	--	**105**
WP-13 5-10	11/21/2023	BES	5-10	--	--	**3.09**	--	--	**0.210**	**17.2**	--	**14.6**	**33.3**	--	**0.0831**	--	--	--	--	**102**
WP-13 10-15	11/21/2023	BES	10-15	--	--	**4.66**	--	--	**0.243**	**21.0**	--	**16.8**	**111**	--	**0.0297**	--	--	--	--	**136**
ODEQ Cleanfill																			
Clean Fill Screening Value				--	0.56	8.8	790	2	0.63	76	43	34	28	1,800	0.23	47	0.71	0.82	5.2	180
ODEQ Risk Based Concentrations																			
Soil Ingestion, Dermal Contact, and Inhalation RBC - Residential				--	--	0.43*	15,000	160	78	120,000	--	3,100	400	1,800	23	1,500	--	390	--	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Occupational				--	--	1.9*	220,000	2,300	1,100	>Max	--	47,000	800	25,000	350	22,000	--	5,800	--	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Construction Worker				--	--	15	69,000	700	350	530,000	--	14,000	800	8,200	110	7,000	--	1,800	--	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Excavation Worker				--	--	420	>Max	19,000	9,700	>Max	--	390,000	800	230,000	2,900	190,000	--	49,000	--	--
Regional Screening Levels - Target hazard quotients = 0.1																			
Soil Ingestion, Dermal Contact, and Inhalation for Residential				7,700	3	0.68*	1,500	16	0.71	8,500	2.3	310	100 / 200 **	--	1.1	--	39	39	--	2,300
Soil Ingestion, Dermal Contact, and Inhalation for Industrial Worker				110,000	47	3*	22,000	230	10	36,000	35	4,700	800	--	4.6	--	580	580	--	35,000

Notes
DEQ - Department of Enviornmental Quality
EPA - Environmental Protection Angency
RBCs - Risk-Based Concentrations
bgs - Below ground surface
mg/kg - Milligrams per kilogram
U - analyte not detected above concentration indicated
-- - Analyte not analyzed, or no screening value for this analyte in this scenario
>Max - Substance is deemed not to pose risks in this scenario
Bolded - Analyte detected in the sample
- Analyte detected at a concentration at or above ODEQ RBCs
* - Arsenic screening level values are below the naturally occuring background level of 8.8 mg/kg for this region
** - Pending forhcoming RBC values

Table 5A - TASS 2 Soil Analytical Results: Pesticides

Sample ID	Sample Date	Sampled By	Sample Depth	Laboratory Analytical Testing Results											
				Pesticides by EPA 8081B (ug/kg)											
				4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	Chlordane	delta-BHC	Dieldrin	Endosulfan I	Endosulfan II
BES Test Pits			(ft. bgs)												
T-Pit-7 0-5'	10/5/2023	BES	0-5	**120**	**91**	**150**	2.2 U	1.1 U	**3.90**	1.1 U	11 U	**0.35**	1.1 U	**1.40**	2.2 U
ODEQ Cleanfill															
Clean Fill Screening Value				6.3	10	10	23	--	270	--	910	--	4.5	640	640
ODEQ Risk Based Concentrations															
Soil Ingestion, Dermal Contact, and Inhalation RBC - Residential				2,200	1,800	1,900	31	--	--	--	1,700	--	34	380,000	380,000
Soil Ingestion, Dermal Contact, and Inhalation RBC - Occupational				12,000	8,200	8,500	130	--	--	--	7,400	--	140	4,900,000	4,900,000
Soil Ingestion, Dermal Contact, and Inhalation RBC - Construction Worker				9,700	66,000	66,000	1,100	--	--	--	61,000	--	1,200	1,600,000	1,600,000
Soil Ingestion, Dermal Contact, and Inhalation RBC - Excavation Worker				270,000	1,800,000	18,000,000	30,000	--	--	--	1,700,000	--	33,000	45,000,000	45,000,000
Regional Screening Levels - Target hazard quotients = 0.1															
Soil Ingestion, Dermal Contact, and Inhalation for Residential				2,300	2,000	1,900	39	16	0.71	300	3,600	--	34	47,000	--
Soil Ingestion, Dermal Contact, and Inhalation for Industrial Worker				9,700	9,300	8,500	180	230	10	1,300	50,000	--	140	700,000	--

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bgs - Below ground surface
ug/kg - Micrograms per kilogram
U - analyte not detected above concentration indicated
-- - Analyte not analyzed, or no screening value for this analyte in this scenario
>Max - Substance is deemed not to pose risks in this scenario
Bolded - Analyte detected in the sample
- Analyte detected at a concentration at or above ODEQ RBCs

Table 5A - TASS 2 Soil Analytical Results: Pesticides

Sample ID	Sample Date	Sampled By	Sample Depth		Laboratory Analytical Testing Results								
					Pesticides by EPA 8081B (ug/kg)								
				Endosulfan Sulfate	Endrin	Endrin Aldehyde	Endrin Ketone	gamma-BHC (Lindane)	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene	trans-Chlordane
BES Test Pits			(ft. bgs)										
T-Pit-7 0-5'	10/5/2023	BES	0-5	2.2 U	1.1 U	2.2 U	1.1 U	1.1 U	1.1 U	2.2 U	2.2 U	110 U	**4.80**
ODEQ Cleanfill													
Clean Fill Screening Value				--	1.4	--	--	9.5	17	4.2	5,100	360	--
ODEQ Risk Based Concentrations													
Soil Ingestion, Dermal Contact, and Inhalation RBC - Residential				--	19,000	--	--	490	110	55	--	490	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Occupational				--	250,000	--	--	2,100	450	240	--	2,100	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Construction Worker				--	80,000	--	--	17,000	4,000	2,000	--	17,000	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Excavation Worker				--	2,200,000	--	--	470,000	110,000	56,000	--	470,000	--
Regional Screening Levels - Target hazard quotients = 0.1													
Soil Ingestion, Dermal Contact, and Inhalation for Residential				38,000	1,900	--	--	570	1,300	2,300	70	490	--
Soil Ingestion, Dermal Contact, and Inhalation for Industrial Worker				490,000	25,000	--	--	2,500	6,300	35,000	330	2,100	--

Notes
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RBCs - Risk-Based Concentrations
bgs - Below ground surface
ug/kg - Micrograms per kilogram
U - analyte not detected above concentration indicated
-- - Analyte not analyzed, or no screening value for this analyte in this scenario
>Max - Substance is deemed not to pose risks in this scenario
Bolded - Analyte detected in the sample
 - Analyte detected at a concentration at or above ODEQ RB

Table 5B - West Property Soil Analytical Results: Pesticides

Sample ID	Sample Date	Sampled By	Sample Depth	Laboratory Analytical Testing Results										
				Pesticides by EPA 8081B (ug/kg)										
				4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	Chlordane	delta-BHC	Dieldrin	Endosulfan I
Columbia Steel Pile Removal Area			(ft. bgs)											
HA-CS-18	9/28/2020	BES	0.5	0.69 U	0.46 U	0.70 U	**0.86**	1.1 U	1.1 U	1.1 U	11 U	1.1 U	1.1 U	1.1 U
HA-CS-20	9/28/2020	BES	0.5	0.62 U	0.51 U	0.63 U	2.2 U	1.1 U	**0.68**	1.1 U	11 U	1.1 U	1.1 U	1.1 U
BES Test Pits			(ft. bgs)											
T-Pit-7 0-5'	10/5/2023	BES	0-5	**120**	**91**	**150**	2.2 U	1.1 U	**3.90**	1.1 U	11 U	**0.35**	1.1 U	**1.40**
ODEQ Cleanfill														
Clean Fill Screening Value				6.3	10	10	23	--	270	--	910	--	4.5	640
ODEQ Risk Based Concentrations														
Soil Ingestion, Dermal Contact, and Inhalation RBC - Residential				2,200	1,800	1,900	31	--	--	--	1,700	--	34	380,000
Soil Ingestion, Dermal Contact, and Inhalation RBC - Occupational				12,000	8,200	8,500	130	--	--	--	7,400	--	140	4,900,000
Soil Ingestion, Dermal Contact, and Inhalation RBC - Construction Worker				9,700	66,000	66,000	1,100	--	--	--	61,000	--	1,200	1,600,000
Soil Ingestion, Dermal Contact, and Inhalation RBC - Excavation Worker				270,000	1,800,000	18,000,000	30,000	--	--	--	1,700,000	--	33,000	45,000,000
Regional Screening Levels - Target hazard quotients =														
Soil Ingestion, Dermal Contact, and Inhalation for Residential				2,300	2,000	1,900	39	16	0.71	300	3,600	--	34	47,000
Soil Ingestion, Dermal Contact, and Inhalation for Industrial Worker				9,700	9,300	8,500	180	230	10	1,300	50,000	--	140	700,000

Notes
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RBCs - Risk-Based Concentrations
bgs - Below ground surface
ug/kg - Micrograms per kilogram
U - analyte not detected above concentration indicated
-- - Analyte not analyzed, or no screening value for this analyte in this scenario
>Max - Substance is deemed not to pose risks in this scenario
Bolded - Analyte detected in the sample
- Analyte detected at a concentration at or above ODEQ RBCs

Table 5B - West Property Soil Analytical Results: Pesticides

Sample ID	Sample Date	Sampled By	Sample Depth	Laboratory Analytical Testing Results									
				Pesticides by EPA 8081B (ug/kg)									
				Endosulfan II	Endosulfan Sulfate	Endrin	Endrin Aldehyde	Endrin Ketone	gamma-BHC (Lindane)	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene	trans-Chlordane
Columbia Steel Pile Removal Area			(ft. bgs)											
HA-CS-18	9/28/2020	BES	0.5	**1.0**	2.2 U	1.1 U	2.2 U	1.1 U	1.1 U	1.1 U	2.2 U	2.2 U	110 U	1.1 U
HA-CS-20	9/28/2020	BES	0.5	2.2 U	2.2 U	1.1 U	2.2 U	1.1 U	1.1 U	1.1 U	2.2 U	2.2 U	110 U	1.1 U
BES Test Pits			(ft. bgs)											
T-Pit-7 0-5'	10/5/2023	BES	0-5	2.2 U	2.2 U	1.1 U	2.2 U	1.1 U	1.1 U	1.1 U	2.2 U	2.2 U	110 U	**4.80**
ODEQ Cleanfill														
Clean Fill Screening Value				640	--	1.4	--	--	9.5	17	4.2	5,100	360	--
ODEQ Risk Based Concentrations														
Soil Ingestion, Dermal Contact, and Inhalation RBC - Residential				380,000	--	19,000	--	--	490	110	55	--	490	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Occupational				4,900,000	--	250,000	--	--	2,100	450	240	--	2,100	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Construction Worker				1,600,000	--	80,000	--	--	17,000	4,000	2,000	--	17,000	--
Soil Ingestion, Dermal Contact, and Inhalation RBC - Excavation Worker				45,000,000	--	2,200,000	--	--	470,000	110,000	56,000	--	470,000	--
Regional Screening Levels - Target hazard quotients =														
Soil Ingestion, Dermal Contact, and Inhalation for Residential				--	38,000	1,900	--	--	570	1,300	2,300	70	490	--
Soil Ingestion, Dermal Contact, and Inhalation for Industrial Worker				--	490,000	25,000	--	--	2,500	6,300	35,000	330	2,100	--

Notes
DEQ - Department of Enviornmental Quality
EPA - Environmental Protection Angency
RBCs - Risk-Based Concentrations
bgs - Below ground surface
ug/kg - Micrograms per kilogram
U - analyte not detected above concentration indicated
-- - Analyte not analyzed, or no screening value for this analyte in this scenario
>Max - Substance is deemed not to pose risks in this scenario
Bolded - Analyte detected in the sample
- Analyte detected at a concentration at or above ODEQ

Table 6A - TASS 2 Soil Analytical Results: Polychlorinated Biphenyls (PCBs)

Sample ID	Sample Date	Sampled By	Sample Depth	Laboratory Analytical Testing Results						
				Polychorinated Bipheynyls (PCBs) by EPA 8082 (ug/kg)						
				Aroclor 1016/1242	Aroclor 1221	Aroclor 1232	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs
BES Sample Points			(ft. bgs)							
WP-3 0-5	11/21/2023	BES	0-5	9.52 U	9.52 U	9.52 U	9.52 U	**15.9**	9.52 U	**15.9**
ODEQ Cleanfill										
Clean Fill Screening Value				41	4.8	4.8	7.3	41	240	230
ODEQ Risk Based Concentrations										
Soil Ingestion, Dermal Contact, and Inhalation RBC - Residential				--	--	--	--	--	--	230
Soil Ingestion, Dermal Contact, and Inhalation RBC - Occupational				--	--	--	--	--	--	590
Soil Ingestion, Dermal Contact, and Inhalation RBC - Construction Worker				--	--	--	--	--	--	4,900
Soil Ingestion, Dermal Contact, and Inhalation RBC - Excavation Worker				--	--	--	--	--	--	140,000
Regional Screening Levels - Target hazard quotients = 0.1										
Soil Ingestion, Dermal Contact, and Inhalation for Residential				410 / 230	200	170	230	120	240	--
Soil Ingestion, Dermal Contact, and Inhalation for Industrial Worker				5,100 / 950	830	720	940	970	990	--

Notes

DEQ - Department of Enviornmental Quality

EPA - Environmental Protection Angency

RBCs - Risk-Based Concentrations

bgs - Below ground surface

ug/kg - Micrograms per kilogram

U - analyte not detected above concentration indicated

-- - Analyte not analyzed, or no screening value for this analyte in this scenario

>Max - Substance is deemed not to pose risks in this scenario

Bolded - Analyte detected in the sample

- Analyte detected at a concentration at or above ODEQ RBCs

Table 6B - West Property Soil Analytical Results: Polychlorinated Biphenyls (PCBs)

Sample ID	Sample Date	Sampled By	Sample Depth	Laboratory Analytical Testing Results						
				Polychorinated Bipheynyls (PCBs) by EPA 8082 (ug/kg)						
				Aroclor 1016/1242	Aroclor 1221	Aroclor 1232	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs
Columbia Steel Pile Removal Area			(ft. bgs)							
CS-15-PIT	5/28/2020	BES	0.5	13.2 U	26.4 U	13.2 U	13.2 U	**92.9**	**34.9**	**127.8**
BES Sample Points			(ft. bgs)							
WP-3 0-5	11/21/2023	BES	0-5	9.52 U	9.52 U	9.52 U	9.52 U	**15.9**	9.52 U	**15.9**
ODEQ Cleanfill										
Clean Fill Screening Value				41	4.8	4.8	7.3	41	240	230
ODEQ Risk Based Concentrations										
Soil Ingestion, Dermal Contact, and Inhalation RBC - Residential				--	--	--	--	--	--	230
Soil Ingestion, Dermal Contact, and Inhalation RBC - Occupational				--	--	--	--	--	--	590
Soil Ingestion, Dermal Contact, and Inhalation RBC - Construction Worker				--	--	--	--	--	--	4,900
Soil Ingestion, Dermal Contact, and Inhalation RBC - Excavation Worker				--	--	--	--	--	--	140,000
Regional Screening Levels - Target hazard quotients = 0.1										
Soil Ingestion, Dermal Contact, and Inhalation for Residential				410 / 230	200	170	230	120	240	--
Soil Ingestion, Dermal Contact, and Inhalation for Industrial Worker				5,100 / 950	830	720	940	970	990	--

Notes

DEQ - Department of Enviornmental Quality

EPA - Environmental Protection Angency

RBCs - Risk-Based Concentrations

bgs - Below ground surface

ug/kg - Micrograms per kilogram

U - analyte not detected above concentration indicated

-- - Analyte not analyzed, or no screening value for this analyte in this scenario

>Max - Substance is deemed not to pose risks in this scenario

Bolded - Analyte detected in the sample

- Analyte detected at a concentration at or above ODEQ RBCs

Table 7A - TASS 2 Groundwater Analytical Results

			Sampled By	**Enviro-Comp**				**PNG**		**Kleinfelder**	**PNG**		**Kleinfelder**	**Fujitani**	
			Sample ID	TP-1	TP-2	North Pit	South Pit	MW-3 (W-3)			MW-4 (W-4)			B-1 (B1RWS-1)	B-2 (B2WS-1)
			Sample Date	7/28/1997	7/28/1997	7/30/1997	7/30/1997	5/26/1999	7/28/1999	5/18/2000	5/26/1999	7/28/1999	5/18/2000	5/18/2000	5/18/2000
			Sample Depth (ft. bgs)	Unknown	Unknown	Unknown	Unknown	7.5 - 17.5			11.5 - 21.5				
Analyte	**ODEQ Risk Based Concentrations**			**Laboratory Analytical Testing Results (ug/L)**											
	Volatilization to Outdoor Air-Residential[2]	Volatilization to Outdoor Air-Occupational[1]	Construction and Excavation[3]												
Total Petroleum Hydrocarbons															
Gasoline-Range	>S	>S	14,000	--	--	--	--	**910**	**234**	--	80 U	80.0 U	--	250 U	250 U
Diesel-Range	>S	>S	>S	--	--	--	--	600 U	**656**	--	600 U	**639**	--	630 U	630 U
Oil-Range	--	--	--	**5,560**	**88,200**	**240,000**	**147,000**	1,200 U	**538**	--	1,200 U	**651**	--	630 U	630 U
Volatile Organic Compounds															
Acetone	--	--	--	--	--	--	--	--	--	**18.5**	--	--	10 U	10.0 U	**11.1**
Benzene	3,100	14,000	1,800	**3.53**	**9.36**	50 U	**13.8**	1 U	1 U	1.00 U	1 U	1 U	1.00 U	1.00 U	1.00 U
n-Butylbenzene	--	--	--	--	--	--	--	--	--	1.00 U	--	--	1.00 U	1.00 U	1.00 U
Carbon Disulfide	--	--	--	--	--	--	--	--	--	10 U	--	--	10 U	10.0 U	10.0 U
Carbon Tetrachloride	1,800	7,700	1,800	--	--	--	--	3 U	3 U	1.00 U	3 U	3 U	1.00 U	1.00 U	1.00 U
Chlorobenzene	>S	>S	10,000	--	--	--	--	**3**	1 U	1.00 U	1 U	1 U	1.00 U	1.00 U	1.00 U
Chlorethane	>S	>S	2,400,000	--	--	--	--	1 U	1 U	1.00 U	1 U	1 U	1.00 U	1.00 U	1.00 U
Chloroform	1,400	6,300	720	--	--	--	--	1 U	1 U	1.00 U	1 U	1 U	1.00 U	1.00 U	1.00 U
1,2-Dichlorobenzene	>S	>S	37,000	--	--	--	--	**12**	**3**	1.00 U	3 U	3 U	1.00 U	1.00 U	1.00 U
1,4-Dichlorobenzene	4,900	21,000	1,500	--	--	--	--	2 U	2 U	1.00 U	2 U	2 U	1.00 U	1.00 U	1.00 U
1,1-Dichloroethane (DCA)	16,000	68,000	10,000	--	--	--	--	2 U	2 U	1.00 U	2 U	2 U	**1.71**	1.00 U	1.00 U
1,2-Dichloroethane	--	--	--	--	--	--	--	3 U	3 U	1.00 U	3 U	3 U	1.00 U	1.00 U	1.00 U
1,1-Dichloroethene (DCE)	570,000	2,400,000	44,000	--	--	--	--	3 U	3 U	1.00 U	3 U	3 U	1.00 U	1.00 U	1.00 U
cis-1,2-DCE	>S	>S	18,000	--	--	--	--	--	--	1.00 U	--	--	**4.82**	1.00 U	1.00 U
trans-1,2-DCE	>S	>S	180,000	--	--	--	--	2 U	2 U	1.00 U	2 U	2 U	1.00 U	1.00 U	1.00 U
1,2-Dichloropropane	--	--	--	--	--	--	--	3 U	3 U	1.00 U	3 U	3 U	1.00 U	1.00 U	1.00 U
Ethylbenzene	9,900	43,000	4,500	**59.3**	**419**	**3,900**	**217**	3 U	3 U	1.00 U	3 U	3 U	1.00 U	1.00 U	1.00 U
Hexachlorobutadiene	>S	>S	>S	--	--	--	--	--	--	**2.01**	--	--	2.00 U	2.00 U	2.00 U
Methylene Chloride	--	--	--	--	--	--	--	4 U	4 U	5.00 U	4 U	4 U	5.00 U	5.00 U	5.00 U
Naphthalene	3,600	16,000	500	--	--	--	--	--	--	1.00 U	--	--	1.00 U	1.00 U	1.00 U
iso-Propylbenzene	>S	>S	51,000	--	--	--	--	--	--	1.00 U	--	--	1.00 U	1.00 U	1.00 U
n-Propylbenzene	--	--	--	--	--	--	--	--	--	1.00 U	--	--	1.00 U	1.00 U	1.00 U
p-Isopropyltoluene	--	--	--	--	--	--	--	--	--	1.00 U	--	--	1.00 U	1.00 U	1.00 U
Tetrachloroethene (PCE)	64,000	>S	5,600	--	--	--	--	2 U	2 U	1.00 U	2 U	2 U	1.00 U	1.00 U	1.00 U
Toluene	>S	>S	220,000	**6.12**	**21.7**	50 U	2.5 U	1 U	1 U	1.00 U	1 U	1 U	1.00 U	1.00 U	1.00 U
1,1,1-Trichloroethane	>S	>S	1,100,000	--	--	--	--	3 U	3 U	1.00 U	3 U	3 U	1.00 U	1.00 U	1.00 U
Trichloroethene (TCE)	3,300	20,000	430	--	--	--	--	4 U	4 U	1.00 U	4 U	4 U	1.00 U	1.00 U	1.00 U
1,2,4-Trimethylbenzene	>S	>S	6,300	--	--	--	--	--	--	1.00 U	--	--	1.00 U	1.00 U	1.00 U
1,3,5-Trimethylbenzene	>S	>S	7,500	--	--	--	--	--	--	1.00 U	--	--	1.00 U	1.00 U	1.00 U
Vinyl Chloride	350	5,900	960	--	--	--	--	50 U	50 U	1.00 U	50 U	50 U	1.00 U	1.00 U	1.00 U
m,p-Xylenes	--	--	--	--	--	--	--	--	--	2.00 U	--	--	2.00 U	2.00 U	2.00 U
o-Xylene	--	--	--	--	--	--	--	--	--	1.00 U	--	--	1.00 U	1.00 U	1.00 U
Total Xylenes	>S	>S	23,000	**208**	**1,790**	**15,000**	**59.0**	--	--	1.00 U	--	--	1.00 U	1.00 U	1.00 U

Table 7A - TASS 2 Groundwater Analytical Results

			Sampled By	**Enviro-Comp**				**PNG**		**Kleinfelder**	**PNG**		**Kleinfelder**	**Fujitani**	
			Sample ID	TP-1	TP-2	North Pit	South Pit	MW-3 (W-3)			MW-4 (W-4)			B-1 (B1RWS-1)	B-2 (B2WS-1)
			Sample Date	7/28/1997	7/28/1997	7/30/1997	7/30/1997	5/26/1999	7/28/1999	5/18/2000	5/26/1999	7/28/1999	5/18/2000	5/18/2000	5/18/2000
			Sample Depth (ft. bgs)	Unknown	Unknown	Unknown	Unknown	7.5 - 17.5			11.5 - 21.5				
Analyte	**ODEQ Risk Based Concentrations**			**Laboratory Analytical Testing Results (ug/L)**											
	Volatilization to Outdoor Air-Residential[2]	Volatilization to Outdoor Air-Occupational[1]	Construction and Excavation[3]												
Polycyclic Aromatic Hydrocarbons															
Acenapthene	>S	>S	>S	--	--	--	--	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5.0 U	5.0 U
Anthracene	>S	>S	>S	--	--	--	--	**10**	5 U	5.0 U	5 U	5 U	5.0 U	5.0 U	5.0 U
Benzo(a)anthracene	>S	>S	>S	--	--	--	--	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5.0 U	5.0 U
Benzo(a)pyrene	NV	NV	>S	--	--	--	--	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5.0 U	5.0 U
Benzo(b)fluoranthene	NV	NV	>S	--	--	--	--	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5.0 U	5.0 U
Benzo(ghi)perylene	--	--	--	--	--	--	--	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5.0 U	5.0 U
Benzo(k)fluoranthene	NV	NV	>S	--	--	--	--	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5.0 U	5.0 U
Chrysene	NV	NV	>S	--	--	--	--	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5.0 U	5.0 U
Dibenzo(a,h)anthracene	NV	NV	>S	--	--	--	--	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5.0 U	5.0 U
Dibenzofuran	--	--	--	--	--	--	--	--	--	5.0 U	--	--	5.0 U	5.0 U	5.0 U
1,2-Dichlorobenzene	>S	>S	37,000	--	--	--	--	**20**	5 U	5.0 U	5 U	5 U	5.0 U	5.0 U	5.0 U
2,4-Dimethylphenol	--	--	--	--	--	--	--	**110**	10 U	10 U	10 U	10 U	10 U	9 U	10 U
Fluoranthene	NV	NV	>S	--	--	--	--	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5.0 U	5.0 U
Fluorene	>S	>S	>S	--	--	--	--	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5.0 U	5.0 U
Indeno(1,2,3-ed)pyrene	NV	NV	>S	--	--	--	--	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5.0 U	5.0 U
2-Methylnaphthalene	--	--	--	--	--	--	--	--	--	10 U	--	--	10 U	5.0 U	5.0 U
3,4-Methylphenol	--	--	--	--	--	--	--	--	--	5.0 U	--	--	5.0 U	5.0 U	5.0 U
Naphthalene	3,600	16,000	500	--	--	--	--	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5.0 U	5.0 U
Phenanthrene	--	--	--	--	--	--	--	**10**	5 U	5.0 U	5 U	5 U	5.0 U	5.0 U	5.0 U
Phenol	--	--	--	--	--	--	--	10 U	10 U	5.0 U	10 U	10 U	5.0 U	5.0 U	5.0 U
bis(2-ethylhexyl)Phthalate	--	--	--	--	--	--	--	**50**	10 U	10 U	10 U	10 U	10 U	10 U	**21.2**
di-n-butyl Phthalate	--	--	--	--	--	--	--	**100**	20 U	5.0 U	20 U	20 U	5.0 U	5.0 U	5.0 U
Pyrene	>S	>S	>S	--	--	--	--	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5.0 U	5.0 U
Total Metals															
Arsenic	NV	NV	6,300	--	--	--	--	--	--	**60**	--	--	**300**	--	--
Barium	NV	NV	>S	--	--	--	--	--	--	**2,700**	--	--	**4,600**	--	--
Cadmium	NV	NV	130,000	--	--	--	--	--	--	30 U	--	--	**49**	--	--
Chromium	NV	NV	9,400	--	--	--	--	--	--	**500**	--	--	**1,100**	--	--
Copper	NV	NV	5,400,000	--	--	--	--	--	--	--	--	--	--	--	--
Lead	NV	NV	>S	--	--	--	--	--	--	**1,500**	--	--	**5,700**	--	--
Mercury	NV	NV	>S	--	--	--	--	--	--	**2.6**	--	--	**2.4**	--	--
Selenium	--	--	--	--	--	--	--	--	--	10 U	--	--	10 U	--	--
Silver	NV	NV	1,100,000	--	--	--	--	--	--	10 U	--	--	**15**	--	--
Zinc	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dissolved Metals															
Arsenic	--	--	--	--	--	--	--	--	--	--	--	--	--	10 U	**10**
Barium	--	--	--	--	--	--	--	--	--	--	--	--	--	**30**	**97**
Cadmium	--	--	--	--	--	--	--	--	--	--	--	--	--	30 U	30 U
Chromium	--	--	--	--	--	--	--	--	--	--	--	--	--	30 U	30 U
Lead	--	--	--	--	--	--	--	--	--	--	--	--	--	100 U	100 U
Mercury	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2 U	0.2 U
Selenium	--	--	--	--	--	--	--	--	--	--	--	--	--	10 U	**18**
Silver	--	--	--	--	--	--	--	--	--	--	--	--	--	10 U	10 U

Table 7B - West Property Groundwater Analytical Results

			Sampled By	**Enviro-Comp**				**PNG**					**Kleinfelder**	**PNG**		**Kleinfedler**
			Sample ID	TP-1	TP-2	North Pit	South Pit	B1-W	B2-W	B3-W	MW-1 (W-1)			MW-2 (W-2)		
			Sample Date	7/28/1997	7/28/1997	7/30/1997	7/30/1997	12/18/1998	12/18/1998	12/18/1998	5/26/1999	7/28/1999	5/18/2000	5/26/1999	7/28/1999	5/18/2000
			Sample Depth (ft. bgs)	Unknown	Unknown	Unknown	Unknown	16 - 20	28 - 32	16 - 20	14.5 - 24.5			11.5 - 21.5		
Analyte	**ODEQ Risk Based Concentrations**			**Laboratory Analytical Testing Results (ug/L)**												
	Volatilization to Outdoor Air-Residential[2]	Volatilization to Outdoor Air-Occupational[1]	Construction and Excavation[3]													
Total Petroleum Hydrocarbons																
Gasoline-Range	>S	>S	14,000	--	--	--	--	200 U	250 U	250 U	**244**	**125**	--	**109**	**123**	--
Diesel-Range	>S	>S	>S	--	--	--	--	250 U	**2090**	250 U	600 U	**1,840**	--	600 U	**599**	--
Oil-Range	--	--	--	**5,560**	**88,200**	**240,000**	**147,000**	500 U	**1640**	500 U	1200 U	**1,020**	--	**2,130**	500 U	--
Volatile Organic Compounds																
Acetone	--	--	--	--	--	--	--	20 U	20 U	20 U	--	--	10 U	--	--	10 U
Benzene	3,100	14,000	1,800	**3.53**	**9.36**	50 U	**13.8**	**28**	0.5 U	**0.9**	1 U	**1**	**1.13**	1 U	1 U	1.00 U
n-Butylbenzene	--	--	--	--	--	--	--	2 U	2 U	2 U	--	--	**1.01**	--	--	1.00 U
Carbon Disulfide	--	--	--	--	--	--	--	**1.7**	**0.8**	0.5 U	--	--	10 U	--	--	10 U
Carbon Tetrachloride	1,800	7,700	1,800	--	--	--	--	0.5 U	0.5 U	0.5 U	3 U	3 U	1 U	3 U	3 U	1.00 U
Chlorobenzene	>S	>S	10,000	--	--	--	--	0.5 U	0.5 U	0.5 U	**19**	**9**	**4.21**	1 U	1 U	1.00 U
Chlorethane	>S	>S	2,400,000	--	--	--	--	0.5 U	0.5 U	0.5 U	**9**	**12**	**7.46**	1 U	1 U	1.00 U
Chloroform	1,400	6,300	720	--	--	--	--	0.5 U	0.5 U	0.5 U	1 U	1 U	1.00 U	1 U	1 U	1.00 U
1,2-Dichlorobenzene	>S	>S	37,000	--	--	--	--	0.5 U	0.5 U	0.5 U	3 U	3 U	1.00 U	3 U	3 U	1.00 U
1,4-Dichlorobenzene	4,900	21,000	1,500	--	--	--	--	0.5 U	0.5 U	0.5 U	2 U	2 U	1.00 U	2 U	2 U	1.00 U
1,1-Dichloroethane (DCA)	16,000	68,000	10,000	--	--	--	--	0.5 U	**0.9**	0.5 U	2 U	2 U	1.00 U	2 U	2 U	1.00 U
1,2-Dichloroethane	--	--	--	--	--	--	--	0.5 U	0.5 U	0.5 U	3 U	3 U	1.00 U	3 U	3 U	1.00 U
1,1-Dichloroethene (DCE)	570,000	2,400,000	44,000	--	--	--	--	0.5 U	0.5 U	**0.9**	3 U	3 U	1.00 U	3 U	3 U	1.00 U
cis-1,2-DCE	>S	>S	18,000	--	--	--	--	0.5 U	**1.0**	**58**	--	--	1.00 U	--	--	1.00 U
trans-1,2-DCE	>S	>S	180,000	--	--	--	--	0.5 U	0.5 U	**1.8**	2 U	2 U	1.00 U	2 U	2 U	1.00 U
1,2-Dichloropropane	--	--	--	--	--	--	--	0.5 U	0.5 U	0.5 U	3 U	3 U	1.00 U	3 U	3 U	1.00 U
Ethylbenzene	9,900	43,000	4,500	**59.3**	**419**	**3,900**	**217**	**6.7**	0.5 U	0.5 U	**5**	3 U	**1.44**	3 U	3 U	1.00 U
Hexachlorobutadiene	>S	>S	>S	--	--	--	--	2 U	3 U	4 U	--	--	**2.64**	--	--	**3.01**
Methylene Chloride	--	--	--	--	--	--	--	1 U	1 U	1 U	3 U	4 U	5.00 U	4 U	4 U	5.00 U
Naphthalene	3,600	16,000	500	--	--	--	--	0.5 U	**100**	0.5 U	--	--	1.00 U	--	--	1.00 U
iso-Propylbenzene	>S	>S	51,000	--	--	--	--	2 U	2 U	2 U	--	--	1.00 U	--	--	1.00 U
n-Propylbenzene	--	--	--	--	--	--	--	2 U	2 U	2 U	--	--	1.00 U	--	--	1.00 U
p-Isopropyltoluene	--	--	--	--	--	--	--	--	--	--	--	--	1.00 U	--	--	1.00 U
Tetrachloroethene (PCE)	64,000	>S	5,600	--	--	--	--	0.5 U	0.5 U	0.5 U	2 U	2 U	1.00 U	2 U	2 U	1.00 U
Toluene	>S	>S	220,000	**6.12**	**21.7**	50 U	2.5 U	**2.4**	0.5 U	0.5 U	1 U	1 U	1.00 U	1 U	1 U	1.00 U
1,1,1-Trichloroethane	>S	>S	1,100,000	--	--	--	--	0.5 U	0.5 U	0.5 U	3 U	3 U	1.00 U	3 U	3 U	1.00 U
Trichloroethene (TCE)	3,300	20,000	430	--	--	--	--	0.5 U	0.5 U	**5.5**	4 U	4 U	1.00 U	4 U	4 U	1.00 U
1,2,4-Trimethylbenzene	>S	>S	6,300	--	--	--	--	2 U	2 U	2 U	--	--	1.00 U	--	--	1.00 U
1,3,5-Trimethylbenzene	>S	>S	7,500	--	--	--	--	2 U	2 U	2 U	--	--	1.00 U	--	--	1.00 U
Vinyl Chloride	350	5,900	960	--	--	--	--	0.5 U	0.5 U	**35**	50 U	50 U	1.00 U	50 U	50 U	1.00 U
m,p-Xylenes	--	--	--	--	--	--	--	**1.0**	**0.5**	0.5 U	--	--	2.00 U	--	--	2.00 U
o-Xylene	--	--	--	--	--	--	--	**0.9**	0.5 U	0.5 U	--	--	1.00 U	--	--	1.00 U
Total Xylenes	>S	>S	23,000	**208**	**1,790**	**15,000**	**59.0**	**1.9**	**0.5**	0.5 U	--	--	1.00 U	--	--	1.00 U

Table 7B - West Property Groundwater Analytical Results

Sampled By				**Enviro-Comp**				**PNG**					**Kleinfelder**	**PNG**		**Kleinfedler**
Sample ID				TP-1	TP-2	North Pit	South Pit	B1-W	B2-W	B3-W	MW-1 (W-1)			MW-2 (W-2)		
Sample Date				7/28/1997	7/28/1997	7/30/1997	7/30/1997	12/18/1998	12/18/1998	12/18/1998	5/26/1999	7/28/1999	5/18/2000	5/26/1999	7/28/1999	5/18/2000
Sample Depth (ft. bgs)				Unknown	Unknown	Unknown	Unknown	16 - 20	28 - 32	16 - 20	14.5 - 24.5			11.5 - 21.5		
Analyte	**ODEQ Risk Based Concentrations**			**Laboratory Analytical Testing Results (ug/L)**												
	Volatilization to Outdoor Air-Residential[2]	Volatilization to Outdoor Air-Occupational[1]	Construction and Excavation[3]													
Polycyclic Aromatic Hydrocarbons																
Acenapthene	>S	>S	>S	--	--	--	--	10 U	10 U	10 U	5 U	5 U	25 U	**10**	**10**	5.0 U
Anthracene	>S	>S	>S	--	--	--	--	10 U	10 U	10 U	5 U	5 U	25 U	5 U	5 U	5.0 U
Benzo(a)anthracene	>S	>S	>S	--	--	--	--	10 U	10 U	10 U	5 U	5 U	25 U	5 U	5 U	5.0 U
Benzo(a)pyrene	NV	NV	>S	--	--	--	--	10 U	10 U	10 U	5 U	5 U	25 U	5 U	5 U	5.0 U
Benzo(b)fluoranthene	NV	NV	>S	--	--	--	--	10 U	10 U	10 U	5 U	5 U	25 U	5 U	5 U	5.0 U
Benzo(ghi)perylene	--	--	--	--	--	--	--	10 U	10 U	10 U	5 U	5 U	25 U	5 U	5 U	5.0 U
Benzo(k)fluoranthene	NV	NV	>S	--	--	--	--	10 U	10 U	10 U	5 U	5 U	25 U	5 U	5 U	5.0 U
Chrysene	NV	NV	>S	--	--	--	--	10 U	10 U	10 U	5 U	5 U	25 U	5 U	5 U	5.0 U
Dibenzo(a,h)anthracene	NV	NV	>S	--	--	--	--	10 U	10 U	10 U	5 U	5 U	25 U	5 U	5 U	5.0 U
Dibenzofuran	--	--	--	--	--	--	--	10 U	10 U	10 U	--	--	25 U	--	--	5.0 U
1,2-Dichlorobenzene	>S	>S	37,000	--	--	--	--	10 U	10 U	10 U	5 U	5 U	25 U	5 U	5 U	5.0 U
2,4-Dimethylphenol	--	--	--	--	--	--	--	10 U	10 U	10 U	**50**	**20**	50 U	10 U	10 U	10 U
Fluoranthene	NV	NV	>S	--	--	--	--	10 U	10 U	10 U	5 U	5 U	25 U	5 U	5 U	5.0 U
Fluorene	>S	>S	>S	--	--	--	--	10 U	10 U	10 U	5 U	5 U	25 U	5 U	**10**	5.0 U
Indeno(1,2,3-ed)pyrene	NV	NV	>S	--	--	--	--	10 U	10 U	10 U	5 U	5 U	25 U	5 U	5 U	5.0 U
2-Methylnaphthalene	--	--	--	--	--	--	--	10 U	**24**	10 U	5 U	--	25 U	--	--	10 U
3,4-Methylphenol	--	--	--	--	--	--	--	10 U	11 U	10 U	5 U	--	25 U	--	--	5.0 U
Naphthalene	3,600	16,000	500	--	--	--	--	10 U	**85**	10 U	5 U	5 U	25 U	5 U	5 U	5.0 U
Phenanthrene	--	--	--	--	--	--	--	10 U	10 U	10 U	5 U	5 U	25 U	5 U	5 U	5.0 U
Phenol	--	--	--	--	--	--	--	10 U	10 U	10 U	**30**	10 U	25 U	10 U	10 U	5.0 U
bis(2-ethylhexyl)Phthalate	--	--	--	--	--	--	--	10 U	10 U	10 U	**10**	10 U	50 U	**20**	10 U	10 U
di-n-butyl Phthalate	--	--	--	--	--	--	--	10 U	10 U	10 U	5 U	20 U	25 U	20 U	20 U	5.0 U
Pyrene	>S	>S	>S	--	--	--	--	10 U	10 U	10 U	5 U	5 U	25 U	5 U	5 U	5.0 U
Total Metals																
Arsenic	NV	NV	6,300	--	--	--	--	--	--	--	--	--	10 U	--	--	**20**
Barium	NV	NV	>S	--	--	--	--	--	--	--	--	--	**240**	--	--	**200**
Cadmium	NV	NV	130,000	--	--	--	--	--	--	--	--	--	30 U	--	--	30 U
Chromium	NV	NV	9,400	--	--	--	--	--	--	--	--	--	30 U	--	--	30 U
Copper	NV	NV	5,400,000	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	NV	NV	>S	--	--	--	--	--	--	--	--	--	100 U	--	--	100 U
Mercury	NV	NV	>S	--	--	--	--	--	--	--	--	--	**0.7**	--	--	0.2 U
Selenium	--	--	--	--	--	--	--	--	--	--	--	--	10 U	--	--	10 U
Silver	NV	NV	1,100,000	--	--	--	--	--	--	--	--	--	10 U	--	--	10 U
Zinc	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dissolved Metals																
Arsenic	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Barium	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 7B - West Property Groundwater Analytical Results

Sampled By				**PNG**		**Kleinfelder**	**PNG**		**Kleinfelder**	**PNG**		**Kleinfelder**	**PNG**		**Kleinfelder**	**PNG**	**Kleinfelder**
Sample ID				MW-3 (W-3)			MW-4 (W-4)			MW-5 (W-5)			MW-6 (W-6)			W-7 (W-5 Duplicate)	TP-6
Sample Date				5/26/1999	7/28/1999	5/18/2000	5/26/1999	7/28/1999	5/18/2000	5/26/1999	7/28/1999	5/18/2000	5/26/1999	7/28/1999	5/18/2000	7/28/1999	5/17/2000
Sample Depth (ft. bgs)				7.5 - 17.5			11.5 - 21.5			14.5 - 29.5			14.5 - 24.5			14.5-29.5	13-15
Analyte	**ODEQ Risk Based Concentrations**			**Laboratory Analytical Testing Results (ug/L)**													
	Volatilization to Outdoor Air-Residential[2]	Volatilization to Outdoor Air-Occupational[1]	Construction and Excavation[3]														
Total Petroleum Hydrocarbons																	
Gasoline-Range	>S	>S	14,000	**910**	**234**	--	80 U	80.0 U	--	**310**	80.0 U	--	80 U	80.0 U	--	80.0 U	--
Diesel-Range	>S	>S	>S	600 U	**656**	--	600 U	**639**	--	650 U	**764**	--	700 U	**580**	--	**580**	--
Oil-Range	--	--	--	1200 U	**538**	--	1200 U	**651**	--	1300 U	**656**	--	140 U	**528**	--	**528**	--
Volatile Organic Compounds																	
Acetone	--	--	--	--	--	**18.5**	--	--	10 U	--	--	10 U	--	--	10 U	--	**43.0**
Benzene	3,100	14,000	1,800	1 U	1 U	1.00 U	1 U	1 U	1.00 U	1 U	1 U	1.00 U	1 U	1 U	1.00 U	--	**8.59**
n-Butylbenzene	--	--	--	--	--	1.00 U	--	--	1.00 U	--	--	1.00 U	--	--	1.00 U	--	**1.04**
Carbon Disulfide	--	--	--	--	--	10 U	--	--	10 U	--	--	10 U	--	--	10 U	--	10 U
Carbon Tetrachloride	1,800	7,700	1,800	3 U	3 U	1.00 U	3 U	3 U	1.00 U	3 U	3 U	1.00 U	3 U	3 U	1.00 U	3 U	1.00 U
Chlorobenzene	>S	>S	10,000	**3**	1 U	1.00 U	1 U	1 U	1.00 U	1 U	1 U	1.00 U	1 U	1 U	1.00 U	--	**129**
Chlorethane	>S	>S	2,400,000	1 U	1 U	1.00 U	1 U	1 U	1.00 U	1 U	1 U	1.00 U	1 U	1 U	1.00 U	--	ND
Chloroform	1,400	6,300	720	1 U	1 U	1.00 U	1 U	1 U	1.00 U	1 U	1 U	1.00 U	1 U	1 U	1.00 U	--	1.00 U
1,2-Dichlorobenzene	>S	>S	37,000	**12**	**3**	1.00 U	3 U	3 U	1.00 U	3 U	3 U	1.00 U	3 U	3 U	1.00 U	--	**6.71**
1,4-Dichlorobenzene	4,900	21,000	1,500	2 U	2 U	1.00 U	2 U	2 U	1.00 U	2 U	2 U	1.00 U	2 U	2 U	1.00 U	--	**5.88**
1,1-Dichloroethane (DCA)	16,000	68,000	10,000	2 U	2 U	1.00 U	2 U	2 U	**1.71**	2 U	2 U	1.00 U	2 U	2 U	1.00 U	--	1.00 U
1,2-Dichloroethane	--	--	--	3 U	3 U	1.00 U	3 U	3 U	1.00 U	3 U	3 U	1.00 U	3 U	3 U	1.00 U	--	1.00 U
1,1-Dichloroethene (DCE)	570,000	2,400,000	44,000	3 U	3 U	1.00 U	3 U	3 U	1.00 U	3 U	3 U	1.00 U	3 U	3 U	1.00 U	--	ND
cis-1,2-DCE	>S	>S	18,000	--	--	1.00 U	--	--	**4.82**	--	--	1.00 U	--	--	1.00 U	--	**2.43**
trans-1,2-DCE	>S	>S	180,000	2 U	2 U	1.00 U	2 U	2 U	1.00 U	2 U	2 U	1.00 U	2 U	2 U	1.00 U	--	1.00 U
1,2-Dichloropropane	--	--	--	3 U	3 U	1.00 U	3 U	3 U	1.00 U	3 U	3 U	1.00 U	3 U	3 U	1.00 U	--	1.00 U
Ethylbenzene	9,900	43,000	4,500	3 U	3 U	1.00 U	3 U	3 U	1.00 U	3 U	3 U	1.00 U	3 U	3 U	1.00 U	--	**58.9**
Hexachlorobutadiene	>S	>S	>S	--	--	**2.01**	--	--	2.00 U	--	--	2.00 U	--	--	2.00 U	--	2.00 U
Methylene Chloride	--	--	--	4 U	4 U	5.00 U	4 U	4 U	5.00 U	4 U	4 U	5.00 U	4 U	4 U	5.00 U	4 U	5.00 U
Naphthalene	3,600	16,000	500	--	--	1.00 U	--	--	1.00 U	--	--	1.00 U	--	--	1.00 U	--	**17.1**
iso-Propylbenzene	>S	>S	51,000	--	--	1.00 U	--	--	1.00 U	--	--	1.00 U	--	--	1.00 U	--	**1.93**
n-Propylbenzene	--	--	--	--	--	1.00 U	--	--	1.00 U	--	--	1.00 U	--	--	1.00 U	--	**2.08**
p-Isopropyltoluene	--	--	--	--	--	1.00 U	--	--	1.00 U	--	--	1.00 U	--	--	1.00 U	--	**1.92**
Tetrachloroethene (PCE)	64,000	>S	5,600	2 U	2 U	1.00 U	2 U	2 U	1.00 U	2 U	2 U	1.00 U	2 U	2 U	1.00 U	--	1.00 U
Toluene	>S	>S	220,000	1 U	1 U	1.00 U	1 U	1 U	1.00 U	1 U	1 U	1.00 U	1 U	1 U	1.00 U	--	1.00 U
1,1,1-Trichloroethane	>S	>S	1,100,000	3 U	3 U	1.00 U	3 U	3 U	1.00 U	3 U	3 U	1.00 U	3 U	3 U	1.00 U	--	1.00 U
Trichloroethene (TCE)	3,300	20,000	430	4 U	4 U	1.00 U	4 U	4 U	1.00 U	4 U	4 U	1.00 U	4 U	4 U	1.00 U	--	1.00 U
1,2,4-Trimethylbenzene	>S	>S	6,300	--	--	1.00 U	--	--	1.00 U	--	--	1.00 U	--	--	1.00 U	--	**10.4**
1,3,5-Trimethylbenzene	>S	>S	7,500	--	--	1.00 U	--	--	1.00 U	--	--	1.00 U	--	--	1.00 U	--	**1.92**
Vinyl Chloride	350	5,900	960	50 U	50 U	1.00 U	50 U	50 U	1.00 U	50 U	50 U	1.00 U	50 U	50 U	1.00 U	--	**1.71**
m,p-Xylenes	--	--	--	--	--	2.00 U	--	--	2.00 U	--	--	2.00 U	--	--	2.00 U	--	**57.7**
o-Xylene	--	--	--	--	--	1.00 U	--	--	1.00 U	--	--	1.00 U	--	--	1.00 U	--	**28.3**
Total Xylenes	>S	>S	23,000	--	--	1.00 U	--	--	1.00 U	--	--	1.00 U	--	--	1.00 U	--	1.00 U

Table 7B - West Property Groundwater Analytical Results

			Sampled By	**PNG**		**Kleinfelder**	**PNG**		**Kleinfelder**	**PNG**		**Kleinfelder**	**PNG**		**Kleinfelder**	**PNG**	**Kleinfelder**
			Sample ID	MW-3 (W-3)			MW-4 (W-4)			MW-5 (W-5)			MW-6 (W-6)			W-7 (W-5 Duplicate)	TP-6
			Sample Date	5/26/1999	7/28/1999	5/18/2000	5/26/1999	7/28/1999	5/18/2000	5/26/1999	7/28/1999	5/18/2000	5/26/1999	7/28/1999	5/18/2000	7/28/1999	5/17/2000
			Sample Depth (ft. bgs)	7.5 - 17.5			11.5 - 21.5			14.5 - 29.5			14.5 - 24.5			14.5-29.5	13-15
Analyte	**ODEQ Risk Based Concentrations**			**Laboratory Analytical Testing Results (ug/L)**													
	Volatilization to Outdoor Air-Residential[2]	Volatilization to Outdoor Air-Occupational[1]	Construction and Excavation[3]														
Polycyclic Aromatic Hydrocarbons																	
Acenapthene	>S	>S	>S	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5 U	5 U	5.0 U	--	**10.5**
Anthracene	>S	>S	>S	**10**	5 U	5.0 U	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5 U	5 U	5.0 U	--	**11.3**
Benzo(a)anthracene	>S	>S	>S	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5 U	5 U	5.0 U	--	10 U
Benzo(a)pyrene	NV	NV	>S	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5 U	5 U	5.0 U	--	10 U
Benzo(b)fluoranthene	NV	NV	>S	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5 U	5 U	5.0 U	--	10 U
Benzo(ghi)perylene	--	--	--	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5 U	5 U	5.0 U	--	10 U
Benzo(k)fluoranthene	NV	NV	>S	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5 U	5 U	5.0 U	--	10 U
Chrysene	NV	NV	>S	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5 U	5 U	5.0 U	--	10 U
Dibenzo(a,h)anthracene	NV	NV	>S	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5 U	5 U	5.0 U	--	10 U
Dibenzofuran	--	--	--	--	--	5.0 U	--	--	5.0 U	--	--	5.0 U	--	--	5.0 U	--	10 U
1,2-Dichlorobenzene	>S	>S	37,000	**20**	5 U	5.0 U	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5 U	5 U	5.0 U	--	10 U
2,4-Dimethylphenol	--	--	--	**110**	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	--	20 U
Fluoranthene	NV	NV	>S	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5 U	5 U	5.0 U	--	**16.6**
Fluorene	>S	>S	>S	5 U	5 U	5.0 U	5 U	5 U	5.0 U	**5**	5 U	5.0 U	5 U	5 U	5.0 U	--	10 U
Indeno(1,2,3-ed)pyrene	NV	NV	>S	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5 U	5 U	5.0 U	--	10 U
2-Methylnaphthalene	--	--	--	--	--	10 U	--	--	10 U	--	--	10 U	--	--	10 U	--	**14.7**
3,4-Methylphenol	--	--	--	--	--	5.0 U	--	--	5.0 U	--	--	5.0 U	--	--	5.0 U	--	**10.1**
Naphthalene	3,600	16,000	500	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5 U	5 U	5.0 U	--	**23.3**
Phenanthrene	--	--	--	**10**	5 U	5.0 U	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5 U	5 U	5.0 U	--	**34.0**
Phenol	--	--	--	10 U	10 U	5.0 U	10 U	10 U	5.0 U	10 U	10 U	5.0 U	10 U	10 U	5.0 U	--	**67.1**
bis(2-ethylhexyl)Phthalate	--	--	--	**50**	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	--	**63.7**
di-n-butyl Phthalate	--	--	--	**100**	20 U	5.0 U	20 U	20 U	5.0 U	20 U	20 U	5.0 U	20 U	20 U	5.0 U	--	10 U
Pyrene	>S	>S	>S	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5 U	5 U	5.0 U	5 U	5 U	5.0 U	--	**15.3**
Total Metals																	
Arsenic	NV	NV	6,300	--	--	**60**	--	--	**300**	--	--	**62**	--	--	**21**	--	--
Barium	NV	NV	>S	--	--	**2,700**	--	--	**4,600**	--	--	**1,700**	--	--	**590**	--	--
Cadmium	NV	NV	130,000	--	--	30 U	--	--	**49**	--	--	30 U	--	--	30 U	--	--
Chromium	NV	NV	9,400	--	--	**500**	--	--	**1,100**	--	--	**200**	--	--	**32**	--	--
Copper	NV	NV	5,400,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	NV	NV	>S	--	--	**1,500**	--	--	**5,700**	--	--	**440**	--	--	100 U	--	--
Mercury	NV	NV	>S	--	--	**2.6**	--	--	**2.4**	--	--	**0.5**	--	--	0.2 U	--	--
Selenium	--	--	--	--	--	10 U	--	--	10 U	--	--	10 U	--	--	10 U	--	--
Silver	NV	NV	1,100,000	--	--	10 U	--	--	**15**	--	--	10 U	--	--	10 U	--	--
Zinc	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dissolved Metals																	
Arsenic	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**58**
Barium	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**19**
Cadmium	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	30 U
Chromium	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	30 U
Lead	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	100 U
Mercury	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2 U
Selenium	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	10 U
Silver	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	10 U

Table 7B - West Property Groundwater Analytical Results

			Sampled By	**Fujitani**		**South Larsen**	**GeoEngineers**		**South Larsen**	**GeoEngineers**		**South Larsen**	**GeoEngineers**
			Sample ID	B-1 (B1RWS-1)	B-2 (B2WS-1)	MW-A		MW-B	MW-C		MW-C Dup	MW-D	MW-6D
			Sample Date	5/17/2000	5/18/2000	4/22/2009	7/19/2011	7/19/2011	4/22/2009	7/19/2011	7/19/2011	4/22/2009	7/19/2011	7/19/2011
			Sample Depth (ft. bgs)			55	55	40	80	80	80	24	24	80
Analyte	**ODEQ Risk Based Concentrations**			**Laboratory Analytical Testing Results (ug/L)**										
	Volatilization to Outdoor Air-Residential[2]	Volatilization to Outdoor Air-Occupational[1]	Construction and Excavation[3]											
Total Petroleum Hydrocarbons														
Gasoline-Range	>S	>S	14,000	250 U	250 U	--	--	20 U	--	--	--	--	--	--
Diesel-Range	>S	>S	>S	630 U	630 U	--	--	50 U	--	--	--	--	--	--
Oil-Range	--	--	--	630 U	630 U	--	--	100 U	--	--	--	--	--	--
Volatile Organic Compounds														
Acetone	--	--	--	10.0 U	**11.1**	--	100 U	--	--	20 U	20 U	--	20 U	200 U
Benzene	3,100	14,000	1,800	1.00 U	1.00 U	--	**2.50**	--	--	**0.52**	**0.51**	--	0.1 U	**3.70**
n-Butylbenzene	--	--	--	1.00 U	1.00 U	--	10 U	--	--	2.0 U	2.0 U	--	2.0 U	20 U
Carbon Disulfide	--	--	--	10.0 U	10.0 U	--	2.5 U	--	--	0.50 U	0.50 U	--	0.50 U	5.0 U
Carbon Tetrachloride	1,800	7,700	1,800	1.00 U	1.00 U	1.0 U	0.1 U	0.02 U	1.0 U	0.02 U	0.02 U	1.0 U	0.02 U	0.1 U
Chlorobenzene	>S	>S	10,000	1.00 U	1.00 U	**34.9**	**86**	--	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	**59**
Chlorethane	>S	>S	2,400,000	1.00 U	1.00 U	2.0 U	**8.4**	--	2.0 U	**3.6**	**3.6**	2.0 U	0.50 U	**5.2**
Chloroform	1,400	6,300	720	1.00 U	1.00 U	**9.13**	0.1 U	--	**13.4**	0.02 U	0.02 U	**12.5**	**9.3**	**0.17**
1,2-Dichlorobenzene	>S	>S	37,000	1.00 U	1.00 U	**16.6**	**160**	--	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	**150**
1,4-Dichlorobenzene	4,900	21,000	1,500	1.00 U	1.00 U	1.0 U	**3.8**	--	1.0 U	0.02 U	0.02 U	1.0 U	0.02 U	**3.8**
1,1-Dichloroethane (DCA)	16,000	68,000	10,000	1.00 U	1.00 U	**19.1**	**180**	--	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	**330**
1,2-Dichloroethane	--	--	--	1.00 U	1.00 U	1.0 U	**0.220**	--	1.0 U	0.02 U	0.02 U	1.0 U	**0.130**	**0.360**
1,1-Dichloroethene (DCE)	570,000	2,400,000	44,000	1.00 U	1.00 U	**1.69**	**12**	--	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	**13**
cis-1,2-DCE	>S	>S	18,000	1.00 U	1.00 U	**255**	**1,900**	--	1.0 U	**0.97**	**0.97**	1.0 U	0.50 U	**2,400**
trans-1,2-DCE	>S	>S	180,000	1.00 U	1.00 U	**2.59**	**25**	--	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	**31**
1,2-Dichloropropane	--	--	--	1.00 U	1.00 U	**6.52**	**79**	--	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	**220**
Ethylbenzene	9,900	43,000	4,500	1.00 U	1.00 U	--	2.5 U	--	--	0.50 U	0.50 U	--	0.50 U	5.0 U
Hexachlorobutadiene	>S	>S	>S	2.00 U	2.00 U	--	10 U	--	--	2.0 U	2.0 U	--	2.0 U	20 U
Methylene Chloride	--	--	--	5.00 U	5.00 U	**58**	10 U	0.02 U	--	2.0 U	2.0 U	--	2.0 U	20 U
Naphthalene	3,600	16,000	500	1.00 U	1.00 U	--	10 U	--	--	2.0 U	2.0 U	--	2.0 U	20 U
iso-Propylbenzene	>S	>S	51,000	1.00 U	1.00 U	--	10 U	--	--	2.0 U	2.0 U	--	2.0 U	20 U
n-Propylbenzene	--	--	--	1.00 U	1.00 U	--	10 U	--	--	2.0 U	2.0 U	--	2.0 U	20 U
p-Isopropyltoluene	--	--	--	1.00 U	1.00 U	--	10 U	--	--	2.0 U	2.0 U	--	2.0 U	20 U
Tetrachloroethene (PCE)	64,000	>S	5,600	1.00 U	1.00 U	**256**	**21**	--	1.0 U	0.02 U	0.02 U	1.0 U	**0.063**	**9.9**
Toluene	>S	>S	220,000	1.00 U	1.00 U	--	2.5 U	--	--	0.50 U	0.50 U	--	0.50 U	5.0 U
1,1,1-Trichloroethane	>S	>S	1,100,000	1.00 U	1.00 U	**23.9**	**5.2**	--	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	5.0 U
Trichloroethene (TCE)	3,300	20,000	430	1.00 U	1.00 U	**152**	**540**	--	1.0 U	0.02 U	0.02 U	1.0 U	0.02 U	**190**
1,2,4-Trimethylbenzene	>S	>S	6,300	1.00 U	1.00 U	--	10 U	--	--	2.0 U	2.0 U	--	2.0 U	20 U
1,3,5-Trimethylbenzene	>S	>S	7,500	1.00 U	1.00 U	--	10 U	--	--	2.0 U	2.0 U	--	2.0 U	20 U
Vinyl Chloride	350	5,900	960	1.00 U	1.00 U	**15.6**	**170**	--	1.0 U	**0.76**	**0.75**	1.0 U	0.02 U	**1,200**
m,p-Xylenes	--	--	--	2.00 U	2.00 U	--	2.5 U	--	--	0.50 U	0.50 U	--	0.50 U	5.0 U
o-Xylene	--	--	--	1.00 U	1.00 U	--	2.5 U	--	--	0.50 U	0.50 U	--	0.50 U	5.0 U
Total Xylenes	>S	>S	23,000	1.00 U	1.00 U	--	2.5 U	--	--	0.50 U	0.50 U	--	0.50 U	5.0 U

Table 7B - West Property Groundwater Analytical Results

			Sampled By	**Fujitani**		**South Larsen**	**GeoEngineers**		**South Larsen**	**GeoEngineers**		**South Larsen**	**GeoEngineers**	
			Sample ID	B-1 (B1RWS-1)	B-2 (B2WS-1)	MW-A		MW-B	MW-C		MW-C Dup	MW-D		MW-6D
			Sample Date	5/17/2000	5/18/2000	4/22/2009	7/19/2011	7/19/2011	4/22/2009	7/19/2011	7/19/2011	4/22/2009	7/19/2011	7/19/2011
			Sample Depth (ft. bgs)			55	55	40	80	80	80	24	24	80
Analyte	**ODEQ Risk Based Concentrations**			**Laboratory Analytical Testing Results (ug/L)**										
	Volatilization to Outdoor Air-Residential[2]	Volatilization to Outdoor Air-Occupational[1]	Construction and Excavation[3]											
Polycyclic Aromatic Hydrocarbons														
Acenapthene	>S	>S	>S	5.0 U	5.0 U	--	--	--	--	--	--	--	--	--
Anthracene	>S	>S	>S	5.0 U	5.0 U	--	--	--	--	--	--	--	--	--
Benzo(a)anthracene	>S	>S	>S	5.0 U	5.0 U	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene	NV	NV	>S	5.0 U	5.0 U	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	NV	NV	>S	5.0 U	5.0 U	--	--	--	--	--	--	--	--	--
Benzo(ghi)perylene	--	--	--	5.0 U	5.0 U	--	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	NV	NV	>S	5.0 U	5.0 U	--	--	--	--	--	--	--	--	--
Chrysene	NV	NV	>S	5.0 U	5.0 U	--	--	--	--	--	--	--	--	--
Dibenzo(a,h)anthracene	NV	NV	>S	5.0 U	5.0 U	--	--	--	--	--	--	--	--	--
Dibenzofuran	--	--	--	5.0 U	5.0 U	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	>S	>S	37,000	5.0 U	5.0 U	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	--	--	--	9 U	10 U	--	--	--	--	--	--	--	--	--
Fluoranthene	NV	NV	>S	5.0 U	5.0 U	--	--	--	--	--	--	--	--	--
Fluorene	>S	>S	>S	5.0 U	5.0 U	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-ed)pyrene	NV	NV	>S	5.0 U	5.0 U	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	--	--	--	5.0 U	5.0 U	--	--	--	--	--	--	--	--	--
3,4-Methylphenol	--	--	--	5.0 U	5.0 U	--	--	--	--	--	--	--	--	--
Naphthalene	3,600	16,000	500	5.0 U	5.0 U	--	--	--	--	--	--	--	--	--
Phenanthrene	--	--	--	5.0 U	5.0 U	--	--	--	--	--	--	--	--	--
Phenol	--	--	--	5.0 U	5.0 U	--	--	--	--	--	--	--	--	--
bis(2-ethylhexyl)Phthalate	--	--	--	10 U	**21.2**	--	--	--	--	--	--	--	--	--
di-n-butyl Phthalate	--	--	--	5.0 U	5.0 U	--	--	--	--	--	--	--	--	--
Pyrene	>S	>S	>S	5.0 U	5.0 U	--	--	--	--	--	--	--	--	--
Total Metals														
Arsenic	NV	NV	6,300	--	--	--	--	--	--	--	--	--	0.5 U	--
Barium	NV	NV	>S	--	--	--	--	--	--	--	--	--	**15.6**	--
Cadmium	NV	NV	130,000	--	--	--	--	--	--	--	--	--	**0.29**	--
Chromium	NV	NV	9,400	--	--	--	--	--	--	--	--	--	0.5 U	--
Copper	NV	NV	5,400,000	--	--	--	--	--	--	--	--	--	**1.2**	--
Lead	NV	NV	>S	--	--	--	--	--	--	--	--	--	**0.03**	--
Mercury	NV	NV	>S	--	--	--	--	--	--	--	--	--	0.2 U	--
Selenium	--	--	--	--	--	--	--	--	--	--	--	--	1.0 U	--
Silver	NV	NV	1,100,000	--	--	--	--	--	--	--	--	--	0.02 U	--
Zinc	--	--	--	--	--	--	--	--	--	--	--	--	**7.3**	--
Dissolved Metals														
Arsenic	--	--	--	10 U	**10**	--	--	--	--	--	--	--	--	--
Barium	--	--	--	**30**	**97**	--	--	--	--	--	--	--	--	--
Cadmium	--	--	--	30 U	30 U	--	--	--	--	--	--	--	--	--
Chromium	--	--	--	30 U	30 U	--	--	--	--	--	--	--	--	--
Lead	--	--	--	100 U	100 U	--	--	--	--	--	--	--	--	--
Mercury	--	--	--	0.2 U	0.2 U	--	--	--	--	--	--	--	--	--
Selenium	--	--	--	10 U	**18**	--	--	--	--	--	--	--	--	--
Silver	--	--	--	10 U	10 U	--	--	--	--	--	--	--	--	--

Table 7B - West Property Groundwater Analytical Results

Notes
DEQ - Department of Environmental Quality
bgs - Below ground surface
ug/L - Micrograms per liter
ND - Analyte not detected in the sample
NV - Analyte is not a volatile substance
>S Analyte RBC exceeds the solubility limit
-- - Analyte not analyzed, or no screening value found for this analyte in this scenario
Bolded - Analyte detected in the sample
 - Analyte detected at a concentration at or above ODEQ RBCs

Table 8 - TASS 2 Soil Vapor Volatile Organic Compounds

Sample ID	Sample Date	Sampled By	Sample Depth (feet bgs)	**Laboratory Analytical Testing Results** (ug/m^3)																		
				TPHg	Benzene	Chlorobenzene	1,2-Dichlorobenzene	1,4-Dichlorobenzene	cis-1,2-Dichloroethene	Ethylbenzene	n-Hexane	Naphthalene	2-Propanol	n-Propylbenzene	Styrene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	m,p-Xylene	o-Xylene
SV-1-TO-15	4/24/2024	Haley & Aldrich	5	**94,000**	**340**	10 U	17 U	22 U	**180**	**23 J**	**670**	8.8 U	**82 J**	12 U	8.0 U	18 U	**35 J**	14 U	19 U	**36 J**	14 U	14 U	**31 J**	**23 J**
SV-2-TO-15	4/24/2024	Haley & Aldrich	5	**70,000**	**29**	5.5 U	9.1 U	11 U	**50**	5.8 U	**860**	4.7 U	19 U	6.2 U	4.2 U	9.9 U	**8.2 J**	7.5 U	10 U	**11 J**	7.5 U	7.4 U	**11 J**	**6.9 J**
SV-3-TO-15	4/25/2024	Haley & Aldrich	3	**30,000**	**2.7**	0.87 U	0.80 U	0.66 U	1.4 U	**0.95 J**	**87**	2.1 U	**6.4 J**	0.99 U	0.78 U	1.1 U	**4.1 J**	0.71 U	1.1 U	0.42 U	**1.6 J**	0.81 U	**1.4 J**	0.90 U
SV-4-TO-15	4/24/2024	Haley & Aldrich	5	**49,000**	**54**	5.7 U	9.5 U	12 U	**350**	6.1 U	**200**	4.9 U	**24 J**	6.5 U	4.4 U	**38 J**	**53**	7.8 U	11 U	**69**	7.8 U	7.8 U	**19 J**	6.1 U
SV-5-TO-15	4/24/2024	Haley & Aldrich	5	**49,000**	<4.4	5.7 U	9.5 U	12 U	5.1 U	6.1 U	**130**	4.9 U	20 U	6.5 U	4.4 U	10 U	**8.8 J**	7.8 U	11 U	9.5 U	7.8 U	7.8 U	3.7 U	6.1 U
SV-6-TO-15	4/25/2024	Haley & Aldrich	5	**57,000**	**46**	5.8 U	9.7 U	8.4 U	5.2 U	6.2 U	**610**	5.0 U	20 7	6.6 U	4.5 U	10 U	**26 J**	8.0 U	11 U	9.6 U	8.0 U	7.9 U	**4.0 J**	6.2 U
SV-8-TO-15	4/25/2024	Haley & Aldrich	5	**45,000**	**8.1 J**	5.4 U	9.0 U	<11 U	4.8 U	5.7 U	**480**	4.6 U	19 U	6.1 U	4.2 U	9.7 U	5.2 U	7.4 U	10 U	8.9 U	7.4 U	7.3 U	**4.2 J**	5.8 U
SV-9-TO-15	4/25/2024	Haley & Aldrich	5	**9,800**	**6.3**	0.26 U	0.24 U	0.19 U	0.40 U	**2.3**	**21**	0.62 U	**5.0 J**	**0.57 J**	0.23 U	0.32 U	**12**	0.21 U	0.34 U	0.12 U	**1.3**	**0.44 J**	**5.8**	**2.5**
SV-10-TO-15	4/25/2024	Haley & Aldrich	5	**310**	**5.2**	0.27 U	0.25 U	0.20 U	0.42 U	**3.0**	**3.2 J**	0.65 U	**2.4 J**	0.30 U	**0.32 J**	**3.0**	**28**	0.22 U	0.35 U	0.13 U	**0.65 J**	**0.28 J**	**9.0**	**3.2**
ODEQ Risk Based Concentrations																								
Volatilization to Outdoor Air - Site-Specific				24,000,000	36,000 (c) 3,100,000 (non-c)	6,400,000	33,000,000	42,000	4,200,000	140,000 (c) 130,000,000 (non-c)	89,000,000	12,000 (c) 450,000 (non-c)	NE	150,000,000	120,000,000	1,900,000	590,000,000	710,000,000	24,000	62,000	9,200,000	9,300,000	13,000,000	13,000,000

Notes:

ODEQ - Oregon Department of Enviornmental Quality

VOCs - Volatile organic compounds

(c) - risk-based concentration based on cancer risk

(non-c) - risk-based concentration based on non-cancer health risk

Bolded - Anaylte detected in the sample

bgs - below ground surface

ug/m^3 - milligrams per cubic meter

U - analyte not detected above concentration indicated

-- - Analyte not analyzed

TABLE 9
SOIL GAS SAMPLE ANALYTICAL RESULTS
WEST PROPERTY - TASS 2
PORTLAND, OREGON

Sample Name Sample Date Sample Depth (bgs)	SV-1-TO-15 4/24/2024 5 ft	SV-2-TO-15 4/24/2024 5 ft	SV-3-TO-15 4/25/2024 5 ft	SV-4-TO-15 4/24/2024 5 ft	SV-5-TO-15 4/24/2024 5 ft	SV-6-TO-15 4/25/2024 5 ft	SV-8-TO-15 4/25/2024 5 ft	SV-9-TO-15 4/25/2024 5 ft	SV-10-TO-15 4/25/2024 5 ft	Lower Explosive Limit (percent)	Upper Explosive Limit (percent)
Field Measurements (percent)											
Methane	**50.05**	**37.29**	**18.92**	**42.00**	**31.50**	**24.86**	**32.98**	**3.88**	**0.01**	5	15
Carbon Dioxide	**8.13**	**6.78**	**5.25**	**4.60**	**4.62**	**0.26**	**2.67**	**5.29**	**4.76**	NA	NA
Oxygen	**0.1**	**19.5**	**0.36**	**3.62**	**0.08**	**3.95**	**0.08**	**0.14**	**10.10**	NA	NA
Methane and Helium Analytical Results (percent)											
Methane	**49**	**40**	**18**	**48**	**30**	**25**	**31**	**3.7**	<0.00021	5	15
Helium	<0.11	<0.099	--	<0.10	<0.10	**0.19**	<0.097	<0.099	**13**	NA	NA

ABBREVIATIONS AND NOTES:

-: Not Analyzed

<: Not detected, value is the laboratory reporting limit

bgs: below ground surface

ft: feet

ug/m ^{3} : micrograms per cubic meter

NR: Not Reported

NA: Not applicable

Bolding denotes detected concentration.