DRAFT CONTAMINATED MEDIA MANAGEMENT PLAN

Former McMinnville Water & Light Property
455 NE Irvine Street
McMinnville, Yamhill County, Oregon

DEQ LUST No. 36-90-4088

April 25, 2023

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1.0 CMMP SUMMARY

This Contaminated Media Management Plan (CMMP) was prepared by Hahn and Associates, Inc. (HAI) to address the management of areas of known petroleum impacted soil at the 0.89-acre property and adjacent public right-of-way at 455 NE Irvine Street in McMinnville, Oregon. The key points and recommendations of the CMMP are presented below.

- Areas of Contamination (Section 4.0)
  Generally low to moderate levels of petroleum-related impact are present in both soil and groundwater beneath a portion of the property and adjacent public right-of-way. Two areas of impact, one with both soil and groundwater contamination and the other with groundwater contamination only, are present beneath the site and adjacent public rights-of-way, as shown on Figures 3 and 4. For the purpose of this CMMP, the two areas of groundwater impact have been combined into a single larger geographic area for simplicity of management. These two overall areas of known/potential petroleum impact (designated as Area 1 in soil and Area 2 in groundwater) are shown on Figure 5 and described below:

  - Area 1 (Soil Management Area) - Known gasoline, diesel-, and oil-range total petroleum hydrocarbons (TPH) and lead were detected in soil beneath the location of former (decommissioned by removal) diesel underground storage tanks (USTs) immediately northeast of the site building. Gasoline-range TPH and lead were present at concentrations greater than Clean Fill screening levels in discolored and odiferous soils present across depths of between 13 and 17 feet below ground surface (bgs) immediately beneath gravel backfill of the former diesel UST pit (boring P-3). Soils that exhibit discoloration or a petroleum odor do not qualify as Clean Fill, regardless of the low-level nature of contaminant concentrations.

    For the purpose of this CMMP, it is conservatively assumed that contaminated soils in this area could be encountered at depths as shallow as 7 feet bgs, coincident with the depth of the estimated high water table. As described in Section 6 of this CMMP, soils with field screening evidence of petroleum impact (any depth) or soils that are removed between depths of 7 and 17 feet bgs within Area 1 should be segregated and managed as contaminated soil unless analytical testing demonstrates otherwise. If left in-place, undisturbed, no actions are necessary for soils in Area 1.

- Area 2 (Groundwater Management Area) – Because of petroleum hydrocarbons in groundwater, any water collected from dewatering of excavations within Area 2 will require containerization, characterization (i.e., sampling and testing), and potentially permitting prior to discharge (Section 7.0). Depending on test results, this water may require permitted discharge to the sanitary sewer system or to another off-site treatment facility. If left in-place, undisturbed, no actions are necessary for groundwater in Area 2.

- Construction and Excavation Worker Considerations (Section 4.3)
  The identified areas of contamination discussed in this CMMP do not represent areas of potential concern with respect to chemical exposure to construction workers or other potential receptors. As such, and with exception of adherence to the guidelines and requirements of this CMMP, no special requirements for chemical hazards need be taken by construction workers during work activities at this site.

- Unidentified / Unanticipated Contamination (Section 4.4)
  The possibility of encountering unanticipated and previously unidentified areas of contamination beneath the property cannot be ruled out. For this reason, the CMMP includes sections relating to the preliminary identification of contaminated soil in the field (Sections 6.2 and 6.3) so that appropriate actions can be taken if contamination is unexpectedly encountered at the property. If previously unidentified areas of contamination are encountered at the property, the EP should be contacted to assess the situation.

- Areas/Zones That Can Be Assumed Uncontaminated (Section 4.5)
  As long as they do not display evidence of contamination in the field (odor, staining), or contain foreign debris (putrescible wastes, construction or demolition wastes, or industrial solid wastes), soils generated from depths shallower than 7 feet bgs within Area 1, or any soils generated outside of Area 1, would not require special management as contaminated media. Groundwater is considered contaminated within Area of 2. Groundwater generated outside of Area 2 can be considered uncontaminated as long as no visual evidence of contamination (e.g., sheen or petroleum odor) is observed.

- Contaminated Soil Management (Section 6.0)
  All soil excavated from below a depth of 7 feet bgs (estimated seasonal high water table) within Area 1 (Figure 5) should be assumed contaminated and managed in accordance with Section 6.0 of this document unless testing is conducted to determine otherwise.

Soils shallower than 7 feet bgs in Area 1 and across all depths at other areas can be assumed uncontaminated unless impact is suspected or confirmed based on criteria presented in Sections 6.3 and 6.4. Site workers should be made aware that if any soils exhibit signs of possible impact, certain measures must be implemented, as described in Section 6.0.

For petroleum-contaminated soils, or any other excavated soils that are found to be contaminated by petroleum hydrocarbons and associated chemicals, the default disposal location is a Resource Conservation and Recovery Act (RCRA) Subtitle D landfill, or other facility that is permitted to accept petroleum-contaminated soil. The Hillsboro Landfill in Hillsboro, Oregon is an example of such a facility.

Below is a table summarizing the known and potential areas of contaminated soil at the property that will require special management, and restrictions on its end use.

TABLE 1 – SUMMARY OF AREAS/ZONES REQUIRING SPECIAL MANAGEMENT

Area	Media Affected	Depths Affected(ft bgs)	Criteria For Determining Special Management	Disposal Location
Area 1	Soil	7 – 17	All soils removed from within Area 1 at the indicated depths unless testing determines otherwise.	RCRA Subtitle D Landfill
Area 2	Groundwater	Any Depth	Any water that is the result of dewatering from excavations.	Offsite treatment facility[1]

[1] Actual discharge location will depend on testing results and subject to authorization by the receiving entity (either Municipal or Commercial).

- Contaminated Water Management (Section 7.0)
  Groundwater may be expected to occur in excavations that extend to depths greater than 7 feet bgs. Groundwater encountered in excavations within the area of known or potential groundwater contamination (Area 2, Figure 5) should be assumed contaminated and managed in accordance with Section 7.0 of this document unless testing is conducted to determine otherwise. Groundwater in other areas of the property can be assumed uncontaminated unless impacts are suspected or confirmed based on the criteria presented in Sections 7.3 and 7.4.

2.0 INTRODUCTION

This Contaminated Media Management Plan (CMMP) was prepared to address the management of areas of known or suspected contaminated soil and groundwater at the former McMinnville Water & Light property, 455 NE Irvine Street, McMinnville, Oregon, hereafter referred to as the "site or property" (Figures 1 and 2).

The known presence of subsurface contaminated media beneath the site is related to petroleum-impacted soil that remained after the previous decommissioning of diesel oil underground storage tanks (USTs) immediately east-northeast of the site structure and a former bunker oil tank vault located immediately south of the property structure.

The purpose of the CMMP is to provide guidelines for appropriate management and disposal of contaminated soil and groundwater that may be encountered during future subsurface work activities (e.g., site redevelopment and/or utility repair or upgrades) at the property or within the immediately adjacent public rights-of-way (ROWs) to the east (NE Irvine Street) and north (NE 5th Street) of the property.

Although chemical levels in soil and groundwater at portions of the Site may disqualify them as "Uncontaminated" or "Clean Fill", the levels of petroleum and related chemicals found in soil and groundwater do not pose an unacceptable risk to *Occupational, Construction* or *Excavation Workers*.

3.0 BACKGROUND

3.1 Site Description

The approximately 0.89-acre subject property consists of two tax lots (Tax Lot Nos. 2400 and 2601) located in the SE ¼ of the NW ¼ of Section 21, Township 4 South, Range 4 West of the Willamette Meridian (W.M.). The property location is shown on Figures 1 and 2.

The Property is situated within an urban area in McMinnville, Oregon. The property is bounded to the north and east by commercial buildings, to the south by a multi-family residential building, and to the west by railroad tracks.

The property is designed and used for commercial purposes and developed with one structure currently used to produce, store and taste wine. The property also has a fenced garden area located to the south of the existing structure for use in hosting small outdoor events.

The property is zoned by the City of McMinnville as M-1 (Light Industrial). The purpose of the M-1 Light Industrial zone is to provide appropriate locations for light industrial activities and to buffer these activities from adjacent commercial and residential development. Immediately surrounding properties are either zoned as M-2 (General Industrial) or C-3 (General Commercial).

The property and surrounding areas are included in Zone 1 of the Northeast Gateway overlay district. The overall long term plan for this district is a mixed-use commercial zone which over time will transition into an extension of the downtown area with residential or office uses above active ground floor commercial or retail space. Allowed uses within this zone include various commercial operations, group living, or multi-family / mixed commercial and upper floor residential.

3.2 Future Development Plans

There are no current plans for property redevelopment. However, activities within the area of known or potential soil or groundwater contamination that may be reasonably anticipated to occur in the future include excavations for public or private utility repair or installation work or as may be related to localized construction needs that may arise.

3.3 Site History

Historical property usage has previously been documented in a Phase I Environmental Site Assessment (ESA) completed by Alpha Environmental Services, Inc. (Alpha) and documented in a February 2022 report [1]. Additional description of historical property uses and layout was also included within a Level 1 and 2 Environmental Risk Assessment Report, prepared by Applied Geotechnology, Inc. (AGI) in May 1990[2]. The summary below is derived from these two cited reports.

Prior to approximately 1912, the property was variously occupied by dwellings, outbuildings, and a warehouse used for wire fencing.

Between 1912 and 1928, the northeastern dwelling was razed, and three diesel or bunker fuel-powered electrical generators were installed inside a powerhouse building owned by the City of McMinnville Power & Light. During this same timeframe, a freight room and office building was constructed. Between 1928 and 1948, a fourth diesel

[1] Alpha Environmental Services, Inc. (2022). *Phase I Environmental Site Assessment Report, Elizabeth Chambers Cellars, 455 NE Irvine Street, McMinnville, Oregon* 97128 (Alpha Project No. 22-45598). February 9, 2022.

[2] Applied Geotechnology, Inc. (1990). Report of Level 1 and 2 Environmental Risk Assessment; Abandoned Powerhouse Building; Property Bounded by 5th and 4th Streets and Irvine St. and SPRR, McMinnville, Oregon (AGI Project No. 0-1093.01)

engine-generator was installed in the powerhouse building. Between 1944 and 1948, the southeastern dwelling was razed, and an electrical transformer stand was constructed in that area.

Initially the power plant was constructed and used as the main power source for the City of McMinnville. Over time, the power plant switched to an auxiliary source of electrical power for the city, operating at time of peak use or power outages. In approximately 1990, the plant was decommissioned and sold to a private owner. The property has been occupied by Panther Creek Cellars and Elizabeth Chambers Cellar since at least 2000 and used for production, storage and tasting of wine.

With regard to the former powerhouse, three concrete-lined generator vaults (1 to 6 feet deep) and one 8 foot deep bunker oil vault were formerly present at the property as reported by AGI. Additionally, two USTs were present outside the northeastern corner of the powerhouse building. As per information included within the AGI (1990) report, these USTs were each 10,000 gallon capacity, stored diesel fuel, and were contained within a single pit.

According to AGI (1990), the electrical generators were removed, and the associated generator vaults were filled with pea gravel in the mid 1970s. Also at that time, the USTs were reportedly pumped dry and filled with sand or pea gravel. The electrical substation was reportedly dismantled in the 1970s (AGI 1990) and razed in the 1990s (Alpha 2022). The two diesel USTs were removed from the ground by a local contractor in March of 1990.

The former location of the generator pits, diesel tank area, the bunker oil tank vault, and the substation area are all shown on Figure 2.

3.4 Previous Environmental Work

AGI completed site investigation activities as reported in their Level 1 and 2 Environmental Risk Assessment Report (AGI 1990). These activities were conducted during April and May 1990 on behalf of McMinnville Water & Light and included installation of nine exploratory test pits (TP-1 through TP-9) with collection of soil samples for laboratory testing. The test pit locations are shown on Figure 2 and were excavated as follows:

- TP-1: Former Diesel Tank Area
- TP-2 through TP-4: Generator Pits
- TP-5 and TP-8: Bunker Oil Tank Vault Area
- TP-6 and TP-7: Former Substation Area, and
- TP-9: Small Surficial Oil Stain.

AGI completed focused soil removal activities in June of 1990. The scope of the June 1990 soil removal and site restoration activities is documented only through photographs, with no confirmation sampling known to have occurred. HAI completed site investigation activities at the property and within the adjacent public right-of-way in July 2022[3]. The investigation involved installation and sampling soil at 12 boring locations (P-1 through P-12) and collection of groundwater samples from temporary well points installed at nine locations (P-1 through P-9). A summary of the findings from these previous AGI and HAI cleanup and investigatory activities is summarized below.

3.4.1 Former Diesel UST Area

The test pit in this area (TP-1) was excavated to a total depth of 14 feet bgs, with groundwater observed in the pit at a depth of 4.5 feet bgs. As shown on Figure 2, this area is located beneath landscaping and the sidewalk immediately east of the northeastern corner of the powerhouse building.

AGI reported soils in TP-1 to be clayey silts exposed on the sidewalls and the base of the excavation, with petroleum stained soils (moderate diesel odor) below a depth of 6 feet bgs. Soils shallower than 6 feet bgs did not exhibit field screening evidence of potential contamination. A petroleum film was observed on a small area of water within the pit at the time of soil excavation.

Soil samples were collected at depths of 11 feet and 14 feet bgs within the pit and tested for oil-range total petroleum hydrocarbons (TPH) by U.S. Environmental Protection Agency (EPA) Method 418.1, and for gasoline and diesel-range TPH by EPA Method 8015M. Gasoline was not detected in either soil sample and diesel and oil-range TPH were detected at concentrations less than 500 milligrams per kilogram (mg/kg). Groundwater samples were not collected from this area.

AGI characterized the release from the former diesel tanks as moderate, indicating that measured contaminant levels in this area were below the 500 mg/kg DEQ Level 2 Soil Matrix Cleanup Standard and did not recommend soil removal (beyond what was removed during the test pit exploration). AGI identified groundwater testing in this area as a potential data need.

Photo documentation from late June 1990 suggests the possibility that additional soils may have been removed from the TP-1 area, though there is no documentation of volumes removed or of confirmation soil sampling. Photo documentation does

[3] Hahn and Associates, Inc. (2022). *Site Characterization and Risk-Based Closure Report, Former McMinnville Water & Light Property, 455 NE Irvine Street, McMinnville, Oregon* (HAI Project No. 9815). August 26, 2022.

indicate an estimate 220 cubic yards of soil (in total) were removed as part of site-wide test pitting and soil removal activities.

The release from this UST is the basis for the issuance of Leaking Underground Storage Tank (LUST) File No. 36-90-4088.

HAI collected soil and groundwater samples from the area surrounding the former diesel UST area in July 2022. A zone of blue-grey discolored soil (native silt) with a moderate petroleum odor was present at the P-3 location across a depth interval of 13 to 17 feet bgs. The zone of discolored soil was present immediately beneath a zone of pea gravel backfill. The zone of pea gravel extended from just beneath the ground surface to a depth of 13 feet bgs at this location and is inferred to be aggregate backfill that was placed subsequent to AGI's 1990 removal of contaminated soil associated with the former diesel USTs at this location. No field screening evidence of contamination was observed in nearby borings P-2 or P-4, installed in the adjacent NE Irvine Street right-of-way for delineation purposes.

A concentration of 665 mg/kg diesel-range and 736 mg/kg oil-range TPH was detected at a depth of 13 feet bgs immediately beneath the former UST excavation, with only trace level detections at depth and at surrounding boring locations (Figure 3). Gasoline-range TPH was detected at a concentration of 88.4 mg/kg in the zone of diesel- and oil-range TPH impact described above (13 feet bgs at boring P-3). Gasoline-range TPH is not a contaminant of primary interest at the property, and the testing of the discolored soil at P-3 for gasoline-range TPH was conducted as confirmation. It is likely that the low level of gasoline-range TPH detected at this location was bleed over on the chromatogram from the diesel- and oil-range TPH. Figure 3 shows the detected concentrations of diesel- and oil-range TPH in soil beneath and surrounding the former diesel UST area.

All TPH and related contaminant concentrations as detected in soil at and surrounding the former diesel UST during the July 2022 investigations were below all DEQ Risk-Based Concentrations (RBCs) established for occupational property use as well as construction worker or excavation worker exposure.

With regard to groundwater, 8,600 micrograms per liter (μg/L) diesel-range and 10,800 μg/L oil-range TPH were detected within the backfilled UST excavation at boring P-3, with significantly lesser concentrations extending to inferred down-gradient locations to the south of the former UST area (P-4 or P-5) and only trace amounts detected at down-gradient location P-6. The maximum detected diesel-range TPH concentrations exceed the occupational tapwater RBC but are well below the *Vapor Intrusion* (*Occupational or Residential*) RBC and the *Groundwater in Excavation* RBC. Figure 4 show the detected concentrations of diesel- and oil-range

TPH in groundwater beneath and surrounding the former diesel UST area, including the maximum projected extent of detectable concentrations (e.g., Locality of Facility).

The release from this UST is the basis for the issuance of Leaking Underground Storage Tank (LUST) File No. 36-90-4088.

3.4.2 Former Generator Vaults

Test pits were installed by AGI to the base of the concrete-lined generator vaults within the generator building, which was 6 feet for TP-2, 1 foot for TP-3, and 1.5 feet for TP-3. No field screening indicators of contamination to the pea gravel backfill within these vaults were observed. Tests of the backfill located within the deepest generator pit detected 77 mg/kg oil-range hydrocarbons, with gasoline and diesel-range TPH not detected. No water was encountered within the former generator vaults.

No clean-up or additional investigation related to the generator vaults was recommended by AGI.

3.4.3 Former Bunker Oil Tank Vault

AGI excavated test pit TP-5 into the interior of the former bunker oil tank vault located southwest of the generator building (Figure 2). This test pit was excavated to the concrete base of the vault, encountered at 8 feet bgs. Water was contained within the vault below a depth of 5 feet bgs, with oil droplets observable in the water and with the wet pea gravel in the vault exhibiting a petroleum sheen and odor.

Test Pit TP-8 was excavated along the outside (southeastern) corner of the concrete vault (Figure 2). TP-8 was excavated to a depth of 11.5 feet bgs, with groundwater encountered in the pit (outside of the concrete vault) at a depth of 7 feet bgs. Soils observed on the sidewalls of TP-8 were described as native silt and did not exhibit a sheen when mixed with water. Several oil droplets were noted on the water within the pit.

A soil sample from the base of TP-8 (outside of the vault) was collected at a depth of 11.5 feet bgs. This soil sample detected 26 mg/kg oil-range TPH and had no detectable concentrations of gasoline or diesel-range TPH. No sample of groundwater (outside of the vault) was collected for laboratory testing. Oily water contained within the vault was sampled (for disposal characterization purposes), detecting 1,400 μg/L of oil-range TPH with no gasoline- or diesel-range TPH detected.

AGI recommended removal of oily pea gravel and water from within the bunker oil tank vault. Photo documentation shows that these activities were conducted in late June 1990, with the vault subsequently sealed with imported clay soil.

HAI collected soil and groundwater samples from the area surrounding the former bunker oil tank vault area in July 2022 (HAI, 2022). As depicted on Figure 4, concentrations of up to 1,580 μg/L of diesel-range TPH were detected in groundwater samples collected in the immediate vicinity of the former bunker oil tank vault. Groundwater samples collected from nearby temporary well points in July 2022 confirmed that the area of groundwater impact in this area was limited to the immediate vicinity of the former vault feature.

3.4.4 Former Electrical Substation Area

Two test pits (TP-6 and TP-7) were excavated by AGI in the former substation area (Figure 2). Both test pits extended to a depth of 3 feet bgs and soils did not exhibit any field screening evidence of potential contamination. One sample from the sidewall of each test pit (0.7 feet bgs at TP-6 and 1 foot bgs at TP-7) were collected and analyzed for TPH and for polychlorinated biphenyls (PCBs). The shallow soil sample at TP-6 (northern substation area) detected 2,000 mg/kg oil-range TPH and the shallow soil sample at TP-7 (southern substation area) detected 60 mg/kg oil-range TPH. PCBs were not detected in either soil sample.

AGI recommended removal of shallow soils in the northern (TP-6) portion of the former electrical substation area. The clean-up goal was established as the 500 mg/kg DEQ Level 2 Soil Matrix Cleanup Level. Photo documentation of these activities indicates that soils surrounding TP-6 were removed during late June 1990. There is no record of the volume of soil removed from this area or of any post removal confirmation sampling. Photo documentation does indicate an estimate 220 cubic yards of soil (in total) were removed as part of test pitting and soil removal activities, with all areas of soil removal backfilled with imported clay soil.

HAI collected soil and groundwater samples from the area surrounding the former diesel UST area in July 2022. No soil impacts greater than Clean Fill screening levels and no groundwater impacts were identified at the former electrical substation portion of the property (southeastern site) during HAI's July 2022 investigation.

3.4.5 Former Small Surficial Oil Stain

Shallow excavation in the area of a small oil stain (25 square feet) revealed that the stain was limited to gravels exposed at the surface and did not warrant further exploration.

AGI recommended that the stained gravels (although an apparent de-minimis condition) be removed at the time that other soil removal work would occur. Photo documentation indicates that this removal work was completed in late June 1990.

3.5 Physical Setting

The property is generally level and is at an approximate elevation of 164 feet above mean sea level (msl). The property vicinity generally slopes downward towards the South Yamhill River, located approximately 1,800 feet to the southeast at an elevation of approximately 100 feet msl. The south Yamhill River (approximately 0.3 miles away) is the nearest surface water feature to the property.

Stormwater from paved portions of the property (i.e., sheet flow) is collected by catch basins, which discharge into the municipal storm sewer system. No drywells, ditches, or other storm water conveyance systems are located on the property.

Soil Types

Based on the soil survey maps published by the United States Department of Agriculture (USDA) Soil Conservation Service (United States Department of Agriculture, 1977), the property is mapped as Woodburn silt loam, which is characterized with slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

According to the U.S. Geological Survey *Geologic Map of Quaternary Units in the Willamette Valley, Oregon*, 2001, the soils in the vicinity of the subject property are underlain by Pleistocene-aged fine-grained Missoula flood deposits consisting of stratified silt and clay with minor sand.

Soil borings and excavations completed on the subject property by HAI and others have shown that the site is underlain by at least 25 feet of silt with varying silt or fine-grained sand content.

Groundwater

The static groundwater level has been measured on the subject property at depths of 7 to 12 feet bgs. Based on interpreted flow directions at a nearby property (700 feet west-southwest of the subject property) that obtained measurements from an on-site monitoring well network[4], the direction of groundwater flow in the area of the property is expected to generally be to the south to southeast, toward the South Yamhill River.

[4] De Minimis, Inc. (1997). *Focused Subsurface Investigation, Atlas Bakery, 615 E. 4th Street, McMinnville, Oregon* 97128 (De Minimis Project No. 00571-0797-2). December 2, 1997.

This interpreted groundwater flow direction also corresponds with the general topographic surface in the property area.

3.6 Regulatory Status

The Oregon DEQ provided a conditional No Further Action designation for the site (LUST File No. 36-90-4088) in correspondence dated insert date here upon receipt (Appendix A). The conditional NFA requires (include summary here upon receipt).

4.0 AREAS OF CONTAMINATION

4.1 Chemicals of Interest

The chemicals of interest, i.e., those that have been detected at the site, or have the potential to be present at concentrations that would disqualify excavated soil as *Clean Fill* based on knowledge of site conditions, consist of the following:

- Gasoline-range Total Petroleum Hydrocarbons
- Diesel-range Total Petroleum Hydrocarbons
- Oil-range Total Petroleum Hydrocarbons
- Diesel-related aromatic volatile organic compounds (VOCs), including butylbenzenes, isopropylbenzene, n-propylbenzene, isopropyltoluene, 1,2,4-trimethylbenzene, and xylenes.
- Polynuclear aromatic hydrocarbons (PAHs), including anthracene, acenaphthene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, pyrene, and 1-methylnaphthalene.
- Arsenic, and Lead

4.2 Known Area of Contamination

Definition of Areas of Known Soil and Groundwater Contamination

The area of known soil contamination beneath the property has been defined as the area of soil that may contain any of the above-identified chemicals of interest at concentrations exceeding *Clean Fill screening level*s, or where field screening evidence (i.e., discoloration, petroleum odor) would disqualify soil as Clean Fill if removed during future development activities.

The area of groundwater contamination is defined as the area where groundwater contains chemicals of interest at concentrations greater than Oregon Water Quality Criteria, which for some chemicals is any detectable amount. A concentration of 0.05 µg/L for any PAH; 1.0 µg/L for any given VOC; or 100 µg/L for TPH, is used as a reasonable cutoff for defining contamination in groundwater that could require special management and disposal, and which are the typical laboratory method reporting limits (MRLs) for these chemicals.

The known or estimated maximum lateral extent of soil and groundwater contamination, which have been defined during the previous investigation activities, are shown as the *Locality of Facility* (LOF) on Figure 4. For purposes of this CMMP,

the area of soil and groundwater contamination have been simplified and extended to provide a conservative level of protectiveness and for ease of management during future subsurface construction or repair activities (i.e., irregularly shaped LOF boundaries have been converted to rectangles which are easily transferred to the field).

The areas of known/potential contamination of soil beneath the property are defined as areas that contain any of the above-identified chemicals of interest at concentrations that would exceed *Clean Fill Screening Levels* (Section 5.0).

The known areas of remaining soil contamination are shown on Figure 3, and the maximum projected extent of remaining groundwater contamination is shown on Figure 4, and also summarized on Table 2 below.

TABLE 2 – KNOWN AREAS OF CONTAMINATION IN SOIL AND GROUNDWATER

Area No. and Description (see Figure 4)		**Depth**	**Maximum Concentration of COIs** soil in mg/kg groundwater in µg/l	**Concern**
Area 1 (Soil)	Petroleum and Lead in Soil	*≈ 7 – 17 feet bgs*	Gasoline: 88.4 Diesel: 665 Oil: 736 Lead: 37.2	Potentially Above Clean Fill Levels. Staining and Odor Impacts. Special Management of Soil if Removed.
Area 2 (GW)	Petroleum in Groundwater	Any depth *(Anticipate at depths greater than 7 feet bgs*	Gasoline: 229 Diesel: 8,600 Oil: 10,800 Benzo(a)anthracene: 0.637 Benzo(a)pyrene: 0.80 Chrysene: 0.853 Fluorene: 5.84 Phenanthrene: 2.82 Pyrene: 1.36 1-Methylnaphthalene: 2.78 Arsenic: 17.2 Lead: 125	Levels Require Special Management of Water in Cases Where Excavation Dewatering / Pumping Occurs.

Area 1: Petroleum in Soil

All soil excavated from below a depth of 7 feet bgs (possible seasonal high water table) within Area 1 (Figure 5) should be assumed contaminated and managed in accordance with Section 6.0 of this document unless testing is conducted to determine otherwise.

The highest detected petroleum concentrations were found at boring P-3 in stained soils immediately beneath the former UST pit (depths of 13 to 17 feet bgs). Concentrations of 88.4 mg/kg (gasoline), 665 mg/kg (diesel), and 736 mg/kg (oil)

were detected in Area 1, as was 37.2 mg/kg of lead. Low levels of VOCs and PAHs were also detected in soil in Area 1, all associated with the detected diesel oil. All TPH and related contaminant concentrations as detected in soil at and surrounding the former diesel UST are below all DEQ RBCs established for occupational property use as well as construction worker or excavation worker RBCs. For this CMMP it is assumed that the soil contamination in Area 1 is present between the depths of approximately 7 to 17 feet bgs and extending beneath portions of the NE Irvine Street (east) and NE 5th Street (north) rights-of-way (Figure 5).

Area 2: Petroleum in Groundwater

Area 2 comprises groundwater identified at starting depths of approximately 7 to 12 feet bgs beneath the northeastern portion of the property and extending beneath the NE Irvine Street (east) and NE 5th Street (north) rights-of-way (Figure 5). Up to 8,600 μg/L diesel-range and 10,800 μg/L oil-range TPH were detected in groundwater within the backfilled UST excavation at boring P-3 in Area 2, with significantly lesser concentrations extending to inferred down-gradient locations to the south of the former UST area (P-4 or P-5) and only trace amounts detected at down-gradient location P-6. The maximum detected diesel-range TPH concentrations exceed the occupational tapwater RBC but are well below the Vapor Intrusion (Occupational or Residential) RBC and the Groundwater in Excavation RBC. Although the detected concentrations do not exceed risk-screening levels for exposure pathways deemed likely applicable to this Site, if excavation dewatering is to occur within Area 2, then the water will require testing to determine appropriate management.

4.3 Construction and Excavation Worker Considerations

The identified areas of contamination discussed in this CMMP do not represent areas of potential concern with respect to chemical exposure to *Construction or Excavation Workers*. In soil and groundwater, no detected chemical concentrations were found to exceed the DEQ Risk-Based Concentrations (RBCs)[5] for *Construction Worker* (or *Excavation Worker*) exposure. Based on available site data, no special personal protective equipment (PPE) protocols for chemical hazards need be taken by *Construction or Excavation Workers* during work activities at this site - though the level of PPE required will be based on site observations and the contractor's own Health and Safety program (Section 9).

[5] Oregon Department of Environmental Quality (2003). *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites*. September 22, 2003, RBCs updated June 2012.

4.4 Unidentified / Unanticipated Contamination

The prior subsurface investigations evaluated soils and groundwater at various areas of the property where known and suspected features of environmental concern were identified. However, the possibility of encountering unanticipated and previously unidentified areas of contamination beneath the property cannot be ruled out. For this reason, the CMMP includes sections relating to the preliminary identification of contaminated soil (Section 6.3) in the field so that appropriate actions can be taken if contamination is unexpectedly encountered at the property.

Any soils derived from outside of the known contamination in Area 1 (as described in Section 4.2 and shown on Figure 5) that do not display field evidence of contamination may be assumed uncontaminated and may qualify as *Clean Fill*.

4.5 Areas/Zones That Can Be Assumed Uncontaminated

Soils can be assumed uncontaminated and may qualify as Clean Fill under the following circumstances, as long as they do not display evidence of contamination in the field (Section 6.3.1):

1) Soils from depths shallower than 7 feet bgs or deeper than 17 feet bgs from Area 1 where field screening does not suggest the presence of contamination (i.e., no staining or petroleum odor).

2) Soils removed from any depth beyond the limits of Area 1 where field screening does not suggest the presence of contamination (i.e., no staining or petroleum odor).

Groundwater can be assumed uncontaminated from areas outside of the limits of Area 2 as long as it does not contain a petroleum sheen, odor, or other sign of potential contamination.

5.0 CLEAN FILL SCREENING LEVELS FOR SOIL

The criteria used to determine whether soil removed from the site in the future may require special management and/or have restrictions on its end use/disposal location are the DEQ Clean Fill Values. In 2019, DEQ prepared an updated internal management directive entitled *Clean Fill Determinations*[6] that can be used to assist in soil management decisions. Table 3 below lists the *Clean Fill Screening Levels* that would most likely be utilized at this site.

TABLE 3 – CLEAN FILL SCREENING LEVELS FOR SOIL

Chemical Group	Chemical	Clean Fill Screening Level (mg/kg)
Total Petroleum Hydrocarbons (TPH)	TPH as Gasoline	31.
	TPH as Diesel	1,100.
	TPH as Oil	2,800. [1]
Volatile Organic Compounds (VOCs)	Benzene	0.023
	Toluene	23.
	Ethylbenzene	0.22
	Xylenes	1.4
	Butylbenzene, n-	190.
	Butylbenzene, sec-	350.
	Butylbenzene, tert-	96.
	Propylbenzene, n-	72.
	1,2,4-Trimethylbenzene	10.
Polynuclear Aromatic Hydrocarbons (PAHs)	Anthracene	6.8
	Acenaphthene	0.25
	Acenaphthylene	120.
	Benzo (a) anthracene	0.73
	Benzo (a) pyrene	0.11
	Benzo (b) fluoranthene	1.1

[6] Oregon Department of Environmental Quality (2019). *Clean Fill Determinations*. February, 2019.

Chemical Group	Chemical	Clean Fill Screening Level (mg/kg)
	Benzo (g,h,i) perylene	25.
	Benzo (k) fluoranthene	11.
	Chrysene	3.1
	Dibenzo(a,h)anthracene	0.11
	Fluoranthene	10.
	Fluorene	3.7
	Indeno (1,2,3-cd) pyrene	1.1
	Naphthalene	0.077
	Phenanthrene	5.5
	Pyrene	10.
	1-Methylnaphthalene	0.36
	2-Methylnaphthalene	11.
	2-Chloronaphthalene	230.
Metals	Arsenic	18.
	Lead	28.

[1] Established for mineral/insulating oil.

6.0 CONTAMINATED SOIL MANAGEMENT

This section of the CMMP describes how soils excavated as part of any potential future subsurface maintenance, development, or repair project should be managed. Such below-ground activities could include site grading, pile or boring installations, utility installation or repair, or any other subsurface excavation.

6.1 Responsible Personnel

The Contractor performing the excavation work will have primary responsibility for identifying any suspect contaminated soils (refer to Section 6.3). To assist in the appropriate management of contaminated media, it is recommended that an Environmental Professional (EP) with experience in these matters be available during subsurface work within Areas 1 and 2 to provide as-needed, on-call, technical assistance.

6.2 Areas/Zones of Soil Management

Areas Where Soil Contamination is Assumed

Soils excavated from within Area 1, if any, between depths of 7 to 17 feet bgs as shown on Figure 5 and described in Section 4.2, should be assumed to be contaminated and managed in accordance with Section 6.0 of this document, unless testing is conducted to determine otherwise.

Areas Where Uncontaminated Soil Can Be Assumed

Soils in other areas of the site, i.e., outside of the previously identified area and depth of assumed contamination in Area 1, can be assumed uncontaminated (Clean Fill) unless impacts are suspected or confirmed based on criteria presented in Sections 6.3 and 6.4.

6.3 Identification of Contaminated Soil

The possibility of encountering unexpected and previously unidentified areas of soil contamination during future excavation work at the property cannot be ruled out. Therefore, site workers should be made aware that if any soils exhibit signs of possible impacts, certain measures must be implemented, as described in this section.

In the event that previously unidentified areas of soil contamination are identified, the material may be temporarily stockpiled (Section 6.5.5) for characterization to

determine an appropriate disposal facility or end use; or the soils may be assumed contaminated and disposed of at an appropriate disposal facility (facilities may require updated sampling prior to accepting soils). If soils suspected of being contaminated are identified, then sampling and characterization will be required to profile the material for disposal.

It may be prudent to have an EP on-site at appropriate times for subsurface work, particularly when working in areas of known or suspected contamination.

6.3.1 Field Characteristics of Soil Contamination

Site workers should be on the lookout for the following soil characteristics that may indicate the presence of contamination:

- Visual staining (typically gray, bluish, or greenish in color, or darkly stained relative to surrounding soils)
- Unusual or chemical odors (petroleum- or solvent-like)
- Visible sheen on the soil or when placed in water
- Unusual conditions or fill (e.g. soil containing foreign debris, in particular drums, transformers, or other chemical containers).

Stained soil can range from being easily discernable to difficult to notice. In addition, not all stained soils are necessarily contaminated. Hydric soils are often confused with contaminated soils due to their gray coloration and organic odor. Contaminated soil may exhibit odors that range from slight to strong, and sweet to pungent. Based on the 2019 DEQ *Clean Fill* guidance, if the material appears chemically stained or has a chemical odor, then the material is not considered to be *Clean Fill*. If stained or odiferous soils are encountered in unexpected areas, characterization of the soils to determine their chemical quality will be necessary.

6.3.2 If Soil Contamination is Suspected

If soils exhibit signs of possible contamination, the following measures should occur:

1) Halt work, or if timelines do not allow work to halt, remove and stockpile the suspect soils

2) Notify the designated Environmental Professional (EP)

3) Either dispose of the suspect soils at a designated landfill (Section 6.6), assuming soils have been pre-approved for acceptance, or

4) Test the in-place or stockpiled soils to characterize/profile the soils to determine an appropriate disposal location (Section 6.4).

6.3.3 If Soil Contamination is Confirmed

If testing of the soils confirms the presence of soil contamination, the following measures should occur:

1) Determine a disposal location based on testing results (Section 6.6)
2) Conduct removal of soils to the extent necessary to prepare the site for construction, and/or meet appropriate DEQ RBCs or other cleanup goals (this would typically be conducted at the direction of the EP)
3) Following soil removal, collection of confirmation samples may be warranted to document chemical quality in remaining soils (Section 6.4.3). The EP may be conferred with as to the need for conducting confirmation sampling.
4) Photographs and measurements of the affected area, as well as landfill receipts, should be collected to document the soil removal and disposal activities.
5) If reuse of soils on-site or off-site is contemplated, then it is recommended the EP be consulted to determine the feasibility of this approach, and the steps necessary to implement it. A Solid Waste Letter of Authorization from DEQ will likely be necessary in these circumstances. The reuse location should be documented.

6.4 Soil Characterization (Sampling and Analysis)

Characterization of soils may be necessary for two primary purposes:

1) To profile known contaminated soils for disposal permitting. Although existing data may be adequate to profile site soils, disposal facilities may not accept data that is more than one to two years old. Therefore, if soil disposal is anticipated, discussion with the disposal facility should occur prior to earthwork activities to determine whether existing data or new testing data will be necessary to permit soils for disposal. If existing data is adequate, pre-permitting of soils for disposal is recommended.

2) To characterize soils that are outside the known or potential areas and depths of contamination, but which exhibit signs of possible contamination (Section 6.3.1). This testing is conducted to determine whether

contamination is present, and if present, to profile the soils for proper disposal.

Characterization of soils may take place by sampling stockpiled soils or by sampling in-place soils, as discussed in Sections 6.4.1 and 6.4.2, respectively. This work is typically conducted by the EP.

If an area of unexpected soil contamination is encountered during site re-development activities, two courses of action are available:

1) Excavation in the area should be halted until the soils can be characterized in-place (6.3.2) and a volume of soil impact estimated, or
2) If construction timelines or downtime costs do not justify halting work in the area, then the affected soils may be removed and stockpiled prior to sampling (Section 6.4.1).

6.4.1 Soils Characterized from Stockpiles

If soils are to be characterized from excavated soil piles, then the samples should be collected as discrete grab samples from at least 12 inches beneath the surface of the pile at frequencies shown on the following table:

TABLE 4 – NUMBER OF SOIL SAMPLES REQUIRED FROM STOCKPILES

Cubic Yards of Soil	Number of Soil Samples
Less than 100	3*
101 – 500	5
501 – 1,000	7
1,001 – 2,000	10
Greater than 2,000	10 plus 1 for each additional 500 cubic yards

* - Fewer samples or composite samples may be appropriate depending on stockpile size and disposal facility requirements.

6.4.2 Soils Characterized In-Place

During excavation activities, collection of soil samples directly from the excavation may be used to characterize zones of suspected soil contamination. Soil samples are collected from the zones exhibiting the possible contamination. Characterization samples should be collected as discrete grab samples directly from the excavation pit using the excavator bucket, unless the excavation is less than 4 feet deep, in which

case samples may be collected directly by hand. Additional soil samples may be collected to verify the extent of impact. Soil samples should be collected in accordance with the HAI Standard Operating Procedure (SOP) No. 260 (Appendix B).

If the volume of affected soil to be removed is known, then the number of sample locations can be determined using Table 4 in Section 6.4.1. Otherwise, the number and location of samples to be collected should be based on best professional judgment. For linear zones of excavation displaying possible contamination, such as utility trenches, soil samples should be collected every 10 to 20 feet along the trench, or at whatever interval is appropriate to characterize the impacted zones. For small isolated zones of impact (i.e., less than 10 cubic yards), a single sample per zone may be appropriate.

For profiling soils for purposes of permitting with a landfill for disposal, compositing of soil samples may be appropriate to reduce analytical costs.

To characterize the extent of contamination, excavation of test pits may be a method to quickly delineate the extent (vertically and laterally) of an unexpected zone of soil contamination. Installation of soil borings is another approach for characterizing extent if greater depths are needed or if limiting surface disturbances is an objective.

It is advisable to retain an EP to conduct characterization sampling, or any other sampling for that matter.

6.4.3 Confirmation Sampling Following Removal Activities

Following the removal of any soil contamination from the site, confirmation sampling may be recommended to document remaining concentrations and/or to verify that they meet cleanup goals. Confirmation samples should be collected as discrete grab samples directly from the excavation pit using the excavator bucket, unless the excavation is less than 4 feet deep, in which case samples may be collected directly by hand.

Soil samples are typically collected at a rate of approximately one sample per 200 square feet of pit area. However, at least one soil sample should typically be collected from each wall of the pit and one from the floor of the pit (5 samples minimum).

All confirmation samples from excavation pits should be collected in accordance with the HAI Standard Operating Procedure (SOP) No. 260 (Appendix B). It is advisable to retain an EP to conduct confirmation sampling.

6.4.4 Analytical Testing Parameters

6.4.4.1 Testing Parameters for Disposal Permitting

Soil samples to characterize or profile excavated soils for disposal will likely require testing by one or more of the following analytical methods (check with the disposal facility to verify appropriate testing parameters):

- NW Method TPH-HCID (Hydrocarbon Identification)
- NW Method TPH-Gx (gasoline-range petroleum hydrocarbons)
- NW Method TPH-Dx (diesel- and oil-range petroleum hydrocarbons)
- VOCs by U.S. Environmental Protection Agency (EPA) Method 8260B

If oil-range petroleum hydrocarbons are detected by the TPH-Dx method, then testing of selected samples for the following additional parameters may be required:

- VOCs by EPA Method 8260B
- Polychlorinated Biphenyls (PCBs) by EPA Method 8082
- Resource Conservation and Recovery (RCRA) 8 Metals by EPA Method 6020/7421 (total and/or leachable basis).

6.4.4.2 Testing Parameters for Clean Fill Determination

Soil samples to determine whether soils meet *Clean Fill* criteria will likely require testing by one or more of the following analytical methods:

- Testing should be conducted by methods NWTPH-Gx and NWTPH-Dx, or alternatively first be tested for petroleum hydrocarbons by the NWTPH-HCID method, and then as necessary to quantify by the NWTPH-Gx and/or NWTPH-Dx methods. It may be possible to focus the testing suite based on prior knowledge (e.g., prior analytical results).
- For confirmed gasoline-range petroleum hydrocarbons by the TPH-Gx method, testing should be conducted for Risk-Based Decision Making (RBDM) VOCs or full list VOCs, and lead
- For confirmed diesel-range petroleum hydrocarbons by the TPH-Dx method, testing should be conducted for BTEX and polynuclear aromatic hydrocarbons (PAHs)
- For confirmed oil-range petroleum hydrocarbons by the TPH-Dx method, testing should be conducted for PAHs, PCBs, VOCs, and RCRA 8 metals.

6.5 Management of Contaminated Soil / Site Controls

Once the presence of contaminated soil is confirmed or suspected, the measures presented in this section should be implemented for the management and disposal of such soils, unless they are shown to be of acceptable quality by appropriate testing (Section 6.4).

Although not anticipated at this site based on the known prior sources of subsurface impact, if the analytical testing results indicate any of the soil to be disposed of may be a Resource Conservation and Recovery Act (RCRA) Hazardous Waste, then there are many additional requirements and timelines than need to be strictly followed that are beyond those presented in this CMMP. If this is the case, it is advisable to retain an EP to present a best path forward and make sure RCRA requirements are met. It is beyond the scope of this document to present all the RCRA requirements for the management and disposal of a Hazardous Waste.

Based on prior testing, it can be assumed that Area 1 soils are not RCRA Hazardous Waste.

6.5.1 Erosion Control

If the size of the future area to be disturbed or re-developed is greater than one acre, then filing for a National Pollutant Discharge Elimination System (NPDES) 1200-C Permit from the DEQ will be required for the site. All erosion and sediment control measures that are stipulated by this permit must be implemented for the site. However, even if the disturbed area is to be less than one acre, all erosion and sediment control measures that are stipulated by a 1200-C Permit should nonetheless be implemented for the site.

In addition, construction activities may also need to comply with any erosion and sediment control requirements set forth by the City of McMinnville.

The erosion and sediment control measures will be utilized to prevent off-site migration of soil/sediment in surface runoff. Erosion control measures may include, but are not limited to, sediment fencing to control general site runoff, and surface water control structures to prevent sediment from entering existing catch basins or runoff to adjacent roadways or surface water.

6.5.2 Excavation, Loading, and Transport Measures

During any future excavation, loading, and transport of contaminated soils from the site, the following measures are to be employed:

1) Trucks should be loaded in a manner that prevents spilling, tracking, or dispersal of soil.

2) On-site truck routes should be established to minimize on-site travel. Asphalt- and concrete-paved or well graveled areas should be used to the maximum extent possible.

3) No track-off of excavated soil will be allowed. At the designated exit point, all vehicles must be inspected for adhered soil. If present, adhered soil must be removed. Additional detail is provided in Section 6.5.3 *Vehicle Track-Off* below.

4) All trucks are to be appropriately covered and secured before leaving the site

5) Soil with free water shall not be loaded into trucks. Soils must be unsaturated or must pass the paint-filter moisture test conducted by the receiving facility. Trucks may not leave the project area if liquids are draining from the load.

6.5.3 Vehicle Track-Off

Track-off of contaminated soil on vehicles and equipment is to be controlled by using limited entrances and exits for vehicles, specified on-site truck routes, the use of gravel pads and roadways whenever possible, and physical removal of soil from vehicles.

Before leaving the property, all vehicles will be inspected by their drivers and/or designated inspector for adhered soil. If present, adhered soil should be removed using hand tools and cleaned of loose soil with a broom. If this method of soil removal is found to be inefficient or ineffective, then a wheel wash area is to be established where vehicles and equipment can be cleaned by water and/or power washer. Collection and proper disposal of wheel wash water may be required.

Washing or cleaning of vehicles or equipment used only within the general construction zone is not required.

The excavation contractor should inspect the off-site truck route for track-off during the soil removal activities. If any track-off is observed, soil removal activities should be halted immediately and measures taken to clean up the track-off and prevent future track-off.

6.5.4 Dust Control

To prevent the off-site transport of contaminated soil in the form of dust, dust control measures are to be implemented if visible dust is observed. Wetting of soils with water or other approved dust control formulations may be used to prevent the generation of visible dust. Graveled roadways and limiting vehicle speeds are other dust control measures that should be implemented as needed.

6.5.5 Stockpiling

Excavated contaminated soils may be stored temporarily (less than 30 days) on-site prior to off-site transport or on-site placement (i.e. pre-approved for reuse as fill during site development).

Stockpiles of contaminated soil should not be placed directly on clean areas (e.g., clean soil areas or pavement). Stockpiles may be placed in clean areas if lined with heavy-duty (6-mil minimum) plastic sheeting. Stockpiles shall be covered daily using a geomembrane or plastic liner to address windblown soil and rainfall infiltration. Covers shall be securely anchored.

6.6 Soil Disposal Options

6.6.1 Soil Assumed to be Uncontaminated

There is no restriction with respect to the future use or disposal location of soils that meet the following criteria.

1. Soils that are outside of the areas and depths of known contamination as shown on Figure 5 (i.e., Area 1), and
2. Do not exhibit physical signs of contamination (i.e. staining, odor, or sheen), as discussed in Section 6.3.1.

If there is any question with regard to the quality of such soils, then soil characterization should be conducted to evaluate possible contaminant concentrations and confirm that staining is related to contamination (Section 6.4). Based on DEQ guidance (DEQ 2019), if the material appears chemically stained or has a chemical odor, then the material is not considered to be *Clean Fill*. However, if laboratory testing shows soils to be of acceptable chemical quality (i.e. below applicable *Clean Fill Screening Levels*), then such soil may be considered substantially uncontaminated (i.e. *Clean Fill*), as long as any staining and/or odor exhibited is interpreted to be of natural origin rather than chemical origin.

Although soils meeting the above criteria may be assumed uncontaminated (i.e., *Clean Fill*), off-site disposal or re-use in residential settings or wetland areas is not recommended in the absence of testing. Disposal of soils that meet the above-mentioned criteria at a designated fill site or demolition landfill will be acceptable in most circumstances. The disposal facility may have their own requirements for soil testing.

6.6.2 Soil Assumed to be Contaminated

Soils are assumed to be contaminated from the following areas:

1. Any soils from the previously identified known areas and depths of contamination (Area 1 between depths of 7 and 17 feet bgs), or
2. Any soils from the site that exhibit physical signs of contamination (i.e. chemical staining, odor, or sheen), as discussed in Section 6.3.1, unless testing demonstrates that the staining and/or odor are naturally occurring.

The disposal location for contaminated soils will depend on the analytical testing results and profiling of the waste as indicated below.

6.6.2.1 Disposal Locations for Petroleum-Contaminated Soils

In the absence of testing, all soils removed from the previously identified areas and depths of known contamination at the site (Area 1 from 7 to 17 feet bgs) as shown on Figure 5 and described in Section 4.2, should be assumed to be contaminated by petroleum hydrocarbons.

For petroleum-contaminated soils, or any other excavated soils that are found to be contaminated by petroleum hydrocarbons and associated chemicals, the default disposal location is a RCRA Subtitle D landfill, or other facility that is permitted to accept petroleum-contaminated soil. The Waste Management, Inc. Hillsboro Landfill in Hillsboro, Oregon is an example of an appropriate off-site disposal facility for petroleum-contaminated soil.

6.6.2.2 Disposal Location for Hazardous Waste Soils

Although not expected at this site, any soils from the site that are deemed to be a RCRA Hazardous Waste will require disposal, and possibly treatment, at an approved RCRA Treatment, Storage, and Disposal (TSD) facility, typically a Subtitle C Hazardous Waste Landfill. The Chemical Waste Management Arlington Landfill in

Arlington, Oregon is one example of an off-site treatment/disposal facility for RCRA Hazardous Waste.

6.6.3 Summary of Soil Disposal Options

The table below summarizes the various disposal options available for site soils:

TABLE 5 – SUMMARY OF SOIL DISPOSAL OPTIONS

Disposal Option	**Criteria** [1]
Default Option: RCRA Subtitle D Landfill (e.g., Hillsboro Landfill, Hillsboro, Oregon)	• Any soils from the previously identified areas and depths of known contamination at the site (Area 1 from 7 to 17 feet bgs) as shown on Figure 5 and described in Section 4.2 • Unanticipated contaminated soils from other areas of the site where chemical levels are greater than *Clean Fill Screening Levels* and are not RCRA Hazardous Waste
RCRA Subtitle C Landfill (e.g., Arlington Landfill treatment/disposal facility)	Any soils from the site where testing define such soils as a RCRA Hazardous Waste (not anticipated for this site)
Unrestricted Use	• Soils outside of the areas and depths of known contamination (Area 1 from 7 to 17 feet bgs) that do not exhibit physical signs of contamination and do not contain foreign debris, or • If soils are tested: (1) Chemical concentrations are below DEQ *Clean Fill Screening Levels*, and (2) Soil does not exhibit chemical staining, odors, or sheen, and does not contain foreign debris

[1] = See Section 6.4.4 for soil testing requirements

7.0 CONTAMINATED WATER MANAGEMENT

This section of the CMMP describes how groundwater or surface runoff within designated areas of the Site should be managed if dewatering is conducted during site maintenance, development, or repair activities. Below-ground activities that could encounter groundwater include site grading, pile or boring installations, utility installation or repair, or any other subsurface excavation. Surface water could also be contaminated if it is from runoff that has passed over areas of surface soil contamination.

7.1 Surface Water Management

Depending on the type of below-ground activities being conducted, any surface runoff that has the potential to discharge to the storm sewer or a surface water body, or which collects in excavations and requires dewatering, whether contaminated or not, may require special management to address turbidity, as stipulated by applicable permitting (Section 7.5). This CMMP does not address the steps and measures that would be required for non-contaminated dewatering projects, or to address sediment/turbidity issues.

Because surface areas at the Site and surrounding ROW areas are all capped with pavement, building foundations, and/or landscaped areas, as long as surface water runoff is managed through the typical Best Management Practices (BMPs) used to address turbidity for construction projects, then no other measures are needed, and special treatment or disposal is not necessary for collected surface waters from the Site.

However, the above assumes that the collected water is only from surface water runoff and does not contain any groundwater. If there is reason to believe that any collected water contains some portion from groundwater, then the measures described below for groundwater management should be followed (Section 7.5).

In addition, if surface water comes into contact with contaminated soils by flowing through/over uncovered contaminated soil stockpiles on the ground surface, or by flowing into excavations where groundwater is not present, but contaminated soils are present (which is possible on the Site) then this stormwater should also be treated as potentially impacted, and the measures described below for groundwater management should be followed (Section 7.5). Further, if this potentially impacted stormwater is containerized, then any sludges or sediment that collect in water holding tanks or are generated as a result of turbidity control for the Site should not

be treated as Clean Fill, but should be evaluated and if appropriate disposed as contaminated as per Section 6.6.

7.2 Areas/Zones of Groundwater Management

Shallow groundwater beneath and adjacent to the Site likely ranges seasonally between depths of 7 to 12 feet bgs. As such, during subsurface work below depths of 7 feet bgs, it is possible that groundwater will be encountered. However, it is also possible that groundwater could be encountered at shallower depths, especially during the wetter winter and spring months. Therefore, contingencies should be in place to manage groundwater as outlined in this section of the CMMP.

Areas Where Groundwater Contamination is Assumed

Any dewatering of shallow groundwater within the known and projected areas of contamination beneath the Site (Area 2), as described in Section 4.2, should be assumed contaminated and managed in accordance with Section 7.5 of this document, unless testing is conducted to determine otherwise. Elevated concentrations of diesel- and oil-range petroleum hydrocarbons and a petroleum sheen were present in groundwater in the immediate vicinity of the backfilled excavation for the former diesel UST (boring P-3 location on Figure 3). As such, excavation and dewatering at that portion of the site should have contingencies in place for the potential presence of free phase petroleum within that area. If encountered, free product removal should be conducted in a manner that minimizes the spread of contamination into previously uncontaminated zones while ensuring flammable products and vapors are managed in a safe manner to prevent fires or explosions.

Groundwater Assumed Uncontaminated

There is no specific restriction with respect to the discharge of groundwater that does not exhibit physical signs of contamination (i.e., odor, discoloration, or sheen), other than that which is typically required for construction projects unrelated to contamination. If there is any question with regard to the chemical quality of such groundwater, then groundwater characterization should be conducted by the designated EP. While groundwater outside of Area 2 can be assumed uncontaminated, if dewatering is to take place at locations near these areas then testing may be warranted to verify uncontaminated conditions.

Disposal of Dewatered Groundwater

In most circumstances, whether groundwater is contaminated or not, dewatered groundwater is typically discharged under permit to either the municipal storm sewer or sanitary sewer system (Section 7.5). In some instances (e.g., if contaminant levels exceed Municipal discharge limits or if free product is present), then the water may

need to be pre-treated on-site prior to discharge, or sent to an off-site treatment/disposal facility.

7.3 Identification of Contaminated Groundwater

Typically, most types of dissolved groundwater contamination cannot be identified by field screening techniques. Laboratory testing of samples is typically the only method for identifying contamination in groundwater, particularly at low levels.

At this site, groundwater testing has indicated that uppermost groundwater beneath the northeastern portion of the property (i.e., Area 2) contains concentrations of gasoline-, diesel-, and oil-range TPH, PAHs, low-level VOCs, arsenic and lead. The shallow plume of petroleum impacted groundwater extends into the public right-of way immediately north and east of the site as indicated on Figure 4, with the Groundwater Management Area (Area 2) established as shown on Figure 5.

Site workers should be on the lookout for the following characteristics that may indicate the presence of other contamination in groundwater:

- Visible sheen on water in an excavation
- Unusual odors or chemical (petroleum-like or solvent-like) odors
- Color (water should be colorless when not turbid).

If unexpected groundwater contamination is suspected by the field indicators presented above, the EP should be notified.

7.4 Groundwater Characterization

7.4.1 Reasons for Groundwater Characterization

Although groundwater has been characterized in-place during the previous site investigations, additional testing of dewatered groundwater will likely be necessary or desirable to characterize any dewatered groundwater to be discharged from the Site.

Typically, dewatered groundwater must be passed through storage tanks for control of solids or pre-treatment, and often this water will contain lower levels of contaminants than were identified from in-place groundwater samples. Accordingly, it may be advantageous to sample the accumulated water in storage tanks if, for example, it could possibly allow discharge to the storm sewer or sanitary sewer at lower cost than other off-site management options.

Characterization of groundwater, either in a pit or in a storage tank, may be necessary for two primary purposes:

1) To profile groundwater dewatered from any portion of the property that requires discharge permitting. Although existing data may be adequate to profile groundwater, the City or disposal facilities may not accept data that they consider dated or may have additional testing requirements. Therefore, if it is known that dewatering will be necessary at the property, then discussion with the City or disposal facility should occur prior to work activities to determine whether existing data or new testing data will be necessary to permit the water for disposal/discharge.

2) To characterize groundwater that is outside of the known or projected area of groundwater impacts depicted on Figure 5 (i.e., Area 2), but which exhibits signs of possible contamination (Section 7.3). This testing would be conducted to determine whether contamination is present, and if present, to profile the groundwater for proper disposal.

If characterization of groundwater becomes necessary at this Site, it is advisable to contact an EP in this situation.

7.4.2 Sampling of Groundwater

Characterization of groundwater to be dewatered may take place by sampling the water in an excavation, by sampling water that has been pumped into a storage tank, or by sampling groundwater directly from a boring.

If an area of unexpected groundwater contamination is encountered during work activities, discharge (or dewatering in the area) should be halted until the water can be characterized and a potential discharge volume estimated. If construction timelines or downtime costs do not justify halting work in the area, then the affected groundwater may be pumped to temporary storage tanks until it can be permitted for disposal.

Unfiltered water samples should be collected from the pit and/or storage tank with a peristaltic pump or disposable bailer. If necessary, the excavator operator may be directed to dig a sump in the base of the excavation pit to collect an adequate volume of pit water. The sample may then be collected by slowly lowering a new disposable bailer or disposable tubing into the sump or the storage tank. Care should be taken to avoid disturbing the water column in order to minimize sample turbidity.

Because metals testing is typically one of the parameters required for discharge permitting, every effort should be made to collect sediment-free samples with as little turbidity as possible that would be representative of the water to be discharged.

7.4.3 Analytical Testing Parameters

Groundwater samples to characterize or profile dewatered groundwater for disposal will likely require testing by the following analytical methods (check with the disposal facility/sewer authority discharge requirements to verify appropriate testing parameters):

- NW Method TPH-Gx (gasoline-range petroleum hydrocarbons);
- NW Method TPH-Dx (diesel- and oil-range petroleum hydrocarbons);
- VOCs by EPA Method 8260B;
- PAHs by EPA Method 8270SIM;
- Metals by EPA Method 6020 (unfiltered);
- Applicable Conventional Chemistry Parameters such as Total Suspended Solids (TSS).

7.5 Management of Contaminated Groundwater

Based on prior testing at this Site, it is not believed that groundwater would be characterized as a RCRA Hazardous Waste. However, if testing of dewatered groundwater indicates that a Hazardous Waste has been generated, then it is advisable to retain an EP to evaluate alternatives and present a best path forward. It is beyond the scope of this document to present all the possible contingencies and approaches to address water that may be a Hazardous Waste.

Groundwater awaiting completion of characterization for disposal may be left in the excavation pit or pumped to an on-site temporary storage tank. Almost all dewatering will require some form of sediment control prior to discharge.

Although typically only practical and economical for smaller volumes of water (i.e., generally less than 10,000 gallons), pumping of the water directly from the pit or storage tank into a pumper truck for transport to an off-site treatment and disposal facility is one option for disposal.

The disposal options for larger volumes of dewatered groundwater typically consist of discharge to the storm sewer or surface water under an NPDES 1200-C permit, or discharge to the municipal sanitary sewer system under a temporary batch discharge

permit. These options typically require pumping to a storage tank and sampling prior to discharge to verify that discharge limits will be met. The location for discharge and the discharge limits will be determined by the sewerage agency. In addition, depending on the discharge limits, pre-treatment of the water (beyond that for turbidity) may be necessary.

For groundwater that contains elevated levels of contaminants, disposal to an offsite treatment facility would likely be the most time and cost-efficient option, as discharge to the municipal sewer system would not likely be allowed without significant pre-treatment measures. If pre-treatment or offsite disposal proves necessary, it is advisable to retain an EP to assist with determining the options, costs, and best path forward.

7.6 Special Considerations for Utility Trenching

If new utility trenches are to be installed through an area of groundwater contamination and at depths that would intersect the groundwater table (greater than 7 feet bgs), then the potential for these trenches to act as conduits for preferential migration of contaminated groundwater should be evaluated. It is advisable to retain an EP in this situation.

Utility trench dams, typically constructed with controlled density fill (CDF), may be recommended in this circumstance to mitigate the potential for contaminant migration through utility trenches. If utility trench dams are deemed necessary, then site-specific design can be conducted at that time.

8.0 DOCUMENTATION

8.1 Record Keeping

For contaminated soil and/or groundwater that is transported or discharged off-site for disposal, records should be kept as to the transport, weight/volume, and disposal/discharge location of the removed materials.

For contaminated soil, bills of lading, disposal permits, and disposal receipts or weight tickets from the disposal facility should be maintained for each removal event.

For contaminated groundwater, discharge permits, documentation of source control and/or treatment measures, meter readings for water discharges, and disposal receipts (if disposal at an off-site facility is necessary) should be maintained for each discharge event.

Photographs of contaminated soil removal areas should be taken that allow for some perspective of the locations and depths of the removal areas. Photographs of the locations of groundwater dewatering and discharge locations, storage tanks, and any source control or treatment measures should also be taken.

For all sampling activities (profile, characterization, and/or confirmation), sample locations and depths, as well as collection dates and times should be recorded. Additionally, chain-of-custody documentation should be maintained at all times, and all laboratory reports should be retained.

Scaled maps should be prepared showing any areas where contaminated soils were removed and/or re-used on-site.

8.2 Project Closeout Report

Upon completion of any project that involved the testing or removal of contaminated soil at the property, a report or memorandum documenting the work activities should be prepared. The report should document any reuse locations and the off-site transport and disposal location(s) of any soils that were removed from the site, as well as any testing conducted. Scaled site maps showing the soil removal areas, soil reuse locations, and/or sample locations should be included in the report, as should all disposal receipts, laboratory reports, and chain-of-custody documentation. Additionally, the closeout report should document any deviations from this plan.

9.0 HEALTH AND SAFETY

A site-specific Health and Safety Plan (HASP) should be prepared for any future excavation/earthwork activities that may result in encountering contaminated soils or groundwater The HASP will need to comply with Occupational Health and Safety Administration (OSHA) requirements established under the Hazardous Waste Operations and Emergency Response (HAZWOPER) Standard (29 CFR 1910.120). Requirements include the use of appropriately trained site workers, description of hazardous substances likely to be encountered, identification of and monitoring for the presence of contaminants in soil and groundwater, and site health and safety officer responsibilities and authority.

The HASP will require workers exposed to contaminated soil to utilize a minimum level of Personal Protective Equipment (PPE), including protective clothing, gloves, steel-toed boots, hard hats, safety glasses.

Personnel who perform excavation activities below the seasonal high water table within the Area 1 and below the existing water table within Area 2 should meet the training requirements specified in the OSHA HAZWOPER Standard [29 CFR 1910.120(e) and CCR Title 8 Section 5192(e)].

The HASP should discuss when air monitoring will be employed, i.e. whenever a condition arises that could reasonably result in a hazardous atmosphere. Air monitoring must be conducted in accordance with The National Institute for Occupational Safety and Health (NIOSH), OSHA, or EPA methods.

10.0 LIMITATIONS AND SIGNATURES

The information presented in this plan was collected, analyzed, and interpreted following the standards of care, skill, and diligence ordinarily provided by a professional in the performance of similar services as of the time the services were performed. This report and the conclusions and/or recommendations contained in it are based solely upon research and/or observations, and physical sampling and analytical activities that were conducted at the site.

The information presented in this report is based only upon activities witnessed by HAI or its contractors, and/or upon information provided to HAI by the Client and/or its contractors.

Unless otherwise specified in writing, this plan has been prepared solely for the use by the Client. Any other use by the Client or any use by any other person shall be at the user's sole risk, and HAI shall have neither liability nor responsibility with respect to such use.

Hahn and Associates, Inc.

Prepared by:

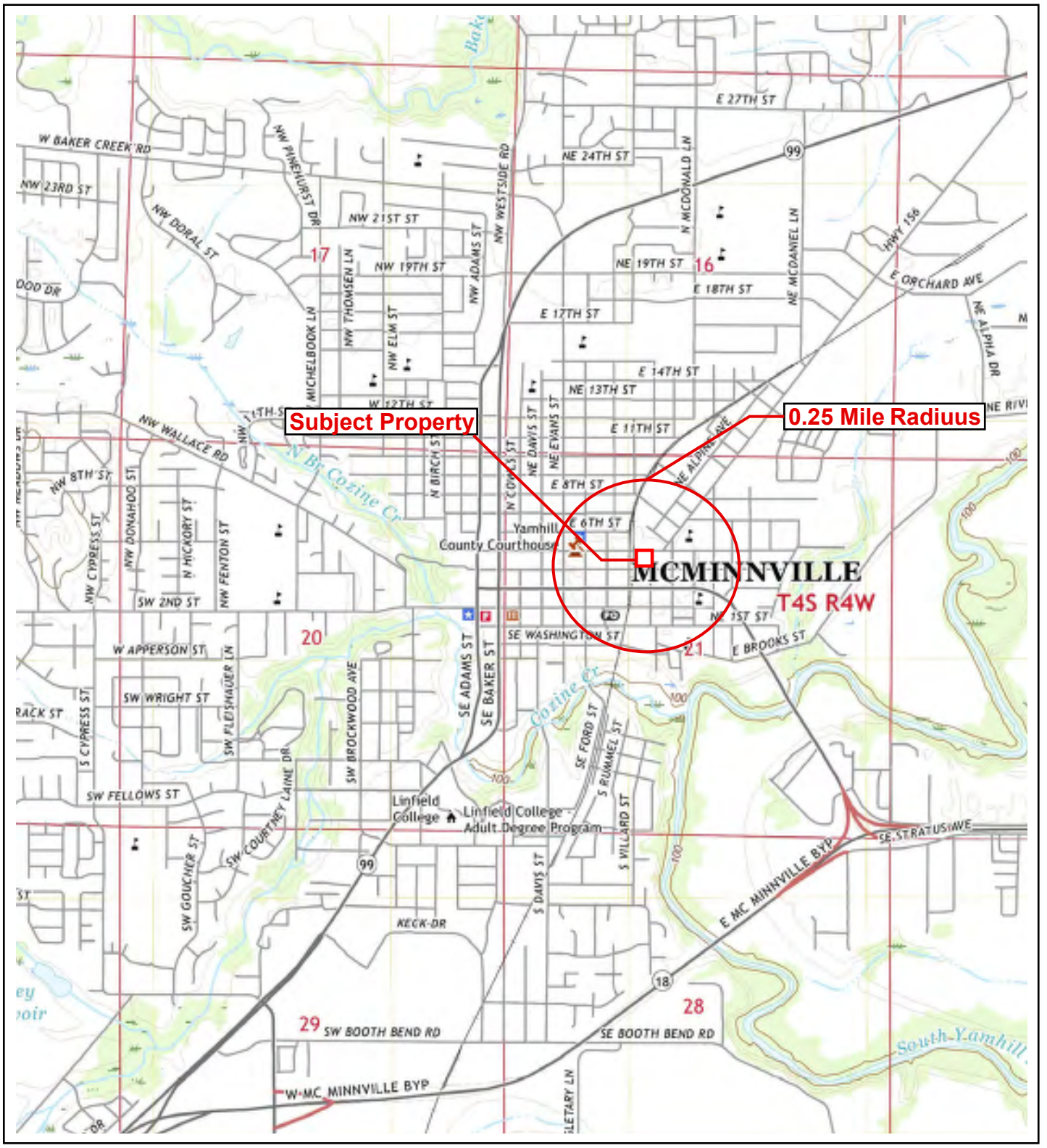
_____

Rob B. Ede, R.G.
Principal

Date_____

11.0 GLOSSARY OF ABBREVIATIONS

AGI	Applied Geotechnology, Inc.
Alpha	Alpha Environmental Services, Inc.
bgs	below existing ground surface
CMMP	Contaminated Media Management Plan
DEQ	Oregon Department of Environmental Quality
EP	Environmental Professional
EPA	U. S. Environmental Protection Agency
ESA	Environmental Site Assessment
HAI	Hahn and Associates, Inc.
HASP	health and safety plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
LOF	locality of facility
LUST	leaking underground storage tank
mg/kg	milligrams per kilogram (parts per million)
MRLs	method reporting limits
msl	mean sea level
NPDES	National Pollution Discharge Elimination System
OSHA	Occupational Health and Safety Administration
PAHs	polynuclear aromatic hydrocarbons
PCBs	polychlorinated biphenyls
RBC	DEQ Risk-Based Concentration
RBDM	Risk-Based Decision Making
RCRA	Resource Conservation and Recovery Act
R.G.	Oregon Registered Geologist
ROW	right-of-way
SOP	Standard Operating Procedure
TPH	total petroleum hydrocarbons
UST	underground storage tank
μg/L	micrograms per liter
VOCs	volatile organic compounds



Note:
Base Map from the McMinnville, Oregon (2020)
USGS 7.5-Minute Quadrangles
Contour Intervals: 10 Feet

NORTH

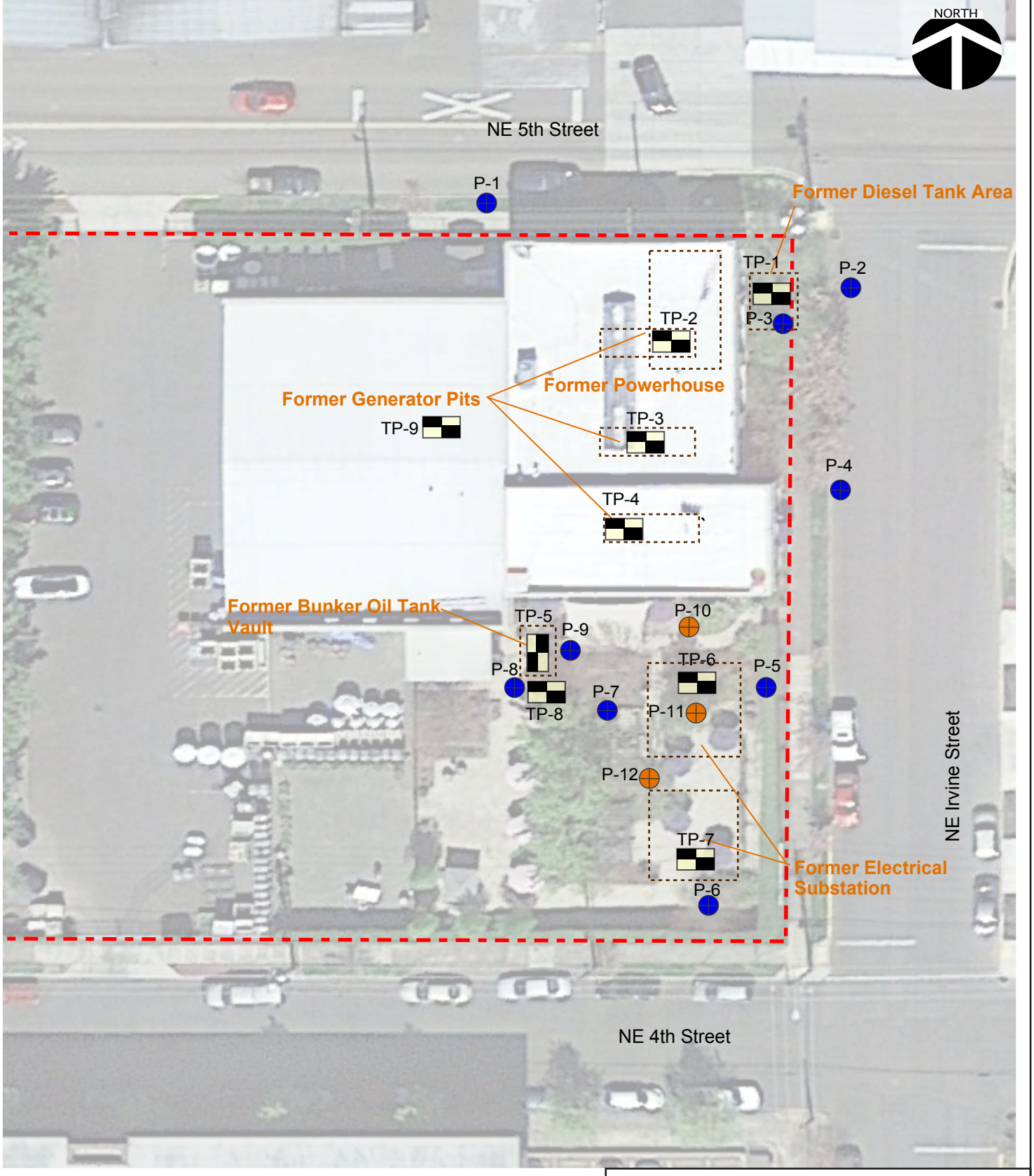
0 1000 2000 4000

1"=2000' Scale in Feet

FIGURE 1
Location Map

Contaminated Media Management Plan
Former McMinnville Water & Light Property
455 NE Irvine Street
McMinnville, Oregon

HAHN AND ASSOCIATES, INC.
Project No. 9815 April 2023



LEGEND

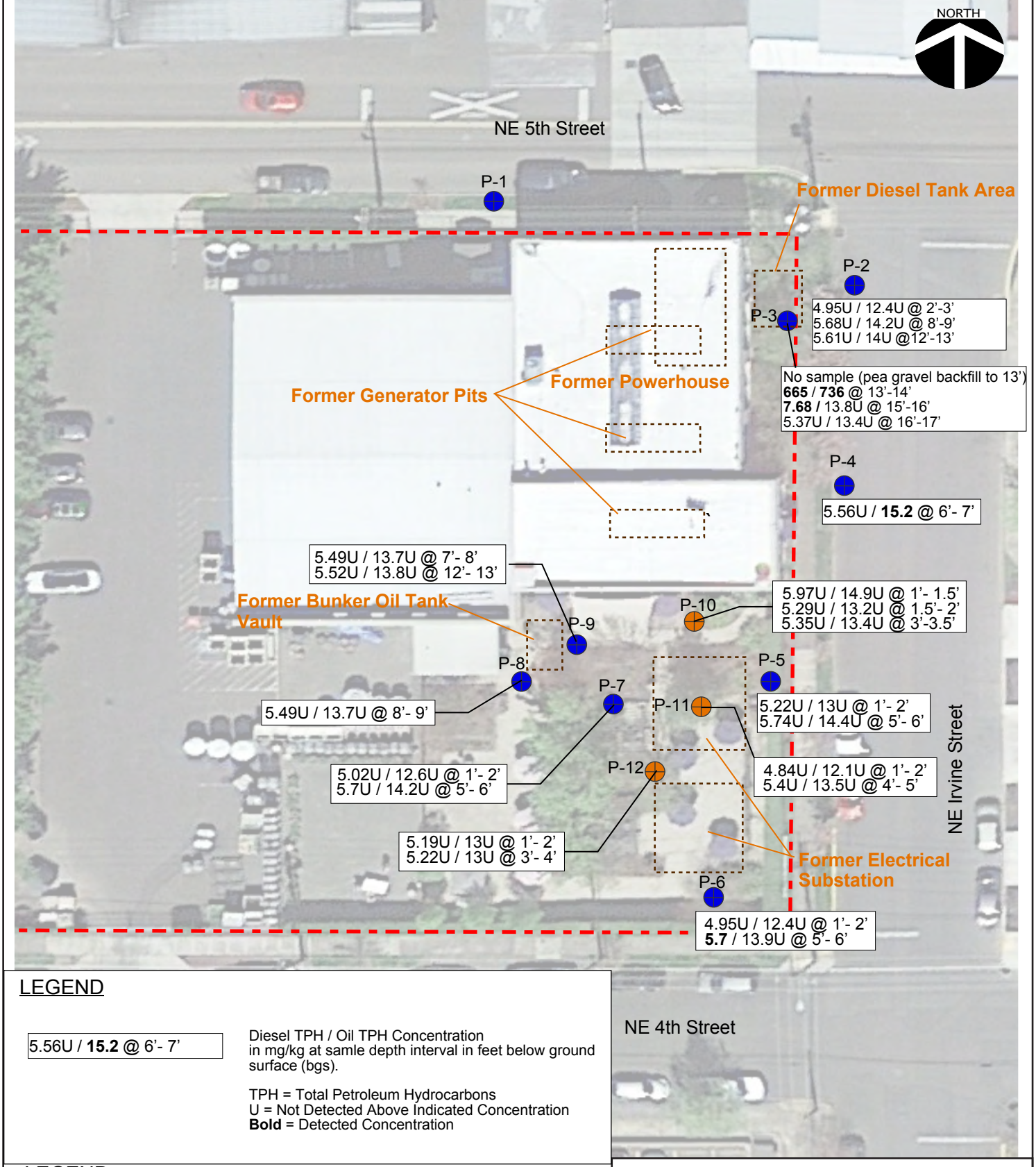
- Site Boundary
- Former Feature
- Former Test Pits
- Soil Boring with Temporary Well Point
- Soil Boring

Scale 1 inch = 40 feet

20 0 20 40 60 80 feet

Figure 2 Site Map with Soil and Groundwater Sampling Locations
Contaminated Media Management Plan
Former McMinnville Water & Light Property
455 NE Irvine Street
McMinnville, Oregon

HAHN AND ASSOCIATES, INC.
Project No. 9815 April 2023



LEGEND

5.56U / **15.2** @ 6'- 7'

Diesel TPH / Oil TPH Concentration in mg/kg at samle depth interval in feet below ground surface (bgs).

TPH = Total Petroleum Hydrocarbons
U = Not Detected Above Indicated Concentration
Bold = Detected Concentration

LEGEND

Site Boundary

Former Feature

Soil Boring with Temporary Well Point

Soil Boring

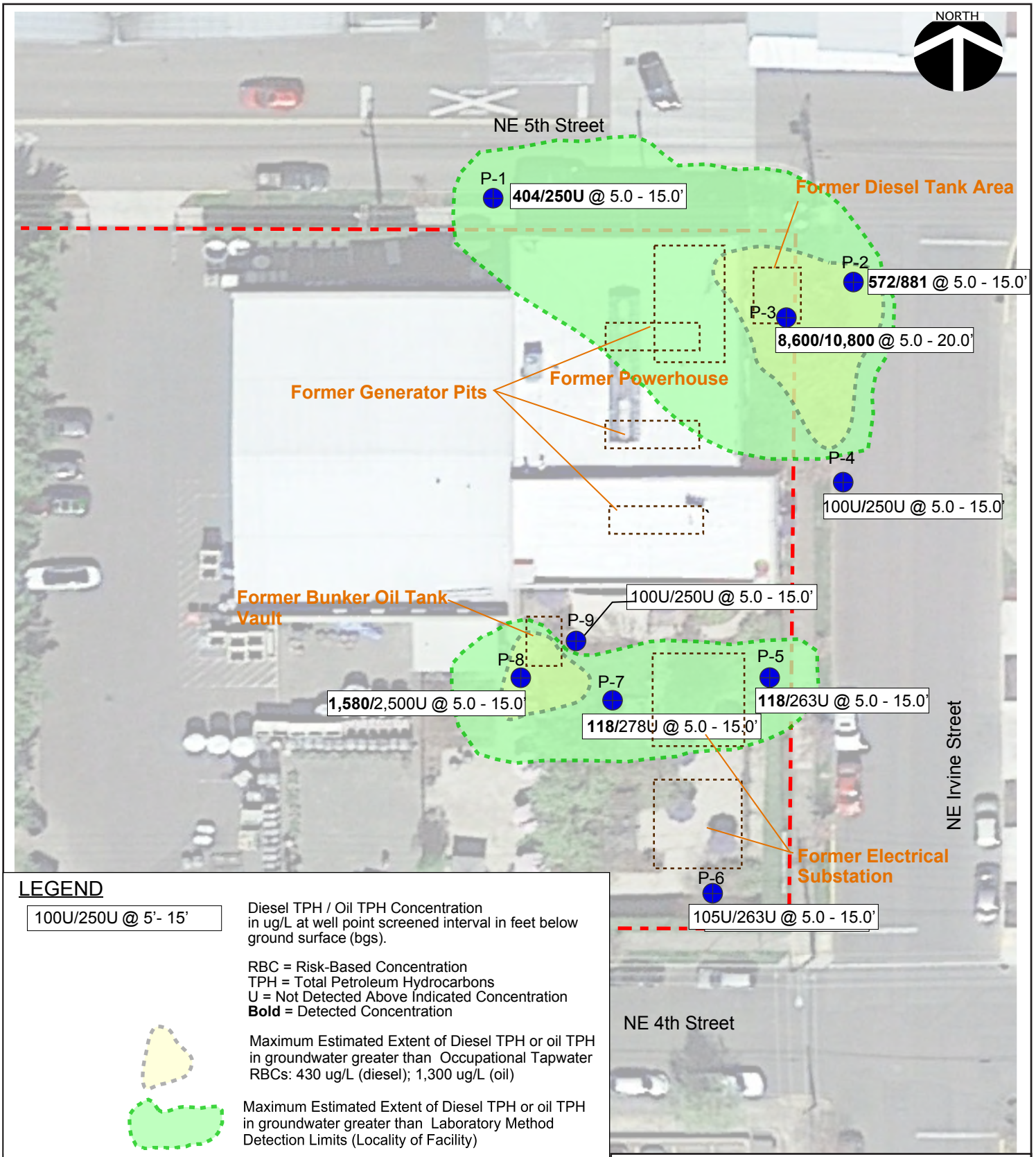
Scale 1 inch = 40 feet

20 0 20 40 60 80 feet

Figure 3 Diesel and Oil TPH in Soil

Contaminated Media Management Plan
Former McMinnville Water & Light Property
455 NE Irvine Street
McMinnville, Oregon

HAHN AND ASSOCIATES, INC.
Project No. 9815 April 2023



LEGEND

100U/250U @ 5'- 15'

Diesel TPH / Oil TPH Concentration in ug/L at well point screened interval in feet below ground surface (bgs).

RBC = Risk-Based Concentration
TPH = Total Petroleum Hydrocarbons
U = Not Detected Above Indicated Concentration
Bold = Detected Concentration

Maximum Estimated Extent of Diesel TPH or oil TPH in groundwater greater than Occupational Tapwater RBCs: 430 ug/L (diesel); 1,300 ug/L (oil)

Maximum Estimated Extent of Diesel TPH or oil TPH in groundwater greater than Laboratory Method Detection Limits (Locality of Facility)

Site Boundary

Former Feature

Soil Boring with Temporary Well Point

Scale 1 inch = 40 feet

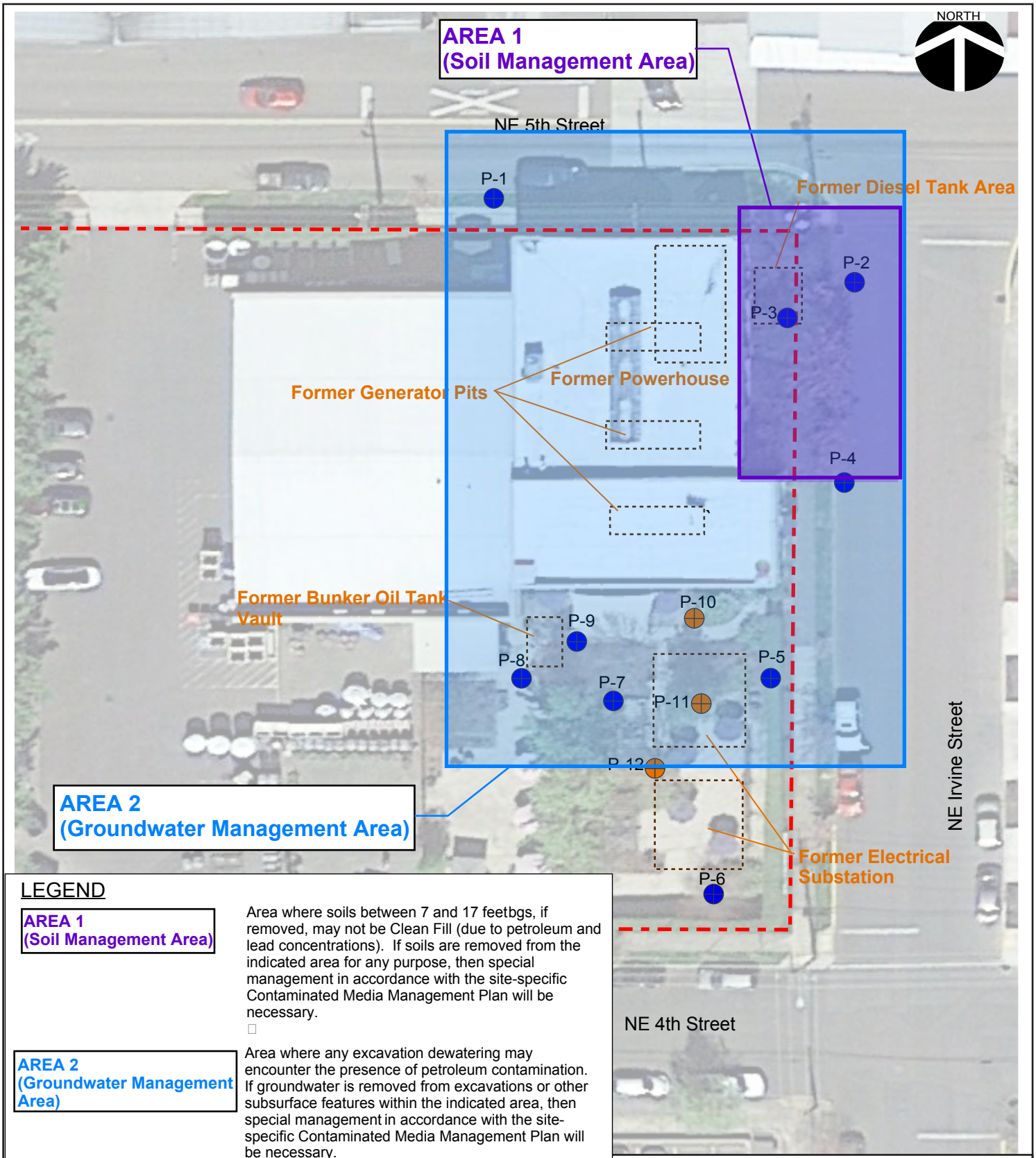
20 0 20 40 80 100 feet

Figure 4 Locality of Facility

Contaminated Media Management Plan
Former McMinnville Water & Light Property
455 NE Irvine Street
McMinnville, Oregon

HAHN AND ASSOCIATES, INC.
Project No. 9815

April 2023



LEGEND

AREA 1 (Soil Management Area)

Area where soils between 7 and 17 feetbgs, if removed, may not be Clean Fill (due to petroleum and lead concentrations). If soils are removed from the indicated area for any purpose, then special management in accordance with the site-specific Contaminated Media Management Plan will be necessary.

AREA 2 (Groundwater Management Area)

Area where any excavation dewatering may encounter the presence of petroleum contamination. If groundwater is removed from excavations or other subsurface features within the indicated area, then special management in accordance with the site-specific Contaminated Media Management Plan will be necessary.

- Site Boundary
- Former Feature
- Former Test Pits
- Soil Boring with Temporary Well Point
- Soil Boring

Scale 1 inch = 40 feet

20 0 20 40 80 100 feet

Figure 5 Soil and Groundwater Management Areas
Contaminated Media Management Plan
Former McMinnville Water & Light Property
455 NE Irvine Street
McMinnville, Oregon

HAHN AND ASSOCIATES, INC.
Project No. 9815

April 2023

APPENDIX A

DEQ No Further Action Letter
LUST No. 36-90-4088

Insert upon receipt

APPENDIX B

HAI Standard Operating Procedure (SOP) No. 260:
Excavation Sampling

EXCAVATION SAMPLING
HAI Standard Operating Procedure No. 260
Revision No. 1.0, July 31, 2003

TABLE OF CONTENTS

1.0 OBJECTIVE/BACKGROUND

This Standard Operating Procedure (SOP) details the sampling methodology for the sampling of soil and pit water from an excavation.

Excavation sampling is generally performed to characterize contamination observed within the excavation or to confirm the absence of contamination following removal activities.

2.0 EQUIPMENT REQUIRED

Soil Sampling (one or more of these may be required as specified by project manager):

1) Stainless steel trowel(s)

2) Stainless steel hand auger

3) Brass tube(s), plastic end caps, teflon tape, aluminum foil

Pit Water Sampling:

1) Peristaltic Pump, polyethylene tubing, 3/8” OD, 1/4” ID, flexible peristaltic tubing

2) Disposable polyvinyl chloride bailer(s), bailer string

3.0 FORMS REQUIRED

Field forms to be used during excavation sampling include:

1) Project Field Notes Form

2) Chain of Custody

4.0 PROCEDURE

4.1 Soil Sample Collection by Excavator/Backhoe Bucket

1) Direct equipment operator to collect soil from excavation at specified location and depth. Operator may need to first remove slough from area to be sampled to ensure collection of representative soil sample.

    a) The excavator bucket should be relatively clean and free from contamination.

    b) Excavator bucket containing soil sample should be brought to the surface immediately and the soil sample collected directly from the excavator bucket after scraping away at least 3 inches of soil. Ensure the soil sample is not directly in contact with the bucket to avoid cross-contamination.

    c) Clear soil from bucket prior to next sampling location

2) Soil sample can be collected from the bucket by a gloved hand (disposable nitrile glove), with a decontaminated stainless steel trowel, or with a brass tube driven into the soil (see Section 4.2). Immediately place soil sample in sample jar(s) and fill completely in order to minimize volatilization.

4.2 Soil Sample Collection by Brass Tube Sampler

1) Prior to sampling, ensure that brass tubes provided by the laboratory have been adequately decontaminated (decontamination is to be accomplished by the laboratory). If further decontamination is necessary, then proceed as per Section 4.6 of this SOP.

2) Identify sampling location and depth of sample. Sample can be collected directly from the pit or from the excavator bucket

    a) Using a mallet or slide-hammer, drive the brass tube into soils until the tube has been entirely advanced.

    b) With the slide hammer or a gloved hand, back the tube out from the soil with a slow rocking motion.

c) Immediately place teflon tape and new plastic caps on both ends of the brass tube, and seal the end caps with non-VOC tape. Affix sample label to tube. Wrap brass tube in aluminum foil and place in cooler.

4.3 Grab Sample Collection Directly From Pit

1) This task is only applicable for relatively shallow excavations (less than 4 feet). If sampling area is identified as a confined space or a pit greater than 4 feet deep, the sampler cannot enter the area and an alternate collection method shall be used.

2) For pits that cannot be entered, a hand auger may be used to reach sample locations. However, do not advance hand auger from the lip of vertical excavation walls or unsafe areas.

3) Collect soil sample from chosen sample location with a gloved hand, decontaminated stainless steel trowel, or brass tube.

4.4 Field Screening

Field screening should be contacted in accordance with HAI SOP 130. Soil samples for headspace vapor screening should be collected immediately in order to minimize vaporization.

4.5 Collection of Pit Water Sample

This procedure is used to collect samples of water from an excavation pit. Either a peristaltic pump or disposable bailer may be used to collect the water samples. For VOC samples, a bailer should be used.

1) If necessary, direct excavator operator to dig a sump in the base of the excavation to collect an adequate volume or water column of pit water for collection.

2) Collect a sample of the pit water by slowly lowering a new disposable bailer or disposable tubing into the sump for collecting the pit water sample. Care should be taken to avoid disturbing the water column in order to minimize sample turbidity.

4.6 Decontamination of Field Equipment

Decontaminate all reusable equipment between sampling locations as per HAI SOP 150. Full decontamination of the excavator bucket is not necessary (unless visible contamination is present on the bucket), as long as the soil sample can be collected from an area that has never been in direct contact with the bucket.

5.0 SPECIAL CONSIDERATIONS

If sampling area is identified as a confined space or a pit greater than 4 feet deep, the sampler cannot enter the area and an alternate collection method shall be used.