Deq submit <dwmrcsubmit@utah.gov>

Opus Green Townhomes SMP Submission

1 message

Blake Downey [redacted] Tue, Aug 16, 2022 at 7:49 AM
To: "DWMRCsubmit@utah.gov" <DWMRCsubmit@utah.gov>

DWMRC/Heather,

Please see the attached final SMP for the Opus Green Townhomes site to be submitted for the 30-day public comment period.

Thank you!

Blake Downey, P.G.

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WASATCH ENVIRONMENTAL

2242-004D SMP DWMRC Final.pdf
2050K

SITE MANAGEMENT PLAN
OPUS GREEN TOWNHOMES
4186 SOUTH MAIN STREET
MILLCREEK, UTAH

Project No. 2242-004D

To:

Mr. Doug Hansen, Director
Utah Department of Environmental Quality
Division of Waste Management and Radiation Control
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Prepared for:

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August 5, 2022

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TABLE OF CONTENTS

Section **Page No.**

1. INTRODUCTION 1
   - 1.1 Site Description 1
   - 1.2 Site Background 1

2. RISK ASSESSMENT 3

3. SITE MANAGEMENT 4
   - 3.1 Activity and Use Limitations 4
     - 3.1.1 Site Management Plan 4
     - 3.1.2 Land Use Limitations 4
     - 3.1.3 Groundwater Limitations 5
     - 3.1.4 Disturbance Limitations 5
     - 3.1.5 Construction Dewatering Limitation 5
     - 3.1.6 Vapor Intrusion Limitations 5
     - 3.1.7 Compliance Reporting 5
     - 3.1.8 Residential Notification and Limitations 6
   - 3.2 Maintenance, Access, and Inspections 6
     - 3.2.1 Notice 6
     - 3.2.2 Disruption 6
   - 3.3 Environmental Covenant 6
   - 3.4 Monitoring Requirements 6
   - 3.5 Site Management Contacts 6

Exhibits

Exhibit A – Property Location Property Use Map and Historical Sample Location Map

SITE MANAGEMENT PLAN
OPUS GREEN TOWNHOMES
4186 SOUTH MAIN STREET
MILLCREEK, UTAH

1. INTRODUCTION

Wasatch Environmental, Inc., (Wasatch) has prepared this Site Management Plan (SMP) to present the planned long-term approach for managing residual heavy metal impacts to soil and groundwater at the Opus Green Townhomes property (Property), which exhibits residual lead and arsenic impacts; located at 4186 South Main Street, Millcreek, Utah.

This SMP has been prepared in accordance with the requirements of R315-101 "Cleanup Action and Risk-Based Closure Standards" that establish information requirements to support risk-based cleanup and closure standards at facilities for which remediation or removal of hazardous constituents to background levels is not expected to be achieved. The "Owner" as defined in the Environmental Covenant (EC) shall comply with the SMP, including provisions relating to the Activity and Use Limitations pertaining to land use limitations, groundwater limitations, and disturbance limitations.

1.1 Site Description

The Property is an approximately 7.05-acre tract of real property, further identified as Tax Parcel Number: 21-01-228-015-0000. At the time of this document, the Property is vacant land under residential construction (as shown in Exhibit A). The legal description of the Property is:

Beginning North at 87°01'34" East 16.16 feet and North 0°15'54" East 1741.07 feet and North 76°16'11" West 33.93 feet from East 1/4 Corner of Section 1, Township 2S, Range 1W, S L M; North 76°16'11" West 23.32 feet; North 40°00'30" West 154.8 feet; North 68°26'54" West 290.8 feet; North 76°57'23" West 457 feet; South 29°13'33" West 51.05 feet; North 8°59' West 359.4 feet; South 89°14'45" East 748.55 feet M OR L; South 3°50' West 368.14 feet; North 85°15' East 197.01 feet; South 0°15'54" West 283.64 feet to beginning. Contains 7.05 acre.

1.2 Site Background

The Property is known to be located in an area of former historical ore smelters from approximately 1874 to 1899. Wasatch has direct knowledge of environmental impacts identified on adjacent redeveloped properties. The main environmental impacts identified on the adjacent properties are the heavy metals lead and arsenic.

Phase I and Phase II Environmental Site Assessments

Wasatch completed a Phase I Environmental Site Assessment (ESA) for the Property dated April 5, 2019, on behalf of Clearwater Homes Utah. The Phase I ESA identified the following recognized environmental conditions:

- Between at least the 1970s and 1980s, there were two large aboveground storage tanks (ASTs) on the Property. Given past uses of the Property, there is a potential that these ASTs contained fuel or oil and releases may have impacted the Property.

- The Property was historically a slag dump for a smelter. Analytical results for a soil sample collected from the Property in 1993, and analytical results for a slag sample collected by Wasatch indicate elevated concentrations of lead and arsenic. Additionally, samples of native soil collected from the adjoining east property also indicate elevated concentrations of metals likely attributed to smelter aerial deposition.

- Concentrations of lead in soil samples collected from the fill material on the adjoining east property exceed United States Environmental Protection Agency (U.S. EPA) Regional Screening Levels (RSLs) for Industrial Soil. The on-site fill material originated from the former ore smelters. Therefore, there is a potential for elevated concentrations of lead in the fill material on the Property.

Given the identified recognized environmental conditions, Wasatch directed the completion of seven soil borings at the Property to evaluate the degree of soil and groundwater impacts present at the Property by contaminants previously identified at and near the Property.

On April 6, 2018, Wasatch directed the completion of seven soil borings (GP-1 through GP-7), using direct-push drilling techniques, to evaluate soil and groundwater conditions at the Property. The boring locations are shown in Exhibit A.

One soil and one groundwater sample were collected from each boring and analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and Resource Conservation and Recovery Act (RCRA) D-list metals.

Based on the observed lithology of the soil borings, on-site fill material is approximately 9 to 12 feet in thickness and consists mainly of gravelly sand, sand, and some silt with red brick debris, concrete debris, glass debris, slag, plastic debris, tar-like material, and wood debris. Depth to groundwater ranged between approximately 7.5 to 19 feet below ground surface (bgs), with an average depth of 10.79 feet. Slight petroleum odors were observed in soil boring GP-4 at a depth of 9 feet. Photoionization detector (PID) readings ranged from 0.0 to 12.2 parts per million (ppm).

Based on extensive geotechnical soil borings/test pits and Wasatch's soil borings, the observed slag appears to be predominantly located at depths in the fill material between 3 and 10 feet.

The soil sample collected from soil boring GP-4 exhibited detectable concentrations of petroleum hydrocarbon constituents and a slight petroleum odor. The petroleum hydrocarbon concentrations were below the applicable U.S. EPA RSLs for Residential Soil; however, they indicate that a release of petroleum product has occurred. Additionally, this boring was located approximately 40 feet west of where the former ASTs (the suspected release point) were located.

The shallow soil samples (ranging from 1 to 4 feet bgs) collected from each soil boring exhibited arsenic concentrations that exceeded the applicable U.S. EPA RSL for Residential Soil for arsenic of 0.68 milligrams per kilogram (mg/kg). However, a site-specific background arsenic in soil concentrations were developed for the Property, and it was determined that the detected arsenic concentrations are considered to be within the typical background concentration for this area.

Two deep soil samples were collected from the fill/native soil interface where the majority of the slag was observed. These samples (GP-3-9' and GP-4-9.5') exhibited lead and arsenic concentrations in excess of their applicable U.S. EPA RSL for Residential Soil. Soil sample GP-3-9' exhibited and arsenic and lead concentrations of 145 mg/kg and 3,850 mg/kg, respectively. Soil sample GP-4-9.5' exhibited arsenic and lead concentrations of 106 mg/kg and 2,160 mg/kg, respectively.

Soil sample GP-7-2' exhibited a benzo(a)pyrene (BAP) concentration of 1,710 micrograms per kilogram (µg/kg). This concentration exceeds the U.S. EPA RSL for Residential Soil of 110 µg/kg. No other SVOCs were detected at concentrations above U.S. EPA RSL for Residential Soil.

No SVOCs, VOCs, RCRA D-list metals (except for arsenic) were detected at concentrations in groundwater that exceed applicable U.S. EPA Maximum Contaminant Levels (MCLs).

All groundwater samples except GP-7 exhibited an arsenic concentrations that exceed the applicable U.S. EPA MCL for arsenic of 0.01 milligrams per liter (mg/L).

Division of Waste Management and Radiation (DWMRC) Oversight

DWMRC oversight was requested in December 2021. At the request of the Utah DWMRC, Wasatch completed a human health risk assessment (HHRA), ecological risk assessment (ERA [which included the northern bank of the adjoining south Big Cottonwood Creek]), and a background arsenic evaluation. The work plan for this effort was approved by DWMRC in a letter dated May 24, 2022. Since August 2019, Wasatch has completed 29 additional test pits across the Property to further evaluate the on-site impacts.

Since the collection of the GP-4-9.5' soil sample, which exhibited petroleum hydrocarbon impacts at concentrations below their applicable U.S. EPA RSLs for Residential Soil, Wasatch has completed six additional test pits in this area and the area of the former AST(s). No SVOCs, VOCs, or lead were detected in the soil samples collected from the step-out test pits at concentrations that exceed their applicable U.S. EPA RSL for Residential Soil.

Since the collection of the GP-7-2' soil sample, which exhibited a BAP concentration that slightly exceeded the applicable U.S. EPA RSL for Residential Soil, Wasatch has completed five additional test pits in this area. No PAHs (including BAP) were detected in the soil samples collected from the step-out test pits at concentrations that exceed their applicable U.S. EPA RSL for Residential Soil.

Based on the calculated site-specific background arsenic evaluation and research of arsenic concentrations in soil for nearby sites, the arsenic impacts to soil at the Property are considered to be within the typical background concentration for this area.

Since the collection of the GP-3-9' soil sample, which exhibited a lead concentration that exceeded the applicable U.S. EPA RSL for Residential Soil, Wasatch has completed four additional Step-out test pits in this area. No lead was detected in the soil samples collected from the step-out test pits at concentrations that exceed the applicable U.S. EPA RSL for Residential Soil.

Since the collection of the GP-4-9.5' soil sample, which exhibited a lead concentration that exceeded the applicable U.S. EPA RSL for Residential Soil, Wasatch has completed four additional step-out test pits in this area. No lead was detected in the soil samples collected from the step-out test pits at concentrations that exceed the applicable U.S. EPA RSL for Residential Soil.

2. RISK ASSESSMENT

A HHRA, ERA, and background arsenic evaluation have been performed for the Property and is documented in detail in the HHRA, ERA, and Background Arsenic Evaluation completed by Wasatch and dated April 19, 2022. DWMRC approved the results documented in this report in a letter dated May 24, 2022. The conclusions of this effort are described below.

Human Health Risk Assessment

Based on the totality of the data and the risk assessments/background evaluation, the fill material at the Property has been sufficiently defined, and the risks associated with this fill material have been accurately calculated.

Based on the lead concentrations in soil for each risk scenario (and their applicable exposure depth ranges) or the calculated UCL, there is no adverse risk due to lead.

Based on the risk assessment for the Property (which included historical soil data), the initial hazard index (HI) for all scenarios is below the R315-101 target level of 1.0.
When the maximum detected concentration was used as the initial exposure point concentration (EPC) for the residential scenario, the resulting cancer risk is 1.78E-05. This cancer risk is above the R315-101 target level of 1E-06, but within the risk range of 1E-06 to 1E-04 for DWMRC to allow the use of

engineering and/or institutional controls at the Property. The cancer risks were then calculated using the refined EPCs. The resulting refined cancer risk is 8.59E-07. The refined cancer risk is below the target level of 1E-06. This risk level is below the target level required under UAC R315-101 required for clean closure.

The results of the HHRA indicate that there is no adverse risk to potential receptors, including future residential, industrial, and recreational scenarios when using the refined EPCs and calculated HIs. Despite the acceptable risks, the localized hotspots were associated with isolated burials of slag-like material. All of the hotspots are below three feet in depth. Given the presence of the localized hotspots and that only the calculated cancer risk using the maximum detected concentration (which is the most conservative assessment) for the residential scenario resulted in a cancer risk of 1.78E-05, Wasatch recommended that these risks be managed by implementation of a SMP and EC (institutional land use controls) to mitigate these risks at the Property.

Ecological Risk Assessment

Based on the HHRA which included an ERA, the Main Site (defined in the April 19, 2022, report) area meets the exclusion criteria as defined by the U.S. EPA, and therefore, no ecological risk is applicable to this area. The exclusion criteria consists of the following: the affected property does not include viable ecological habitat, the affected property is not utilized by potential receptors, and complete or potentially complete exposure pathways do not exist due to affected property setting or conditions of affected property media.

Based on the HHRA which included an ERA, the Slope Area (defined in the April 19, 2022, report) is less than 0.5 acres. Therefore, this area is not large enough to impact an ecological population. The ERA concluded that, based on the fact that the slope is extremely steep, the exposure area is very small in size, and the Property is in a highly developed area, the slightly elevated HQs for the deer mouse and horned lark (reproductive endpoints below an HI of 10) do not indicate an adverse risk to localized ecological receptors or impact to the deer mouse and horned lark populations.

Conclusions of the HHRA, ERA, and Background Arsenic Evaluation

As approved by the Utah DWMRC, residual exposure risks that exist can be adequately managed through land use controls.

3. SITE MANAGEMENT

3.1 Activity and Use Limitations

The EC to be recorded against the Property imposes the following activity and use limitations on the Property:

3.1.1 Site Management Plan

The Owner shall comply with this SMP.

3.1.2 Land Use Limitations

The Property is suitable for residential, commercial, and industrial use consistent with applicable local zoning laws. Planting crops or fruit trees for consumption by humans or livestock is prohibited.

3.1.3 Groundwater Limitations

Groundwater from the shallow unconfined aquifer shall not be used for drinking water, irrigation, or bathing purposes. Other uses of groundwater from the shallow unconfined aquifer on the Property shall be subject to review and approval by the Director prior to implementation.

3.1.4 Disturbance Limitations

Appropriate care shall be exercised during construction, remodeling, and maintenance activities at the Property so as to prevent exposure to heavy metal-impacted soils. If disturbances extend three feet below the ground surface (bgs) or more the following apply:

1. Workers shall be required to comply with the Occupational Safety and Health Administration (OSHA) training for hazardous materials

2. Appropriate personal protective equipment (PPE) must be donned by all workers completing the work, and be sufficient to prevent exposure to metals-impacted soil.

3. If disturbances require the removal and off-Property disposal of soil below three feet bgs, the soil that is removed shall be treated/disposed in accordance with applicable law. Additionally, prior to soil removal and disposal the Utah DWMRC must be notified and approve of the proposed removal and disposal activities, which will include the appropriate soil waste sample characterization and proposed disposal Property. Once the excavation and disposal work are completed, disposal documentation must be submitted to the Utah DWMRC.

4. If disturbances require the temporary excavation of soils below three feet bgs, but do not require off-Property disposal. Then the soils excavated below three feet bgs must be segregated, properly stockpiled on plastic and covered with plastic until redeposition, and redeposited at a depth below three feet bgs and covered with the excavated overburden or clean soil.

5. DWMRC shall be notified if the depth of an excavation exceeds three feet bgs. DWMRC may require sampling of the surface used to store any excavated material.

3.1.5 Construction Dewatering Limitation

Dewatering conducted to facilitate construction on the Property may require that the groundwater be treated to reduce contaminant concentrations prior to discharge. Prior to commencement of dewatering activities, appropriate permit(s) shall be obtained for discharge to either the stormwater system (under a Utah Pollutant Discharge Elimination System permit obtained from the Utah Division of Water Quality) or to the sanitary sewer (under a Wastewater Discharge Permit obtained from the sewer district). Testing and/or treatment of the groundwater may be required by the receiving Property.

3.1.6 Vapor Intrusion Limitations

There are no vapor intrusion limitations.

3.1.7 Compliance Reporting

Upon request, Owner shall submit written documentation to the UDEQ verifying that the activities and use limitations remain in place and are being followed.

3.1.8 Residential Notification and Limitations

All new residents of the Property shall be notified of the contamination located at the Property. Additionally, residents are not allowed to excavate below three feet bgs without complying with all limitations described in Section 3.1.4.

3.2 Maintenance, Access, and Inspections

Under the EC, the Owner of any portion of the Property, shall be responsible for compliance with the SMP and EC.

The Holder under the EC and the Director and their respective authorized agents, employees, and contractors shall have rights of reasonable access to the Property at any time after the effective date of the EC for inspections and monitoring of the compliance with the EC, and for complying with the terms and conditions of the EC and this SMP. Nothing in this SMP shall be construed as expanding or limiting any access and inspection authorities of the Holder or Director under the law.

3.2.1 Notice

Any party or person desiring to access the Property under authority of the EC shall provide notice to the then current Owner of the affected portion of the Property not less than 48 hours in advance of accessing the Property, except in the event of an emergency condition which reasonably requires immediate access. In the event of any such emergency condition, the party exercising this access right will provide notice to the then current owner of the affected portion of the Property requiring access as soon thereafter as is reasonably possible.

3.2.2 Disruption

To the extent that the Holder, the Director or their authorized representatives, conduct any activities on or within any portion of the Property, they will use reasonable efforts to comply with the then current Owner's business operation and security needs and requirements, and will conduct such activities so as to cause the least amount of disruption to the use of the affected portion of the Property as may be reasonably possible. Any person who conducts any activities shall repair or replace any improvements or landscaping damaged on the affected portion of the Property by such activities. The Director will determine what needs, requirements, and activities are reasonable. Should the Director's activities cause damage to the affected portion of the Property improvements or landscaping that are not repaired or replaced, the injured party may present a claim against the State of Utah in accordance with Utah law.

3.3 Environmental Covenant

An EC containing the above referenced activity and use limitations will be recorded with the Office of the County Recorder of Salt Lake County, Utah.

3.4 Monitoring Requirements

The Owner shall comply with the activity and use limitation stated in Section 3.1, and through the use of a homeowner association (or other similar governing body for the Property) monitor the Property to verify that all residents have been notified of the residual heavy metal impacts to soil and monitor excavations at the Property that exceed 3 feet bgs. Cessation of excavation monitoring is subject to review and approval by the Director.

3.5 Site Management Contacts

Inquiries concerning the SMP should be directed to the following:

Millcreek OG, LLC
336 West Broadway, Suite #110
Salt Lake City, Utah 84101
(801) 599-1839

and

Utah Department of Environmental Quality
Division of Waste Management and Radiation Control
Director
P.O. Box 144880
Salt Lake City, Utah 84114-4880
(801) 536-0200

EXHIBIT A

Facility Location and Property Use Map
Historical Sample Location Map
(2 pages)

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Scale: 1-inch equals approximately 434'

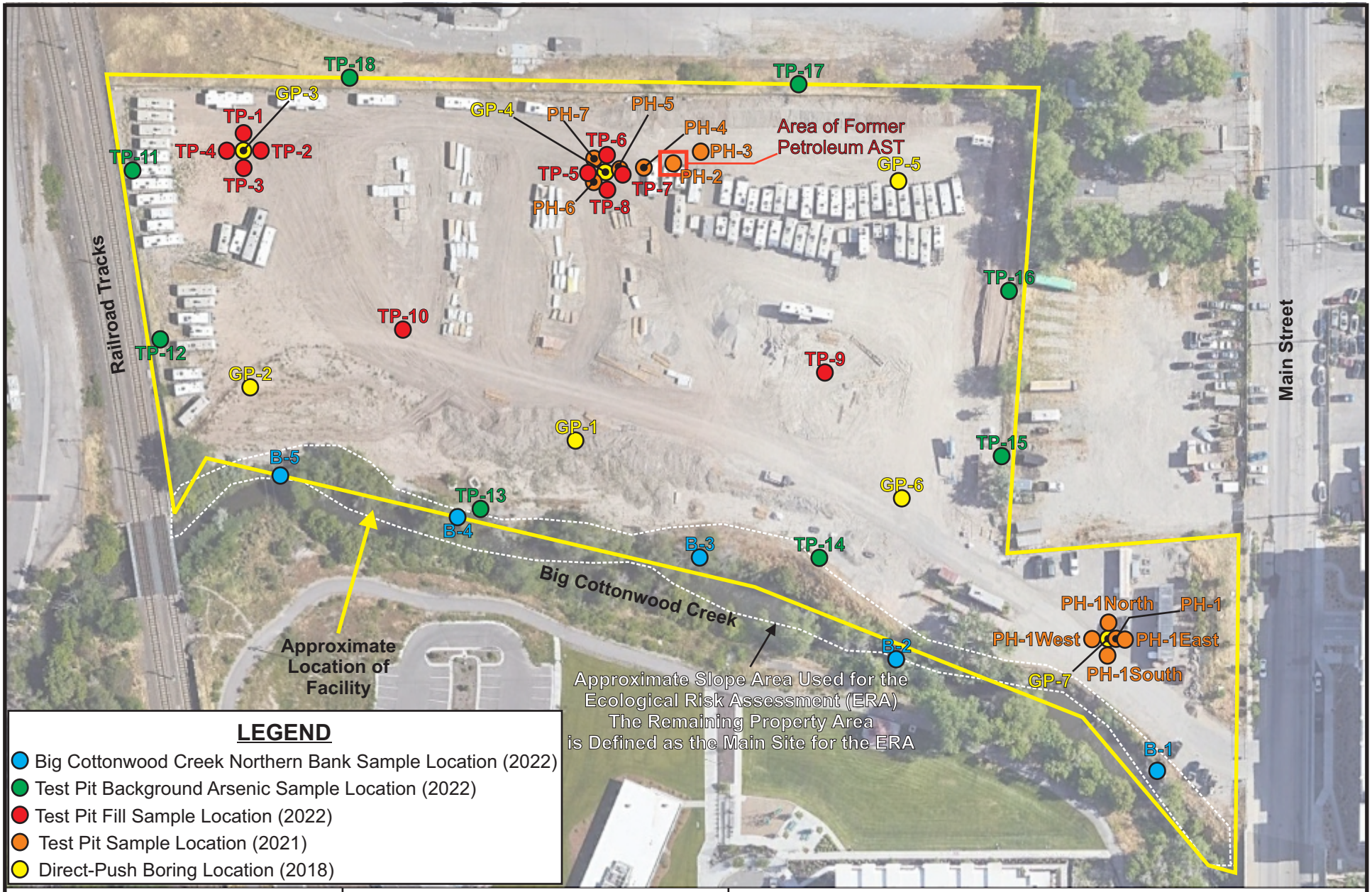
WASATCH ENVIRONMENTAL

Environmental Science and Engineering

Facility Location and Property Use Map

Opus Green Townhomes
4186 South Main Street
Millcreek, Utah

PROJECT NO.: 2242-004D	DATE: 6-13-22	FIGURE 1



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Scale: 1-inch equals approximately 110'

WASATCH ENVIRONMENTAL

Environmental Science and Engineering

Historical Sample Location Map

Opus Green Townhomes
4186 South Main Street
Millcreek, Utah

PROJECT NO.: 2242-004D	DATE: 6-13-22	FIGURE 2