

Soil Management Plan Addendum No. 7

Former Philadelphia Energy Solutions Refinery
3144 West Passyunk Avenue, Philadelphia, PA

Prepared for

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Acronyms and Abbreviations

Act 2	Land Recycling and Environmental Remediation Standards Act
Act 32	Storage Tank and Spill Prevention Act
ASTs	aboveground storage tank)
BDH	Bellwether District Holdings, LLC
DC	Direct Contact
Evergreen	Evergreen Resources Group LLC
ft	feet or foot
MA3 LOD	Major Amendment 3 Limit of Disturbance
mg/kg	milligram per kilogram
MSCs	Medium Specific Concentrations
MTBE	methyl tert-butyl ether
Non-Res	non-residential
PADEP	Pennsylvania Department of Environmental Protection
PESRM	Philadelphia Energy Solutions Refining and Marketing LLC
<i>Plan</i>	<i>Soil Management Plan</i>
<i>Plan Addendum</i>	<i>Soil Management Plan Addendum No. 7</i>
RCRA	Resource Conservation and Recovery Act
Site	3144 West Passyunk Avenue, Philadelphia, PA
SGW	soil-to-groundwater
SHS	Statewide Health Standard
SMP	Soil Management Plan
SSS	Site-Specific Standard
SVOCs	semi-volatile organic compounds
Terraphase	Terraphase Engineering Inc.
UA	used aquifer
VOCs	volatile organic compound
yd ³	cubic yards



1 Introduction

This *Soil Management Plan Addendum No. 7 (Plan Addendum)* has been prepared on behalf of Bellwether District Holdings, LLC (BDH), formerly known as Philadelphia Energy Solutions Refining and Marketing LLC (PESRM) for the Pennsylvania Department of Environmental Protection (PADEP). This *Plan Addendum* presents the results of soil sampling performed as part of the planned redevelopment of the former Philadelphia Energy Solutions Refinery located at 3144 West Passyunk Avenue, Philadelphia, PA (Site; **Figure 1.1**). The areas sampled and discussed in this *Plan Addendum* are located in the former Point Breeze South Yard and Girard Point in the central and southern portion of the Site as shown on **Figure 1.2** (a.k.a. the Major Amendment No. 3 Limit of Disturbance [MA3 LOD]). Additional soil samples were collected in this area since the submittal of the *Soil Management Plan (SMP) Addendum No. 6* (Terraphase 2024). The sampling was performed in accordance with the June 15, 2020 Soil Management Plan (Plan) prepared by HRP Philadelphia Holdings, LLC and approved by PADEP. Additionally, data from soil sampling performed at the Site (1) in support of Evergreen Resources Group LLC's (Evergreen)¹ investigations, (2) in support of BDH's efforts to close aboveground storage tanks (AST) under the Storage Tank and Spill Prevention Act (Act 32), (3) in support of BDH's efforts to address release(s) at select areas of the Site under the Land Recycling and Environmental Remediation Standards Act (Act 2), and (4) in support of BDH's efforts to demonstrate Clean Closure of former hazardous waste storage units at the Site under the Resource Conservation and Recovery Act (RCRA), have been reviewed with consideration for determining soil re-use categories under this *Plan Addendum*.

This *Plan Addendum* presents the results of soil sampling conducted to establish where soil can be placed at the Site as part of the bulk movement of soil during redevelopment. It is being shared with Evergreen and PADEP. The soil sampling previously completed at the Site in support of the SMP is documented in a series of SMP Addenda:

- *Soil Management Plan Addendum No. 1* (Terraphase 2021b);
- *Soil Management Plan Addendum No. 2* (Terraphase 2022a);
- *Soil Management Plan Addendum No. 3* (Terraphase 2022b);
- *Soil Management Plan Addendum No. 4* (Terraphase 2023a);
- *Soil Management Plan Addendum No. 5* (Terraphase 2023b); and
- *Soil Management Plan Addendum No. 6* (Terraphase 2024).

The conclusions of the prior SMP Addenda are incorporated into this *Plan Addendum* to provide a comprehensive summary of soil management requirements in accordance with the *Plan* based upon sampling completed to date. Additional SMP Addenda will be prepared as soil sampling is completed in

¹ Evergreen Resources Management Operations, a series of Evergreen Resources Group, LLC, is managing the legacy remedial work for Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC (Evergreen) and Sunoco (R&M), LLC. For clarity, Sunoco, Inc. n/k/a ETC Sunoco Holdings LLC, Sunoco, Inc. (R&M) f/k/a Sunoco (R&M), LLC n/k/a Energy Transfer (R&M), LLC effective 4/19/2021 and Evergreen shall be referred to collectively as Evergreen in this document.



additional areas of the Site in anticipation of development. Each Addendum will provide a cumulative summary of soil management requirements in addition to providing details describing the results of recent soil sampling not previously reported in the Addenda. This *Plan Addendum* summarizes additional sampling performed to account for the additional MA3 LOD area and impacts on soil re-use categories based on additional sampling performed in support of other investigation efforts.

Additional phases of sampling will be conducted within other areas of the Site as redevelopment planning and preparations proceed. At least 30 days prior to the start of soil disturbance, excavation, or grading in a given area, BDH will submit to Evergreen and PADEP a *Plan Addendum* that includes the results of pre-excavation characterization sampling and soil management requirements for that area consistent with the approach described in the 2020 *Plan*.

1.1 Purpose and Objective

A key element of the redevelopment plan involves raising the ground surface elevations on the portion of the Site east of the Schuylkill River above base flood elevations. Some of the ground surface elevations at the Site are currently below base flood elevations while other areas are above base flood elevations. As such, BDH intends to move soil from locations with higher ground surface elevations to areas with lower ground surface elevations so that the final grades for areas of the Site east of the Schuylkill River achieve the design standard of being above the base flood elevation as established by the Federal Emergency Management Agency.

None of the soil that is moved as part of the regrading process will be placed in areas below the groundwater table. Key objectives of the SMP are:

1. To retain all soil that is excavated or disturbed by BDH at the Site to balance grades and achieve elevations necessary for redevelopment.
2. To facilitate movement of soil during mass grading and construction.
3. To establish requirements for BDH's sample collection and analysis for determining the way excavated soil will be placed and reused on-site while ensuring that sufficient data for future work under Act 2 is available to substantially limit the need for additional sampling by Evergreen (e.g., for site characterization, risk assessment(s), cleanup plan(s)).

Decommissioning, demolition, soil grading, and redevelopment will occur in phases across the Site. This *Plan Addendum* presents the results of soil sampling performed and the associated categorization of soil to be cut in the central and southern portion of the former refinery (**Figure 1.2**). Section 4 of this *Plan Addendum* includes soil categorizations and associated volumes for all areas of the Site sampled to date. The soil categorizations will be used to support decisions regarding how soil that will be cut during grading activities is managed and reused on-site. Samples were collected from soil that will be cut and re-located as part of grading activities during development. This *Plan Addendum* does not include an investigation of the underlying soil. BDH intends to characterize the top 2 feet (ft) of underlying soil (as required by the SMP) after grading activities have commenced and the cut soil has been relocated.



1.2 Background

BDH is performing pre-excavation characterization, soil grading, and soil reuse activities during redevelopment of the Site. The Site, which is shown on **Figure 1.1**, contains approximately 1,300 acres of land that is being redeveloped into a state-of-the-art, multimodal industrial park and innovation campus. The recently sampled areas described in this *Plan Addendum* include approximately 266 acres (labeled as “Major Amendment 3” on **Figure 1.2**). As explained in the 2020 *Plan*, soil on-site is being sampled prior to grading, relocation, and disturbance. The 2020 *Plan* detailed how sampling would be performed and how decisions will be made as to where such soil can be placed at the Site as part of the bulk movement of soil during redevelopment activities. While more details are provided in the 2020 *Plan*, the following sections provide a summary of the approach and objectives of the SMP.

1.2.1 Coordination with Evergreen’s Remedial Activities

The soil sampling and evaluation of the results obtained from the sampling being conducted under the SMP take into consideration Evergreen’s site-wide remediation activities. BDH understands that Evergreen intends to use a combination of the Statewide Health Standards (SHS) and the Site-Specific Standard (SSS) under Act 2 to demonstrate that chemical concentrations remaining at the Site do not pose an unacceptable risk to human health or the environment.

In developing the master plan for redevelopment, BDH is aware of the known soil and groundwater impacts at the Site that are associated with the Site’s historical use for petroleum refining. Many of the anticipated development components (e.g., building slabs, drive aisles, parking lots, new roadways, and other paved areas described in cleanup plans to be submitted to PADEP by Evergreen) will serve as barriers to exposure and infiltration, and use restrictions will be documented in one or more environmental covenants. These features can be used to attain the SHS or SSS under Act 2 for soil at the Site. **Table 1.1** lists examples of anticipated development components and the functions they will serve to attain the SHS or SSS under Act 2 for soil at the Site.

1.2.2 Redevelopment Elements and Soil Reuse Decisions

BDH understands that Evergreen’s anticipated cleanup approach may rely on the assumption that certain impacted soil would remain at depths where it would not be accessible to current or future receptors and/or would be subject to different cleanup standards under Act 2 (i.e., soil at depths of greater than 2-ft below ground surface). To ensure that the SMP aligns with Evergreen’s anticipated cleanup approach, if such impacted soil is relocated to achieve necessary redevelopment elevations, the soil will be placed in accordance with the reuse options specified in **Table 1.2**.

Based on the planned redevelopment, most soil at the Site will ultimately be located beneath a development element that will serve as an exposure barrier (e.g., placed under building pads, drive aisles, parking lots, roadways or other features that will function as exposure barriers). Accessible surface soil will only be in limited areas of the Site (e.g., landscape areas). Surface soil in these accessible areas will consist of either (1) imported material or (2) soil from the Site that has been identified as appropriate for this use in accordance with the reuse options noted in **Table 1.2**. Imported soil used as surface soil will be either clean fill or regulated fill under PADEP’s *Management of Fill Policy*



(PADEP 2021), as appropriate, and soil from the Site will only be considered appropriate for use as surface soil if it meets applicable SHS Medium Specific Concentrations (MSC) or a risk assessment demonstrates attainment of the SSS. To the extent that soil is transported off-site for disposal, such soil will be managed in accordance with applicable legal requirements. Finally, BDH's anticipated cut and fill plan will be designed to leave a minimum 2-ft buffer between the bottom of cut areas and the top of known light-non-aqueous phase liquid plumes.

1.2.3 Site-Specific List of Substances and Applicable Screening Levels

As part of Evergreen's work under Act 2 and the One Cleanup Program, Evergreen, United States Environmental Protection Agency, and PADEP have developed a specific target list of regulated substances that is being used during characterization and will be considered during remedial decision-making. **Table 1.3** provides the list of these site-specific substances for which soil sampled under the SMP was characterized. This table also provides the applicable screening levels used to evaluate and categorize soil that will be managed under the SMP in accordance with the categories detailed in Section 1.2.4.

1.2.4 Soil Management Categories

The pre-excavation (i.e., before grading) characterization data generated via the SMP is used to divide soil into categories based on how the material can be reused during the cut and fill activities. The specific categories to which soil is designated depend upon a comparison of the measured chemical-specific soil concentrations to the applicable screening levels. These categories are presented in **Table 1.2**.

1.3 Plan Addendum Organization

Section 1 of this *Plan Addendum* provides a brief introduction and provides background on the SMP, its purpose, and objectives. Section 2 describes the samples that have been collected and analyzed within the MA3 LOD scope in support of the SMP. Section 3 presents the results of the sampling performed, a comparison of the results to applicable screening levels, a discussion of results collected under other programs, and the resulting categories assigned to different soil volumes based on the SMP. Section 4 summarizes the soil management categories assigned to the volumes of soil sampled to date. Section 5 describes how soil management will be observed and documented during earthwork. Finally, Section 6 provides the references considered in the development of this *Plan Addendum*.

2 Sample Collection and Analysis

This section discusses the methods used to identify, collect, and analyze soil samples from the anticipated cut areas within the MA3 LOD as identified on **Figure 1.2**. Section 2.1 explains how the cut volume was discretized and how sampling locations were determined. Section 2.2 details the sample collection methods used during the field activity. Finally, Section 2.3 explains the analytical methods used.



2.1 Soil Volumes and Sample Locations

As described in the 2020 *Plan*, a significant volume of soil will be moved from higher portions of the Site (cut areas) to raise elevations in lower portions of the Site (fill areas) above floodplain elevations. The objective of the sampling program is to characterize soil from cut areas to determine where and how the soil can be placed in planned fill areas such that it will not pose an unacceptable risk to human health or the environment. The current development plan includes multiple phases to be completed over the next several years with each phase representing a different portion of the Site.

From August 6, 2024 to August 16, 2024, soil sampling was conducted in the MA3 LOD area of the former refinery to characterize the concentration of site-specific substances in soil that is expected to be cut (**Figure 1.2**). The anticipated cut volume for this area is approximately 143,900 cubic yards (yd³). Soil to be cut from this area was divided into cells with one composite² sample collected from each cell layer. As described in the 2020 *Plan*, the intent of the program was to collect samples at a frequency of approximately one sample per 2,000 yd³ and have these samples analyzed for the site-specific list of substances.

Overall, the MA3 LOD area of the former refinery was discretized into 40 two-dimensional cell areas. Depending on the depth of the planned cut at each cell, the cell was vertically divided into one or more layers each corresponding to an approximate volume of cut of 2,000 yd³. Each layer was assigned the suffix "C1" to "C5" (where C1 corresponds to the shallowest layer). Given the planned total cut volume is approximately 143,900 yd³, this resulted in 85 discrete volumes of soil to be sampled (~1,700 yd³ per sample on average). Overall, in total, 85 soil samples were collected within the MA3 LOD area.

Four soil borings were completed in each cell to generate the soil for each composite soil sample. As shown on **Figure 2.1**, 160 soil borings were installed across the area. Each boring was assigned a target depth interval for sampling based on the depth of cut at that location. The cells which were used to discretize the development area were identified by region number (e.g., 401) and cell letter/number (e.g., A01). The two-dimensional cell boundaries for the cut soil samples are shown on **Figure 2.2b**.

2.2 Sample Collection Methods

Terraphase Engineering Inc. (Terraphase) and their subcontractor, MB Drilling, LLC were retained by BDH to conduct soil sampling. Using a direct push drill rig, four soil borings (designated -a, -b, -c, and -d) were advanced in each cell to a depth specific to the approximate depth of cut planned at the location of each boring. To characterize the chemical concentrations in each 2,000 yd³ volume, a discrete, grab sample was collected for volatile organic compound (VOC) analysis from the soil boring (boring a, b, c, or d) where field observations (e.g., field screening) indicated the greatest evidence of potential VOC contamination. A four-point composite sample, composed of soil from all four borings, was collected for semi-volatile organic compounds (SVOC) and lead analyses.

² Samples for analysis of metals and semi-volatile organic compounds were collected as composite samples. Samples for analysis of volatile organic compounds were collected as discrete samples.



2.3 Sample Analyses

Samples collected were submitted to Pace Analytical of Westborough, Massachusetts, a Pennsylvania-certified laboratory. The soil samples collected during the field activities were placed directly into laboratory-provided glassware and stored on ice in a cooler under appropriate chain-of-custody protocol. Laboratory deliverables are provided in **Appendix A**. As noted in **Table 1.3**, VOCs were analyzed via USEPA Method 8260D, SVOCs via USEPA Method 8270E,³ and lead via USEPA Method 6010D.

3 Sampling Results

This section presents and discusses the results of the soil sampling and how chemical concentrations in soil within the cut soil zones compare to the SHS MSC identified in the approved 2020 *Plan*.

3.1 Results and Soil Categorization

The analytical results for samples collected from the Site are presented in **Tables 3.1a, 3.1b, 3.1c, 3.1d, 3.1e, 3.2a, 3.2b, 3.2c, 3.2d, 3.2e**, and **3.3** and discussed below. **Figures 3.1a** and **3.1b** present the results for all samples collected to date under the SMP. The areas within which the current round of sampling was performed (i.e., the MA3 LOD area) are outlined in red on the figures.

3.1.1 Analytical Results

The results of the discrete (VOC) and composite (SVOC and lead) soil samples are presented in **Tables 3.1a through 3.1e** and **Tables 3.2a through 3.2e**, respectively. Overall, 85 discrete and 85 composite soil samples were collected from the cut cells in the MA3 LOD area and analyzed for VOCs and SVOCs/lead, respectively. Lead was the only chemical detected at concentrations above the Non-Residential Direct Contact (Non-Res DC) MSC for soil in these cut samples.

- Lead was detected in 85 of the 85 samples at concentrations ranging from 5.7 to 1,800 milligram per kilogram (mg/kg). The average detected concentration was 280 mg/kg. Of the 85 detected concentrations of lead, as shown in **Table 3.2e**, seven (8 percent) exhibited a concentration greater than the Non-Res DC MSC of 1,000 mg/kg.

Within these cut cells, benzene and lead were detected at concentrations greater than the Non-Res Used Aquifer Soil-to-Groundwater (UA SGW) MSC.

- Benzene was detected in 61 of the 85 samples at concentrations ranging from 0.00021 to 5.8 mg/kg. The average detected concentration was 0.43 mg/kg. Of the 61 detected concentrations of benzene, as shown in **Table 3.1e**, 12 samples exhibited a concentration greater than the Non-Res UA SGW MSC of 0.5 mg/kg.

³ Naphthalene was analyzed via USEPA Method 8270 in accordance with Table 1 of the 2020 *Plan*.



- Of the 85 samples with detected concentrations of lead, as shown in **Table 3.2e**, 12 samples exhibited a concentration greater than the Non-Res UA SGW MSC of 450 mg/kg.
- Overall, 24 samples (28 percent) exhibited concentrations greater than the Non-Res UA SGW MSC.

3.1.2 Consideration for Analytical Results Collected Under Other Programs

In addition to considering the soil analytical results in accordance with the 2020 *Plan* summarized above, additional soil analytical results from the target analyte list (**Table 1.3**) collected by Evergreen as part of their Act 2 work, or by BDH for the AST Site Assessment and Site Characterization,⁴ under Act 2, and for assessing conditions as part of RCRA Clean Closure of former hazardous waste storage areas were also considered in determining soil re-use categories. Figures presenting the spatial distribution of chemicals identified in **Table 1.3** with concentrations greater than the Non-Res UA SGW MSC or Non-Res DC MSC in soil samples collected by Evergreen, and by BDH in support of AST Closure Program, Act 2, and RCRA Clean Closure are included in **Appendix B**.

As shown in **Table 3.4**, the average concentrations for each target analyte from prior investigations performed by Evergreen and during BDH's investigations have been compiled and summarized for each SMP cell. These averages were compared against the Non-Res MSC consistent with the anticipated future use of the Site. Within the MA3 LOD area, benzene, methyl tert-butyl ether (MTBE), and lead were detected in Evergreen, AST, Act 2, or RCRA Clean Closure soil samples at concentrations greater than the applicable Non-Res MSC. As summarized in **Table 3.4**, benzene was identified at concentrations greater than the applicable MSC in non-SMP samples within seven cut cells (i.e., 401-E02, 401-H02, 401-I01, 401-J01, 402-B01, 403-C01, and 404-F01), MTBE was identified at concentrations greater than the applicable MSC in non-SMP samples within one cut cell (i.e., 401-I01), and lead was identified at concentrations greater than the applicable MSC in non-SMP samples within nine cut cells (i.e., 401-Q01, 403-C01, 403-F01, 404-A01, 404-B01, 404-B02, 404-D01, 404-E01, and 404-F01).

Non-SMP sampling performed within the MA3 LOD area has resulted in a total of ten cells being recategorized as part of this evaluation. Nine of the cells, originally characterized as Category A soil, have been recategorized as Category B soil and one cell originally characterized as Category A soil has been recategorized as Category E soil. The changes in the soil reuse categories are reflected on **Figure 3.1b**.

⁴ AST Site Assessment and Site Characterization sampling is being conducted by BDH in accordance with the requirements of the PADEP Storage Tank Cleanup Program and the Above Ground Storage Tank Closure Work Plan (Terraphase 2021a). The analytical results and conclusions related to closure of historical tank releases will be documented in separate submittals to PADEP as part of the Corrective Action Process. The results from the AST samples are being used in the context of this *SMP Addendum* as additional data that can be used to inform soil management decision-making. Unless specifically stated in a tank program report, soil management is not being used to address releases from the AST under the Corrective Action Process.

Cell	Original Category	Recategorization	Chemical Driver
401-H02	A	B	Benzene
401-I01	A	B	Benzene, MTBE
402-B01	A	B	Benzene
404-A01	A	B	Lead
404-B01	A	B	Lead
404-B02	A	B	Lead
404-D01	A	B	Lead
404-E01	A	B	Lead
404-F01	A	B	Benzene, Lead
403-F01	A	E	Lead

3.1.3 Categorization of Soil to be Relocated During Mass Grading

As discussed in Section 1.2.4, the pre-soil grading characterization data generated via the SMP is used to determine how the material will be managed during the cut and fill activities (i.e., via the approved soil reuse categories and based on measured chemical-specific soil concentrations). These categories are presented in **Table 1.2**. Concentrations from samples other than those collected for the SMP (discussed in Section 3.1.2) were also considered.

As discussed in Section 2.1, the MA3 LOD area was discretized into 40 two-dimensional cell areas. The two-dimensional cell boundaries for the cut soil samples (**Figures 2.2a** and **2.2b**) were used to visualize the aerial extent of soil that will be managed in accordance with these categories. Since some of the cells had multiple cut layers (i.e., C1 through C5), in total, 85 discrete volumes of soil were sampled. In situations where cut layers, within the same two-dimensional cell, identified soil concentrations with different soil categorization, the most conservative soil characterization was selected for the overall cell.

Figures 3.1a and **3.1b** present the results of the soil categorization for each SMP cell. As illustrated in **Figure 3.1b**:

- Of the 40 cells, 16 within the MA3 LOD area did not exhibit concentrations greater than the applicable screening levels. This soil can be reused as “Category A” (*Soil can be reused in areas not beneath a surface cap, e.g., as backfill in utility corridors or in landscaped areas, as long as a risk assessment demonstrates attainment of the site-specific standard*).
- Six of the 40 cells within the MA3 LOD area were identified as having concentrations greater than both the Non-Res DC MSC and Non-Res UA SGW MSC. As such, soil within these cells can be reused as “Category E” (*Soil can be reused beneath an impervious surface cap that will serve as an engineering control under Act 2 at elevations above the groundwater table*). Depending on the cell, benzene and lead exceed the MSCs within these six cells.
- Soil analytical results within the remaining 18 cells located in MA3 LOD can be reused as “Category B” (*Soil that can be reused (1) in areas beneath an impervious surface cap (e.g., building slabs,*



parking lots, or roadways) that will serve as an engineering control under Act 2 at elevations above the groundwater table, or (2) in areas not beneath a surface cap that are more than 500 ft. from a shoreline (i.e., the edge of the Schuylkill River) as long as a risk assessment demonstrates attainment of the Site-specific standard). Benzene and lead in these cells exhibited concentrations that were greater than the Non-Res UA SGW MSC but less than the Non-Res DC MSC.

4 Soil Management

The soil analytical results described in Section 3.1, including the results from samples collected by Evergreen, or as part of the AST Site Assessment and Site Characterization under Act 32, investigation of additional release areas under Act 2, and RCRA Clean Closure, have been used to categorize and determine how soil, that will be relocated during mass grading activities, may be re-used on-site. The sections below describe the process that will be used to manage soil during construction in accordance with the requirements specified in **Table 1.2** and the *2020 Plan*.

4.1 Identification of Waste Material during Soil Movement

During mass grading activities, there is the potential for previously unidentified waste materials, such as leaded tank bottoms or containerized wastes, to be encountered. An environmental professional will be on site during mass grading to observe soil movement, to document that soil is placed appropriately, and to observe suspect waste materials. Procedures for identifying waste materials and subsequent notifications are described in **Appendix D**.

4.2 Bulk Soil Movement and Placement

Figure 4.1 identifies how soil in the cut cells will be managed. The volume of soil associated with each category “A”, “B”, and “E” area is provided in **Table 4.1**. **Table 4.1** is cumulative and provides a volume summary for all soil sampled to date. The volumes in **Table 4.1** and the table below reflect the anticipated cut volumes based on the grading plans for the Innovation Campus, Industrial Development Phase 1, and MA3 LOD.⁵

⁵ Volumes are based on the March 2023 mass grading plan for the Innovation Campus, the February 2023 mass grading plan for Industrial Phase 1, and the May 2024 mass grading plan for Major Amendment 3 Limit of Disturbance.



Soil Management Category	Volume (yd ³)
Innovation Campus	
A	394,600
B	173,600
E	106,200
Not Yet Categorized	8,900
Total	683,300
Industrial Development Phase 1	
A	1,608,200
B	720,700
E	143,600
Not Yet Categorized	34,500
Total	2,507,000
Major Amendment 3 Limit of Disturbance	
A	49,600
B	58,600
E	35,700
Total	143,900

The earthwork contractor will excavate and segregate the Category A, B, and E soil identified on **Figure 4.1** and **Table 4.1** for reuse in accordance with the requirements specified in **Table 1.2**. An environmental professional will oversee the earthwork and will ensure that soil is managed consistent with this *Plan Addendum*.

5 Documentation

The earthwork contractor will provide survey documentation of the soil volume excavated from each Category B and E area. The surveys will be reviewed by the environmental professional overseeing the earthwork. The environmental professional will also be responsible for documenting the movement and storage of this soil during construction, including documenting the location of each soil volume identified in the above table (more detail provided in **Table 4.1**), in the final developed condition. The documentation will include cubic yards of soil moved, coordinates or maps of the new soil locations, and as-built drawings demonstrating that the areas where this soil is placed are covered by development components that serve as adequate engineering controls. BDH understands that plans and descriptions of surface caps will need to be included in the Cleanup Plan(s) and that the Cleanup Plan(s) will be subject to the Act 2 public involvement process and will be coordinated with Evergreen.

The results of field documentation performed by the environmental professional will be summarized in a Soil Management Report to be submitted to PADEP upon completion of each phase of construction.



6 References

Hilco Redevelopment Partners, Philadelphia Holdings, LLC (HRP). 2020. *Final Soil Management Plan*. June 15.

Pennsylvania Department of Environmental Protection (PADEP). 2021. *Management of Fill Policy*. January 16.

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