RESPONSE AND DEVELOPMENT WORK PLAN

AREA B: SUB-PARCEL B6-1
TRADEPOINT ATLANTIC
SPARROWS POINT, MARYLAND

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1.0 INTRODUCTION

ARM Group Inc. (ARM), on behalf of EnviroAnalytics Group (EAG), has prepared this Response and Development Work Plan (RADWP) for a portion of the Tradepoint Atlantic property that has been designated as Area B: Sub-Parcel B6-1 (the Site). Tradepoint Atlantic submitted a letter (**Appendix A**) requesting an expedited plan review to achieve construction deadlines for the proposed development on this Site. Parcel B6 is comprised of approximately 148.5 acres of the approximately 3,100-acre former plant property located as shown on **Figure 1**. The Sub-Parcel B6-1 proposed for development consists of approximately 73 acres, the majority of which is within the southwestern portion of Parcel B6 with a corridor through the southeastern portion of Parcel B22 (and less than 2.5 acres in the adjacent Parcel B3).

The conduct of any environmental assessment and cleanup activities on the Tradepoint Atlantic property, as well as any associated development, is subject to the requirements outlined in the following agreements:

- Administrative Consent Order (ACO) between Tradepoint Atlantic (formerly Sparrows Point Terminal, LLC) and the Maryland Department of the Environment (effective September 12, 2014); and
- Settlement Agreement and Covenant Not to Sue (SA) between Tradepoint Atlantic (formerly Sparrows Point Terminal, LLC) and the United States Environmental Protection Agency (effective November 25, 2014).

An application to enter the Tradepoint Atlantic property into the Maryland Department of the Environment Voluntary Cleanup Program (MDE-VCP) was submitted to MDE on September 10, 2014. The property's current and anticipated future use is Tier 3 (Industrial), and plans for the property include demolition and redevelopment over the next several years. Sub-Parcel B6-1 (with the exception of the 8 acres located furthest south) is also part of the acreage that remains subject to the requirements of the Multimedia Consent Decree between Bethlehem Steel Corporation, the Unites States Environmental Protection Agency (USEPA), and the Maryland Department of the Environment (MDE) (effective October 8, 1997) as documented in correspondence received from USEPA on September 12, 2014.

In consultation with the MDE, Tradepoint Atlantic affirms that it desires to accelerate the assessment, remediation, and redevelopment of certain sub-parcels within the larger site due to current market conditions. To that end, the MDE and Tradepoint Atlantic agree that the Controlled Hazardous Substance (CHS) Act (Section 7-222 of the Environment Article) and the CHS Response Plan (Code of Maryland Regulations (COMAR) 26.14.02) shall serve as the governing statutory and regulatory authority for completing the development activities on the Sub-Parcel B6-1 and complement the statutory requirements of the Voluntary Cleanup Program (Section 7-501 of the Environment Article). Upon submission of a Site RADWP and completion

of any remedial activities for the sub-parcel, the MDE shall issue a No Further Action Letter (NFA) upon a recordation of an environmental covenant describing any necessary land use controls for the specific sub-parcel. At such time that all the sub-parcels within the larger parcel have completed remedial activities, Tradepoint Atlantic shall submit to the MDE a request for issuing a Certificate of Completion (COC) as well as all pertinent information concerning completion of remedial activities conducted on the parcel. Once the VCP has completed its review of the submitted information it shall issue a COC for the entire parcel described in Tradepoint Atlantic's VCP application.

Alternatively, Tradepoint Atlantic or other entity may elect to submit an application for a specific sub-parcel and submit it to the VCP for review and acceptance. If the application is received after the cleanup and redevelopment activities described in this Work Plan are implemented and a NFA is issued by the MDE pursuant to the CHS Act, the VCP shall prepare a No Further Requirements Determination for the sub-parcel.

If Tradepoint Atlantic or other entity has not carried out cleanup and redevelopment activities described in the Work Plan, the cleanup and redevelopment activities may be conducted under the oversight authority of either the VCP or the CHS Act, so long as those activities comport with this Work Plan.

The Sub-Parcel B6-1 consists of 73 acres currently slated for development and use as a warehouse facility (**Figure 2**) with associated parking areas and two expanded stormwater detention ponds (from the adjacent development on Parcel B22). Development activities generally include grading, construction of a slab on-grade warehouse totaling 855,000 square feet, hot mix asphalt (HMA) paving surrounding the warehouse, landscaping, and installation (expansion) of stormwater detention ponds. Subsequent Site use would involve indoor workers in the warehouse and truck drivers entering and leaving the Site.

This RADWP provides a Site description and history; summary of environmental conditions identified by the Phase I Environmental Site Assessment (ESA); summary of environmental conditions identified by subsequent Phase II Investigations including work associated with the Parcel B6 Phase II Investigation, Parcel B22 Phase II Investigation, and Finishing Mill Groundwater Investigation; a human health Screening Level Risk Assessment (SLRA) conducted for the identified conditions; and engineering and institutional controls which have been designed to facilitate the planned Sub-Parcel B6-1 development and address the impacts and potential human health exposures. The engineering and institutional controls include work practices and applicable protocols that are submitted for approval to support the development and use of the Site. Engineering and institutional controls approved and installed as part of this RADWP shall be described in closure certification documentation submitted to the MDE demonstrating that the exposure pathways on Sub-Parcel B6-1 are addressed in a manner that protects public health and the environment. The remaining acreage of Parcel B6, Parcel B22,

and Parcel B3 will be addressed in future work associated with completion of the obligations of the ACO and associated VCP requirements, if not already addressed in separate documents. This work will include assessments of risk and, if necessary, RADWPs to address unacceptable risks associated with future land use.

2.0 SITE DESCRIPTION AND HISTORY

2.1. SITE DESCRIPTION

Parcel B6 includes an area of 148.5 acres as shown in **Figure 1**. The Sub-Parcel B6-1 Development Area consists of 43.8 acres in the southern portion of Parcel B6, 27.0 acres in Parcel B22, and 2.4 acres in the northern portion of Parcel B3 (**Figure 2**), for a total of approximately 73 acres. The Site is currently zoned Manufacturing Heavy-Industrial Major (MH-IM), and is not occupied.

The Sub-Parcel B6-1 Development Area was formerly occupied by portions of the Finishing Mills Area including the Hot Strip Mill Area. Numerous steel product manufacturing processes were completed within the Finishing Mills Area. All former buildings have been demolished. There is no groundwater use on-site or within the surrounding Tradepoint Atlantic property.

According to topographic maps provided by EAG, the Site is at an elevation of approximately 12 feet above mean sea level (amsl). Elevations in the parcel are fairly uniform between 9 and 15 feet amsl over the majority of the parcel area. Elevations in Parcel B6 appear to slope sharply downward to the adjacent Tin Mill Canal where it intersects with the parcel boundaries (to the north of the Sub-Parcel B6-1 Development Area). According to Figure B-2 of the Stormwater Pollution Prevention Plan (SWPPP) Revision 3 dated August 19, 2016, stormwater from the majority of the Site is directed to the Tin Mill Canal, is discharged through National Pollution Discharge Elimination System (NPDES) Outfalls MP 114 and 214, and ultimately is discharged to Bear Creek through Outfall 014. However, runoff from a small area at the southern end of the sub-parcel is directed to the southeast towards Outfall 017 (located within Parcel B7) which discharges to Old Road Bay.

2.2. SITE HISTORY

From the late 1800s until 2012, the production and manufacturing of steel was conducted at Sparrows Point. Iron and steel production operations and processes at Sparrows Point included raw material handling, coke production, sinter production, iron production, steel production, and semi-finished and finished product preparation. In 1970, Sparrows Point was the largest steel facility in the United States, producing hot and cold rolled sheets, coated materials, pipes, plates, and rod and wire. The steel making operations at the Facility ceased in fall 2012.

Several iron and steel work processes were completed within the Sub-Parcel B6-1 Development Area, formerly known as the Hot Strip Mill Area (primarily in Parcel B6) and part of the Finishing Mills Area (primarily in Parcel B22). The former facilities and processes in the Hot Strip Mill Area generally included heating and rolling hot bands of metal to a specific size and gauge, followed by cooling and coiling of the finished products for sale. The activities and facilities in the Finishing Mills Area were highly varied, but primarily included

descaling/pickling, galvanizing, rolling, coiling, annealing, and plating within the Tin Mill (to the west of the Sub-Parcel B6-1 Development Area) and in the Cold Sheet Mill. More information regarding historical activities can be found in the approved Phase II Investigation Work Plans for Parcel B22 (dated June 2, 2016) and Parcel B6 (dated May 12, 2016; supplemented by a comment response letter dated November 28, 2016). There were no significant historical steel making activities that occurred within the small (2.4 acre) portion of Parcel B3 included in the development area.

3.0 ENVIRONMENTAL SITE ASSESSMENT RESULTS

3.1. PHASE I ENVIRONMENTAL SITE ASSESSMENT RESULTS

A Phase I ESA was completed by Weaver Boos Consultants for the entire Sparrows Point property on May 19, 2014. Weaver Boos completed site visits of Sparrows Point from February 19 through 21, 2014, for the purpose of characterizing current conditions at the former steel plant. The Phase I ESA identified particular features across the Tradepoint Atlantic property which presented potential risks to the environment. These Recognized Environmental Conditions (RECs) included buildings and process areas where releases of hazardous substances and/or petroleum products potentially may have occurred. The Phase I ESA also relied upon findings identified during a previous visual site inspection (VSI) conducted as part of the RCRA Facility Assessment (RFA) prepared by A.T. Kearney, Inc. dated August 1993, for the purpose of identifying Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) on the property. This 1991 VSI is regularly cited in the Description of Current Conditions (DCC) Report prepared by Rust Environmental and Infrastructure, dated January 1998 (included with Weaver Boos' Phase I ESA). Weaver Boos' distinction of a REC or Non-REC was based upon the findings of the DCC Report (which was prepared when the features remained on-site in 1998) or on observations of the general area during their site visit. Weaver Boos made the determination to identify a feature as a REC based on historical information, observations during the site visit, and prior knowledge and experience with similar facilities. The following RECs were identified within the Sub-Parcel B6-1 boundary as defined in the Phase I ESA:

Hot Strip Mill Basins (3)/Hot Strip Mill Oil Skimmer System (RECs 1L/1N, Findings 27/29, also listed as SWMUs 62/64):

The basins and oil skimmer system associated with the Hot Strip Mill were located to the east of the Finishing Mills Area. The settling basins removed mill scale from the process wastewater so it could be recycled. The oil skimmer system was located directly north of the settling basins, and recovered waste oil from the basins. The waste oil was temporarily stored in the waste oil tank (SWMU 63). During the 1991 VSI, a pile of mill scale was observed on the ground adjacent to the north basin. Mill scale was also observed on the surrounding ground and on the basin walls, which were in poor condition.

Hot Strip Mill Waste Oil Tank (REC 1M, Finding 28, also listed as SWMU 63):

The waste oil tank temporarily held waste oil which had been recovered from the settling basins by the oil skimmer system (SWMUs 62/64). After storage, the oil was transferred to oil recovery facilities located on-site at the former mill beyond the boundary of Parcel B6, where the waste oil was further reclaimed.

Hot Strip Mill Cooling Tower (REC undesignated, Finding 30, also listed as SWMU 65):

Wastewater from the Hot Strip Mill Basins was discharged to the cooling tower. Heavy oil and grease impacted scale was observed on the tower and surrounding ground during the site visit. Materials in grease impacted scale likely contained petroleum products which may have resulted in a release to the environment. No specific recommendations for further action were given regarding SWMU 65.

Hot Strip Mill Drum Handling Area (REC 1Y, Finding 60):

The Drum Handling Area was located outside of the Hot Strip Mill in front of the pump house at Truck Dock #5. Based on the DCC Report, as many as 150 drums of solvents, pit/sump materials, waste oils, and floor sweepings were stored in the area. It is unknown if any releases occurred as a result of the drum storage and handling.

In addition to the listed RECs, the Hot Strip Mill was generally observed by Weaver Boos to be heavily stained with petroleum products, with varying ground surface conditions. This entire facility area was classified as a REC. Relevant SWMUs and AOCs were also identified as located in Figure 3-1 from the DCC Report. This figure generally shows the SWMUs, AOCs, and main facility areas within the property boundaries. All of the SWMUs within the Sub-Parcel B6-1 boundary are cross-listed as RECs, and have been previously discussed. The following AOCs were identified within the Sub-Parcel B6-1 boundary:

Former 1991 PCB Spill Area (AOC A):

On March 21, 1991, a 55 gallon drum of PCB oil was ruptured against a transformer enclosure when a hoist lost power while transporting the drum. The spill occurred inside a motor room of the Hot Strip Mill building, and the area was reportedly isolated, cleaned, and sampled. Wipe samples of the area were collected in July 1992, and indicated that concentrations were below the applicable cleanup standards. The area was sealed with epoxy paint.

Truck Dock #9 Former Diesel Spill and Diesel Fuel UST Area (AOC K):

A spill of unknown quantity occurred at Truck Dock #9 when a fuel line or valve broke during a transfer between a truck and the tank at the dock. Records indicate that either a 10,000 gallon diesel Underground Storage Tank (UST) or 8,000 gallon fuel oil UST was removed between 1989 and 1990. Although corrosion pitting was observed on the exterior during removal, no apparent integrity problems were noted. Water and soil samples showed no detectable concentrations of BTEX.

Former Spent Pickle Liquor Tanks (AOC V):

Two spent pickle liquor tanks were located outside of the north end of the Hot Strip Mill. The Aboveground Storage Tanks (ASTs) were removed around 1986, and gravel around the former tanks was observed to have undefined staining during the 1991 VSI. The tanks were designated as non-releasing units.

3.2. PHASE II INVESTIGATION RESULTS (SOIL) – SUB-PARCEL B6-1

Phase II Investigations specific to soil conditions were performed for Parcel B6 and Parcel B22 (encompassing the entire development area with the exception of a small 2.4 acre portion of Parcel B3) in accordance with the requirements outlined in the ACO as further described in the Phase II Investigation Work Plan – Area B: Parcel B6 (Revision 2) dated May 12, 2016 (and comment response letter dated November 28, 2016) and the Phase II Investigation Work Plan – Area B: Parcel B22 (Revision 1) dated June 2, 2016. These Work Plans were approved by the agencies on February 16, 2017 and June 16, 2016, respectively. Findings from the Parcel B6 Phase II Investigation are presented in the Phase II Investigation Report – Area B: Parcel B6 (Revision 1) dated May 9, 2017, and summarized in this document. Findings from the Parcel B22 Phase II Investigation are presented in the Phase II Investigation Preliminary Report – Area B: Parcel B22 (Revision 0) dated July 15, 2016, and summarized in this document.

The Phase II Investigations were developed to target the specific features which represented a potential release of hazardous substances and/or petroleum products to the environment, including RECs, SWMUs, and AOCs (described above) as well as numerous other targets defined from former operations that would have the potential for environmental contamination. Samples were also collected at site-wide locations to ensure full coverage of the parcel.

A total of 180 of the Phase II Investigation soil samples (from 80 boring locations) were included for the assessment of the Sub-Parcel B6-1 development (**Figure 3**). Soil samples were analyzed for the USEPA Target Compound List (TCL) Volatile Organic Compounds (VOCs), TCL Semi-Volatile Organic Compounds (SVOCs), Total Petroleum Hydrocarbons (TPH) Diesel Range Organics (DRO) and Gasoline Range Organics (GRO), Oil & Grease, USEPA Target Analyte List (TAL) Metals, hexavalent chromium, and/or cyanide based on the parcel-specific sampling plan for each area and the specific field protocols at the time of work (in accordance with agency guidance). Shallow soil samples (0 to 1 foot below ground surface (bgs)) were also analyzed for polychlorinated biphenyls (PCBs). The laboratory Certificates of Analysis (including Chains of Custody) and relevant Data Validation Reports (50% validated soil data) are included as electronic attachments. The laboratory and data validation reports contain qualifier keys for the flags assigned to individual results in the attached summary tables.

Soil sample results relevant for the Sub-Parcel B6-1 Development Area were screened against the Project Action Limits (PALs) established in the site-wide Quality Assurance Project Plan

(QAPP) dated April 5, 2016, or based on other direct agency guidance (e.g., TPH/Oil & Grease). **Table 1** and **Table 2** provide a summary of the detected organic compounds and inorganics in the soil samples submitted for laboratory analysis, and **Figures S-1** through **S-4** present a summary of the soil sample results that exceeded the PALs. A figure indicating VOC exceedances was deemed unnecessary because only one exceedance of a VOC PAL was noted at a single location (1,1-dichloroethane in B22-070-SB-1). The tables and figures include all analytical data relevant for the proposed development area (Sub-Parcel B6-1), and samples collected from within the proposed building footprint are highlighted in grey in the summary tables. The PALs for relevant polynuclear aromatic hydrocarbons (PAHs) have been adjusted upward based on revised toxicity data for benzo[a]pyrene published in the USEPA Integrated Risk Information System (IRIS) Recent Additions dated January 19, 2017. PAL exceedances in soil relevant to the proposed Sub-Parcel B6-1 Development Area consisted of six inorganics (arsenic, hexavalent chromium, manganese, lead, vanadium and thallium), two SVOCs (benzo[a]pyrene and naphthalene), one VOC (1,1-dichloroethane), TPH-DRO, and four PCB groups (Aroclor 1242, Aroclor 1248, Aroclor 1254, and total PCBs).

3.3. NON-AQUEOUS PHASE LIQUID IN SOIL BORINGS

There were soil exceedances of the TPH-DRO PAL (6,200 mg/kg) at two locations (B6-011-SB and B22-070-SB) within Sub-Parcel B6-1. The TPH-DRO impacts in the vicinity of B22-070-SB have previously been excavated as described in the Parcel B22 – PCB and DRO Excavation Completion Report dated December 22, 2016 (and subsequent letters exchanged with the agencies).

Potential evidence of non-aqueous phase liquid (NAPL) was observed in the soil cores during the completion of borings B6-011-SB, B6-039-SB, B6-087-SB, B22-001-SB, B22-067-SB, B22-128-SB, and B22-129-SB. Piezometers were installed at six of the seven locations with potential evidence of NAPL (all except B22-001-SB), and gauged at standard intervals (0-hour, 48-hour, and >30-day) using an oil-water interface probe to assess the potential mobility of NAPL to groundwater. Continued measurements beyond 30 days were completed at locations with accumulation of measureable NAPL or trace indications of NAPL during these required gauging events. Location B22-001-SB could not be investigated with a screening piezometer due to equipment refusal encountered at 6.5 feet bgs. Because a piezometer could not be installed at this location, the severity of the potential NAPL impacts was assessed via the collection and analysis of TPH-DRO/GRO samples from the soil core interval observed to be impacted by NAPL. Analytical results below the PAL in the sample revealed a lack of a significant TPH-DRO/GRO impact at this boring location. One additional location (B22-172-SB) had petroleum odors noted in the soil core, but an analytical sample collected from the 1-foot soil interval with the observed odors was determined to be appropriate to characterize these potential impacts, and a piezometer was not installed. Analytical results below the PAL in this sample also revealed a lack of a significant TPH-DRO/GRO impact at this boring location.

Among the screening piezometers installed at the six remaining borings impacted by NAPL, measurable NAPL was observed to accumulate in the casings of B6-011-PZ and B22-128-PZ. Due to the confirmed presence and potential mobility of NAPL, remediation was determined to be appropriate in the vicinities of these two impacted piezometers. Additional piezometer and/or soil boring delineation activities were completed to determine the extent of potential NAPL contamination in the vicinities of B6-011-PZ and B22-128-PZ. Based on a desire to expedite the remediation prior to on-site development, active remediation was proposed via excavation to remove the NAPL. Specific remediation plans (separate from this RADWP) for the removal of NAPL contaminated material at B22-128-SB and B6-011-SB were developed to manage the remediation activities. At this time, remediation activities are complete for NAPL impacted material in the vicinities of soil borings B6-011-SB and B22-128-SB. Some minor extended excavation may be required along utility lines at B6-011-SB, but any supplemental work would be completed under the direct guidance of the MDE, and would not be expected to significantly impact the final excavation boundary.

3.4. FINISHING MILLS GROUNDWATER INVESTIGATION – SUB-PARCEL B6-1

Groundwater at the Site was investigated in accordance with the separate Finishing Mills Groundwater Investigation Work Plan (Revision 1) dated July 7, 2016. The Work Plan was pre-approved by the agencies via email on June 28, 2016 following review of a comment response letter on an initial draft (Revision 0). The sampling and analysis plan defined in the Finishing Mills Groundwater Investigation Work Plan was designed to provide a focused investigation of groundwater, with collection points distributed regularly throughout and along the perimeter of the Finishing Mills investigation boundary. Some of the groundwater sampling points were also covered by the Area B Groundwater Investigation Work Plan (Revision 3) dated October 6, 2015 (pre-approved by the agencies on October 5, 2015). Data from the Finishing Mills Groundwater Investigation pertinent to the proposed development plan has been evaluated with respect to potential concerns associated with construction activities, with the findings discussed herein.

The overall Finishing Mills Groundwater Investigation has been completed with findings reported in the Finishing Mills Groundwater Phase II Investigation Report (Revision 0) dated November 30, 2016. A total of 10 groundwater samples (five shallow hydrogeologic zone samples and five intermediate hydrogeologic zone samples) were collected from temporary groundwater sample collection points (piezometers) and permanent monitoring wells within Sub-Parcel B6-1 (FM-008-PZS, FM-008-PZI, FM-009-PZS, FM-009-PZI, FM-014-PZS, FM-014-PZI, FM-015-PZS, FM-015-PZI, FM05-PZM004, and FM05-PZM024). The locations of the groundwater sample points are shown on **Figure 4**. These 10 groundwater samples were analyzed for TCL-VOCs, TCL-SVOCs, TAL-Dissolved Metals, TPH-DRO, TPH-GRO, hexavalent chromium, and cyanide. The permanent groundwater wells were additionally analyzed for TAL-Metals (total). The laboratory Certificates of Analysis (including Chains of

Custody) and relevant Data Validation Reports (50% validated groundwater data) from the Finishing Mills Groundwater Investigation are included as electronic attachments. The laboratory and data validation reports contain qualifier keys for the flags assigned to individual results in the attached summary tables. Each groundwater collection point was inspected for evidence of NAPL using an oil-water interface probe prior to sampling. None of the temporary groundwater sample collection points or permanent wells relevant for Sub-Parcel B6-1 showed evidence of NAPL during these checks.

Tables 3 and **4** present a summary of the organic compounds and inorganic compounds detected in the shallow and intermediate groundwater samples, and **Figures GW-1** through **GW-4** present all groundwater sample results that exceeded the PALs. For simplicity, the summary **Figure GW-4** does not include duplicate exceedances of total and dissolved metals at relevant groundwater sample locations. If both total and dissolved concentrations exceeded the PAL for a specific compound, the value for total metals is displayed on the figure for each sample. The groundwater PALs for certain PAHs have been adjusted upward from the values presented in the QAPP based on revised toxicity data for benzo[a]pyrene published in the USEPA IRIS Recent Additions dated January 19, 2017. These adjustments were completed only for the PAHs for which the PALs are not based on a Maximum Contaminant Level (MCL) (i.e., benzo[a]pyrene was not adjusted).

Hexavalent chromium is typically analyzed in groundwater via USEPA Method 7196A. All initial hexavalent chromium samples in the Finishing Mills Groundwater Investigation were collected as total hexavalent chromium. However, high turbidities present in some unfiltered samples resulted in a matrix interference with this colorimetric method, including two groundwater sample locations relevant for this RADWP (FM-008-PZS and FM-015-PZS). An additional unfiltered sample was collected from FM-008-PZS using low-flow techniques on July 5, 2016 to be re-analyzed by method 7196A. On July 15, 2016, FM-008-PZS and FM-015-PZS were resampled as dissolved hexavalent chromium and analyzed via USEPA Method 7196A. The original hexavalent chromium data with high turbidities were noted to be suspect, and the data from the resamples are included in **Table 4** and **Figure GW-4**, where appropriate. Footnotes with all laboratory reported values from the resampling events are given on **Table 4**.

Groundwater PAL exceedances in Sub-Parcel B6-1 consisted of seven inorganic compounds (arsenic, hexavalent chromium, cobalt, iron, manganese, thallium, and vanadium), one VOC (chloroform), three SVOCs (1,4-dioxane, benz[a]anthracene, and naphthalene), and TPH-DRO. While the concentrations of these PAL exceedances on-site do not present a human health hazard since there is no groundwater use, proper water management is required to prevent unacceptable discharges or risks to on-site workers.

3.5. HUMAN HEALTH SCREENING LEVEL RISK ASSESSMENT

A human health Screening Level Risk Assessment (SLRA) was performed for soils in Sub-Parcel B6-1 to determine potential future risks to Composite Workers and Construction Workers. There is no potential for human exposure to groundwater for a Composite Worker since groundwater is not used on the Tradepoint Atlantic property (and is not proposed to be utilized). In the event that construction/excavation leads to a potential Construction Worker exposure to groundwater during development, health and safety plans and procedures shall be followed to limit risk.

3.5.1. Analysis Process

The SLRA has been conducted for soils to further evaluate the Site conditions in support of the design of necessary response measures. The SLRA evaluation process is described in the Phase II Investigation Report – Area B: Parcel B6 (Revision 1) dated May 9, 2017. The Sub-Parcel B6-1 Development Area was divided into two defined exposure units (EUs) for evaluation of the future Composite Worker scenario, identified as Outside Building Footprint (53.5 acres) and Inside Building Footprint (19.6 acres). The two Composite Worker EUs and relevant Phase II Investigation soil borings are provided on **Figure 5**. The Construction Worker was evaluated as a single site-wide EU inclusive of the entire development area (73.2 acres), because construction work will occur throughout Sub-Parcel B6-1 during development.

Compounds that are present at concentrations at or above the USEPA Regional Screening Levels (RSLs) set at a target cancer risk of 1E-6 or target non-cancer Hazard Quotient (HQ) of 0.1 were identified as constituents of potential concern (COPCs) to be included in the SLRA. The COPC screening analysis results for the Sub-Parcel B6-1 Development Area are included in **Table 5** to identify compounds above the relevant screening levels within the site-wide dataset.

3.5.2. Sub-Parcel B6-1 SLRA Results and Risk Characterization

Soil data were divided into three datasets (surface, subsurface, and pooled) for the Sub-Parcel B6-1 development EUs (Inside Building Footprint, Outside Building Footprint, and Site-Wide) to evaluate potential current and future exposure scenarios. The current Composite Worker will be exposed only to surface soils. However, if construction activities were to result in the placement of subsurface material over existing surface soils, a future Composite Worker could be exposed to a mixture of surface and subsurface soils. The Construction Worker may be exposed only to surface soils, but subsurface soils would be encountered for construction activities that involve soil disturbances such as excavations or other intrusive earth-moving activities. The pooled data may be applicable for construction work that involves disturbances through the surface soil, since workers would likely not be exposed solely to the subsurface soil.

The results for 1,1-dichloroethane, antimony, and trichloroethene were eliminated as COPCs for risk assessment because these compounds were very infrequently detected in the dataset for Sub-Parcel B6-1. Trichloroethene, antimony, and 1,1-dichloroethane were detected in 1.31%, 4.90%, and 1.31% of the samples analyzed for these compounds, respectively. If the detection frequency of a COPC analyte is less than 5% in a dataset with a minimum of 20 samples, the COPC can be eliminated from the risk analysis assuming the detections are not extremely high (based on agency discretion). A single detection that is extremely high could require delineation rather than elimination. In this case it is reasonable to remove antimony and trichloroethene from the risk assessment based on the relatively low magnitude of the detections. The agencies noted that the maximum detection of 1,1-dichloroethane (44.7 mg/kg) was anomalously high. As stated in a comment response letter dated May 19, 2017, which was approved by the agencies, this detection of 1,1-dichloroethane appeared to be co-located with DRO. The DRO impacts at B22-070-SB have been excavated as described in the agency approved Parcel B22 – PCB and DRO Excavation Completion Report dated December 22, 2016 (and subsequent letters exchanged with the agencies), and the investigation data support the judgement that associated 1,1-dichloroethane impacts have also been addressed with this remedial effort. Therefore, it is appropriate to eliminate the limited detections of 1,1-dichloroethane from the SLRA.

Total PCBs have been included in the risk ratio analysis, but Aroclor 1242, Aroclor 1248, and Aroclor 1254 were omitted to avoid double-counting the carcinogenic risk associated with PCBs. The total PCB values are caused by a mixture of these aroclors, and the carcinogenic screening level for total PCBs is as conservative as the value for each individual aroclor. Aroclor 1254 was included for the purpose of evaluating non-cancer hazard only. No samples exceeded the mandatory excavation criterion for PCBs of 50 mg/kg. All remaining COPCs listed in **Table 5** have been retained for the risk assessment.

Exposure point concentrations (EPCs) were calculated for each COPC soil dataset (i.e., surface, subsurface, and pooled surface/subsurface) in each EU using the ProUCL software (version 5.0) developed by the USEPA. ProUCL input table and output tables derived from the data for each COPC in soils are provided as electronic attachments, with computations presented and EPCs calculated for COPCs within each of the three datasets (surface, subsurface, and pooled) for each EU (Inside Building Footprint, Outside Building Footprint, and Site-Wide).

The EPCs for lead are the average (i.e., arithmetic mean) values for each dataset. A lead evaluation spreadsheet, providing the computations to determine lead averages for each dataset in each EU, is also included as an electronic attachment. The average lead concentrations are presented for each dataset for each EU in **Table 6**, which indicates that neither surface, subsurface, nor pooled soils in any of the EUs exceeded an average lead value of 800 mg/kg. The screening criterion for lead was set at an EU arithmetic mean of 800 mg/kg based on the RSL, with a secondary limit of 2,518 mg/kg based on the May 2017 updated Adult Lead Model

developed by the USEPA (corresponding to a 5% probability of a blood lead level of 10 ug/dL). There were no locations where detections of lead exceeded 10,000 mg/kg. However, the agencies requested additional investigation around one anomalous elevated detection of lead (6,600 mg/kg in sample B22-047-SB-1) to confirm that this elevated detection was not representative of a more widespread lead impact in this area. Therefore, a specific delineation plan (separate from this RADWP) for lead contaminated material in the vicinity of B22-047-SB was prepared to provide the protocols to manage the delineation activities. Lead delineation has been completed, and the results were provided to the MDE. Lead was not detected above 10,000 mg/kg during the delineation activities, and the MDE has agreed (via email on June 29, 2017) that no additional response action (i.e., excavation) is required.

Composite Worker Assessment:

The calculated EPCs for the surface and subsurface exposure scenarios for the Composite Worker EUs (Inside Building Footprint and Outside Building Footprint) are shown in **Table 7**. The supplemental EPCs generated from the pooled surface and subsurface soils are also included in the EPC table. Risk ratios for the estimates of potential EPCs for the Composite Worker scenario are shown in **Table 8** (surface), **Table 9** (subsurface), and **Table 10** (pooled surface and subsurface soils). The results are summarized as follows:

Worker Scenario	Exposure Unit	Medium	Hazard Index (>1)	Total Cancer Risk
Composite Worker	Outside Building Footprint (53.5 acres)	Surface Soil	none	7E-6
		Subsurface Soil	none	4E-6
		Surface & Subsurface Soil	none	7E-6
	Inside Building Footprint (19.6 acres)	Surface Soil	none	6E-6
		Subsurface Soil	Dermal = 2	3E-6
		Surface & Subsurface Soil	none	6E-6

The current Composite Worker will be exposed only to surface soils. The risk ratios indicated that the cumulative cancer risks for the Composite Worker exposure to surface soils were equal to 7E-6 (Outside Building Footprint) and 6E-6 (Inside Building Footprint). When the non-cancer risks were segregated and summed by target organ for cumulative Hazard Index (HI), no target organ exceeded a cumulative HI of 1 in surface soils.

Construction activities could result in the placement of subsurface material over existing surface soils exposing a future Composite Worker to a mixture of surface and subsurface soils. The risk ratios indicated that the cumulative cancer risks for the Composite Worker subsurface scenario were equal to 4E-6 (Outside Building Footprint) and 3E-6 (Inside Building Footprint). When the non-cancer risks were segregated and summed by target organ for cumulative HI, one target

organ exceeded a cumulative HI of 1 in subsurface soils. The dermal system had a computed subsurface HI of 2 for the EU Inside the Building Footprint. The evaluation of the pooled scenario resulted in similar computed cancer risks and non-cancer hazards, although the dermal system HI for the EU Inside the Building Footprint was mitigated (HI=1) when the surface and subsurface data were pooled.

Based on this SLRA, the EU Outside the Building Footprint is suitable for use by future Composite Workers and further action is not required. No capping remedy is required or proposed in the EU Outside the Building Footprint. The EU Inside the Building Footprint requires mitigation of the subsurface non-cancer dermal system HI via a capping remedy. **Figure 5** shows the extent of the capping remedy required for the EU Inside the Building Footprint, and indicates that no cap is required for the EU Outside the Building Footprint. The building is proposed with a concrete floor slab, which will provide the required capping remedy for the EU Inside the Building Footprint.

Construction Worker Assessment:

As stated in the SLRA analysis process, the Construction Worker exposure scenario is more realistically modelled with the use of a single EU for the proposed construction work. Intrusive construction work will be conducted simultaneously throughout the development sub-parcel. The calculated EPCs for the surface and subsurface exposure scenarios for the site-wide Construction Worker are shown in **Table 11**. The supplemental EPCs generated from the pooled surface and subsurface soils are also included in the EPC table.

The EPCs generated from the single site-wide EU were evaluated for several exposure scenarios using site-specific Construction Worker Soil Screening Levels (SSLs) to determine the exposure frequency that would result in risk ratios less than or equivalent to a cumulative cancer risk of 1E-5 or HI of 1 for any individual target organ. Risk ratios for the estimates of potential EPCs for the Construction Worker scenario with the selected exposure duration (120 work days) are shown in **Table 12** (surface), **Table 13** (subsurface), and **Table 14** (pooled surface and subsurface soils). The variables entered for calculation of site-specific Construction Worker SSLs (EU area, input assumptions, and exposure frequency) are indicated as notes on the tables. The spreadsheet used for computation of the site-specific 120-day Construction Worker SSLs is included in **Appendix B**. The SLRA results for the site-wide 120-day exposure scenario are summarized as follows:

Worker Scenario	Exposure Unit	Medium	Hazard Index (>1)	Total Cancer Risk
Construction Worker (120 days)	Site-Wide (73.2 acres)	Surface Soil	none	7E-7
		Subsurface Soil	none	4E-7
		Surface & Subsurface Soil	none	6E-7

Using the 120-day site-wide exposure scenario, the carcinogenic risks for surface, subsurface, and pooled soils were all computed to be less than 1E-5, the acceptable carcinogenic risk level for no further action. In addition, none of the non-carcinogens caused a cumulative HI to exceed 1 for any target organ system for surface, subsurface, or pooled soils using the 120-day exposure duration for the site-wide EU. This assessment indicates that site-specific health and safety protocols or further action would be required for the proposed construction only if intrusive activities exceed 120 work days. Additional worker protective measures beyond standard level D protection are not necessary for the intrusive construction work planned for Sub-Parcel B6-1 if this exposure duration is not exceeded by an individual worker. If the total duration of site-wide intrusive work would exceed the specified limit of 120-days, the work would need to be completed by a separate crew, or additional health and safety protections would be required.

According to the work schedule provided by Tradepoint Atlantic, intrusive activities (i.e., activities that involve disturbance of potentially impacted soil performed by Construction Workers outside of enclosed vehicle cabs) are expected to require 90 work days. The total duration of intrusive construction activities is projected to be 18 weeks (90 work days), with the following intervals associated with specific milestones:

- Domestic Water & Fire Loop – 6 weeks;
- Sanitary Lines – 4 weeks;
- Stormwater – 6 weeks; and
- Pond Excavation and Grading – 2 weeks

The proposed duration is indicated above as 90 work days (18 weeks), but much of the work will also be performed concurrently; therefore, the duration of intrusive work for an individual Construction Worker will be within the acceptable timeframe (120 work days) defined by the SLRA. General health and safety controls used by Construction Workers (level D protection) are adequate to mitigate risk to Construction Workers for the proposed work.

Institutional controls will be required to be established for the protection of future Construction Workers in the event of any future development which could include intrusive activities. These institutional controls will need to include a written notice to the MDE of any future soil disturbance activities, health and safety requirements for any excavations, and proper management and characterization of any removed material.

3.5.3. Evaluation of Comprehensive Environmental Response, Compensation, and Liability (CERCLA) Criteria

Results from the SLRA indicate that a remedy of capping (EU Inside the Building Footprint), along with institutional controls and general health and safety protocols, will be acceptable to mitigate potential current and future Composite Worker and Construction Worker risks. The SLRA indicated that no capping remedy was required for the EU Outside the Building Footprint. The proposed remedy was evaluated for consistency with the CERCLA Threshold Criteria and the Balancing Criteria. The Threshold Criteria assess the overall protection of human health and the environment, as well as achievement of media cleanup objectives and control of sources of releases at the Site. The Balancing Criteria assess long-term effectiveness and permanence; reduction of toxicity, mobility or volume; short-term effectiveness; implementability; cost effectiveness; and community and State acceptance.

Threshold Criteria:

Protect Human Health and the Environment: The assessment against this criterion evaluates how the remedy, as a whole, protects and maintains protection of human health and the environment. This criterion is satisfied when response actions are complete. The purpose of this remedy is to provide a protective barrier between human site users and impacted materials, and to protect the environment by preventing surface water from contacting impacted materials in place. The capping remedy (EU Inside the Building Footprint) would eliminate risk to current and future industrial workers by preventing exposure to areas of the Site where the cumulative estimated risk to the Composite Worker could potentially exceed a cancer risk of 1E-5 or a HI of 1. Groundwater does not present a human health hazard since there is no groundwater use. Implementation of the proposed use restrictions and institutional controls will address the residual risk and will also protect hypothetical future Construction Workers by eliminating or controlling potential exposure pathways, thus reducing potential intake or contact with soil and groundwater COPCs by human receptors.

Achieve Media Cleanup Objective: The assessment against this criterion describes how the remedy meets the cleanup objective, which is risk reduction, appropriate for the expected current and reasonably anticipated future land use. The objective is to protect workers (current and future Composite Worker and future Construction Worker) from potential exposures to site-related soil or groundwater constituents at levels that may result in risks of adverse health effects. Given the controlled access and use restrictions, the proposed remedy will attain soil and groundwater objectives. The activity use restrictions will eliminate current and future unacceptable exposures to both soil and groundwater. The groundwater impacts at the Site have been addressed within the

Finishing Mills Groundwater Phase II Investigation Report (and will be further discussed in a future comprehensive groundwater study).

Control the Source of Releases: In its Resource Conservation and Recovery Act (RCRA) Corrective Action proposed remedies, USEPA seeks to eliminate or reduce further releases of hazardous wastes or hazardous constituents that may pose a threat to human health and the environment. Controlling the sources of contamination relates to the ability of the proposed remedy to reduce or eliminate, to the maximum extent practicable, further releases. None of the soils remaining on-site were identified as exhibiting characteristics of hazardous waste. Sampling results did not indicate localized, discernible source areas associated with the soil and groundwater conditions observed at the Site, with the possible exception of NAPL at two boring locations (B6-011-SB and B22-128-SB). The potential groundwater impacts at the Site have been addressed within the Finishing Mills Groundwater Phase II Investigation Report (and will be further discussed in a future comprehensive groundwater study). The proposed capping remedy for the EU Inside the Building Footprint will prevent contact with soil COPCs, reducing potential risks to within acceptable levels for future industrial workers. The institutional control measures included in the proposed remedy, such as Materials Management Plan requirements and groundwater use restrictions, provide a mechanism to control and reduce potential further releases of COPCs. This is achieved by eliminating the potential for groundwater use and requiring proper planning associated with intrusive activities.

Balancing Criteria:

Long-Term Reliability and Effectiveness: The assessment against this criterion evaluates the long-term effectiveness of the remedy in maintaining protection of human health and the environment after the response objectives have been met. The primary focus of this criterion is the extent and effectiveness of the controls that may be required to manage the risk posed by treatment residuals and/or untreated wastes. The capping remedy for the EU Inside the Building Footprint will permanently contain the contaminated media in place.

Institutional controls (deed restrictions) will also be implemented to protect future Composite and Construction Workers against inadvertent contact with potentially impacted soils or groundwater. These institutional controls are anticipated to include a restriction prohibiting the use of groundwater for any purpose, a written notice to the MDE of any future soil disturbance activities, health and safety requirements for any excavations, and proper management and characterization of any removed material. The Tenant will be required to sign onto the Environmental Covenant with restriction in the No Further Action Letter (NFA). The proposed remedy will maintain protection of human health and the environment over time by controlling exposure to the hazardous

constituents potentially remaining in soils and groundwater. The long term effectiveness is high, as use restrictions are readily implementable and easily maintained. Given the historical, heavily industrial uses of the Site and the surrounding area, including the presence of landfills, industrial land uses of this area and existing groundwater use restrictions are expected to continue in the long term.

Reduction of Toxicity, Mobility, or Volume of Waste: The assessment against this criterion evaluates the anticipated performance of specific technologies that a remedial action alternative may employ. The capping of the EU Inside the Building Footprint will prevent the spread of contaminants in wind-blown dust or stormwater and will prevent infiltration through the impacted unsaturated zone from carrying contaminants to the groundwater. Thus the mobility of contaminants will be reduced by capping the EU Inside the Building Footprint. The proposed capping remedy on the EU Inside the Building Footprint will also avoid the short term risks associated with excavating and transporting large quantities of soil which might otherwise be removed for risk mitigation. The SLRA indicated that no capping was required for the EU Outside the Building Footprint. Additional response actions include the delineation and removal of NAPL impacted material at two boring locations (B6-011-SB and B22-128-SB). The toxicity and volume of impacted material will be reduced by this removal and off-site disposal.

Short-term Effectiveness: The assessment against this criterion examines how well the proposed remedy protects human health and the environment during the construction and implementation until response objectives have been met. This criterion also includes an estimate of the time required to achieve protection for either the entire site or individual elements associated with specific site areas or threats. The remedy will be implemented within several months of the start of work, and risks to the Construction Worker during remedy implementation are mitigated by limiting workers to 120 days of intrusive work. The short-term risk to site workers following general health and safety measures during implementation of the remedy will be low, leading to a high level of short-term effectiveness for protection of future site users and the environment. Short-term effectiveness in protecting on-site workers and the environment will be achieved through establishing appropriate management, construction, health and safety, and security procedures. Proper water management protocols will be implemented to prevent discharges offsite. Security and fences will be used to maintain controlled access during construction of development structures to be protective of site visitors.

Implementability: The assessment against this criterion evaluates the technical and administrative feasibility, including the availability of trained and experienced personnel, materials, and equipment. Technical feasibility includes the ability to construct and operate the technology, the reliability of the technology, and the ability to effectively

monitor the technology. Administrative feasibility includes the capability of obtaining permits, meeting permit requirements, and coordinating activities of governmental agencies. Institutional controls are readily implementable. The necessary land use controls can be recorded and would be enforceable as an environmental covenant for the specific sub-parcel. The proposed remedy uses readily available capping techniques including concrete paving technology.

Cost Effectiveness: The assessment against this criterion evaluates the capital costs, annual Operating and Maintenance (O&M) costs, and the net present value (NPV) of this remedy relative to other alternatives. The remedial costs to install the capping remedy for the EU Inside the Building Footprint would be incurred as part of the proposed site development, regardless of the presence of impacted soil.

State/Agency Support and Acceptance: MDE has been involved throughout the Site investigation process. The proposed use restrictions included in the proposed remedy are generally recognized as commonly employed measures for long-term stewardship. Ultimately State/MDE support will be evaluated based on comments received during the public comment period.

A capping remedy (EU Inside the Building Footprint) with institutional controls would satisfy the CERCLA Threshold Criteria and the Balancing Criteria and would do so in a manner that ensures rapid and reliable implementation and effectiveness. The remedy is cost-effective and consistent with the proposed development plan for the Site.

4.0 PROPOSED SITE DEVELOPMENT PLAN

Tradepoint Atlantic is proposing to construct a warehouse facility, paved parking area, and expanded detention ponds on Sub-Parcel B6-1, which includes portions of Parcel B6, Parcel B22, and Parcel B3 (minor). Included in the Sub-Parcel B6-1 Development Area will be improvements on approximately 73 acres of land. The proposed future use is Tier 3B – Restricted Industrial. The remainder of Parcel B6, Parcel B22, and Parcel B3 will be addressed in additional separate development plans in accordance with the requirements of the ACO that will include RADWPs, if necessary.

Certain compounds (organics and inorganics) are present in the soils located near the surface and in the subsurface at concentrations in excess of the PALs. Therefore, soil is considered a potential media of concern. Current and future adult workers could potentially contact surface or subsurface soil. Construction Workers may contact impacted surface and subsurface soil during earth movement activities associated with future construction activities. Potential risks to future adult workers associated with impacts to soil and groundwater exceeding the PALs will be addressed through a remedy consisting of engineering controls (capping of the EU Inside the Building Footprint with a concrete floor slab) and institutional controls (deed restrictions). The proposed site development plan provides for a containment remedy and institutional controls that will mitigate future adult workers from contacting potentially impacted soil at the Site.

While the concentrations of COPCs in groundwater on-site are not deemed to be a human health hazard since there is no groundwater use, proper water management is required to prevent unacceptable discharges or risks to Construction Workers. Work practices and health and safety plans governing groundwater encountered during excavation activities will provide protection for Construction Workers associated with future excavations at the Site. Additionally, a restriction prohibiting the use of groundwater for any purpose at the Site will be included as an institutional control in the No Further Action Letter (NFA) and Certificate of Completion (COC) issued by the MDE and a deed restriction prohibiting the use of groundwater will be filed.

General health and safety controls (level D protection) outlined in the site-specific Health and Safety Plan (HASP provided in **Appendix C**) will mitigate any potential risk to Construction Workers from contacting impacted soil and groundwater during development at the Site. The findings of the SLRA indicated that the screening level estimates of Construction Worker cancer risk for the site-specific 120-day exposure frequency were all less than 1E-5 (the acceptable level for no further action). Furthermore, no potential non-cancer hazards above the HI of 1 were identified for any target organ in the development area using the 120-day exposure frequency. If the schedule of site-wide intrusive activities exceeds 120 days, additional site-specific health and safety requirements will be warranted.

The proposed Sub-Parcel B6-1 Development Area is approximately 73 acres. The cover types proposed for the development area are indicated in **Figure 6**, along with a general section

showing required minimum thicknesses for paving cover in the EU Inside the Building Footprint. As indicated in the figure legend, capping is required for the EU Inside the Building Footprint, but the SLRA indicated that a capping remedy is not required for the EU Outside the Building Footprint. Development drawings for the proposed sub-parcel development are provided in **Appendix D**.

Processed slag aggregate sourced from the Tradepoint Atlantic property will be transported to the Site to serve as structural fill (subbase) for this development project. The proposed building will cover 19.6 acres, or 27% of the Site, and will be capped by concrete paving. While not required for Composite Worker risk management, the proposed final cover plan includes paving over the majority of the remaining area in the EU Outside the Building Footprint, as depicted in **Figure 6**. Planned concrete and HMA paving sections are shown in the detailed site development drawings (**Appendix D**). Since a capping remedy is not required for risk management purposes in the EU Outside the Building Footprint, the proposed paving sections (thickness and areas) installed in this EU may be modified by Tradepoint Atlantic, but the MDE must be notified and provide approval prior to implementation of the changes.

Stormwater detention ponds will be expanded at the southwestern tip of the Site. Additionally, a limited amount of proposed unpaved landscaped areas are indicated on **Figure 6**. As currently proposed, an impervious PVC (or equivalent) liner covered by clean fill will be placed in the pond expansion areas. Landscaped areas will be covered by a geotextile marker fabric with overlying clean fill. Planned pond and landscaped sections are shown in the detailed site development drawings (**Appendix D**). Since a capping remedy is not required for risk management purposes in the EU Outside the Building Footprint, the proposed pond and landscaped sections (thickness and areas) may be modified by Tradepoint Atlantic, but the MDE must be notified and provide approval prior to implementation of the changes.

The process of constructing the proposed facility involves the tasks listed below. As-built and regulatory documentation for the outlined tasks and procedures will be provided in a Sub-Parcel B6-1 Development Completion Report (Completion Report):

- **Response Phase**

1. **Well abandonment.**

   Monitoring wells FM05-PZM004 and FM05-PZM024 installed for the Area B Groundwater Investigation (and also used in the Finishing Mills Groundwater Investigation) will be properly abandoned in accordance with COMAR 26.04.04.34 through 36 prior to site work in this area. In the event that this FM05 well pair cannot be abandoned prior to the start of work, protective measures (flagging, barriers, etc.) will be installed as necessary to protect the integrity of these wells in the interim period prior to abandonment. All temporary groundwater sample collection points in the Sub-Parcel B6-1 area have already been abandoned in accordance with COMAR 26.04.04.34 through 36.

2. NAPL contaminated media delineation and remedial action.

Two areas with elevated TPH-DRO in excess of 6,200 mg/kg were identified within the Sub-Parcel B6-1 (B6-011-SB and B22-070-SB). The TPH-DRO impacts in the vicinity of B22-070-SB have previously been excavated. The soil core at B6-011-SB was also identified with NAPL observed in the soil core from 8 to 10 feet bgs. Six additional borings (B6-039-SB, B6-087-SB, B22-001-SB, B22-067-SB, B22-128-SB, and B22-129-SB) also displayed physical evidence of possible NAPL product. Six of the seven locations with physical evidence of potential product (B6-011-SB, B6-039-SB, B6-087-SB, B22-067-SB, B22-128-SB, and B22-129-SB) were investigated via temporary piezometers to evaluate the potential mobility of product to groundwater.

The installation of a piezometer was not feasible at boring location B22-001-SB due to equipment refusal encountered at 6.5 feet bgs. Because a piezometer could not be installed at this location, a sample was collected for TPH-DRO/GRO analysis from the observed impacted interval. Analytical results below the PAL in the sample revealed a lack of a significant TPH-DRO/GRO impact at this boring location. One additional location (B22-172-SB) had petroleum odors noted in the soil core, but an analytical sample collected from the 1-foot soil interval with the observed odors was determined to be appropriate to characterize these potential impacts, and a piezometer was not installed. Analytical results below the PAL in this sample also revealed a lack of a significant TPH-DRO/GRO impact at this boring location.

Measureable NAPL was observed to accumulate only at the piezometers installed at B6-011-SB and B22-128-SB. Due to the confirmed presence and potential mobility of NAPL, remediation was determined to be appropriate in the vicinities of these two impacted piezometers. Additional piezometer and/or soil boring delineation activities were completed to determine the extent of potential NAPL contamination in the vicinities of B6-011-PZ and B22-128-PZ. Based on a desire to expedite the remediation prior to on-site development, active remediation was proposed via excavation to remove the NAPL. Specific remediation plans (separate from this RADWP) for the removal of NAPL contaminated material at B22-128-SB and B6-011-SB were developed to manage the remediation activities. At this time, remediation activities are complete for NAPL impacted material in the vicinities of soil borings B6-011-SB and B22-128-SB. Some minor extended excavation may be required along utility lines at B6-011-SB, but any supplemental work would be completed under the direct guidance of the MDE, and would not be expected to significantly impact the final excavation boundary.

3. Lead contaminated media delineation.

One sample with elevated lead was identified by the agencies as requiring delineation to confirm that the detection was not representative of a more widespread lead impact in this area. This maximum detection of 6,600 mg/kg in sample B22-047-SB-1 was below the mandatory excavation criterion of 10,000 mg/kg. A delineation plan (separate from this RADWP) for lead contaminated material in the vicinity of B22-047-SB provided the protocols to manage the delineation activities.

At this time, delineation activities are complete, and the supplemental lead data have been received and provided to the MDE. Lead was not detected above 10,000 mg/kg during the supplemental delineation activities, and the MDE has agreed (via email on June 29, 2017) that no additional response action (i.e., excavation) is required. A formal Delineation Completion Report specific to the lead delineation at B22-047-SB will be submitted to the agencies under separate cover.

- **Development Phase**

1. Erosion and sediment control installation for development.

Installation of erosion and sediment controls will be completed in accordance with the requirements of the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control prior to any construction at the Site. Any soils which are disturbed during the installation of erosion and sediment controls will be replaced on-site under areas to be paved (i.e. the proposed asphalt parking lot or concrete floor slab and foundation).

2. Grading and site preparation.

As indicated on the grading plan in **Appendix D**, grading will include cut and fill which will ultimately raise the elevation at the Site. According to the design engineer, site grading will involve the excavation (cut) of approximately 10,000 cubic yards of material and the placement (fill) of approximately 535,500 cubic yards of processed slag aggregate material for the development area.

Any material that is not suitable for compaction will be excavated and replaced with subbase material, although it is not anticipated that poor soils will be encountered. Borrow materials will be obtained from MDE-approved common borrow-site stockpiles or processed slag aggregate, if necessary, and shall be free of organic material, frozen material, or other deleterious material. In the case that there is excess material, the spoils will be stockpiled at a suitable location in accordance with the Materials Management Plan (MMP) for the Sparrows Point Facility (Papadopulos & Associates, et al., June 17, 2015). This work will be coordinated with MDE accordingly. No excess material will leave the 3,100 acre property without prior approval from MDE.

3. Installation of underground utility and foundation structures.

Underground utilities and foundations will be installed at the grades and lines shown on the plans. Soil removed from the utility and foundation excavations will be used as fill under areas that will be paved; any water removed will be collected to be sampled as described in the MMP and, if acceptable, taken to the on-site wastewater treatment plant. If analytical results indicate the presence of levels of contaminants exceeding levels that are acceptable for treatment at the wastewater treatment plant, the water will either be pre-treated through an on-site treatment system and retested prior to pumping to the wastewater treatment plant or will be disposed of at an appropriate off-site facility.

4. Placement of subbase.

Following the installation of erosion and sediment controls and other preparatory work, the Site will be fine-graded and placement of subbase will commence. The warehouse and parking areas will receive a layer of subbase material which will consist of compacted aggregate base.

5. Floor slabs and paving.

Much of the Site will be covered with floor slabs or paving as indicated in **Figure 6**. This figure also provides a general section showing required minimum thicknesses for paving cover in the EU Inside the Building Footprint. The planned thicknesses of all site-wide pavement sections to be placed over the existing soils are indicated in **Appendix D**. Since a capping remedy is not required for the EU Outside the Building Footprint, the proposed paving sections (thickness and areas) in this EU may be modified by Tradepoint Atlantic, but the MDE must be notified and provide approval prior to implementation of the changes.

6. Stormwater management.

Stormwater will be conveyed by new piping and inlets to the proposed expanded detention ponds (**Appendix D**). The proposed lined detention ponds will be installed following installation of necessary erosion and sediment controls, and the new stormwater management facilities will discharge to existing stormwater outfalls permitted under the current industrial stormwater NPDES permit. Tradepoint Atlantic plans to submit a property-wide stormwater management plan to Baltimore County. Typical stormwater pond section details that are proposed in the development area are indicated in **Appendix D**. Since a capping remedy is not required for risk management purposes in the EU Outside the Building Footprint, the proposed stormwater pond sections (thickness and areas) may be modified by Tradepoint Atlantic, but the MDE must be notified and provide approval prior to implementation of the changes.

7. Landscaping.

Areas proposed for landscaping within the development area are shown on **Figure 6**. Typical landscaping or planting section details that are proposed in the development area are indicated in **Appendix D**. Since a capping remedy is not required for risk management purposes in the EU Outside the Building Footprint, the proposed landscaping sections (thickness and areas) may be modified by Tradepoint Atlantic, but the MDE must be notified and provide approval prior to implementation of the changes.

5.0 DEVELOPMENT IMPLEMENTATION PROTOCOLS

5.1. RESPONSE PHASE

5.1.1. NAPL Contaminated Media Delineation and Remediation

Remediation activities are complete for NAPL impacted materials in the vicinities of soil borings B6-011-SB and B22-128-SB. Some minor extended excavation may be required along utility lines at B6-011-SB, but any supplemental work would be completed under the direct guidance of the MDE, and would not be expected to significantly impact the final excavation boundary. The extent of the remediation activities required for the removal of NAPL contaminated media, and specific protocols for the excavation and disposal of NAPL impacted material, were managed by excavation plans submitted separately to the agencies. The separation of these documents from the RADWP allowed for independent review and approval of the proposed response actions. Response Action Completion Reports specific to the removal of NAPL impacted material at locations B6-011-SB and B22-128-SB (or a combined Response Action Completion Report for these two excavations) will be required to be submitted to the agencies to summarize the completed remedial actions.

5.1.2. Lead Contaminated Media Delineation

Delineation activities were completed for lead in the vicinity of soil boring B22-047-SB. The specific protocols for the delineation of material potentially impacted by lead were managed by a delineation plan submitted separately to the agencies. The separation of this document from the RADWP allowed for independent review and approval of the proposed actions. As stated in the previous submission of this RADWP (Revision 1), if material above 10,000 mg/kg of lead was identified following delineation, it would be required to be removed. At this time, delineation activities are complete, and the supplemental lead data have been received and provided to the MDE. No lead detections above 10,000 mg/kg were identified during delineation. A formal Delineation Completion Report specific to the lead delineation at B22-047-SB will be submitted to the agencies, but the MDE has agreed (via email on June 29, 2017) that no additional response action (i.e., excavation) is required.

5.1.3. Health and Safety

A site-specific Health and Safety Plan (HASP provided in **Appendix C**) was developed and is attached to this plan. The HASP presents the minimum requirements for worker health and safety protection for this project. The existing HASP will be followed by the prime remediation contractor. The remediation contractor will develop, as necessary, addenda to the site HASP.

5.2. DEVELOPMENT PHASE

This plan presents protocols for the handling of soils and fill materials in association with construction of the planned Sub-Parcel B6-1 development. In particular, this plan highlights the minimum standards for construction practices and managing potentially contaminated materials to reduce potential risks to workers and the environment.

Several exceedances of the PALs were identified in soil samples across the Site. The PALs are set based on USEPA's RSLs for industrial soils, or other direct guidance from the MDE. Because PAL exceedances can present potential risks to human health and the environment at certain concentrations, this plan presents material management and other protocols to be followed during the work to adequately mitigate such potential risks for material remaining on-site during the development phase.

Following completion of the SLRA, the screening level estimates of Construction Worker cancer risk for the site-specific 120-day exposure frequency were all less than 1E-5 (the acceptable level for no further action). Furthermore, none of the potential non-cancer hazards were elevated above the HI of 1 for any exposure scenario when the schedule for intrusive construction activities was limited to 120 days in the site-wide EU. Since the proposed schedule of intrusive work is anticipated to require only 90 work days, general worker protective controls (Level D) and health and safety measures will be sufficient for the proposed development, with no additional site-specific requirements.

The screening level estimates of Composite Worker cancer risk were all less than 1E-5, indicating that there are no unacceptable cancer risks associated with future Composite Worker exposure scenarios. The screening level estimates of Composite Worker non-cancer hazard identified one elevated hazard for subsurface soils for the dermal system (HI=2) in the EU Inside the Building Footprint. The proposed capping remedy in the EU Inside the Building Footprint, consisting of the paved concrete floor slab, mitigates the potential risk to a future Composite Worker. The SLRA indicated that no capping remedy was required for the EU Outside the Building Footprint.

5.2.1. Soil Excavation and Utility Trenching

A pre-excavation meeting shall be held to address proper operating procedures for working on-site and monitoring excavations and utility trenching in potentially contaminated material. This meeting shall consist of the construction manager and any workers involved with excavation and/or utility work. During the pre-excavation meeting, all workers shall review the proposed excavation and trenching locations and associated utility inverts in conjunction with existing boring locations to identify areas of potentially elevated petroleum concentrations that may be mobilized by the utility installation. These areas will include piezometers impacted with measureable NAPL (B6-011-PZ and B22-128-PZ) and additional borings which had evidence of

free-phase NAPL in the soil cores and/or elevated analytical detections of TPH-DRO above the PAL (B6-039-SB, B6-087-SB, B22-001-SB, B22-067-SB, B22-070-SB, and B22-129-SB). One additional location (B22-172-SB) had petroleum odors noted in the soil core, but did not have any other evidence of potential NAPL contamination. **Figure 7** presents the proposed utility plan for the Sub-Parcel B6-1 Development Area, along with the nine listed boring locations (above) which may be indicative of areas with potential NAPL contamination. The site-specific HASP for the project shall also be reviewed and discussed during the meeting.

Key soil excavation and backfill activities will be monitored through daily inspections by the environmental professional (EP). Soil excavation and removal will occur during utility trenching, inlet/manhole installation, stormwater facility expansion, grading, and other construction activities. In general, and based on the existing sampling information, all excavated materials are expected to be suitable for replacement on the Site. However, the EP will monitor all soil excavation activities for signs of potential contamination that may not have been previously identified (as described below).

To the extent practical, all excavation activities should be conducted in a manner to minimize double or extra handling of materials. Any stockpiles shall be kept within the Site footprint, and in a location that is not subjected to concentrated stormwater runoff. Stockpiles shall be managed as necessary to prevent the erosion and off-site migration of stockpiled materials, and in accordance with the applicable provisions of the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control. Soil designated for replacement on-site which does not otherwise exhibit evidence of contamination (as determined by the EP) may be managed in large stockpiles (no size restriction) as long as they remain within the erosion and sediment controls.

Utility trenches are to be over-excavated to a minimum of one foot on all sides of the proposed utility. All utility trenches will be backfilled with bedding and backfill materials approved by the MDE, and a marker fabric will be placed between the fill materials and native soil. A general utility detail drawing is provided as **Appendix E**. Additional preventative measures will be required if evidence of petroleum contamination is encountered, to prevent the discharge to, or migration of, petroleum product along a utility conduit. Contingency measures have been developed to ensure that utilities will be constructed in a manner that will prevent the migration of any encountered NAPL, and that excavated material will be properly managed. The Utility Excavation NAPL Contingency Plan (**Appendix F**) provides protocols to be followed if NAPL is encountered during the construction activities. Preventative measures to inhibit the spread of petroleum product will be conducted in accordance with this plan.

The EP will monitor all soil excavation and utility trenching activities for signs of potential contamination that may not have been previously identified. In particular, soils will be monitored with a hand-held PID for potential VOCs, and will also be visually inspected for the presence of staining, petroleum waste materials, or other indications of contamination that may be different than what was already characterized. If screening of excavated materials by the EP

indicates the presence of conditions of potential concern (i.e., sustained PID readings greater than 10 ppm, visual staining, unsuitable waste materials, etc.), such materials shall be segregated for additional sampling and special management. Excavated material exhibiting possible evidence of contamination should be placed in stockpiles (not to exceed 500 cubic yards) on polyethylene sheeting and covered with polyethylene sheeting to minimize potential exposures and erosion when not in use. Stockpiled materials will be sampled in accordance with waste disposal requirements, and properly transported to an appropriate permitted disposal facility. Plans for analysis of segregated soils for any use other than disposal must be submitted to the MDE for approval.

Excavated material that is visibly impacted by NAPL will be segregated and managed in accordance with the requirements specified in the Utility Excavation NAPL Contingency Plan. Excavated material with indicators of possible NAPL contamination will also be containerized or placed in a stockpile (not to exceed 500 cubic yards) on polyethylene sheeting and covered with polyethylene sheeting until the material can be analyzed for TPH/Oil & Grease and PCBs (total) to characterize the material for appropriate disposal. The MDE will be notified if such materials are encountered during excavation or utility trenching activities.

5.2.2. **Soil Sampling and Disposal**

Excavated materials that are determined by the EP to warrant sampling and analysis because of elevated PID readings or other indicators of potential contamination that has not previously been characterized shall be sampled and analyzed to determine how the materials should be managed. If excavated and stockpiled, such materials should be covered with a polyethylene tarp to minimize potential exposures and erosion. A sampling work plan including a description of the material, estimated volume and sampling parameters will be submitted and approved by MDE. All excavated soil may be considered for use as on-site fill below the proposed asphalt parking lot or concrete slabs and foundations depending on the analytical results. All supplemental data will be incorporated into the SLRA for the particular EU where the excavated material would be placed. Following recalculation of the risk ratios, if the cancer risk is less than 1E-5 (or 1E-4 for the EU Inside the Building Footprint) and the non-cancer hazard (evaluated in terms of the magnitude of the exceedance and other factors such as bioavailability of the COPC) is acceptable, the excavated soil will be replaced under paved areas of the Site. Otherwise, the materials will be sampled to determine if they would be classified as hazardous waste.

Soil material that is determined to be a hazardous waste shall be shipped off-site in accordance with applicable regulations to an appropriate and permitted RCRA disposal facility. Soil material may be taken to the on-site landfill (Greys) for proper disposal if the concentrations of excavated sampled materials indicate that the materials are not hazardous, but still are not suitable for reuse. The quantities of all unsuitable materials that require disposal either off-site or at the on-site landfill, if any, will be recorded and identified in the Completion Report.

5.2.3. **Fill**

Processed slag aggregate from the Tradepoint Atlantic property will be used as compacted subbase for the warehouse building and paving for this project. Soil excavated on the sub-parcel has been deemed to be suitable for on-site re-use as fill below the paved areas of the Site. As described in the SLRA, the risk ratios for COPCs in the Sub-Parcel B6-1 Development Area indicated that soil contaminant concentrations do not exceed acceptable cancer risks and/or non-cancer hazards for a future Composite Worker in capped or uncapped areas of the Site (as defined in this RADWP). These materials are considered suitable for use as on-site fill below the proposed asphalt parking lot or concrete slab and foundation. All over-excavated utility trenches will be backfilled with bedding and backfill approved by the MDE. Any clean fill material imported to the Site will be screened according to MDE guidance for suitability.

5.2.4. **Erosion/Sediment Control**

Erosion and sediment controls will be installed prior to commencing work in accordance with the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control. The erosion and sediment controls will be approved by the Baltimore County Soil Conservation District. In addition, the following measures will be taken to prevent contaminated soil from exiting the Site:

- Stabilized construction entrance will be placed at site entrance.
- A dry street sweeper will be used as necessary on adjacent roads, and the swept dust will be collected and properly managed.
- Accumulated sediment removed from silt fence, and sediment traps if applicable, shall be periodically removed and returned to the Site for containment below paved areas.

5.2.5. **Dust Control**

General construction operations, including soil excavation and transport, soil grading, trenching for utilities, and building/paving construction activities will be performed at the Site. These activities are anticipated to be performed in areas of soil impacted with COPCs. To limit worker exposure to contaminants borne on dust and windblown particulates, dust control measures will be implemented, if warranted when the above activities are performed in areas with potentially impacted soil. The action level proposed for the purpose of determining the need for dust suppression techniques (e.g. watering and/or misting) and/or continuous monitoring during the response and development activities at the Site will be 3.0 mg/m³. The lowest of the site-specific dust action levels, OSHA PELs, and ACGIH TLV was selected as the proposed action level.

If visible dust is generated in the breathing zone, air monitoring will be implemented as follows:

- At the start of intrusive activities;
- Periodically during intrusive activities (15-minute intervals);
- When contaminants other than those previously identified are being handled;
- When a different type of operation is initiated or conditions change;
- If personnel are working in areas with obvious particulate contamination; and
- If a sufficient reasonable interval has passed so that exposures may have significantly changed.

Air monitoring will be performed using a ThermoElectron Corporation Personal Data RAM 1000AN dust monitor or equivalent real-time air monitoring device. If the action level (3.0 mg/m^3) is exceeded as a result of conditions occurring at the Site, operations will be stopped and dust suppression implemented. The background dust concentration will be utilized to evaluate whether Site activities are the source of the action level exceedance. Background concentrations will be based on measurements over a minimum of a 1-hour period at the upwind Site boundary. This upwind data will be used to calculate a time weighted average background dust concentration. The background dust concentration may need to be recalculated periodically during the work day, based on changed upwind conditions. Operations may be resumed once monitoring indicates that dust concentrations are below the action level.

As applicable, air monitoring will be conducted during response and development implementation activities in the immediate work zones and surrounding areas to assess levels of exposure to Site workers, establish that the work zone designations are valid, and verify that respiratory protection being worn by personnel, if needed, is adequate. Concurrent with the work zone air monitoring, perimeter air monitoring will also be performed to ensure contaminants are not migrating off-site. Perimeter monitoring will include monitoring along the perimeter of the Site, including both the downwind and upwind portions of the Site. The concentration measured in the downwind portion of the Site shall not exceed the concentration in the upwind portion. If exceedances attributable to Site conditions are identified downwind for more than five minutes, dust control measures and additional monitoring will be implemented. The dust suppression measures may include wetting or misting through the use of a hose connected to an available water supply or a water truck stationed at the Site.

Dust control measures will be implemented as described above to address dust generated as a result of construction and response activities conducted at the Site. However, based on the nature of the area and/or on-going activities surrounding the Site, it is possible that windblown particulates may come from surrounding areas. As discussed above, the dust concentration in the upwind portion of the Site will be considered when monitoring dust levels in the work zone. A pre-construction meeting will be held to discuss the potential of windblown particulates from

other activities impacting the air monitoring required for this response plan. Site contact information will be provided to address the possibility of upwind dust impacts.

5.3. WATER MANAGEMENT

This plan presents the protocols for handling any groundwater or surface water that needs to be removed to facilitate construction of the proposed Sub-Parcel B6-1 development.

5.3.1. Groundwater PAL Exceedances

A total of 10 groundwater samples were collected from temporary groundwater sample collection points (FM-008-PZS, FM-008-PZI, FM-009-PZS, FM-009-PZI, FM-014-PZS, FM-014-PZI, FM-015-PZS, and FM-015-PZI) and permanent monitoring wells (FM05-PZM004 and FM05-PZM024) within the Sub-Parcel B6-1 Development Area. None of the temporary groundwater sample collection points or permanent wells showed evidence of NAPL during mandatory checks with an oil-water interface probe.

PAL exceedances in groundwater in the vicinity of Sub-Parcel B6-1 consisted of seven inorganic compounds (arsenic, hexavalent chromium, cobalt, iron, manganese, thallium, and vanadium), one VOC (chloroform), three SVOCs (1,4-dioxane, benz[a]anthracene, and naphthalene), and TPH-DRO. While the concentrations of these PAL exceedances are not deemed to be a human health hazard since there is no on-site groundwater use, proper water management is required to prevent unacceptable discharges or risks to on-site workers.

5.3.2. Dewatering

Dewatering during construction may be necessary for underground utility work (trenching) and stormwater pond excavation, among other construction activities. If dewatering is required, it shall be done in accordance with all local, state, and federal regulations.

Water that collects in excavations/trenches due to intrusion of groundwater, stormwater, and dust control waters will be sampled and, if determined to be acceptable, will be pumped to the Humphrey Creek Waste Water Treatment Plant (HCWWTP). The limitations and sampling protocols for water pumped to the HCWWTP comply and are in accordance with NPDES Permit No. 90-DP-0064; I. Special Conditions; A.4 – A.9; Effluent Limitations and Monitoring Requirements.

Water from excavations will be sampled and analyzed for the following suite of analyses prior to being pumped to the HCWWTP:

- Total metals by USEPA Method 6020A
- PCBs by USEPA Method 8082
- SVOCs by USEPA Method 8270C

- VOCs by USEPA Method 8260B
- TPH-DRO by USEPA Method 8015B
- Oil & Grease by USEPA Method 1664

The HCWWTP is designed to treat most potential site chemicals. If the analytical results of water sampled from excavations/trenches indicate the presence of levels of contaminants exceeding levels that are acceptable for treatment at the HCWWTP, the water will either be pre-treated through an on-site treatment system and retested prior to pumping to the HCWWTP or will be disposed of at an appropriate off-site facility.

5.4. HEALTH AND SAFETY

A site-specific Health and Safety Plan (HASP provided in **Appendix C**) has been developed and is attached to this plan to present the minimum requirements for worker health and safety protection for the project. All contractors working on the Site must prepare their own HASP that provides a level of protection at least as much as that provided by the attached HASP. Alternatively, on-site contactors may elect to adopt the HASP provided.

Prior to commencing work, the contractor must conduct an on-site safety meeting for all personnel. All personnel must be made aware of the HASP. Detailed safety information shall be provided to personnel who may be exposed to COPCs. Workers will be responsible for following safety procedures to prevent contact with potentially contaminated soil or groundwater.

5.5. INSTITUTIONAL CONTROLS (FUTURE LAND USE CONTROLS)

Long-term conditions related to future use of the Site will be placed on the RADWP approval, No Further Action Letter (NFA), and Certificate of Completion (COC). These conditions are anticipated to include the following:

- A restriction prohibiting the use of groundwater for any purpose at the Site and a requirement to characterize, containerize, and properly dispose of groundwater in the event of deep excavations encountering groundwater.
- Notice to MDE prior to any future soil disturbance activities at the Site. This written notice will be required at least 15 days prior to any planned excavation activities.
- Requirement for a HASP in the event of any future excavations at the Site.
- Complete appropriate characterization and disposal of any future material excavated at the Site in accordance with applicable local, state, and federal requirements.

The responsible party will file the above deed restrictions as defined by the MDE-VCP in the NFA and COC. The entire Site will be subject to the groundwater use restriction.

The Tenant will be required to sign onto the Environmental Covenant with restriction in the NFA. Tradepoint Atlantic will notify the Tenant of this requirement and will provide MDE with contact information for the Tenant prior to issuance of the NFA.

5.6. POST REMEDIATION REQUIREMENTS

Post remediation requirements will include compliance with the conditions specified in the NFA, COC, and the deed restrictions recorded for the Site. Deed restrictions will be recorded within 30 days after receipt of the final NFA.

In addition, MDE will be provided with a written notice at least 15 days prior to any planned excavation activities at the Site. Written notice of planned excavation activities will include the proposed date(s) for the excavation, location of the excavation, health and safety protocols (as required), clean fill source (as required), and proposed characterization and disposal requirements.

The concrete floor slab in the EU Inside the Building Footprint will not be subject to an Operations and Maintenance Plan (O&M Plan). These requirements are not applicable for building slabs, although an O&M Plan would be required if any other paved areas (parking/roads) or landscaped areas were to function as a capping remedy. Since the SLRA indicated that a capping remedy is not required for the EU Outside the Building Footprint, the cover types in this EU do not constitute a capping remedy and are not subject to an O&M Plan.

5.7. CONSTRUCTION OVERSIGHT

Construction Oversight by an EP will ensure and document that the project is built as designed and appropriate environmental and safety protocols are followed. Upon completion, the EP will certify that the project is constructed in accordance with this RADWP. Records shall be provided to document:

- Daily observations of construction activities during site grading
- Compliance with soil screening requirements
- Proper cap thickness and construction
- Proper water management

6.0 PERMITS, NOTIFICATIONS AND CONTINGENCIES

The participant and their contractors will comply with all local, state, and federal laws and regulations by obtaining any necessary approvals and permits to conduct the activities contained herein.

A grading permit is required if the proposed grading disturbs over 5,000 square feet of surface area or over 100 cubic yards of earth. A grading permit is required for any grading activities in any watercourse, floodplain, wetland area, buffers (stream and within 100 feet of tidal water), habitat protection areas or forest buffer areas (includes forest conservation areas). Erosion and Sediment Control Plans will be submitted to, and approved by, the Baltimore County Soil Conservation District prior to initiation of land disturbance for development.

There are no wetlands identified within the project area and no work will be performed beyond the shoreline so no permits are required from the MDE Water Resources Administration.

Contingency measures will include the following:

1. the MDE will be notified immediately of any previously undiscovered contamination, previously undiscovered storage tanks and other oil-related issues, and citations from regulatory entities related to health and safety practices; and

2. any significant change to the implementation schedule will be noted in the progress reports to MDE.

7.0 IMPLEMENTATION SCHEDULE

The proposed implementation schedule is shown below. Progress reports will be submitted to MDE upon completion of each milestone shown below.

Task	**Proposed Completion Date**
Anticipated Plan Approval	July 14, 2017
Remedial Phase	**Proposed Completion Date**
Lead Delineation	June 2, 2017
NAPL Excavation	July 12, 2017
Well Abandonment	July 28, 2017
Development Phase	**Proposed Start Date**
Slag Hauling and Placement	July 2017
Installation of Erosion and Sediment Controls for Development	July 2017
Underground Utilities Domestic Water & Fire Loop – 6 weeks; Sanitary Lines – 4 weeks; Stormwater – 6 weeks; and Pond Excavation and Grading – 2 weeks	August 2017
Installation of Building	August 2017
Completion of Site Preparation/Grading	September 2017 (Building Pad) November 2017 (Parking Areas)
Installation of Pavements	March 2018
Submittal of Completion Report/Notice of Readiness for Use*	August 2018
Request for a NFA from the MDE	August 2018

Recordation of institutional controls in the land records office of Baltimore County	Within thirty days of receiving the approval of NFA from the MDE
Submit proof of recordation with Baltimore County	Upon receipt from Baltimore County

*Notice of Readiness for Use shall be prepared by Professional Engineer registered in Maryland and submitted with the Completion Report to certify that the work is consistent with the requirements of this RADWP and the Site is suitable for occupancy and use.

FIGURES

ARM Group Inc.
Earth Resource Engineers and Consultants

0 375 750 1,500 Feet

- Site Boundary
- Private Property
- Area A Boundaries
- Area B Boundaries

Tradepoint Atlantic
Area A and Area B Parcels

August 1, 2016

EnviroAnalytics Group	Tradepoint Atlantic
Area A: Project 150298M Area B: Project 150300M	Baltimore County, MD

Figure 1

P:\EnviroAnalytics Group\160443M EAG_TPA Redevelopment\Drwg\B6\Production\Figure 2 - Site Development Figure.dwg Plotted: April 5, 2017

Figure 2

drawing title
SUB-PARCEL B6-1 SITE DEVELOPMENT PLAN

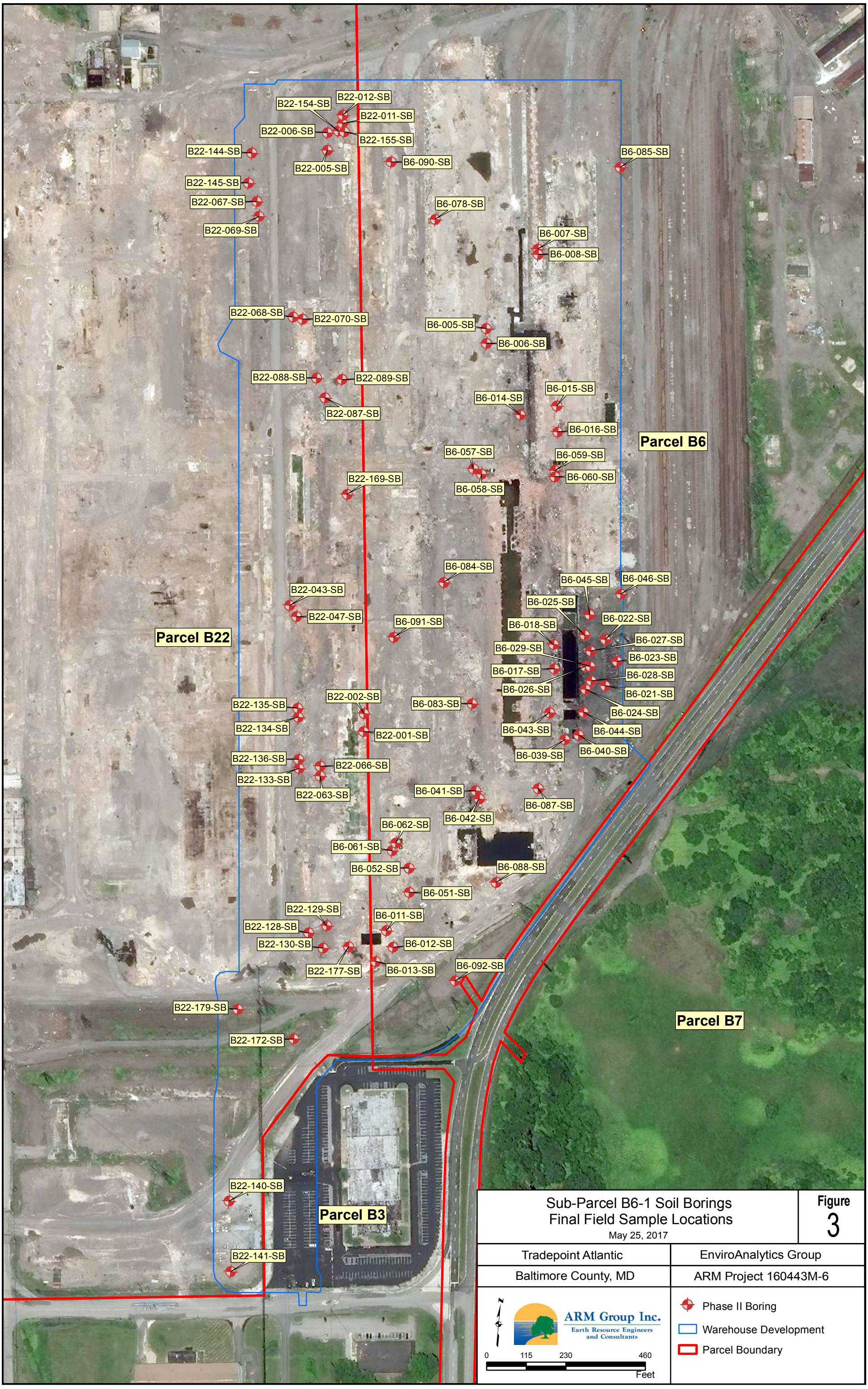
project title
SPARROWS POINT AREA B
ENVIROANALYTICS GROUP

SPARROWS POINT
BALTIMORE COUNTY, MARYLAND

designed	JMA	scale	1" = 250'
checked	TNP	date	4/5/2017
drawn	JMA	project no.	160443M

0 250 500
SCALE IN FEET

ARM Group Inc.
Earth Resource Engineers
and Consultants
www.armgroup.net



Sub-Parcel B6-1 Soil Borings
Final Field Sample Locations
May 25, 2017

Figure 3

Tradepoint Atlantic	EnviroAnalytics Group
Baltimore County, MD	ARM Project 160443M-6

ARM Group Inc.
Earth Resource Engineers and Consultants

0 115 230 460
Feet

Phase II Boring
Warehouse Development
Parcel Boundary

B22-012-SB-1
Benzo[a]pyrene: 2.6
B22-012-SB-4

B22-154-SB-1
Benzo[a]pyrene: 2.5
B22-154-SB-5

B22-011-SB-1
B22-011-SB-4

B22-144-SB-1
B22-144-SB-7
Benzo[a]pyrene: 4.5

B22-006-SB-1
Benzo[a]pyrene: 2.1
B22-006-SB-7

B22-155-SB-1
Benzo[a]pyrene: 6.0
B22-155-SB-5

B6-085-SB-1
B6-085-SB-8

B22-145-SB-1
B22-145-SB-4
B22-145-SB-10

B22-005-SB-1
B22-005-SB-4
Benzo[a]pyrene: 2.1
B22-005-SB-10

B6-090-SB-2
B6-090-SB-8

B22-067-SB-1
B22-067-SB-7

B6-078-SB-1
B6-078-SB-8

B22-069-SB-1
B22-069-SB-4

B6-007-SB-1
B6-007-SB-4

B6-008-SB-1
B6-008-SB-4

B22-068-SB-1
B22-068-SB-6

B22-070-SB-1
B22-070-SB-9

B6-005-SB-2
B6-005-SB-8

B6-006-SB-1
B6-006-SB-5

B22-088-SB-1
B22-088-SB-6
Benzo[a]pyrene: 3.1

B22-089-SB-1
B22-089-SB-5

B6-015-SB-1
B6-015-SB-5

B22-087-SB-1
B22-087-SB-5

B6-014-SB-1
B6-014-SB-4

B6-016-SB-1
B6-016-SB-5

B6-057-SB-1
B6-057-SB-8

B6-059-SB-1
B6-059-SB-8

B22-169-SB-1
B22-169-SB-4

B6-058-SB-1
B6-058-SB-5
B6-058-SB-10

B6-060-SB-1
B6-060-SB-4

Parcel B6

B6-084-SB-1
B6-084-SB-7

B6-046-SB-1
B6-046-SB-6

B22-043-SB-1
B22-043-SB-4
Benzo[a]pyrene: 2.4
B22-043-SB-10

B6-045-SB-1
B6-045-SB-5
B6-045-SB-10

B6-025-SB-1
B6-025-SB-5

B6-027-SB-1
B6-027-SB-4

B22-047-SB-1
B22-047-SB-5

B6-091-SB-1
B6-091-SB-9

B6-018-SB-1
B6-018-SB-4

B6-022-SB-1

B6-029-SB-1
B6-029-SB-5

B6-026-SB-1
B6-026-SB-4

B6-023-SB-1
B6-023-SB-4
B6-023-SB-10

B6-028-SB-1
B6-028-SB-9

B6-017-SB-1
B6-017-SB-6

B6-024-SB-1
B6-024-SB-5

B22-135-SB-1
B22-135-SB-8

B22-002-SB-1
B22-002-SB-7

B6-083-SB-1
B6-083-SB-8

B6-021-SB-1
B6-021-SB-4

B22-134-SB-1
B22-134-SB-7

B6-043-SB-1
B6-043-SB-8

B6-044-SB-1
Benzo[a]pyrene: 3.5
B6-044-SB-4

B22-001-SB-1
B22-001-SB-4

B22-136-SB-1
B22-136-SB-5

B22-066-SB-1
B22-066-SB-9

B6-039-SB-1
B6-039-SB-5

B6-040-SB-1
B6-040-SB-5

B22-133-SB-1
B22-133-SB-5

B6-041-SB-1
B6-041-SB-4

B22-063-SB-1
B22-063-SB-9

B6-087-SB-5
B6-087-SB-7.5

B6-042-SB-1
B6-042-SB-8

B6-062-SB-1
B6-062-SB-4

B6-061-SB-1
B6-061-SB-4

B6-052-SB-1

B6-088-SB-1
B6-088-SB-5

B6-051-SB-1
B6-051-SB-6

B6-011-SB-1
B6-011-SB-8
Benzo[a]pyrene: 2.1 J
Naphthalene: 24.3

B22-129-SB-1
B22-129-SB-4

B22-128-SB-1

B6-012-SB-1
B6-012-SB-4

Parcel B22

B22-130-SB-1
B22-130-SB-4

B22-177-SB-1
B22-177-SB-5

B6-013-SB-1
B6-013-SB-7

B6-092-SB-1
B6-092-SB-9

B22-179-SB-1
B22-179-SB-6

B22-172-SB-1
B22-172-SB-5

Parcel B7

B22-140-SB-1
B22-140-SB-5

Parcel B3

B22-141-SB-1
B22-141-SB-5

Sub-Parcel B6-1 Soil Borings
Phase II SVOC Exceedances (mg/kg)
May 25, 2017

Figure
S-1

EnviroAnalytics Group	Tradepoint Atlantic
ARM Project 160443M-6	Baltimore County, MD

ARM Group Inc.
Earth Resource Engineers and Consultants

0 62.5 125 250
Feet

- Phase II Boring
- Warehouse Development
- Parcel Boundary

B22-012-SB-1
B22-011-SB-1
B22-006-SB-1
PCBs (total): 0.991
B22-155-SB-1
B22-144-SB-1
Aroclor 1248: 1.48
Aroclor 1254: 0.978
PCBs (total): 4.778
B22-005-SB-1
PCBs (total): 2.96
B22-154-SB-1
B6-090-SB-2
B6-085-SB-1
B22-145-SB-1
PCBs (total): 1.559
B22-067-SB-1
B6-078-SB-1
B22-069-SB-1
B6-007-SB-1
B6-008-SB-1
B22-068-SB-1
PCBs (total): 1.258
B22-070-SB-1
Aroclor 1254: 3.65
PCBs (total): 7.36
B6-005-SB-2
B6-006-SB-1
B22-088-SB-1
B22-089-SB-1
B22-087-SB-1
B6-015-SB-1
B6-014-SB-1
B6-016-SB-1
B6-057-SB-1
B6-058-SB-1
B6-059-SB-1
B6-060-SB-1
B22-169-SB-1
Parcel B6
B6-084-SB-1
PCBs (total): 4.41
B6-046-SB-1
B22-043-SB-1
B6-045-SB-1
B22-047-SB-1
Aroclor 1254: 2.17
PCBs (total): 13.37
B6-025-SB-1
B6-091-SB-1
B6-022-SB-1
B6-018-SB-1
B6-027-SB-1
B6-029-SB-1
B6-017-SB-1
Aroclor 1242: 1.13
PCBs (total): 1.13
B6-023-SB-1
B6-028-SB-1
B6-026-SB-1
Aroclor 1254: 7.68
PCBs (total): 7.68
B6-021-SB-1
B6-024-SB-1
B22-135-SB-1
PCBs (total): 2.04
B22-002-SB-1
B6-083-SB-1
B22-134-SB-1
PCBs (total): 2.6391
B22-001-SB-1
B22-001-SB-4
B6-043-SB-1
B6-044-SB-1
B6-040-SB-1
Aroclor 1254: 4.64
PCBs (total): 4.64
B6-039-SB-1
B22-136-SB-1
B22-066-SB-1
B22-133-SB-1
B22-063-SB-1
PCBs (total): 10.879
B6-041-SB-1
B6-087-SB-5
B6-042-SB-1
B6-062-SB-1
B6-061-SB-1
PCBs (total): 10.6
B6-052-SB-1
B6-088-SB-1
B6-051-SB-1
B22-129-SB-1
Aroclor 1254: 1.04
PCBs (total): 1.867
B6-011-SB-1
B22-128-SB-1
Aroclor 1254: 0.99
PCBs (total): 1.631
B22-177-SB-1
B6-012-SB-1
Parcel B22
B22-130-SB-1
Aroclor 1254: 1.15
PCBs (total): 2.209
B6-013-SB-1
B6-092-SB-1
B22-179-SB-1
Parcel B7
B22-172-SB-1
B22-140-SB-1
Aroclor 1242: 6.64
PCBs (total): 6.64
Parcel B3
B22-141-SB-1

Sub-Parcel B6-1 Soil Borings
Phase II PCB Exceedances (mg/kg)
May 25, 2017

Figure
S-2

EnviroAnalytics Group

Tradepoint Atlantic

ARM Project 160443M-6

Baltimore County, MD

ARM Group Inc.
Earth Resource Engineers and Consultants

0 62.5 125 250
Feet

Phase II Boring
Warehouse Development
Parcel Boundary

B22-012-SB-1
B22-012-SB-4
B22-011-SB-1
B22-011-SB-4
B22-155-SB-1
B22-155-SB-5
B22-006-SB-1
B22-006-SB-7
B22-154-SB-1
B22-154-SB-5
B22-144-SB-1
B22-144-SB-7
B22-005-SB-1
B22-005-SB-4
B6-090-SB-2
B6-090-SB-8
B6-085-SB-1
B6-085-SB-8
B22-145-SB-1
B22-145-SB-4
B22-145-SB-10
B22-067-SB-1
B22-067-SB-7
B6-078-SB-1
B6-078-SB-8
B22-069-SB-1
B22-069-SB-4
B6-007-SB-1
B6-007-SB-4
B6-008-SB-1
B6-008-SB-4
B22-068-SB-1
B22-068-SB-6
B22-070-SB-1
DRO: 6,620
B22-070-SB-9
B6-005-SB-2
B6-005-SB-8
B6-006-SB-1
B6-006-SB-5
B22-088-SB-1
B22-088-SB-6
B22-089-SB-1
B22-089-SB-5
B6-015-SB-1
B6-015-SB-5
B22-087-SB-1
B22-087-SB-5
B6-014-SB-1
B6-014-SB-4
B6-016-SB-1
B6-016-SB-5
B6-059-SB-1
B6-059-SB-8
B6-057-SB-1
B6-057-SB-8
B22-169-SB-1
B22-169-SB-4
B6-058-SB-1
B6-058-SB-5
B6-060-SB-1
B6-060-SB-4
Parcel B6
B6-084-SB-1
B6-084-SB-7
B22-043-SB-1
B22-043-SB-4
B6-025-SB-1
B6-025-SB-5
B6-045-SB-1
B6-045-SB-5
B6-045-SB-10
B6-046-SB-1
B6-046-SB-6
B22-047-SB-1
B22-047-SB-5
B6-091-SB-1
B6-091-SB-9
B6-027-SB-1
B6-027-SB-4
B6-022-SB-1
B6-029-SB-1
B6-029-SB-5
B6-018-SB-1
B6-018-SB-4
B6-023-SB-1
B6-023-SB-4
B6-023-SB-10
B6-017-SB-1
B6-017-SB-6
B6-028-SB-1
B6-028-SB-9
B6-026-SB-1
B6-026-SB-4
B6-021-SB-1
B22-135-SB-1
B22-135-SB-8
B22-002-SB-1
B22-002-SB-7
B6-083-SB-1
B6-083-SB-8
B6-043-SB-1
B6-043-SB-8
B6-024-SB-1
B6-024-SB-5
B22-134-SB-1
B22-134-SB-7
B22-001-SB-1
B22-001-SB-4
B6-039-SB-1
B6-039-SB-5
B6-044-SB-1
B6-044-SB-4
B22-136-SB-1
B22-136-SB-5
B22-066-SB-1
B22-066-SB-9
B6-040-SB-1
B6-040-SB-5
B22-133-SB-1
B22-133-SB-5
B6-041-SB-1
B6-041-SB-4
B6-087-SB-5
B6-087-SB-7.5
B22-063-SB-1
B22-063-SB-9
B22-063-SB-10
B6-042-SB-1
B6-042-SB-8
B6-062-SB-1
B6-062-SB-4
B6-061-SB-1
B6-061-SB-4
B6-052-SB-1
B6-088-SB-1
B6-088-SB-5
B6-051-SB-1
B6-051-SB-6
B22-129-SB-1
B22-129-SB-4
B6-011-SB-1
B6-011-SB-8
DRO: 7,340 J
B22-177-SB-1
B22-177-SB-5
B22-128-SB-1
B6-012-SB-1
B6-012-SB-4
B22-130-SB-1
B22-130-SB-4
B6-013-SB-1
B6-013-SB-7
B6-092-SB-1
B6-092-SB-9
Parcel B22
Parcel B7
B22-179-SB-1
B22-179-SB-6
B22-172-SB-1
B22-172-SB-5
B22-140-SB-1
B22-140-SB-5
B22-141-SB-1
B22-141-SB-5
Parcel B3

Sub-Parcel B6-1 Soil Borings
Phase II TPH/O&G Exceedances (mg/kg)
May 25, 2017

Figure
S-3

EnviroAnalytics Group

Tradepoint Atlantic

ARM Project 160443M-6

Baltimore County, MD

ARM Group Inc.
Earth Resource Engineers and Consultants

0 62.5 125 250
Feet

Phase II Boring
Warehouse Development
Parcel Boundary


B22-012-SB-1
Arsenic: 6.0
B22-012-SB-4
Arsenic: 7.6
B22-011-SB-1
Arsenic: 7.7
B22-011-SB-4
Arsenic: 3.4
Manganese: 32,000
B22-154-SB-1
Arsenic: 3.9
B22-154-SB-5
B22-155-SB-1
Arsenic: 3.4
B22-155-SB-5
B22-006-SB-1
Arsenic: 3.0
B22-006-SB-7
Arsenic: 3.8
B22-145-SB-1
Arsenic: 5.9
Lead: 900
B22-145-SB-4
Arsenic: 4.2
B22-145-SB-10
Arsenic: 3.3
B22-144-SB-1
B22-144-SB-7
B22-005-SB-1
Arsenic: 4.7
B22-005-SB-4
Arsenic: 10.1
Thallium: 15.4
B22-005-SB-10
Arsenic: 4.8
B6-090-SB-2
Arsenic: 5.4
B6-090-SB-8
Arsenic: 8.4
B6-090-SB-10
Arsenic: 3.7
B22-067-SB-1
B22-067-SB-7
Arsenic: 5.2
B22-067-SB-10
Arsenic: 5.0
B6-078-SB-1
Thallium: 29.1
B6-078-SB-8
Arsenic: 15.0
Thallium: 43.9
B6-085-SB-1
Arsenic: 7.7
B6-085-SB-8
Arsenic: 43.7
Lead: 2,940
B22-069-SB-1
B22-069-SB-4
Arsenic: 7.5
B22-069-SB-10
Arsenic: 39.8
B6-008-SB-1
Arsenic: 10.7
B6-008-SB-4
Arsenic: 8.9
Thallium: 20.4
B6-007-SB-1
Arsenic: 4.0
Thallium: 14.8
B6-007-SB-4
Arsenic: 3.3
B22-068-SB-1
Arsenic: 3.3
B22-068-SB-6
B22-070-SB-1
Arsenic: 4.3
B22-070-SB-9
B6-005-SB-2
B6-005-SB-8
Arsenic: 7.6
B6-005-SB-10
Arsenic: 6.7
B6-006-SB-1
B6-006-SB-5
Arsenic: 3.2
B22-088-SB-1
Arsenic: 28.7
Manganese: 46,000
B22-088-SB-6
Arsenic: 10.8
Manganese: 31,800
B22-089-SB-1
Arsenic: 3.9
B22-089-SB-5
B22-087-SB-1
Arsenic: 5.2
B22-087-SB-5
Arsenic: 4.5
B22-087-SB-10
B6-014-SB-1
Arsenic: 6.0
Manganese: 49,000
Thallium: 13.0
B6-014-SB-4
Arsenic: 3.3
B6-014-SB-10
Arsenic: 4.1
B6-015-SB-1
Arsenic: 7.3
Thallium: 14.3
B6-015-SB-5
Chromium VI: 8.7
Manganese: 26,100
B6-057-SB-1
Arsenic: 3.2
B6-057-SB-8
Arsenic: 3.6
B6-057-SB-10
Arsenic: 5.7
B6-016-SB-1
B6-016-SB-5
B6-059-SB-1
Arsenic: 9.3
Lead: 2,220 J
B6-059-SB-8
Arsenic: 17.9
Manganese: 66,600
Thallium: 151
Vanadium: 13,800 J
B6-059-SB-10
B22-169-SB-1
B22-169-SB-4
B6-058-SB-1
B6-058-SB-5
Arsenic: 3.9
B6-058-SB-10
Arsenic: 4.1
B6-060-SB-1
Arsenic: 5.6
B6-060-SB-4
Arsenic: 10.9
Parcel B6
B6-046-SB-1
Arsenic: 29.4
Lead: 1,800 J
B6-046-SB-6
Arsenic: 3.8
B6-046-SB-10
Arsenic: 7.3
B6-084-SB-1
B6-084-SB-7
B6-045-SB-1
Arsenic: 4.5
B6-045-SB-5
Arsenic: 7.9
B6-045-SB-10
Arsenic: 3.6
B22-043-SB-1
Arsenic: 15.3
B22-043-SB-4
B6-025-SB-1
Arsenic: 5.7
B6-025-SB-5
Arsenic: 5.3
B6-027-SB-1
Arsenic: 3.5
B6-027-SB-4
Arsenic: 3.9
B6-091-SB-1
Arsenic: 4.2
B6-091-SB-9
Arsenic: 3.7
B6-091-SB-10
B22-047-SB-1
Arsenic: 14.2
Chromium VI: 17.0
Lead: 6,600
B22-047-SB-5
Arsenic: 6.7
B22-047-SB-10
Arsenic: 5.0
B6-023-SB-1
Arsenic: 10.9
B6-023-SB-4
Arsenic: 17.4
B6-023-SB-10
Arsenic: 7.6
B6-018-SB-1
B6-018-SB-4
B6-022-SB-1
Arsenic: 6.0
B6-026-SB-1
B6-026-SB-4
B6-029-SB-1
Arsenic: 4.8
B6-029-SB-5
Arsenic: 3.1
Manganese: 52,300
Thallium: 20.0
B6-017-SB-1
Arsenic: 5.0
Manganese: 42,600
Thallium: 12.3 J
B6-017-SB-6
B22-002-SB-1
Arsenic: 11.6
B22-002-SB-7
Arsenic: 7.6
B22-002-SB-10
B22-135-SB-1
Arsenic: 9.9
Chromium VI: 11.0 J-
B22-135-SB-8
Arsenic: 8.5
B22-134-SB-1
Arsenic: 6.8
B22-134-SB-7
Arsenic: 6.4
B22-001-SB-1
Arsenic: 9.3
B22-001-SB-4
Arsenic: 17.6
B6-083-SB-1
Arsenic: 16.0
B6-083-SB-8
B6-024-SB-1
Arsenic: 3.1
B6-024-SB-5
Arsenic: 3.9
B6-024-SB-10
B6-021-SB-1
Arsenic: 3.6
B6-021-SB-4
B6-028-SB-1
B6-028-SB-9
Arsenic: 4.2
B6-028-SB-10
Arsenic: 13.0
B6-043-SB-1
B6-043-SB-8
B22-136-SB-1
Arsenic: 3.1
B22-136-SB-5
Arsenic: 8.8
B22-066-SB-1
Arsenic: 6.4
B22-066-SB-9
B6-039-SB-1
Arsenic: 5.2
B6-039-SB-5
B6-040-SB-1
Arsenic: 8.2
B6-040-SB-5
Arsenic: 5.5
B6-040-SB-10
Arsenic: 7.1
B6-044-SB-1
Arsenic: 7.8
B6-044-SB-4
Arsenic: 13.6
Thallium: 18.5
B22-133-SB-1
Arsenic: 3.2
B22-133-SB-5
Arsenic: 5.6
B22-063-SB-1
Arsenic: 8.3
Chromium VI: 7.2 J-
B22-063-SB-9
Arsenic: 3.8
B22-063-SB-10
B6-041-SB-1
Arsenic: 3.0
B6-041-SB-4
Arsenic: 3.2
B6-042-SB-1
B6-042-SB-8
B6-087-SB-5
Arsenic: 3.6
B6-087-SB-7.5
Arsenic: 3.6
B6-061-SB-1
Arsenic: 4.1
B6-061-SB-4
Arsenic: 6.3
B6-062-SB-1
Arsenic: 3.6
B6-062-SB-4
Arsenic: 7.6
B6-088-SB-1
Arsenic: 4.0
B6-088-SB-5
Arsenic: 3.4
B6-052-SB-1
B6-051-SB-1
Arsenic: 5.0
B6-051-SB-6
Arsenic: 7.2
B22-129-SB-1
Arsenic: 9.9
B22-129-SB-4
Arsenic: 4.7
B22-128-SB-1
Arsenic: 4.0
Manganese: 26,400 J
B22-177-SB-1
B22-177-SB-5
Arsenic: 5.5
B6-011-SB-1
B6-011-SB-8
B6-012-SB-1
Arsenic: 6.4
B6-012-SB-4
Arsenic: 7.0
Parcel B22
B22-130-SB-1
Arsenic: 9.8
Chromium VI: 11.7 J-
Manganese: 29,100 J
B22-130-SB-4
Arsenic: 4.8
B6-013-SB-1
Arsenic: 5.1
B6-013-SB-7
B6-092-SB-1
Arsenic: 9.3
Manganese: 45,500
B6-092-SB-9
B22-179-SB-1
B22-179-SB-6
Arsenic: 3.6
B22-172-SB-1
Arsenic: 5.9
B22-172-SB-5
Arsenic: 3.9
Parcel B7
B22-140-SB-1
Chromium VI: 7.8 J-
Manganese: 29,900
B22-140-SB-5
Arsenic: 6.0
B22-140-SB-10
Parcel B3
B22-141-SB-1
Arsenic: 4.2
B22-141-SB-5
Arsenic: 6.1
Sub-Parcel B6-1 Soil Borings
Phase II Inorganic Exceedances (mg/kg)
May 25, 2017
Figure
S-4
EnviroAnalytics Group
Tradepoint Atlantic
ARM Project 160443M-6
Baltimore County, MD
ARM Group Inc.
Earth Resource Engineers and Consultants
0
62.5
125
250
Feet
Phase II Boring
Warehouse Development
Parcel Boundary

Sub-Parcel B6-1
Groundwater Sample Locations
April 14, 2017

Figure
4

Tradepoint Atlantic	EnviroAnalytics Group
Baltimore County, MD	ARM Project 160443M-6

ARM Group Inc.
Earth Resource Engineers and Consultants

0 115 230 460
Feet

- Phase II Piezometer
- Finishing Mill Groundwater Well
- Warehouse Development
- Parcel Boundary

Sub-Parcel B6-1 Groundwater
Phase II VOC Exceedances (ug/L)
April 13, 2017

Figure
GW-1

Tradepoint Atlantic	EnviroAnalytics Group
Baltimore County, MD	ARM Project 160443M-6

ARM Group Inc.
Earth Resource Engineers and Consultants

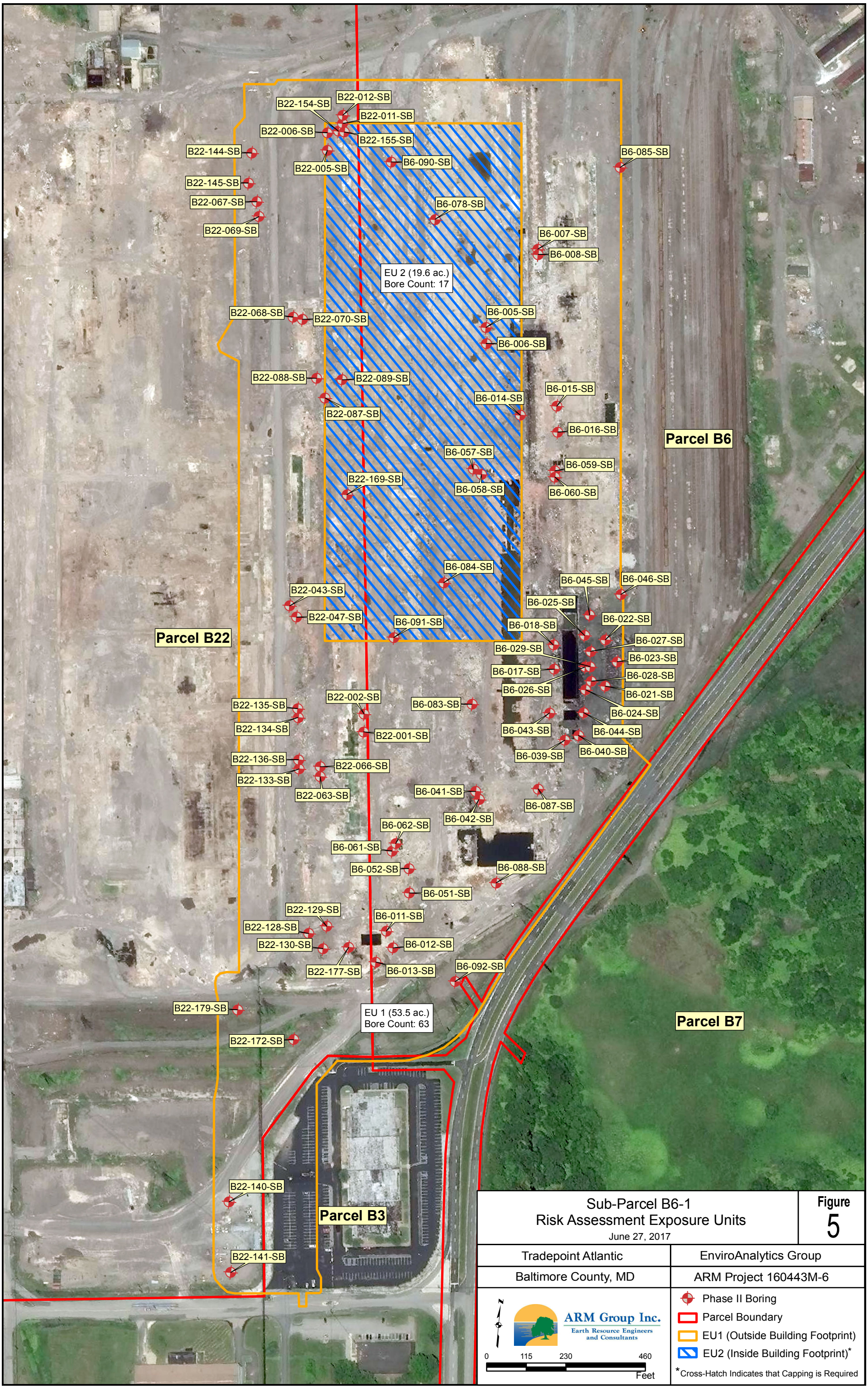
0 115 230 460
Feet

- Phase II Piezometer
- Finishing Mill Groundwater Well
- Warehouse Development
- Parcel Boundary


FM-008-PZI
Benz[a]anthracene: 0.074 J
Naphthalene: 1.8 J
FM-008-PZS
Naphthalene: 0.63
Parcel B6
FM-009-PZS
FM-009-PZI
FM-014-PZS
1,4-Dioxane: 0.47
Benz[a]anthracene: 0.039 J
FM-014-PZI
1,4-Dioxane: 2.5
Parcel B22
FM05-PZM004
Benz[a]anthracene: 0.044 J
Naphthalene: 108
FM05-PZM024
Naphthalene: 4.8
FM-015-PZS
Naphthalene: 0.3 B
FM-015-PZI
Parcel B7
Parcel B3
Sub-Parcel B6-1 Groundwater
Phase II SVOC Exceedances (ug/L)
May 25, 2017
Figure
GW-2
Tradepoint Atlantic
EnviroAnalytics Group
Baltimore County, MD
ARM Project 160443M-6
ARM Group Inc.
Earth Resource Engineers and Consultants
0
115
230
460
Feet
Phase II Piezometer
Finishing Mill Groundwater Well
Warehouse Development
Parcel Boundary


FM-008-PZS
DRO: 939
FM-008-PZI
DRO: 101 J
Parcel B6
FM-009-PZS
DRO: 595 J
FM-009-PZI
DRO: 126 J
FM-014-PZI
DRO: 55.9 J
FM-014-PZS
DRO: 156 J
Parcel B22
FM05-PZM004
DRO: 1,610
FM05-PZM024
FM-015-PZI
DRO: 161 J
FM-015-PZS
DRO: 57.8 J
Parcel B7
Parcel B3
Sub-Parcel B6-1 Groundwater
Phase II TPH Exceedances (ug/L)
April 14, 2017
Figure
GW-3
Tradepoint Atlantic
Baltimore County, MD
EnviroAnalytics Group
ARM Project 160443M-6
ARM Group Inc.
Earth Resource Engineers and Consultants
0
115
230
460
Feet
Phase II Piezometer
Finishing Mill Groundwater Well
Warehouse Development
Parcel Boundary


FM-008-PZI
Arsenic (D): 37.2
Iron (D): 135,000
Manganese (D): 1,560
FM-008-PZS
Chromium VI (T): 7.0 J
Thallium (D): 4.7 J
Vanadium (D): 236
Parcel B6
FM-009-PZS
Thallium (D): 3.9 J
Vanadium (D): 193
FM-009-PZI
Cobalt (D): 8.0
Iron (D): 83,200
Manganese (D): 3,440
FM-014-PZI
Iron (D): 84,900
Manganese (D): 2,470
FM-014-PZS
Thallium (D): 3.8 J
Parcel B22
FM05-PZM004
FM05-PZM024
Iron (T): 50,800
Manganese (T): 2,560
FM-015-PZI
Iron (D): 23,600
Manganese (D): 1,180
FM-015-PZS
Chromium VI (D): 62
Parcel B7
(T) = Total
(D) = Dissolved
Parcel B3
Sub-Parcel B6-1 Groundwater
Phase II Inorganic Exceedances (ug/L)
April 14, 2017
Figure
GW-4
Tradepoint Atlantic
Baltimore County, MD
EnviroAnalytics Group
ARM Project 160443M-6
ARM Group Inc.
Earth Resource Engineers and Consultants
0
115
230
460
Feet
Phase II Piezometer
Finishing Mill Groundwater Well
Warehouse Development
Parcel Boundary


B22-154-SB
B22-012-SB
B22-011-SB
B22-006-SB
B22-155-SB
B22-144-SB
B22-005-SB
B6-090-SB
B6-085-SB
B22-145-SB
B22-067-SB
B6-078-SB
B22-069-SB
B6-007-SB
B6-008-SB
EU 2 (19.6 ac.)
Bore Count: 17
B22-068-SB
B22-070-SB
B6-005-SB
B6-006-SB
B22-088-SB
B22-089-SB
B6-015-SB
B6-014-SB
B22-087-SB
B6-016-SB
Parcel B6
B6-057-SB
B6-059-SB
B22-169-SB
B6-058-SB
B6-060-SB
B6-084-SB
B6-045-SB
B6-046-SB
B22-043-SB
B6-025-SB
B22-047-SB
B6-091-SB
B6-022-SB
B6-018-SB
Parcel B22
B6-027-SB
B6-029-SB
B6-023-SB
B6-017-SB
B6-028-SB
B6-026-SB
B6-021-SB
B22-002-SB
B6-083-SB
B22-135-SB
B6-024-SB
B22-134-SB
B22-001-SB
B6-043-SB
B6-044-SB
B22-136-SB
B6-039-SB
B6-040-SB
B22-066-SB
B22-133-SB
B22-063-SB
B6-041-SB
B6-087-SB
B6-042-SB
B6-062-SB
B6-061-SB
B6-052-SB
B6-088-SB
B6-051-SB
B22-129-SB
B6-011-SB
B22-128-SB
B22-130-SB
B6-012-SB
B22-177-SB
B6-013-SB
B6-092-SB
B22-179-SB
EU 1 (53.5 ac.)
Bore Count: 63
Parcel B7
B22-172-SB
B22-140-SB
Parcel B3
B22-141-SB
Sub-Parcel B6-1
Risk Assessment Exposure Units
June 27, 2017
Figure
5
Tradepoint Atlantic
Baltimore County, MD
EnviroAnalytics Group
ARM Project 160443M-6
ARM Group Inc.
Earth Resource Engineers and Consultants
0
115
230
460
Feet
Phase II Boring
Parcel Boundary
EU1 (Outside Building Footprint)
EU2 (Inside Building Footprint)*
*Cross-Hatch Indicates that Capping is Required

P:\EnviroAnalytics Group\160443M EAG_TPA Redevelopment\Drwg\B6\Production\Figure 6a - Environmental Capping Figure.dwg Plotted: April 5, 2017

LEGEND

BUILDING (CAP REQUIRED)

PAVING

DETENTION POND

LANDSCAPED AREA

LOD

DRIVE AISLE

WAREHOUSE 855,000 SF (19.6 ACRES)

PARKING AREA

TRUCK COURT

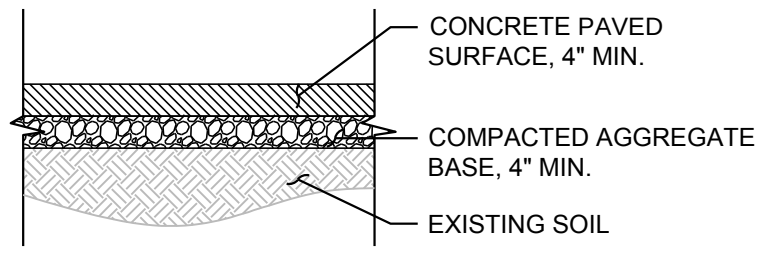
DEVELOPMENT AREA BOUNDARY

PARCEL B22 SITE DEVELOPMENT

DETENTION POND

DETENTION POND

TRADEPOINT



TYPICAL BUILDING PAVING SECTION

NOT TO SCALE

Figure 6

drawing title: PROPOSED FINAL COVER PLAN

project title: SPARROWS POINT AREA B ENVIROANALYTICS GROUP

SPARROWS POINT BALTIMORE COUNTY, MARYLAND

designed	JMA	scale	1" = 250'
checked	TNP	date	6/27/2017
drawn	JMA	project no.	160443M

0 250 500

SCALE IN FEET

ARM Group Inc.
Earth Resource Engineers and Consultants
www.armgroup.net

N
W
E
S
FUTURE 275 S.F. GUARDHOUSE
FUTURE GATE
S84°31'07"W 1056.80'
B22-067-SB
PROP. 6" WATERLINE (TYP.)
MDE PARCEL B-23
MDE PARCEL B-22
B22-070-SB
PROP. 8" SANITARY SEWER
PROP. WAREHOUSE
855,000 S.F. (INCLUDING 69,252 S.F. OFFICE)
HGT. 40'±
2,528 SPACES
PROP. LOT AREA
66.37 AC.±
S5°28'53"E 2717.95'
PROP. 10" WATERLINE (FIRE SUPPRESSION LOOP)
PROP. 10" WATERLINE (TYP.)
PROP. FIRE HYDRANT (TYP.)
PROP. 8" WATERLINE (FIRE HYDRANT LOOP)
PROP. 8" SANITARY SEWER CONNECTION TO BUILDING (TYP.)
PROP. LEASE LINE
AREA = 2,891,078 S.F. OR 66.37 AC.±
N5°28'53"W 1883.19'
Parcel B6
PROP. OFFICE
(69,252 S.F.)
AREA OUTSIDE MDE PARCEL B-6
SHOWN FOR MASTER PLANNING
PURPOSES ONLY
PROP. 12" WATERLINES
LEASE AREA
AREA = 2,885,096 S.F. OR 66.23 AC.
ST. JOHN'S DISTRIBUTION WAREHOUSE
WAREHOUSE BUILDING AREA = 1,224,000 S.F.
HGT. 46.50'
F.F.=19.00
TRAILER SPACES PROVIDED = 232 SPACES
B22-001-SB
B6-039-SB
PROP. STORMDRAIN (TYP.)
B6-087-SB
MDE PARCEL B-6
SPARROWS POINT ROAD
N53°23'48"W 122.44'
N31°04'23"E 477.45'
N30°44'52"E 69.97'
N30°31'49"E 63.07'
MDE PARCEL B-6
MDE PARCEL B-22
B22-129-SB
B22-128-SB
B6-011-SB
Parcel B22
Parcel B7
2-STORY OFFICE
AREA = 61,965 S.F. (PER FLOOR)
F.F. = 19.00
PROP. 275 S.F. GUARDHOUSE
N84°31'07"E 80.00'
B22-172-SB
S5°28'53"E 268.76'
N84°30'53"E 309.96'
PROP. SEWER MANHOLE (TYP.)
S31°11'42"W 65.01'
S6°06'50"E 435.21'
MDE PARCEL B-3
MDE PARCEL B-22
PROP. 12" WATERLINE
PROP. WATER METER VAULT
N5°28'53"W 628.34'
TRADEPOINT ATLANTIC
Parcel B3
N84°31'07"E 169.03'
DESIGN SPEED = 35 MPH
F.K.A. 7TH STREET
R=2230.26'
L=214.20'
CHB=N25°22'09"E
CHD=214.12'
R=1910.49'
L=148.05'
CHB=N16°49'41"E
CHD=148.02'
L=122.04'
CHB=N48°33'16"E
CHD=114.60'
arcel B2

Sub-Parcel B6-1 Utility Plan
Development Areas with Potential NAPL Contamination

June 30, 2017

Figure 7

EnviroAnalytics Group

ARM Project 160443M-6

Tradepoint Atlantic

Baltimore County, MD

ARM Group Inc.
Earth Resource Engineers and Consultants

0 50 100 200 Feet

Borings with Potential NAPL:

- Elevated TPH w/ NAPL Observed (Piezometer Installed)
- NAPL Observed (Piezometer Installed)
- Elevated TPH Detection (No Piezometer Installed)
- NAPL Observed (No Piezometer Installed)
- Odors Only (No Piezometer Installed)
- Additional Soil Borings (No NAPL Indications)
- Remedial TPH/NAPL Excavation (Complete)
- Warehouse Development Sub-Parcel
- Parcel Boundary

TABLES

Table 1
Summary of Organics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint, Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-001-SB-1	B22-001-SB-4	B22-002-SB-1	B22-002-SB-7	B22-005-SB-1*	B22-005-SB-4*	B22-005-SB-10*	B22-006-SB-1*	B22-006-SB-7*	B22-011-SB-1*	B22-011-SB-4*	B22-012-SB-1	B22-012-SB-4	B22-043-SB-1*	B22-043-SB-4*
Volatile Organic Compounds																	
1,1,1-Trichloroethane	mg/kg	36,000	0.0053 U	0.0045 U	0.0036 U	0.005 U	0.0044 U	0.0047 U	N/A	0.0046 U	0.0042 U	0.0046 U	0.0055 U	0.0047 U	0.0062 U	0.0048 U	0.0064 U
1,1,2-Trichloroethane	mg/kg	5	0.0053 U	0.0045 U	0.0036 U	0.005 U	0.0044 U	0.0047 U	N/A	0.0046 U	0.0042 U	0.0046 U	0.0055 U	0.0047 U	0.0062 U	0.0048 U	0.0064 U
1,1-Dichloroethane	mg/kg	16	0.0053 U	0.0045 U	0.0036 U	0.005 U	0.0044 U	0.0047 U	N/A	0.0046 U	0.0042 U	0.0046 U	0.0055 U	0.0047 U	0.0062 U	0.0048 U	0.0064 U
1,1-Dichloroethene	mg/kg	1,000	0.0053 U	0.0045 U	0.0036 U	0.005 U	0.0044 U	0.0047 U	N/A	0.0046 U	0.0042 U	0.0046 U	0.0055 U	0.0047 U	0.0062 U	0.0048 U	0.0064 U
1,2-Dichloroethane	mg/kg	2	0.0053 U	0.0045 U	0.0036 U	0.005 U	0.0044 U	0.0047 U	N/A	0.0046 U	0.0042 U	0.0046 U	0.0055 U	0.0047 U	0.0062 U	0.0048 U	0.0064 U
1,2-Dichloroethene (Total)	mg/kg	2,300	0.011 U	0.0091 U	0.0071 U	0.01 U	0.0089 U	0.0094 U	N/A	0.0093 U	0.0083 U	0.0092 U	0.011 U	0.0093 U	0.012 U	0.0097 U	0.013 U
1,4-Dioxane	mg/kg	24	0.11 R	0.091 R	0.071 R	0.1 R	0.089 U	0.094 U	N/A	0.093 U	0.083 U	0.092 U	0.11 U	0.093 R	0.12 R	0.097 U	0.13 U
2-Butanone (MEK)	mg/kg	190,000	**0.0047 J**	**0.025**	**0.0028 J**	0.01 U	0.0089 U	**0.0046 J**	N/A	0.0093 U	0.0083 U	0.0092 U	0.011 U	0.0093 U	0.012 U	0.0097 U	0.013 U
2-Hexanone	mg/kg	1,300	0.011 U	**0.0029 J**	0.0071 U	0.01 U	0.0089 U	0.0094 U	N/A	0.0093 U	0.0083 U	0.0092 U	0.011 U	0.0093 U	0.012 U	**0.0015 J**	0.013 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.011 U	0.0091 U	0.0071 U	0.01 U	0.0089 U	0.0094 U	N/A	0.0093 U	0.0083 U	0.0092 U	0.011 U	0.0093 U	0.012 U	0.0097 U	0.013 U
Acetone	mg/kg	670,000	**0.027**	**0.14**	0.0071 U	**0.022**	**0.0081 J**	**0.019**	N/A	**0.005 J**	**0.013 B**	**0.0049 J**	**0.011 J**	0.0093 U	0.012 U	**0.0059 J**	**0.015**
Benzene	mg/kg	5.1	0.0053 U	0.0045 U	0.0036 U	0.005 U	0.0044 U	0.0047 U	N/A	0.0046 U	0.0042 U	0.0046 U	**0.0057**	0.0047 U	0.0062 U	**0.015**	0.0064 U
Chloroethane	mg/kg	57,000	0.0053 U	0.0045 U	0.0036 U	0.005 U	0.0044 U	0.0047 U	N/A	0.0046 U	0.0042 U	0.0046 U	0.0055 U	0.0047 U	0.0062 U	0.0048 U	0.0064 U
cis-1,2-Dichloroethene	mg/kg	2,300	0.0053 U	0.0045 U	0.0036 U	0.005 U	0.0044 U	0.0047 U	N/A	0.0046 U	0.0042 U	0.0046 U	0.0055 U	0.0047 U	0.0062 U	0.0048 U	0.0064 U
Cyclohexane	mg/kg	27,000	0.011 U	0.0091 U	0.0071 U	0.01 U	0.0089 U	0.0094 U	N/A	0.0093 U	0.0083 U	0.0092 U	0.011 U	0.0093 U	0.012 U	0.0097 U	0.013 U
Ethylbenzene	mg/kg	25	0.0053 U	0.0045 U	0.0036 U	0.005 U	0.0044 U	0.0047 U	N/A	0.0046 U	0.0042 U	0.0046 U	0.0055 U	0.0047 U	0.0062 U	**0.0043 J**	0.0064 U
Isopropylbenzene	mg/kg	9,900	0.0053 U	0.0045 U	0.0036 U	0.005 U	0.0044 U	0.0047 U	N/A	0.0046 U	0.0042 U	0.0046 U	0.0055 U	0.0047 U	0.0062 U	0.0048 U	0.0064 U
Methyl Acetate	mg/kg	1,200,000	0.053 U	0.045 U	0.036 U	0.05 U	0.044 U	0.047 U	N/A	0.046 U	0.042 U	0.046 U	0.055 U	0.047 U	0.062 U	0.048 U	0.064 U
Methylene Chloride	mg/kg	1,000	0.0053 U	0.0045 U	0.0036 U	0.005 U	0.0044 U	0.0047 U	N/A	0.0046 U	0.0042 U	0.0046 U	0.0055 U	0.0047 U	0.0062 U	0.0048 U	0.0064 U
Styrene	mg/kg	35,000	0.0053 U	0.0045 U	0.0036 U	0.005 U	0.0044 U	0.0047 U	N/A	0.0046 U	0.0042 U	0.0046 U	0.0055 U	0.0047 U	0.0062 U	0.0048 U	0.0064 U
Tetrachloroethene	mg/kg	100	0.0053 U	0.0045 U	0.0036 U	0.005 U	0.0044 U	0.0047 U	N/A	0.0046 U	0.0042 U	0.0046 U	0.0055 U	0.0047 U	0.0062 U	0.0048 U	0.0064 U
Toluene	mg/kg	47,000	0.0053 U	0.0045 U	0.0036 U	0.005 U	0.0044 U	0.0047 U	N/A	0.0046 U	0.0042 U	0.0046 U	**0.0022 J**	0.0047 U	0.0062 U	**0.017**	0.0064 U
Trichloroethene	mg/kg	6	0.0053 U	0.0045 U	0.0036 U	0.005 U	0.0044 U	0.0047 U	N/A	0.0046 U	0.0042 U	0.0046 U	0.0055 U	0.0047 U	0.0062 U	0.0048 U	0.0064 U
Vinyl chloride	mg/kg	1.7	0.0053 U	0.0045 U	0.0036 U	0.005 U	0.0044 U	0.0047 U	N/A	0.0046 U	0.0042 U	0.0046 U	0.0055 U	0.0047 U	0.0062 U	0.0048 U	0.0064 U
Xylenes	mg/kg	2,800	0.016 U	0.014 U	0.011 U	0.015 U	0.013 U	0.014 U	N/A	0.014 U	0.012 U	0.014 U	**0.019**	**0.0031 J**	0.019 U	**0.0036 J**	0.019 U
Semi-Volatile Organic Compounds																	
1,1-Biphenyl	mg/kg	200	**0.015 J**	**0.038 J**	0.069 U	0.081 U	0.071 U	**0.15**	N/A	**0.13**	0.08 U	**0.065 J**	**0.077**	**0.093 J**	0.078 U	0.076 U	**0.037 J**
2,4-Dimethylphenol	mg/kg	16,000	**0.13 J**	**0.061 J**	0.069 U	0.081 U	0.071 U	0.074 U	N/A	0.073 U	0.08 U	0.072 U	0.075 U	0.071 U	0.078 U	**0.018 J**	0.083 U
2,6-Dinitrotoluene	mg/kg	1.5	0.071 U	0.08 U	0.069 U	0.081 U	0.071 U	0.074 U	N/A	0.073 U	0.08 U	0.072 U	0.075 U	0.071 U	0.078 U	0.076 U	0.083 U
2-Chloronaphthalene	mg/kg	60,000	0.071 U	**0.05 J**	0.069 U	0.081 U	0.071 U	0.074 U	N/A	0.073 U	0.08 U	0.072 U	0.075 U	0.071 U	0.078 U	0.076 U	0.083 U
2-Methylnaphthalene	mg/kg	3,000	**0.026 J**	**0.21**	**0.064 J**	0.0082 U	0.071 U	**0.26**	**0.26**	**0.13**	0.008 U	**0.1**	**0.2**	**0.2**	**0.0075 J**	**0.084**	**0.12**
2-Methylphenol	mg/kg	41,000	**0.14 J**	**0.036 J**	0.069 U	0.081 U	0.071 U	0.074 U	N/A	0.073 U	0.08 U	0.072 U	0.075 U	0.071 U	0.078 U	0.076 U	0.083 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	**0.24 J**	**0.078 J**	0.14 U	0.16 U	0.14 U	**0.026 J**	N/A	0.14 U	0.16 U	0.14 U	0.15 U	0.14 U	0.15 U	0.15 U	0.16 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.071 UJ	0.08 UJ	0.069 U	0.081 U	0.071 U	0.074 U	N/A	0.073 U	0.08 U	0.072 U	0.075 U	0.071 UJ	0.078 UJ	0.076 U	0.083 U
4-Chloroaniline	mg/kg	11	0.071 U	0.08 U	0.069 U	0.081 U	0.071 U	0.074 U	N/A	0.073 U	0.08 U	0.072 U	0.075 U	0.071 U	0.078 U	0.076 U	0.083 U
Acenaphthene	mg/kg	45,000	0.07 U	**0.0081 J**	0.07 U	0.0082 U	**0.0056 J**	**0.26**	**0.18**	**0.095**	**0.0011 J**	**0.14**	**0.17**	**0.16**	**0.0017 J**	**0.02 J**	**0.12**
Acenaphthylene	mg/kg	45,000	**0.019 J**	**0.056 J**	**0.014 J**	0.0082 U	**0.022 J**	**0.38**	**0.38**	**0.13**	**0.0012 J**	**0.14**	**0.28**	**0.15**	**0.0054 J**	**0.088**	**0.33**
Acetophenone	mg/kg	120,000	**0.089 J**	**0.064 J**	0.069 U	0.081 U	0.071 U	0.074 U	N/A	**0.052 J**	0.08 U	**0.047 J**	**0.062 J**	0.071 U	0.078 U	0.076 U	0.083 U
Anthracene	mg/kg	230,000	**0.0083 J**	**0.03 J**	**0.02 J**	0.0082 U	**0.03 JB**	**1.4**	**0.54**	**0.38**	**0.0047 JB**	**0.3**	**0.53**	**0.57**	**0.018**	**0.13**	**0.66**
Benz[a]anthracene	mg/kg	21	0.07 U	**0.081**	**0.045 J**	**0.0021 J**	**0.1 B**	**2.8**	**1**	**2.2**	**0.011 B**	**1.4**	**1.9**	**2.6**	**0.078**	**0.54**	**2.1**
Benzaldehyde	mg/kg	120,000	**0.32 J**	**0.11 J**	0.069 R	0.081 R	0.071 U	**0.018 J**	N/A	**0.031 J**	0.08 U	**0.023 J**	**0.021 J**	**0.036 J**	0.078 R	0.076 U	0.083 U
Benzo[a]pyrene	mg/kg	2.1	**0.76**	**0.62 J**	**0.036 J**	0.0082 U	**0.15**	**2.1**	**0.8**	**2.1**	**0.0087**	**1.3**	**1.8**	**2.6**	**0.059**	**0.55**	**2.4**
Benzo[b]fluoranthene	mg/kg	21	**0.67**	**0.59 J**	**0.12**	**0.003 J**	**0.41**	**4.6**	**1.8**	**3.8**	**0.018**	**2.3**	**3.5**	**3.9**	**0.096**	**1.2**	**5.4**
Benzo[g,h,i]perylene	mg/kg		0.07 U	0.08 UJ	**0.03 J**	0.0082 UJ	**0.058 J**	**0.6**	**0.23**	**0.76**	**0.0028 J**	**0.84**	**0.87**	**1.9**	**0.044**	**0.18**	**0.54**
Benzo[k]fluoranthene	mg/kg	210	**0.58**	**0.46 J**	**0.096**	**0.0029 J**	**0.35**	**4**	**1.5**	**3.2**	**0.016**	**1.9**	**2.9**	**1.4**	**0.044**	**1.2**	**5.2**
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.071 UJ	0.08 UJ	**0.019 B**	0.081 U	**0.03 J**	0.074 U	N/A	**0.021 J**	0.08 U	**0.017 J**	**0.052 J**	0.071 UJ	**0.018 B**	**0.028 J**	0.083 U
Carbazole	mg/kg		0.071 U	0.08 U	0.069 U	0.081 U	**0.023 J**	**0.65**	N/A	**0.14**	0.08 U	**0.12**	**0.22**	**0.13 J**	0.078 U	**0.04 J**	**0.13**
Chrysene	mg/kg	2,100	**1.2**	**1.2**	**0.057 J**	**0.0013 J**	**0.16**	**2.2**	**1.2**	**2**	**0.0086 B**	**1.2**	**1.9**	**3**	**0.089**	**0.62**	**2.1**
Dibenz[a,h]anthracene	mg/kg	2.1	0.07 U	0.08 UJ	0.07 U	0.0082 UJ	**0.025 J**	**0.3**	**0.11**	**0.3**	0.008 U	**0.29**	**0.36**	**0.53**	**0.01**	**0.086**	**0.23**
Di-n-butylphthalate	mg/kg	82,000	**0.022 B**	**0.038 B**	0.069 U	0.081 U	0.071 U	0.074 U	N/A	0.073 U	0.08 U	0.072 U	0.075 U	0.071 U	0.078 U	0.076 U	0.083 U
Di-n-ocytlphthalate	mg/kg	8,200	0.071 UJ	0.08 UJ	0.069 UJ	0.081 U	0.071 U	0.074 U	N/A	0.073 U	0.08 U	0.072 U	0.075 U	0.071 UJ	0.078 UJ	0.076 U	0.083 U
Fluoranthene	mg/kg	30,000	**0.047 J**	**0.11**	**0.09**	**0.0029 J**	**0.13 B**	**5.6**	**2.4**	**3.7**	**0.017 B**	**1.7**	**3.7**	**4.4**	**0.16**	**1.1**	**5.6**
Fluorene	mg/kg	30,000	0.07 U	**0.028 J**	0.07 U	0.0082 U	0.071 U	**0.79**	**0.46**	**0.047**	**0.0023 J**	**0.054**	**0.16**	**0.054 J**	**0.0022 J**	**0.056 J**	**0.37**
Indeno[1,2,3-c,d]pyrene	mg/kg	21	0.07 U	0.08 UJ	**0.022 J**	0.0082 UJ	**0.062 J**	**0.73**	**0.24**	**0.84**	**0.003 J**	**0.82**	**0.97**	**1.7 J**	**0.042 J**	**0.2**	**0.67**
Naphthalene	mg/kg	17	**0.055 B**	**0.26**	**0.047 B**	0.0082 U	0.071 U	**1.1**	**1.9**	**0.19**	**0.042**	**0.21**	**0.39**	**0.42**	**0.014**	**0.14**	**0.41**
N-Nitrosodiphenylamine	mg/kg	470	0.071 U	0.08 U	0.069 U	0.081 U	0.071 U	0.074 U	N/A	0.073 U	0.08 U	0.072 U	0.075 U	0.071 U	0.078 U	0.076 U	0.083 U
Pentachlorophenol	mg/kg	4	0.18 U	0.2 U	0.17 U	0.2 U	0.18 U	0.19 U	N/A	0.18 U	0.2 U	0.18 U	0.19 U	0.18 U	0.19 U	0.19 U	0.21 U
Phenanthrene	mg/kg		**0.046 J**	**0.15**	**0.11**	**0.0022 J**	**0.048 JB**	**4.6**	**2**	**1.2**	**0.01 B**	**0.91**	**2.3**	**1.3**	**0.08**	**0.45**	**2**
Phenol	mg/kg	250,000	**0.21 J**	**0.059 J**	0.069 U	0.081 U	0.071 U	0.074 U	N/A	0.073 U	0.08 U	0.072 U	0.075 U	0.071 U	0.078 U	**0.019 J**	0.083 U
Pyrene	mg/kg	23,000	**0.14**	**0.15**	**0.068 J**	**0.0021 J**	**0.15 B**	**4.2**	**1.8**	**3.3**	**0.013 B**	**1.6**	**3.1**	**4.1**	**0.12**	**0.92**	**4.7**
PCBs																	
Aroclor 1242	mg/kg	0.97	0.0516 U	0.0541 U	0.0544 UJ	N/A	0.113 U	N/A	N/A	**0.625**	N/A	0.0567 U	N/A	0.0651 U	N/A	0.0627 U	N/A
Aroclor 1248	mg/kg	0.94	0.0516 U	0.0541 U	0.0544 UJ	N/A	0.113 U	N/A	N/A	0.0632 U	N/A	**0.0421 J**	N/A	0.0651 U	N/A	0.0627 U	N/A
Aroclor 1254	mg/kg	0.97	0.0516 U	0.0541 U	0.0544 UJ	N/A	0.113 U	N/A	N/A	0.0632 U	N/A	**0.105**	N/A	0.0651 U	N/A	**0.0851**	N/A
Aroclor 1260	mg/kg	0.99	0.0516 U	0.0541 U	0.0544 UJ	N/A	0.113 U	N/A	N/A	0.0632 U	N/A	0.0567 U	N/A	0.0651 U	N/A	0.0627 U	N/A
Aroclor 1262	mg/kg		**0.0705**	0.0541 U	0.0544 UJ	N/A	0.113 U	N/A	N/A	0.0632 U	N/A	**0.0631**	N/A	0.0651 U	N/A	0.0627 U	N/A
Aroclor 1268	mg/kg		0.0516 U	**0.179**	**0.071 J**	N/A	**2.96**	N/A	N/A	**0.366**	N/A	0.0567 U	N/A	0.0651 U	N/A	**0.696**	N/A
PCBs (total)	mg/kg	0.97	**0.0705**	**0.179**	**0.071 J**	N/A	**2.96**	N/A	N/A	**0.991**	N/A	**0.2102**	N/A	0.0651 U	N/A	**0.7811**	N/A
TPH/Oil and Grease																	
Diesel Range Organics	mg/kg	6,200	**1,220 J**	**1,330 J**	**144 J**	**10.1 J**	**70.7**	**618**	N/A	**127**	**8.6**	**117**	**246**	**103 J**	**38.2 J**	**102**	**197**
Gasoline Range Organics	mg/kg	6,200	8.4 U	9.5 U	7.3 U	9.7 U	10.2 U	**7.8 J**	N/A	9.7 U	8.3 U	9.1 U	11.1 U	14.6 U	12.3 U	10.2 U	13.6 U
Oil and Grease	mg/kg	6,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Detections in bold
N/A indicates that the parameter was not analyzed for this sample
* indicates non-validated data results
^PAH compounds were analyzed for SIM
Values in red indicate an exceedance of the Project Action Limit (PAL)
Gray highlight indicates within building footprint

J: The positive result reported for this anaytle is a quantitative estimate.
B: The compound/analyte was not detected substantially above the level of the associated method blank/preparation for field blank.
U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitative/detection limit may be higher than reported.
R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this compound/analyte in the sample.

Table 1
Summary of Organics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint, Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-043-SB-10*	B22-047-SB-1*	B22-047-SB-5*	B22-063-SB-1	B22-063-SB-9	B22-063-SB-10*	B22-066-SB-1	B22-066-SB-9	B22-067-SB-1*	B22-067-SB-7*	B22-068-SB-1*	B22-068-SB-6*	B22-069-SB-1*	B22-069-SB-4*	B22-070-SB-1*
Volatile Organic Compounds																	
1,1,1-Trichloroethane	mg/kg	36,000	N/A	0.0069 U	0.0051 U	0.0039 U	0.0057 U	N/A	0.0045 U	0.0066 U	0.0071 U	0.0045 U	0.0051 U	0.0056 U	0.27 U	0.0052 U	0.29 U
1,1,2-Trichloroethane	mg/kg	5	N/A	0.0069 U	0.0051 U	0.0039 U	0.0057 U	N/A	0.0045 U	0.0066 U	0.0071 U	0.0045 U	0.0051 U	0.0056 U	0.27 U	0.0052 U	0.29 U
1,1-Dichloroethane	mg/kg	16	N/A	0.0069 U	0.0051 U	0.0039 U	0.0057 U	N/A	0.0045 U	0.0066 U	0.0071 U	0.0045 U	0.0051 U	0.0056 U	0.27 U	0.0052 U	**44.7**
1,1-Dichloroethene	mg/kg	1,000	N/A	0.0069 U	0.0051 U	0.0039 U	0.0057 U	N/A	0.0045 U	0.0066 U	0.0071 U	0.0045 U	0.0051 U	0.0056 U	0.27 U	0.0052 U	0.29 U
1,2-Dichloroethane	mg/kg	2	N/A	0.0069 U	0.0051 U	0.0039 U	0.0057 U	N/A	0.0045 U	0.0066 U	0.0071 U	0.0045 U	0.0051 U	0.0056 U	0.27 U	0.0052 U	0.29 U
1,2-Dichloroethene (Total)	mg/kg	2,300	N/A	0.014 U	0.01 U	0.0079 U	0.011 U	N/A	0.0089 U	0.013 U	0.014 U	0.0091 U	0.01 U	0.011 U	0.53 U	0.01 U	**0.29 J**
1,4-Dioxane	mg/kg	24	N/A	0.14 U	0.1 U	0.079 R	0.11 R	N/A	0.089 R	0.13 R	0.14 U	0.091 U	0.1 U	0.11 U	5.3 U	0.1 U	5.9 U
2-Butanone (MEK)	mg/kg	190,000	N/A	0.014 U	0.01 U	0.0079 U	**0.0064 J**	N/A	0.0089 U	0.013 U	0.014 U	**0.0038 J**	0.01 U	0.011 U	0.53 U	0.01 U	**0.18 J**
2-Hexanone	mg/kg	1,300	N/A	0.014 U	0.01 U	0.0079 U	0.011 U	N/A	0.0089 U	0.013 U	0.014 U	0.0091 U	0.01 U	0.011 U	0.53 U	0.01 U	0.59 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	N/A	0.014 U	0.01 U	0.0079 U	0.011 U	N/A	0.0089 U	0.013 U	0.014 U	0.0091 U	0.01 U	0.011 U	0.53 U	0.01 U	0.59 U
Acetone	mg/kg	670,000	N/A	0.014 U	0.01 U	**0.053**	**0.024**	N/A	0.0089 U	0.013 U	0.014 U	**0.018**	0.01 U	0.011 U	0.53 U	0.01 U	0.59 U
Benzene	mg/kg	5.1	N/A	0.0069 U	0.0051 U	0.0039 U	0.0057 U	N/A	0.0045 U	0.0066 U	0.0071 U	0.0045 U	0.0051 U	0.0056 U	0.27 U	0.0052 U	0.29 U
Chloroethane	mg/kg	57,000	N/A	0.0069 U	0.0051 U	0.0039 U	0.0057 U	N/A	0.0045 U	0.0066 U	0.0071 U	0.0045 U	0.0051 U	0.0056 U	0.27 U	0.0052 U	**0.78**
cis-1,2-Dichloroethene	mg/kg	2,300	N/A	0.0069 U	0.0051 U	0.0039 U	0.0057 U	N/A	0.0045 U	0.0066 U	0.0071 U	0.0045 U	0.0051 U	0.0056 U	0.27 U	0.0052 U	**0.28 J**
Cyclohexane	mg/kg	27,000	N/A	0.014 U	0.01 U	0.0079 U	0.011 U	N/A	0.0089 U	0.013 U	0.014 U	0.0091 U	0.01 U	0.011 U	0.53 U	0.01 U	0.59 U
Ethylbenzene	mg/kg	25	N/A	0.0069 U	0.0051 U	0.0039 U	0.0057 U	N/A	0.0045 U	0.0066 U	0.0071 U	0.0045 U	0.0051 U	0.0056 U	0.27 U	0.0052 U	0.29 U
Isopropylbenzene	mg/kg	9,900	N/A	0.0069 U	0.0051 U	0.0039 U	**0.004 J**	N/A	0.0045 U	0.0066 U	0.0071 U	**0.005**	0.0051 U	0.0056 U	0.27 U	0.0052 U	0.29 U
Methyl Acetate	mg/kg	1,200,000	N/A	0.069 U	0.051 U	0.039 U	0.057 U	N/A	0.045 U	0.066 U	0.071 U	0.045 U	0.051 U	0.056 U	**0.12 J**	0.052 U	2.9 U
Methylene Chloride	mg/kg	1,000	N/A	0.0069 U	0.0051 U	0.0039 U	0.0057 U	N/A	0.0045 U	0.0066 U	0.0071 U	0.0045 U	0.0051 U	0.0056 U	0.27 U	0.0052 U	0.29 U
Styrene	mg/kg	35,000	N/A	0.0069 U	0.0051 U	0.0039 U	0.0057 U	N/A	0.0045 U	0.0066 U	0.0071 U	0.0045 U	0.0051 U	0.0056 U	0.27 U	0.0052 U	0.29 U
Tetrachloroethene	mg/kg	100	N/A	0.0069 U	0.0051 U	0.0039 U	0.0057 U	N/A	0.0045 U	0.0066 U	0.0071 U	0.0045 U	0.0051 U	0.0056 U	0.27 U	0.0052 U	0.29 U
Toluene	mg/kg	47,000	N/A	0.0069 U	0.0051 U	0.0039 U	0.0057 U	N/A	0.0045 U	0.0066 U	0.0071 U	0.0045 U	0.0051 U	0.0056 U	0.27 U	0.0052 U	**0.11 J**
Trichloroethene	mg/kg	6	N/A	0.0069 U	0.0051 U	0.0039 U	0.0057 U	N/A	0.0045 U	0.0066 U	0.0071 U	0.0045 U	0.0051 U	0.0056 U	0.27 U	0.0052 U	**2**
Vinyl chloride	mg/kg	1.7	N/A	0.0069 U	0.0051 U	0.0039 U	0.0057 U	N/A	0.0045 U	0.0066 U	0.0071 U	0.0045 U	0.0051 U	0.0056 U	0.27 U	0.0052 U	**1.6**
Xylenes	mg/kg	2,800	N/A	0.021 U	0.015 U	**0.0047 J**	0.017 U	N/A	0.013 U	0.02 U	0.021 U	0.014 U	0.015 U	0.017 U	0.8 U	0.016 U	**0.27 J**
Semi-Volatile Organic Compounds																	
1,1-Biphenyl	mg/kg	200	N/A	0.077 U	0.084 U	0.073 U	0.075 U	N/A	0.071 U	0.074 U	0.069 U	**0.059 J**	0.085 U	0.081 U	0.072 U	0.083 U	**0.18 J**
2,4-Dimethylphenol	mg/kg	16,000	N/A	0.077 U	0.084 U	0.073 R	0.075 R	N/A	0.071 R	0.074 UJ	0.069 U	**0.37**	0.085 U	0.081 U	0.072 U	0.083 U	0.38 U
2,6-Dinitrotoluene	mg/kg	1.5	N/A	0.077 U	0.084 U	0.073 U	0.075 U	N/A	0.071 U	0.074 U	0.069 U	0.075 U	0.085 U	0.081 U	0.072 U	0.083 U	0.38 U
2-Chloronaphthalene	mg/kg	60,000	N/A	0.077 U	0.084 U	0.073 U	0.075 U	N/A	0.071 U	0.074 U	0.069 U	0.075 U	0.085 U	0.081 U	0.072 U	0.083 U	0.38 U
2-Methylnaphthalene	mg/kg	3,000	N/A	**0.085**	**0.039 J**	0.073 U	**0.0042 J**	N/A	**0.0039 J**	0.0075 U	0.0067 U	**0.057**	**0.016**	0.0082 U	**0.026 J**	0.0084 U	**4.2**
2-Methylphenol	mg/kg	41,000	N/A	0.077 U	0.084 U	0.073 R	0.075 R	N/A	0.071 R	0.074 UJ	0.069 U	0.075 U	0.085 U	0.081 U	0.072 U	0.083 U	0.38 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	N/A	0.15 U	0.17 U	0.15 R	0.15 R	N/A	0.14 R	0.15 UJ	0.14 U	0.15 U	0.17 U	0.16 U	0.14 U	0.17 U	0.77 U
3,3'-Dichlorobenzidine	mg/kg	5.1	N/A	0.077 U	0.084 U	0.073 UJ	0.075 UJ	N/A	0.071 U	0.074 U	0.069 U	0.075 U	0.085 U	0.081 U	0.072 U	0.083 U	0.077 U
4-Chloroaniline	mg/kg	11	N/A	0.077 U	0.084 U	0.073 U	0.075 U	N/A	0.071 U	0.074 U	0.069 U	0.075 U	0.085 U	0.081 U	0.072 U	0.083 U	0.38 U
Acenaphthene	mg/kg	45,000	N/A	**0.16**	0.085 U	0.073 U	**0.0019 J**	N/A	0.0072 U	0.0075 U	**0.00049 J**	**0.036**	**0.00098 J**	0.0082 U	0.073 U	0.0084 U	**0.17**
Acenaphthylene	mg/kg	45,000	N/A	**0.11**	0.085 U	0.073 U	**0.0027 J**	N/A	**0.0011 J**	**0.0015 J**	**0.00095 J**	**0.026**	**0.0017 J**	0.0082 U	0.073 U	0.0084 U	**0.21**
Acetophenone	mg/kg	120,000	N/A	**0.049 J**	0.084 U	0.073 U	0.075 U	N/A	0.071 U	0.074 U	0.069 U	**0.88**	0.085 U	0.081 U	0.072 U	0.083 U	0.38 U
Anthracene	mg/kg	230,000	N/A	**0.57**	0.085 U	**0.011 J**	**0.0025 J**	N/A	**0.002 J**	**0.00087 J**	**0.0012 JB**	**0.022**	**0.0071 J**	0.0082 U	**0.0063 J**	0.0084 U	**0.097**
Benz[a]anthracene	mg/kg	21	N/A	**1.9**	**0.039 J**	**0.048 J**	0.0074 U	N/A	**0.0097**	0.0075 U	**0.0052 JB**	**0.019**	**0.016**	**0.0023 J**	0.073 U	0.0084 U	0.076 U
Benzaldehyde	mg/kg	120,000	N/A	**0.08**	0.084 U	**0.02 J**	0.075 R	N/A	0.071 R	0.074 R	0.069 U	0.075 U	0.085 U	0.081 U	0.072 U	0.083 U	0.38 U
Benzo[a]pyrene	mg/kg	2.1	0.0084 U	**1.6**	**0.026 J**	**0.04 J**	**0.088 J**	N/A	**0.01**	**0.028**	**0.0054 J**	**0.011**	**0.012**	**0.0013 J**	0.073 U	0.0084 U	0.076 U
Benzo[b]fluoranthene	mg/kg	21	0.0084 U	**3.4**	**0.052 J**	**0.1**	**0.16 J**	N/A	**0.029**	**0.015**	**0.016**	0.0077 U	**0.03**	**0.0015 J**	**0.033 J**	0.0084 U	**0.56**
Benzo[g,h,i]perylene	mg/kg		N/A	**0.79**	**0.02 J**	**0.028 J**	**0.0046 J**	N/A	**0.005 J**	**0.002 J**	**0.003 J**	**0.012**	**0.0058 J**	0.0082 U	0.073 U	0.0084 U	0.076 U
Benzo[k]fluoranthene	mg/kg	210	N/A	**3.3**	**0.05 J**	**0.089**	**0.14 J**	N/A	**0.026**	**0.014**	**0.015**	0.0077 U	**0.026**	0.0082 U	**0.014 J**	0.0084 U	**0.5**
bis(2-Ethylhexyl)phthalate	mg/kg	160	N/A	**0.57**	**0.034 J**	**0.03 B**	0.075 UJ	N/A	0.071 U	0.074 U	0.069 U	0.075 U	0.085 U	**0.023 J**	0.072 U	0.083 U	0.077 U
Carbazole	mg/kg		N/A	**0.14**	0.084 U	0.073 U	0.075 U	N/A	0.071 U	0.074 U	0.069 U	0.075 U	0.085 U	0.081 U	0.072 U	0.083 U	0.077 U
Chrysene	mg/kg	2,100	N/A	**2**	**0.026 J**	**0.069 J**	**0.14**	N/A	**0.018**	**0.032**	**0.0084 B**	**0.12**	**0.012**	**0.0014 J**	0.073 U	0.0084 U	**0.73**
Dibenz[a,h]anthracene	mg/kg	2.1	N/A	**0.23**	0.085 U	**0.01 J**	0.0074 UJ	N/A	**0.0017 J**	0.0075 U	0.0067 U	**0.0043 J**	**0.0015 J**	0.0082 U	0.073 U	0.0084 U	0.076 U
Di-n-butylphthalate	mg/kg	82,000	N/A	**0.27**	0.084 U	**0.11**	0.075 U	N/A	0.071 U	0.074 U	0.069 U	0.075 U	0.085 U	0.081 U	**0.048 JB**	0.083 U	**0.041 JB**
Di-n-octylphthalate	mg/kg	8,200	N/A	0.077 U	0.084 U	0.073 UJ	0.075 UJ	N/A	0.071 UJ	0.074 UJ	0.069 U	0.075 U	0.085 U	0.081 U	0.072 U	0.083 U	0.077 U
Fluoranthene	mg/kg	30,000	N/A	**4**	**0.04 J**	**0.096**	**0.023**	N/A	**0.021**	**0.0031 J**	**0.0095 B**	**0.054**	**0.028**	**0.0023 J**	0.073 U	0.0084 U	**0.24**
Fluorene	mg/kg	30,000	N/A	**0.17**	0.085 U	0.073 U	**0.0012 J**	N/A	0.0072 U	0.0075 U	**0.00073 J**	**0.041**	**0.0015 J**	0.0082 U	0.073 U	0.0084 U	**0.36**
Indeno[1,2,3-c,d]pyrene	mg/kg	21	N/A	**0.81**	**0.016 J**	**0.024 J**	**0.0033 J**	N/A	**0.005 J**	0.0075 U	**0.0027 J**	**0.0092**	**0.0058 J**	0.0082 U	0.073 U	0.0084 U	0.076 U
Naphthalene	mg/kg	17	N/A	**0.1**	**0.081 J**	0.073 U	**0.016**	N/A	**0.004 B**	0.0075 U	**0.0019 J**	**0.31**	**0.017**	0.0082 U	0.073 U	**0.0034 J**	**1.4**
N-Nitrosodiphenylamine	mg/kg	470	N/A	0.077 U	0.084 U	0.073 U	0.075 U	N/A	0.071 U	0.074 U	0.069 U	0.075 U	0.085 U	0.081 U	0.072 U	0.083 U	0.077 U
Pentachlorophenol	mg/kg	4	N/A	0.19 U	0.21 U	0.18 R	0.19 R	N/A	0.18 R	0.19 UJ	0.17 U	0.19 U	0.21 U	0.2 U	0.18 U	0.21 U	0.19 U
Phenanthrene	mg/kg		N/A	**2.2**	**0.022 J**	**0.056 J**	**0.028**	N/A	**0.017**	**0.0027 J**	**0.0046 JB**	**0.047**	**0.02**	**0.0016 J**	**0.015 J**	0.0084 U	**0.39**
Phenol	mg/kg	250,000	N/A	0.077 U	0.084 U	0.073 R	0.075 R	N/A	0.071 R	0.074 UJ	0.069 U	**0.21**	0.085 U	0.081 U	0.072 U	0.083 U	0.38 U
Pyrene	mg/kg	23,000	N/A	**3.6**	**0.038 J**	**0.086**	**0.03**	N/A	**0.017**	**0.0051 J**	**0.0081 B**	**0.067**	**0.023**	**0.002 J**	0.073 U	0.0084 U	**0.35**
PCBs																	
Aroclor 1242	mg/kg	0.97	N/A	0.59 U	N/A	0.328 U	N/A	N/A	0.0555 U	N/A	0.054 U	N/A	0.0655 U	N/A	0.0554 U	N/A	0.116 U
Aroclor 1248	mg/kg	0.94	N/A	0.59 U	N/A	0.328 U	N/A	N/A	0.0555 U	N/A	**0.0464 J**	N/A	0.0655 U	N/A	**0.0382 J**	N/A	0.116 U
Aroclor 1254	mg/kg	0.97	N/A	**2.17**	N/A	**0.379**	N/A	N/A	0.0555 U	N/A	**0.0476 J**	N/A	**0.627**	N/A	0.0554 U	N/A	**3.65**
Aroclor 1260	mg/kg	0.99	N/A	0.59 U	N/A	0.328 U	N/A	N/A	0.0555 U	N/A	0.054 U	N/A	0.0655 U	N/A	0.0554 U	N/A	0.116 U
Aroclor 1262	mg/kg		N/A	0.59 U	N/A	0.328 U	N/A	N/A	0.0555 U	N/A	**0.235**	N/A	**0.631**	N/A	0.0554 U	N/A	**3.71**
Aroclor 1268	mg/kg		N/A	**11.2**	N/A	**10.5**	N/A	N/A	**0.877**	N/A	0.054 U	N/A	0.0655 U	N/A	0.0554 U	N/A	0.116 U
PCBs (total)	mg/kg	0.97	N/A	**13.37**	N/A	**10.879**	N/A	N/A	**0.877**	N/A	**0.329**	N/A	**1.258**	N/A	**0.0382 J**	N/A	**7.36**
TPH/Oil and Grease																	
Diesel Range Organics	mg/kg	6,200	N/A	**715**	**73.2**	**48.5 J**	**1,030 J**	**506**	**25.4 J**	**148 J**	**61.7**	**575**	**96.5**	**4.8 J**	**266**	**5.5 J**	**6,620**
Gasoline Range Organics	mg/kg	6,200	N/A	14.6 U	10.3 U	8.5 U	12.5 U	N/A	9.3 U	12.6 U	15.1 U	**150**	9.2 U	11 U	10.9 U	9.7 U	**36.3**
Oil and Grease	mg/kg	6,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Detections in bold
N/A indicates that the parameter was not analyzed for this sample
* indicates non-validated data results
^PAH compounds were analyzed for SIM
Values in red indicate an exceedance of the Project Action Limit (PAL)
Gray highlight indicates within building footprint

J: The positive result reported for this anaytle is a quantitative estimate.
B: The compound/analyte was not detected substantially above the level of the associated method blank/preparation for field blank.
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UJ: This analyte was not detected in the sample. The actual quantitative/detection limit may be higher than reported.
R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this compound/analyte in the sample.

Table 1
Summary of Organics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint, Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-070-SB-9*	B22-087-SB-1*	B22-087-SB-5*	B22-088-SB-1*	B22-088-SB-6*	B22-089-SB-1*	B22-089-SB-5*	B22-128-SB-1	B22-129-SB-1	B22-129-SB-4	B22-130-SB-1	B22-130-SB-4	B22-133-SB-1	B22-133-SB-5	B22-134-SB-1
Volatile Organic Compounds																	
1,1,1-Trichloroethane	mg/kg	36,000	**0.045**	0.0074 U	0.0053 U	0.0047 U	0.0047 U	0.0055 U	0.0061 U	0.0051 U	0.0054 U	0.0057 U	0.0057 U	0.0044 U	0.0062 U	0.0055 U	0.006 U
1,1,2-Trichloroethane	mg/kg	5	**0.0023 J**	0.0074 U	0.0053 U	0.0047 U	0.0047 U	0.0055 U	0.0061 U	0.0051 U	0.0054 U	0.0057 U	0.0057 U	0.0044 U	0.0062 U	0.0055 U	0.006 U
1,1-Dichloroethane	mg/kg	16	**1.4**	0.0074 U	0.0053 U	0.0047 U	0.0047 U	0.0055 U	0.0061 U	0.0051 U	0.0054 U	0.0057 U	0.0057 U	0.0044 U	0.0062 U	0.0055 U	0.006 U
1,1-Dichloroethene	mg/kg	1,000	**0.22**	0.0074 U	0.0053 U	0.0047 U	0.0047 U	0.0055 U	0.0061 U	0.0051 U	0.0054 U	0.0057 U	0.0057 U	0.0044 U	0.0062 U	0.0055 U	0.006 U
1,2-Dichloroethane	mg/kg	2	**0.01**	0.0074 U	0.0053 U	0.0047 U	0.0047 U	0.0055 U	0.0061 U	0.0051 U	0.0054 U	0.0057 U	0.0057 U	0.0044 U	0.0062 U	0.0055 U	0.006 U
1,2-Dichloroethene (Total)	mg/kg	2,300	**0.025**	0.015 U	0.011 U	0.0094 U	0.0095 U	0.011 U	0.012 U	0.01 U	0.011 U	0.011 U	0.011 U	0.0088 U	0.012 U	0.011 U	0.012 U
1,4-Dioxane	mg/kg	24	**1.4**	0.15 U	0.11 U	0.094 U	0.095 U	0.11 U	0.12 U	0.1 R	0.11 R	0.11 R	0.11 R	0.088 R	0.12 R	0.11 R	0.12 R
2-Butanone (MEK)	mg/kg	190,000	0.01 U	0.015 U	0.011 U	0.0094 U	0.0095 U	0.011 U	0.012 U	0.01 U	0.011 U	0.011 U	0.011 U	0.0088 U	0.012 U	0.011 U	0.012 U
2-Hexanone	mg/kg	1,300	0.01 U	0.015 U	0.011 U	0.0094 U	0.0095 U	0.011 U	0.012 U	0.01 U	0.011 U	0.011 U	0.011 U	0.0088 U	0.012 U	0.011 U	0.012 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.01 U	0.015 U	0.011 U	0.0094 U	0.0095 U	0.011 U	0.012 U	0.01 U	0.011 U	0.011 U	0.011 U	0.0088 U	0.012 UJ	0.011 U	0.012 UJ
Acetone	mg/kg	670,000	0.01 U	0.015 U	0.011 U	0.0094 U	0.0095 U	0.011 U	0.012 U	**0.0097 J**	**0.013**	**0.0058 J**	0.011 U	0.0088 U	**0.0072 B**	**0.028**	**0.013**
Benzene	mg/kg	5.1	0.0051 U	0.0074 U	0.0053 U	0.0047 U	0.0047 U	0.0055 U	0.0061 U	0.0051 U	0.0054 U	0.0057 U	0.0057 U	0.0044 U	0.0062 U	0.0055 U	0.006 U
Chloroethane	mg/kg	57,000	**0.019**	0.0074 U	0.0053 U	0.0047 U	0.0047 U	0.0055 U	0.0061 U	0.0051 U	0.0054 U	0.0057 U	0.0057 U	0.0044 UJ	0.0062 U	0.0055 U	0.006 U
cis-1,2-Dichloroethene	mg/kg	2,300	**0.025**	0.0074 U	0.0053 U	0.0047 U	0.0047 U	0.0055 U	0.0061 U	0.0051 U	0.0054 U	0.0057 U	0.0057 U	0.0044 U	0.0062 U	0.0055 U	0.006 U
Cyclohexane	mg/kg	27,000	0.01 U	0.015 U	0.011 U	0.0094 U	0.0095 U	0.011 U	0.012 U	0.01 U	0.011 U	0.011 U	0.011 U	0.0088 U	0.012 UJ	0.011 U	0.012 UJ
Ethylbenzene	mg/kg	25	0.0051 U	0.0074 U	0.0053 U	0.0047 U	0.0047 U	0.0055 U	0.0061 U	0.0051 U	0.0054 U	0.0057 U	0.0057 U	0.0044 U	0.0062 U	0.0055 U	0.006 U
Isopropylbenzene	mg/kg	9,900	0.0051 U	0.0074 U	0.0053 U	0.0047 U	0.0047 U	0.0055 U	0.0061 U	0.0051 U	0.0054 U	0.0057 U	0.0057 U	0.0044 U	0.0062 U	0.0055 U	0.006 U
Methyl Acetate	mg/kg	1,200,000	0.051 U	0.074 U	0.053 U	0.047 U	0.047 U	0.055 U	0.061 U	0.051 U	0.054 U	0.057 U	0.057 U	0.044 U	0.062 U	0.055 U	0.06 U
Methylene Chloride	mg/kg	1,000	0.0051 U	0.0074 U	0.0053 U	0.0047 U	0.0047 U	0.0055 U	0.0061 U	0.0051 U	0.0054 U	0.0057 U	0.0057 U	0.0044 UJ	0.0062 U	0.0055 U	0.006 U
Styrene	mg/kg	35,000	0.0051 U	0.0074 U	0.0053 U	0.0047 U	0.0047 U	0.0055 U	0.0061 U	0.0051 U	0.0054 U	0.0057 U	0.0057 U	0.0044 U	0.0062 U	0.0055 U	0.006 U
Tetrachloroethene	mg/kg	100	0.0051 U	0.0074 U	0.0053 U	0.0047 U	0.0047 U	0.0055 U	0.0061 U	0.0051 U	0.0054 U	0.0057 U	0.0057 U	0.0044 U	0.0062 U	0.0055 U	0.006 UJ
Toluene	mg/kg	47,000	**0.0017 J**	0.0074 U	0.0053 U	0.0047 U	0.0047 U	0.0055 U	0.0061 U	0.0051 U	0.0054 U	0.0057 U	0.0057 U	0.0044 U	**0.0027 B**	**0.0021 B**	0.006 U
Trichloroethene	mg/kg	6	**0.088**	0.0074 U	0.0053 U	0.0047 U	0.0047 U	0.0055 U	0.0061 U	0.0051 U	0.0054 U	0.0057 U	0.0057 U	0.0044 U	0.0062 U	0.0055 U	0.006 U
Vinyl chloride	mg/kg	1.7	**0.058**	0.0074 U	0.0053 U	0.0047 U	0.0047 U	0.0055 U	0.0061 U	0.0051 U	0.0054 U	0.0057 U	0.0057 U	0.0044 U	0.0062 U	0.0055 U	0.006 U
Xylenes	mg/kg	2,800	0.015 U	0.022 U	0.016 U	0.014 U	0.014 U	0.017 U	0.018 U	0.015 U	0.016 U	0.017 U	0.017 U	0.013 U	0.019 U	**0.0033 J**	0.018 U
Semi-Volatile Organic Compounds																	
1,1-Biphenyl	mg/kg	200	0.083 U	0.07 U	0.079 U	**0.014 J**	**0.037 J**	0.075 U	0.07 U	0.073 U	0.074 U	0.075 U	0.073 U	0.078 U	**0.11**	**0.13**	**0.017 J**
2,4-Dimethylphenol	mg/kg	16,000	0.083 U	0.07 U	0.079 U	0.067 U	**0.13**	0.075 U	0.07 U	0.073 R	0.074 R	0.075 U	0.073 R	0.078 U	0.077 R	**0.016 J**	0.077 R
2,6-Dinitrotoluene	mg/kg	1.5	0.083 U	0.07 U	0.079 U	0.067 U	0.068 U	0.075 U	0.07 U	0.073 U	0.074 U	0.075 U	0.073 U	0.078 U	0.077 U	0.079 U	0.077 U
2-Chloronaphthalene	mg/kg	60,000	0.083 U	0.07 U	0.079 U	0.067 U	0.068 U	0.075 U	0.07 U	0.073 U	0.074 U	0.075 U	0.073 U	0.078 U	0.077 U	0.079 U	0.077 U
2-Methylnaphthalene	mg/kg	3,000	**0.0025 J**	**0.034**	0.0077 U	**0.055**	**0.11 J**	**0.0042 J**	0.0072 U	0.074 U	0.075 U	**0.0052 J**	**0.051**	**0.0044 J**	**1.1**	**0.71**	**0.1**
2-Methylphenol	mg/kg	41,000	0.083 U	0.07 U	0.079 U	0.067 U	**0.07**	0.075 U	0.07 U	0.073 R	0.074 R	0.075 U	0.073 R	0.078 U	0.077 R	0.079 R	0.077 R
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.17 U	0.14 U	0.16 U	0.13 U	**0.18**	0.15 U	0.14 U	0.15 R	0.15 R	0.15 U	0.15 R	0.16 U	0.15 R	0.16 R	0.15 R
3,3'-Dichlorobenzidine	mg/kg	5.1	0.083 U	0.07 U	0.079 U	0.067 U	0.068 U	0.075 U	0.07 U	0.073 UJ	0.074 UJ	0.075 U	0.073 UJ	0.078 U	0.077 UJ	0.079 UJ	0.077 UJ
4-Chloroaniline	mg/kg	11	0.083 U	0.07 U	0.079 U	0.067 U	0.068 U	0.075 U	0.07 U	0.073 U	0.074 U	0.075 U	0.073 U	0.078 U	0.077 U	0.079 U	0.077 U
Acenaphthene	mg/kg	45,000	0.0084 U	**0.002 J**	0.0077 U	**0.013**	**0.11 J**	0.0075 U	0.0072 U	0.074 U	0.075 U	**0.017**	**0.057**	**0.0026 J**	**0.029**	**0.041**	**0.012 J**
Acenaphthylene	mg/kg	45,000	0.0084 U	**0.039**	0.0077 U	**0.0093**	**0.025 J**	0.0075 U	**0.0018 J**	0.074 U	0.075 U	**0.022**	**0.022**	**0.0017 J**	**0.082**	**0.13**	**0.057 J**
Acetophenone	mg/kg	120,000	0.083 U	0.07 U	0.079 U	0.067 U	0.068 U	0.075 U	0.07 U	0.073 U	0.074 U	0.075 U	0.073 U	0.078 U	**0.068 J**	**0.1**	0.077 U
Anthracene	mg/kg	230,000	0.0084 U	**0.052**	0.0077 U	**0.06**	**0.25**	**0.0025 J**	**0.0029 J**	**0.0073 J**	**0.007 J**	**0.092**	**0.066**	**0.0031 J**	**0.12**	**0.28**	**0.064 J**
Benz[a]anthracene	mg/kg	21	0.0084 U	**0.29**	**0.0011 J**	**0.29**	**2.8**	**0.01**	**0.014**	**0.039 J**	**0.02 J**	**0.25**	**0.36**	**0.01**	**0.34**	**0.51**	**0.17**
Benzaldehyde	mg/kg	120,000	0.083 U	0.07 U	0.079 U	0.067 U	0.068 U	0.075 U	0.07 U	**0.017 J**	0.074 R	0.075 R	0.073 R	0.078 R	**0.098**	**0.096**	0.077 R
Benzo[a]pyrene	mg/kg	2.1	0.0084 U	**0.32**	0.0077 U	**0.34**	**3.1**	**0.007 J**	**0.008**	**0.039 J**	**0.016 J**	**0.16**	**0.43**	**0.01**	**0.27**	**0.42**	**0.16**
Benzo[b]fluoranthene	mg/kg	21	0.0084 U	**0.86**	**0.0012 J**	**0.69**	**5.6**	**0.021**	**0.023**	**0.13**	**0.062 J**	**0.34**	**1.1**	**0.025**	**0.69**	**0.98**	**0.42**
Benzo[g,h,i]perylene	mg/kg		0.0084 U	**0.13**	0.0077 U	**0.24**	**0.83**	**0.0081**	**0.008**	**0.042 J**	**0.022 J**	**0.071**	**0.2**	**0.0033 J**	**0.12**	**0.17**	**0.19**
Benzo[k]fluoranthene	mg/kg	210	0.0084 U	**0.74**	0.0077 U	**0.6**	**4.8**	**0.018**	**0.02**	**0.11**	**0.055 J**	**0.3**	**0.92**	**0.021**	**0.58**	**0.83**	**0.35**
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.083 U	0.07 U	0.079 U	0.067 U	**0.029 J**	0.075 U	0.07 U	**0.091 J**	**0.035 B**	0.075 U	**0.13 B**	0.078 U	0.077 U	0.079 U	**0.33 J**
Carbazole	mg/kg		0.083 U	0.07 U	0.079 U	**0.025 J**	**0.28**	0.075 U	0.07 U	0.073 U	0.074 U	**0.077**	0.073 U	0.078 U	**0.063 J**	**0.14**	**0.018 J**
Chrysene	mg/kg	2,100	0.0084 U	**0.28**	0.0077 U	**0.33**	**2.4**	**0.01**	**0.019**	**0.091**	**0.048 J**	**0.22**	**1.1**	**0.014**	**0.45**	**0.55**	**0.24**
Dibenz[a,h]anthracene	mg/kg	2.1	0.0084 U	**0.055**	0.0077 U	**0.097**	**0.43**	**0.0021 J**	**0.0022 J**	**0.011 J**	0.075 U	**0.033**	**0.067**	**0.0015 J**	**0.049**	**0.064**	**0.051 J**
Di-n-butylphthalate	mg/kg	82,000	0.083 U	0.07 U	0.079 U	0.067 U	0.068 U	0.075 U	0.07 U	0.073 U	0.074 U	0.075 U	0.073 U	0.078 U	0.077 U	0.079 U	0.077 U
Di-n-ocytlphthalate	mg/kg	8,200	0.083 U	0.07 U	0.079 U	0.067 U	0.068 U	0.075 U	0.07 U	**0.36 J**	0.074 UJ	0.075 UJ	0.073 UJ	0.078 U	0.077 UJ	0.079 UJ	0.077 UJ
Fluoranthene	mg/kg	30,000	**0.00053 J**	**0.36**	**0.00067 J**	**0.42**	**2.2**	**0.014**	**0.02**	**0.11**	**0.078**	**0.5**	**1**	**0.017**	**0.7**	**1.3**	**0.39**
Fluorene	mg/kg	30,000	0.0084 U	**0.0041 J**	0.0077 U	**0.0044 J**	**0.05 J**	0.0075 U	0.0072 U	0.074 U	0.075 U	**0.026**	**0.026**	**0.0017 J**	**0.036**	**0.048**	**0.032 J**
Indeno[1,2,3-c,d]pyrene	mg/kg	21	0.0084 U	**0.15**	0.0077 U	**0.23**	**0.92**	**0.0067 J**	**0.0071 J**	**0.033 J**	**0.016 J**	**0.08**	**0.16**	**0.0033 J**	**0.12**	**0.18**	**0.17**
Naphthalene	mg/kg	17	**0.0032 J**	**0.037**	0.0077 U	**0.12**	**0.3**	**0.0045 J**	**0.0025 J**	0.074 U	0.075 U	**0.0053 B**	**0.06**	**0.012**	**1.9**	**1**	**0.23**
N-Nitrosodiphenylamine	mg/kg	470	0.083 U	0.07 U	0.079 U	0.067 U	0.068 U	0.075 U	0.07 U	0.073 U	0.074 U	0.075 U	0.073 U	0.078 U	0.077 U	0.079 U	0.077 U
Pentachlorophenol	mg/kg	4	0.21 U	0.17 U	0.2 U	0.17 U	0.17 U	0.19 U	0.18 U	0.18 R	0.19 R	0.19 U	0.18 R	0.2 U	0.19 R	0.2 R	0.19 R
Phenanthrene	mg/kg		**0.00066 J**	**0.17**	**0.00059 J**	**0.26**	**0.7**	**0.0086**	**0.0061 J**	**0.061 J**	**0.06 J**	**0.41**	**1.4**	**0.011**	**1.1**	**1.3**	**0.27**
Phenol	mg/kg	250,000	0.083 U	0.07 U	0.079 U	0.067 U	**0.061 J**	0.075 U	0.07 U	0.073 R	0.074 R	0.075 U	0.073 R	0.078 U	0.077 R	0.079 R	0.077 R
Pyrene	mg/kg	23,000	0.0084 U	**0.26**	0.0077 U	**0.31**	**2.1**	**0.011**	**0.015**	**0.12**	**0.072 J**	**0.36**	**1.6**	**0.014**	**0.63**	**1**	**0.43**
PCBs																	
Aroclor 1242	mg/kg	0.97	N/A	0.0576 U	N/A	0.0518 U	N/A	**0.249**	N/A	**0.123**	**0.226**	N/A	**0.43**	N/A	0.0559 U	N/A	0.0578 U
Aroclor 1248	mg/kg	0.94	N/A	0.0576 U	N/A	0.0518 U	N/A	0.055 U	N/A	0.0562 U	0.0581 U	N/A	0.0563 U	N/A	**0.0349 J**	N/A	0.0578 U
Aroclor 1254	mg/kg	0.97	N/A	0.0576 U	N/A	0.0518 U	N/A	0.055 U	N/A	**0.99**	**1.04**	N/A	**1.15**	N/A	0.0559 U	N/A	**0.0591**
Aroclor 1260	mg/kg	0.99	N/A	0.0576 U	N/A	0.0518 U	N/A	0.055 U	N/A	0.0562 U	0.0581 U	N/A	0.0563 U	N/A	0.0559 U	N/A	0.0578 U
Aroclor 1262	mg/kg		N/A	0.0576 U	N/A	0.0518 U	N/A	**0.0856**	N/A	**0.518**	**0.601**	N/A	**0.629**	N/A	0.0559 U	N/A	0.0578 U
Aroclor 1268	mg/kg		N/A	0.0576 U	N/A	**0.086**	N/A	0.055 U	N/A	0.0562 U	0.0581 U	N/A	0.0563 U	N/A	**0.476**	N/A	**2.58**
PCBs (total)	mg/kg	0.97	N/A	0.0576 U	N/A	**0.086**	N/A	**0.3346**	N/A	**1.631**	**1.867**	N/A	**2.209**	N/A	**0.5109**	N/A	**2.6391**
TPH/Oil and Grease																	
Diesel Range Organics	mg/kg	6,200	**13.6**	**129**	**3.4 J**	**80.3**	**109**	**45.6**	**33.1**	**70 J**	**184 J**	**23.7 J**	**201 J**	**10.9 J**	**139 J**	**130 J**	**535 J**
Gasoline Range Organics	mg/kg	6,200	9.9 U	15.3 U	10.1 U	9.9 U	**6.1 J**	12 U	13.6 U	11.6 U	10 U	15.5 U	12.3 U	9.3 U	**16.3**	12.8 U	12.9 U
Oil and Grease	mg/kg	6,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Detections in bold
N/A indicates that the parameter was not analyzed for this sample
* indicates non-validated data results
^PAH compounds were analyzed for SIM
Values in red indicate an exceedance of the Project Action Limit (PAL)
Gray highlight indicates within building footprint

J: The positive result reported for this anaytle is a quantitative estimate.
B: The compound/analyte was not detected substantially above the level of the associated method blank/preparation for field blank.
U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitative/detection limit may be higher than reported.
R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this compound/analyte in the sample.

Table 1
Summary of Organics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint, Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-134-SB-7	B22-135-SB-1	B22-135-SB-8	B22-136-SB-1	B22-136-SB-5	B22-140-SB-1	B22-140-SB-5	B22-141-SB-1	B22-141-SB-5	B22-144-SB-1*	B22-144-SB-7*	B22-145-SB-1*	B22-145-SB-4*	B22-145-SB-10*	B22-154-SB-1*
Volatile Organic Compounds																	
1,1,1-Trichloroethane	mg/kg	36,000	0.0057 U	0.0052 U	0.0059 U	0.0064 U	0.0087 U	0.005 U	0.005 U	0.0058 U	0.0052 U	0.0085 U	0.0043 U	0.0047 U	0.0065 U	N/A	0.0053 U
1,1,2-Trichloroethane	mg/kg	5	0.0057 U	0.0052 U	0.0059 U	0.0064 U	0.0087 U	0.005 U	0.005 U	0.0058 U	0.0052 U	0.0085 U	0.0043 U	0.0047 U	0.0065 U	N/A	0.0053 U
1,1-Dichloroethane	mg/kg	16	0.0057 U	0.0052 U	0.0059 U	0.0064 U	0.0087 U	0.005 U	0.005 U	0.0058 U	0.0052 U	0.0085 U	0.0043 U	0.0047 U	0.0065 U	N/A	0.0053 U
1,1-Dichloroethene	mg/kg	1,000	0.0057 U	0.0052 U	0.0059 U	0.0064 U	0.0087 U	0.005 U	0.005 U	0.0058 U	0.0052 U	0.0085 U	0.0043 U	0.0047 U	0.0065 U	N/A	0.0053 U
1,2-Dichloroethane	mg/kg	2	0.0057 U	0.0052 U	0.0059 U	0.0064 U	0.0087 U	0.005 U	0.005 U	0.0058 U	0.0052 U	0.0085 U	0.0043 U	0.0047 U	0.0065 U	N/A	0.0053 U
1,2-Dichloroethene (Total)	mg/kg	2,300	0.011 U	0.01 U	0.012 U	0.013 U	0.017 U	0.01 U	0.0099 U	0.012 U	0.01 U	0.017 U	0.0086 U	0.0094 U	0.013 U	N/A	0.011 U
1,4-Dioxane	mg/kg	24	0.11 R	0.1 R	0.12 R	0.13 R	0.17 R	0.1 R	0.099 R	0.12 R	0.1 R	0.17 U	0.086 U	0.094 U	0.13 U	N/A	0.11 U
2-Butanone (MEK)	mg/kg	190,000	0.011 U	0.01 U	**0.0056 J**	0.013 U	**0.011 J**	0.01 U	**0.003 J**	0.012 U	0.01 U	0.017 U	0.0086 U	0.0094 U	**0.013 J**	N/A	0.011 U
2-Hexanone	mg/kg	1,300	0.011 U	0.01 U	0.012 U	0.013 U	0.017 U	0.01 U	0.0099 U	0.012 U	0.01 U	0.017 U	0.0086 U	0.0094 U	0.013 U	N/A	0.011 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.011 UJ	0.01 UJ	0.012 UJ	0.013 UJ	0.017 UJ	0.01 U	0.0099 U	0.012 U	0.01 U	0.017 U	0.0086 U	0.0094 U	0.013 U	N/A	0.011 U
Acetone	mg/kg	670,000	**0.014**	**0.013**	**0.029**	0.013 U	**0.047**	0.01 U	**0.0067 J**	0.012 U	0.01 U	0.017 U	**0.015**	0.0094 U	**0.065**	N/A	**0.0058 J**
Benzene	mg/kg	5.1	0.0057 U	0.0052 U	**0.0022 J**	0.0064 U	**0.0037 J**	0.005 U	0.005 U	0.0058 U	0.0052 U	0.0085 U	0.0043 U	0.0047 U	0.0065 U	N/A	**0.0048 J**
Chloroethane	mg/kg	57,000	0.0057 U	0.0052 U	0.0059 U	0.0064 U	0.0087 U	0.005 U	0.005 U	0.0058 U	0.0052 U	0.0085 U	0.0043 U	0.0047 U	0.0065 U	N/A	0.0053 U
cis-1,2-Dichloroethene	mg/kg	2,300	0.0057 U	0.0052 U	0.0059 U	0.0064 U	0.0087 U	0.005 U	0.005 U	0.0058 U	0.0052 U	0.0085 U	0.0043 U	0.0047 U	0.0065 U	N/A	0.0053 U
Cyclohexane	mg/kg	27,000	0.011 UJ	0.01 UJ	**0.0059 J**	0.013 UJ	**0.0087 J**	0.01 U	0.0099 U	0.012 U	0.01 U	0.017 U	0.0086 U	0.0094 U	0.013 U	N/A	0.011 U
Ethylbenzene	mg/kg	25	0.0057 U	0.0052 U	0.0059 U	0.0064 U	0.0087 U	0.005 U	0.005 U	0.0058 U	0.0052 U	0.0085 U	0.0043 U	0.0047 U	0.0065 U	N/A	0.0053 U
Isopropylbenzene	mg/kg	9,900	0.0057 U	0.0052 U	0.0059 U	0.0064 U	0.0087 U	0.005 U	0.005 U	0.0058 U	0.0052 U	0.0085 U	0.0043 U	0.0047 U	0.0065 U	N/A	0.0053 U
Methyl Acetate	mg/kg	1,200,000	0.057 U	0.052 U	0.059 U	0.064 U	0.087 U	0.05 U	0.05 U	0.058 U	0.052 U	0.085 U	0.043 U	0.047 U	0.065 U	N/A	0.053 U
Methylene Chloride	mg/kg	1,000	0.0057 U	0.0052 U	0.0059 U	0.0064 U	0.0087 U	0.005 U	0.005 U	0.0058 U	0.0052 U	0.0085 U	0.0043 U	0.0047 U	0.0065 U	N/A	0.0053 U
Styrene	mg/kg	35,000	0.0057 U	0.0052 U	0.0059 U	0.0064 U	0.0087 U	0.005 U	0.005 U	0.0058 U	0.0052 U	0.0085 U	0.0043 U	0.0047 U	0.0065 U	N/A	0.0053 U
Tetrachloroethene	mg/kg	100	0.0057 UJ	0.0052 UJ	0.0059 UJ	0.0064 U	0.0087 U	0.005 U	0.005 U	0.0058 U	0.0052 U	0.0085 U	0.0043 U	0.0047 U	0.0065 U	N/A	0.0053 U
Toluene	mg/kg	47,000	0.0057 U	0.0052 U	**0.0028 B**	0.0064 U	**0.005 B**	0.005 U	0.005 U	0.0058 U	0.0052 U	0.0085 U	0.0043 U	0.0047 U	0.0065 U	N/A	0.0053 U
Trichloroethene	mg/kg	6	0.0057 U	0.0052 U	0.0059 U	0.0064 U	0.0087 U	0.005 U	0.005 U	0.0058 U	0.0052 U	0.0085 U	0.0043 U	0.0047 U	0.0065 U	N/A	0.0053 U
Vinyl chloride	mg/kg	1.7	0.0057 U	0.0052 U	0.0059 U	0.0064 U	0.0087 U	0.005 U	0.005 U	0.0058 U	0.0052 U	0.0085 U	0.0043 U	0.0047 U	0.0065 U	N/A	0.0053 U
Xylenes	mg/kg	2,800	0.017 U	0.015 U	0.018 U	0.019 U	**0.0051 J**	0.015 U	0.015 U	0.017 U	0.016 U	0.025 U	0.013 U	0.014 U	0.019 U	N/A	0.016 U
Semi-Volatile Organic Compounds																	
1,1-Biphenyl	mg/kg	200	0.077 U	0.072 U	**0.41 J**	0.073 U	**0.75**	0.074 U	0.075 U	0.072 U	0.078 U	**0.023 J**	**0.16**	0.072 U	0.08 U	N/A	**0.068 J**
2,4-Dimethylphenol	mg/kg	16,000	**0.07 J**	0.072 R	**0.024 J**	0.073 R	**0.18 J**	0.074 R	**0.16**	0.072 UJ	0.078 U	0.095 U	0.079 U	0.072 U	0.08 U	N/A	0.071 U
2,6-Dinitrotoluene	mg/kg	1.5	0.077 U	0.072 U	0.078 U	0.073 U	0.11 U	0.074 U	0.075 U	0.072 U	0.078 U	0.095 U	0.079 U	0.072 U	0.08 U	N/A	0.071 U
2-Chloronaphthalene	mg/kg	60,000	0.077 U	0.072 U	0.078 U	0.073 U	0.11 U	0.074 U	0.075 U	0.072 U	0.078 U	0.095 U	0.079 U	0.072 U	0.08 U	N/A	0.071 U
2-Methylnaphthalene	mg/kg	3,000	**0.055 J**	**0.0028 J**	**2.3**	**0.0039 J**	**2.8**	**0.0032 B**	0.076 U	0.073 U	0.0079 U	0.096 U	**0.14**	0.073 U	**0.047 J**	N/A	**0.18**
2-Methylphenol	mg/kg	41,000	0.077 UJ	0.072 R	0.078 R	0.073 R	**0.12 J**	0.074 R	0.075 U	0.072 UJ	0.078 U	0.095 U	0.079 U	0.072 U	0.08 U	N/A	0.071 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.15 UJ	0.14 R	**0.027 J**	0.15 R	**0.19 J**	0.15 R	0.15 U	0.14 UJ	0.16 U	0.19 U	**0.051 J**	0.14 U	**0.032 J**	N/A	0.14 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.077 UJ	0.072 UJ	0.078 UJ	0.073 UJ	0.11 UJ	0.074 U	0.075 U	0.072 U	0.078 U	0.095 U	0.079 U	0.072 U	0.4 U	N/A	0.071 U
4-Chloroaniline	mg/kg	11	0.077 U	0.072 U	0.078 U	0.073 U	0.11 U	0.074 U	0.075 U	0.072 U	0.078 U	0.095 U	0.079 U	0.072 U	0.08 U	N/A	0.071 U
Acenaphthene	mg/kg	45,000	**0.076 J**	**0.00054 J**	**0.97**	**0.00063 J**	**0.75**	0.0074 U	0.076 U	0.073 U	0.0079 U	0.096 U	**0.18**	0.073 U	**0.0073 J**	N/A	**0.17**
Acenaphthylene	mg/kg	45,000	**0.045 J**	**0.0017 J**	**0.3**	**0.0014 J**	**0.25**	0.0074 U	0.076 U	**0.0096 J**	0.0079 U	**0.019 J**	**0.91**	**0.016 J**	**0.049 J**	N/A	**0.14**
Acetophenone	mg/kg	120,000	0.077 U	0.072 U	**0.07 J**	0.073 U	**0.25**	0.074 U	0.075 U	0.072 U	0.078 U	0.095 U	0.079 U	0.072 U	0.08 U	N/A	**0.034 J**
Anthracene	mg/kg	230,000	**0.19**	**0.0055 J**	**1.6**	**0.0035 J**	**1.1**	**0.0011 J**	0.076 U	**0.01 J**	0.0079 U	**0.033 JB**	**2.7**	**0.026 JB**	**0.15**	N/A	**0.33**
Benz[a]anthracene	mg/kg	21	**0.39**	**0.031**	**1.5**	**0.012**	**1.7**	**0.008**	**0.033 J**	**0.069 J**	0.0079 U	**0.14 B**	**5.5**	**0.11 B**	**0.4**	N/A	**1.8**
Benzaldehyde	mg/kg	120,000	**0.047 J**	0.072 R	**0.093 J**	0.073 U	**0.64**	0.074 R	0.075 R	0.072 R	0.078 R	0.095 U	0.079 U	**0.3**	**0.2**	N/A	**0.022 J**
Benzo[a]pyrene	mg/kg	2.1	**0.3**	**0.0069 J**	**1.2**	**0.011**	**1.5**	**0.0041 J**	**0.022 J**	**0.076**	0.0079 U	**0.11**	**4.5**	**0.077**	**0.33**	**0.0015 J**	**2.5**
Benzo[b]fluoranthene	mg/kg	21	**0.63**	**0.11**	**2.5**	**0.033**	**3**	**0.015**	**0.049 J**	**0.17**	0.0079 U	**0.29**	**9.2**	**0.23**	**0.78**	N/A	**4.7**
Benzo[g,h,i]perylene	mg/kg		**0.2**	**0.02**	**0.89**	**0.0094**	**1.1**	**0.0072 J**	**0.018 J**	**0.065 J**	0.0079 U	**0.042 J**	**1.3**	**0.045 J**	**0.091**	N/A	**1**
Benzo[k]fluoranthene	mg/kg	210	**0.53**	**0.094**	**2.1**	**0.028**	**2.6**	**0.014**	**0.046 J**	**0.16**	0.0079 U	**0.25**	**8**	**0.2**	**0.69**	N/A	**3.9**
bis(2-Ethylhexyl)phthalate	mg/kg	160	**0.34 J**	**0.039 B**	**0.098 B**	0.073 U	**0.1 J**	0.074 U	**0.016 J**	0.072 U	0.078 U	**0.15**	**0.051 J**	**1.8**	0.4 U	N/A	**0.039 J**
Carbazole	mg/kg		**0.1**	0.072 U	**0.39 J**	0.073 U	**0.89**	0.074 U	0.075 U	0.072 U	0.078 U	0.095 U	**0.85**	0.072 U	0.4 U	N/A	**0.098**
Chrysene	mg/kg	2,100	**0.38**	**0.1**	**1.7**	**0.02**	**1.5**	**0.02**	**0.025 J**	**0.087**	0.0079 U	**0.11 B**	**4.1**	**0.11 B**	**0.47**	N/A	**1.9**
Dibenz[a,h]anthracene	mg/kg	2.1	**0.069 J**	**0.0055 J**	**0.27**	**0.0027 J**	**0.27**	**0.0016 J**	0.076 U	**0.016 J**	0.0079 U	**0.02 J**	**0.52**	**0.013 J**	**0.042 J**	N/A	**0.38**
Di-n-butylphthalate	mg/kg	82,000	**0.17**	0.072 U	0.078 U	0.073 U	0.11 U	0.074 U	0.075 U	0.072 U	0.078 U	**0.031 J**	0.079 U	**0.032 J**	0.4 U	N/A	0.071 U
Di-n-ocytlphthalate	mg/kg	8,200	0.077 UJ	0.072 UJ	0.078 UJ	0.073 U	0.11 UJ	0.074 U	0.075 U	0.072 U	0.078 U	0.095 U	0.079 U	0.072 U	0.08 U	N/A	0.071 U
Fluoranthene	mg/kg	30,000	**0.89**	**0.093**	**4**	**0.029**	**4**	**0.014**	**0.045 J**	**0.069 J**	0.0079 U	**0.26 B**	**12.1**	**0.16 B**	**0.65**	N/A	**2.7**
Fluorene	mg/kg	30,000	**0.091**	0.0071 U	**0.73**	0.0072 U	**0.71**	0.0074 U	0.076 U	0.073 U	0.0079 U	**0.012 J**	**1.2**	0.073 U	**0.019 J**	N/A	**0.061**
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.19**	**0.018**	**0.81**	**0.0083**	**0.87**	**0.0036 J**	**0.015 J**	**0.053 J**	0.0079 U	**0.044 J**	**1.5**	**0.037 J**	**0.12**	N/A	**1.1**
Naphthalene	mg/kg	17	**0.25**	**0.0038 B**	**2.5**	**0.0047 B**	**5.9**	**0.0037 J**	**0.021 J**	0.073 U	0.0079 U	0.096 U	**0.85**	0.073 U	**0.051 J**	N/A	**0.25**
N-Nitrosodiphenylamine	mg/kg	470	0.077 U	0.072 U	0.078 U	0.073 U	0.11 U	0.074 U	0.075 U	0.072 U	0.078 U	0.095 U	0.079 U	0.072 U	0.4 U	N/A	0.071 U
Pentachlorophenol	mg/kg	4	0.19 UJ	0.18 R	0.19 R	0.18 R	0.26 R	0.18 R	0.19 U	0.18 UJ	0.19 U	0.24 U	0.2 U	0.18 U	1 U	N/A	0.18 U
Phenanthrene	mg/kg		**0.81**	**0.026**	**4.9**	**0.017**	**3.9**	**0.013**	**0.026 J**	**0.031 J**	0.0079 U	**0.13 B**	**8.4**	**0.077 B**	**0.3**	N/A	**0.96**
Phenol	mg/kg	250,000	0.077 UJ	0.072 R	0.078 R	0.073 R	**0.05 J**	0.074 R	0.075 U	0.072 UJ	0.078 U	0.095 U	**0.041 J**	0.072 U	0.08 U	N/A	0.071 U
Pyrene	mg/kg	23,000	**0.72**	**0.27**	**3.5**	**0.024**	**3.4**	**0.017**	**0.038 J**	**0.076**	0.0079 U	**0.21 B**	**8.1**	**0.17 B**	**0.49**	N/A	**2.6**
PCBs																	
Aroclor 1242	mg/kg	0.97	N/A	0.0539 U	N/A	0.0518 U	N/A	**6.64**	N/A	0.0533 U	N/A	0.143 U	N/A	0.0552 U	N/A	N/A	0.0545 U
Aroclor 1248	mg/kg	0.94	N/A	0.0539 U	N/A	0.0518 U	N/A	0.232 U	N/A	0.0533 U	N/A	**1.48**	N/A	**0.121**	N/A	N/A	0.0545 U
Aroclor 1254	mg/kg	0.97	N/A	0.0539 U	N/A	0.0518 U	N/A	0.232 U	N/A	0.0533 U	N/A	**0.978**	N/A	**0.148**	N/A	N/A	**0.0902**
Aroclor 1260	mg/kg	0.99	N/A	0.0539 U	N/A	0.0518 U	N/A	0.232 U	N/A	**0.0259 J**	N/A	0.143 U	N/A	0.0552 U	N/A	N/A	0.0545 U
Aroclor 1262	mg/kg		N/A	0.0539 U	N/A	**0.0245 J**	N/A	0.232 U	N/A	0.0533 U	N/A	**2.32**	N/A	**1.29**	N/A	N/A	0.0545 U
Aroclor 1268	mg/kg		N/A	**2.04**	N/A	0.0518 U	N/A	0.232 U	N/A	0.0533 U	N/A	0.143 U	N/A	0.0552 U	N/A	N/A	**0.23**
PCBs (total)	mg/kg	0.97	N/A	**2.04**	N/A	**0.0245 J**	N/A	**6.64**	N/A	**0.0259 J**	N/A	**4.778**	N/A	**1.559**	N/A	N/A	**0.3202**
TPH/Oil and Grease																	
Diesel Range Organics	mg/kg	6,200	**155 J**	**42 J**	**268 J**	**15.5 J**	**723 J**	**12.9 J**	**30.1 J**	**11.6 J**	7.9 UJ	**75.1**	**106**	**545**	**5,150**	**62.9**	**213**
Gasoline Range Organics	mg/kg	6,200	11.9 U	12.2 U	11.6 U	15 U	19.6 U	8.8 U	11.5 U	10.3 U	10.1 U	16.8 U	9.7 U	11.4 U	10.1 U	N/A	9.3 U
Oil and Grease	mg/kg	6,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Detections in bold
N/A indicates that the parameter was not analyzed for this sample
* indicates non-validated data results
^PAH compounds were analyzed for SIM
Values in red indicate an exceedance of the Project Action Limit (PAL)
Gray highlight indicates within building footprint

J: The positive result reported for this anaytle is a quantitative estimate.
B: The compound/analyte was not detected substantially above the level of the associated method blank/preparation for field blank.
U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitative/detection limit may be higher than reported.
R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this compound/analyte in the sample.

Table 1
Summary of Organics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint, Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-154-SB-5*	B22-155-SB-1*	B22-155-SB-5*	B22-169-SB-1	B22-169-SB-4	B22-172-SB-1	B22-172-SB-5	B22-177-SB-1*	B22-177-SB-5*	B22-179-SB-1*	B22-179-SB-6*	B6-005-SB-2*	B6-005-SB-8*	B6-006-SB-1*	B6-006-SB-5*
Volatile Organic Compounds																	
1,1,1-Trichloroethane	mg/kg	36,000	0.006 U	0.0049 U	0.0048 U	0.0071 U	0.0059 U	0.0047 U	0.0053 U	0.0061 U	0.005 U	0.0061 U	0.006 U	0.0072 U	0.0058 U	0.0055 U	0.0059 U
1,1,2-Trichloroethane	mg/kg	5	0.006 U	0.0049 U	0.0048 U	0.0071 U	0.0059 U	0.0047 U	0.0053 U	0.0061 U	0.005 U	0.0061 U	0.006 U	0.0072 U	0.0058 U	0.0055 U	0.0059 U
1,1-Dichloroethane	mg/kg	16	0.006 U	0.0049 U	0.0048 U	0.0071 U	0.0059 U	0.0047 U	0.0053 U	0.0061 U	0.005 U	0.0061 U	0.006 U	0.0072 U	0.0058 U	0.0055 U	0.0059 U
1,1-Dichloroethene	mg/kg	1,000	0.006 U	0.0049 U	0.0048 U	0.0071 U	0.0059 U	0.0047 U	0.0053 U	0.0061 U	0.005 U	0.0061 U	0.006 U	0.0072 U	0.0058 U	0.0055 U	0.0059 U
1,2-Dichloroethane	mg/kg	2	0.006 U	0.0049 U	0.0048 U	0.0071 U	0.0059 U	0.0047 U	0.0053 U	0.0061 U	0.005 U	0.0061 U	0.006 U	0.0072 U	0.0058 U	0.0055 U	0.0059 U
1,2-Dichloroethene (Total)	mg/kg	2,300	0.012 U	0.0098 U	0.0095 U	0.014 U	0.012 U	0.0095 U	0.011 U	0.012 U	0.0099 U	0.012 U	0.012 U	0.014 U	0.012 U	0.011 U	0.012 U
1,4-Dioxane	mg/kg	24	0.12 U	0.098 U	0.095 U	0.14 R	0.12 R	0.095 R	0.11 R	0.12 U	0.099 U	0.12 U	0.12 U	0.14 U	0.12 U	0.11 U	0.12 U
2-Butanone (MEK)	mg/kg	190,000	0.012 U	0.0098 U	0.0095 U	0.014 U	0.012 U	0.0095 U	0.011 U	0.012 U	**0.018**	0.012 U	0.012 U	0.014 U	0.012 U	0.011 U	0.012 U
2-Hexanone	mg/kg	1,300	0.012 U	0.0098 U	0.0095 U	0.014 U	0.012 U	0.0095 U	0.011 U	0.012 U	0.0099 U	0.012 U	0.012 U	0.014 U	0.012 U	0.011 U	0.012 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.012 U	0.0098 U	0.0095 U	0.014 U	0.012 UJ	0.0095 U	0.011 U	0.012 U	0.0099 U	0.012 U	0.012 U	0.014 U	0.012 U	0.011 U	0.012 U
Acetone	mg/kg	670,000	**0.006 J**	0.0098 U	**0.0058 J**	0.014 U	0.012 U	0.0095 U	**0.012**	0.012 U	**0.085**	0.012 U	0.012 U	**0.012 J**	0.012 U	0.011 U	0.012 U
Benzene	mg/kg	5.1	0.006 U	**0.003 J**	0.0048 U	0.0071 U	0.0059 U	0.0047 U	0.0053 U	0.0061 U	**0.0027 J**	0.0061 U	0.006 U	0.0072 U	0.0058 U	0.0055 U	0.0059 U
Chloroethane	mg/kg	57,000	0.006 U	0.0049 U	0.0048 U	0.0071 U	0.0059 U	0.0047 U	0.0053 U	0.0061 U	0.005 U	0.0061 U	0.006 U	0.0072 U	0.0058 U	0.0055 U	0.0059 U
cis-1,2-Dichloroethene	mg/kg	2,300	0.006 U	0.0049 U	0.0048 U	0.0071 U	0.0059 U	0.0047 U	0.0053 U	0.0061 U	0.005 U	0.0061 U	0.006 U	0.0072 U	0.0058 U	0.0055 U	0.0059 U
Cyclohexane	mg/kg	27,000	0.012 U	0.0098 U	0.0095 U	0.014 U	0.012 U	0.0095 U	0.011 U	0.012 U	0.0099 U	0.012 U	0.012 U	0.014 U	0.012 U	0.011 U	0.012 U
Ethylbenzene	mg/kg	25	0.006 U	0.0049 U	0.0048 U	0.0071 U	0.0059 U	0.0047 U	0.0053 U	0.0061 U	**0.011**	0.0061 U	0.006 U	0.0072 U	0.0058 U	0.0055 U	0.0059 U
Isopropylbenzene	mg/kg	9,900	0.006 U	0.0049 U	0.0048 U	0.0071 U	0.0059 U	0.0047 U	0.0053 U	0.0061 U	**0.0036 J**	0.0061 U	0.006 U	0.0072 U	0.0058 U	0.0055 U	0.0059 U
Methyl Acetate	mg/kg	1,200,000	0.06 U	0.049 U	0.048 U	0.071 U	0.059 U	**0.0024 J**	0.053 U	0.061 U	0.05 U	0.061 U	0.06 U	0.072 U	0.058 U	0.055 U	0.059 U
Methylene Chloride	mg/kg	1,000	0.006 U	0.0049 U	0.0048 U	0.0071 U	0.0059 U	0.0047 U	0.0053 U	0.0061 U	0.005 U	0.0061 U	0.006 U	0.0072 U	0.0058 U	0.0055 U	0.0059 U
Styrene	mg/kg	35,000	0.006 U	0.0049 U	0.0048 U	0.0071 U	0.0059 UJ	0.0047 U	0.0053 U	0.0061 U	0.005 U	0.0061 U	0.006 U	0.0072 U	0.0058 U	0.0055 U	0.0059 U
Tetrachloroethene	mg/kg	100	0.006 U	0.0049 U	0.0048 U	0.0071 U	0.0059 U	0.0047 U	0.0053 U	0.0061 U	0.005 U	0.0061 U	0.006 U	0.0072 U	0.0058 U	0.0055 U	0.0059 U
Toluene	mg/kg	47,000	0.006 U	0.0049 U	0.0048 U	0.0071 U	0.0059 U	0.0047 U	0.0053 U	0.0061 U	**0.0038 J**	0.0061 U	0.006 U	0.0072 U	0.0058 U	0.0055 U	0.0059 U
Trichloroethene	mg/kg	6	0.006 U	0.0049 U	0.0048 U	0.0071 U	0.0059 U	0.0047 U	0.0053 U	0.0061 U	0.005 U	0.0061 U	0.006 U	0.0072 U	0.0058 U	0.0055 U	0.0059 U
Vinyl chloride	mg/kg	1.7	0.006 U	0.0049 U	0.0048 U	0.0071 U	0.0059 U	0.0047 U	0.0053 U	0.0061 U	0.005 U	0.0061 U	0.006 U	0.0072 U	0.0058 U	0.0055 U	0.0059 U
Xylenes	mg/kg	2,800	0.018 U	0.015 U	0.014 U	0.021 U	0.018 U	0.014 U	0.016 U	0.018 U	**0.04**	0.018 U	0.018 U	0.022 U	0.018 U	0.017 U	0.018 U
Semi-Volatile Organic Compounds																	
1,1-Biphenyl	mg/kg	200	0.074 U	**0.12**	0.075 U	0.076 U	0.088 U	0.077 U	0.08 U	0.071 U	0.082 U	0.075 U	**0.096**	0.071 U	0.078 U	0.073 U	0.072 U
2,4-Dimethylphenol	mg/kg	16,000	0.074 U	0.072 U	0.075 U	0.076 U	0.088 U	0.077 U	**0.052 J**	0.071 U	0.082 U	0.075 U	**0.032 J**	0.071 U	0.078 U	0.073 U	0.072 U
2,6-Dinitrotoluene	mg/kg	1.5	0.074 U	0.072 U	0.075 U	0.076 U	0.088 U	0.077 U	0.08 U	0.071 U	0.082 U	0.075 U	0.078 U	0.071 U	0.078 U	0.073 U	0.072 U
2-Chloronaphthalene	mg/kg	60,000	0.074 U	0.072 U	0.075 U	0.076 U	0.088 U	0.077 U	0.08 U	0.071 U	0.082 U	0.075 U	0.078 U	0.071 U	0.078 U	0.073 U	0.072 U
2-Methylnaphthalene	mg/kg	3,000	**0.0029 J**	**0.68**	**0.039 J**	0.0077 U	0.0089 U	0.0078 U	0.0081 U	**0.0079**	**0.0047 J**	0.0075 U	**0.43**	**0.033**	**0.3**	0.073 U	0.072 U
2-Methylphenol	mg/kg	41,000	0.074 U	0.072 U	0.075 U	0.076 U	0.088 U	0.077 U	0.08 U	0.071 U	0.082 U	0.075 U	0.078 U	0.071 U	0.078 U	0.073 U	0.072 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.15 U	0.14 U	0.15 U	0.15 U	0.18 U	0.15 U	0.16 U	0.14 U	0.16 U	0.15 U	0.16 U	0.14 U	0.16 U	0.15 U	0.14 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.074 U	0.072 U	0.075 U	0.076 U	0.088 U	0.077 U	0.08 U	0.071 U	0.082 U	0.075 U	0.078 U	0.071 U	0.078 U	0.073 U	0.072 U
4-Chloroaniline	mg/kg	11	0.074 U	0.072 U	0.075 U	0.076 U	0.088 U	0.077 U	0.08 U	0.071 U	0.082 U	0.075 U	0.078 U	0.071 U	0.078 U	0.073 U	0.072 U
Acenaphthene	mg/kg	45,000	**0.0069 J**	**1.8**	0.075 U	0.0077 U	0.0089 U	0.0078 U	0.0081 U	0.0072 U	**0.00086 J**	0.0075 U	**0.41**	**0.004 J**	**0.0094 J**	**0.016 J**	**0.045 J**
Acenaphthylene	mg/kg	45,000	**0.0046 J**	**0.25**	**0.0078 J**	**0.0013 J**	0.0089 U	**0.0011 J**	**0.009**	**0.0038 J**	**0.0015 J**	0.0075 U	**0.032**	**0.0041 J**	**0.0089 J**	**0.013 J**	**0.045 J**
Acetophenone	mg/kg	120,000	0.074 U	**0.026 J**	0.075 U	0.076 U	0.088 U	0.077 U	0.08 U	0.071 U	0.082 U	0.075 U	0.078 U	0.071 U	0.078 U	0.073 U	0.072 U
Anthracene	mg/kg	230,000	**0.044**	**4.3**	**0.0065 JB**	**0.0016 J**	0.0089 U	0.0078 U	0.0081 U	**0.0023 J**	**0.002 J**	**0.0008 J**	**0.041**	**0.0099**	**0.021 J**	**0.095**	**0.27**
Benz[a]anthracene	mg/kg	21	**0.37**	**7.3**	**0.041 JB**	**0.0043 J**	**0.0017 J**	**0.0043 J**	0.0081 U	**0.0099**	**0.0089**	**0.0047 J**	**0.28**	**0.026**	**0.084**	**0.3**	**1.3**
Benzaldehyde	mg/kg	120,000	0.074 U	**0.022 J**	0.075 U	0.076 R	0.088 R	0.077 R	0.08 R	0.071 U	0.082 U	0.075 U	0.078 U	0.071 U	0.078 U	0.073 U	**0.018 J**
Benzo[a]pyrene	mg/kg	2.1	**0.38**	**6**	**0.04 J**	**0.0045 J**	0.0089 U	**0.0047 J**	0.0081 U	**0.0098**	**0.0071 J**	**0.0042 J**	**0.16**	**0.022**	**0.064 J**	**0.2**	**1.2**
Benzo[b]fluoranthene	mg/kg	21	**0.9**	**11.9**	**0.095 B**	**0.017**	**0.00092 J**	**0.0095**	0.0081 U	**0.026**	**0.02**	**0.0097**	**0.5**	**0.059**	**0.13**	**0.91**	**2.7**
Benzo[g,h,i]perylene	mg/kg		**0.22**	**2.9**	**0.036 J**	**0.012**	0.0089 U	**0.0045 J**	0.0081 U	**0.0093**	**0.0054 J**	**0.0026 J**	**0.068**	**0.021**	**0.094**	**0.22**	**0.92**
Benzo[k]fluoranthene	mg/kg	210	**0.78**	**10.3**	**0.083**	**0.015**	0.0089 U	**0.009**	0.0081 U	**0.023**	**0.018**	**0.0085**	**0.44**	**0.047**	**0.098**	**0.79**	**2.4**
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.074 U	**0.066 J**	**0.042 J**	0.076 U	0.088 U	0.077 U	0.08 U	0.071 U	0.082 U	0.075 U	0.078 U	0.071 U	0.078 U	**0.65**	**0.048 J**
Carbazole	mg/kg		**0.063 J**	**0.43**	0.075 U	0.076 U	0.088 U	0.077 U	0.08 U	0.071 U	0.082 U	0.075 U	**0.14**	0.071 U	0.078 U	**0.04 J**	**0.35**
Chrysene	mg/kg	2,100	**0.32**	**5.9**	**0.034 JB**	**0.006 J**	**0.001 J**	**0.0036 J**	0.0081 U	**0.014**	**0.011**	**0.0041 J**	**0.45**	**0.048**	**0.073 J**	**0.53**	**1.2**
Dibenz[a,h]anthracene	mg/kg	2.1	**0.085**	**0.83**	0.075 U	**0.0027 J**	0.0089 U	**0.0012 J**	0.0081 U	**0.0026 J**	**0.0019 J**	0.0075 U	**0.028**	**0.0069 J**	0.078 U	**0.061 J**	**0.25**
Di-n-butylphthalate	mg/kg	82,000	0.074 U	0.072 U	0.075 U	0.076 U	0.088 U	0.077 U	0.08 U	0.071 U	0.082 U	0.075 U	0.078 U	0.071 U	0.078 U	0.073 U	0.072 U
Di-n-octylphthalate	mg/kg	8,200	0.074 U	0.072 U	0.075 U	0.076 U	0.088 U	0.077 U	0.08 U	0.071 U	0.082 U	0.075 U	0.078 U	0.071 U	0.078 U	0.073 U	0.072 U
Fluoranthene	mg/kg	30,000	**0.45**	**16**	**0.039 JB**	**0.0097**	**0.0026 B**	**0.0049 J**	0.0081 U	**0.019**	**0.019**	**0.0064 J**	**0.52**	**0.071**	**0.1**	**1.3**	**2.3**
Fluorene	mg/kg	30,000	**0.0059 J**	**1.4**	0.075 U	0.0077 U	0.0089 U	0.0078 U	0.0081 U	0.0072 U	**0.0014 J**	0.0075 U	**0.1**	**0.0047 J**	**0.012 J**	**0.024 J**	**0.035 J**
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.24**	**2.9**	**0.026 J**	**0.0087**	0.0089 U	**0.0037 J**	0.0081 U	**0.0075**	**0.0051 J**	**0.0024 J**	**0.074**	**0.016**	**0.048 J**	**0.19**	**0.74**
Naphthalene	mg/kg	17	**0.013**	**0.35**	0.075 U	**0.0019 B**	0.0089 U	**0.0025 J**	**0.002 J**	**0.0082**	**0.0057 J**	0.0075 U	**3.6**	**0.055**	**0.19**	0.073 U	0.072 U
N-Nitrosodiphenylamine	mg/kg	470	0.074 U	0.072 U	0.075 U	0.076 U	0.088 U	0.077 U	0.08 U	0.071 U	0.082 U	0.075 U	0.078 U	0.071 U	0.078 U	**0.015 J**	0.072 U
Pentachlorophenol	mg/kg	4	0.19 U	0.18 U	0.19 U	0.19 U	0.22 U	0.19 U	0.2 U	0.18 U	0.2 U	0.19 U	0.19 U	0.18 U	0.2 U	0.18 U	0.18 U
Phenanthrene	mg/kg		**0.17**	**12.5**	**0.03 JB**	**0.0095**	**0.0024 J**	**0.0023 J**	0.0081 U	**0.012**	**0.009**	**0.004 J**	**0.17**	**0.077**	**0.21**	**0.46**	**0.85**
Phenol	mg/kg	250,000	0.074 U	0.072 U	0.075 U	0.076 U	0.088 U	0.077 U	0.08 U	0.071 U	0.082 U	0.075 U	0.078 U	0.071 U	0.078 U	0.073 U	0.072 U
Pyrene	mg/kg	23,000	**0.35**	**14.1**	**0.036 JB**	**0.0044 J**	**0.0015 J**	**0.0047 J**	0.0081 U	**0.015**	**0.014**	**0.0055 J**	**0.41**	**0.049**	**0.11**	**0.96**	**2.3**
PCBs																	
Aroclor 1242	mg/kg	0.97	N/A	0.0593 U	N/A	**0.0744**	N/A	0.0568 U	N/A	0.0541 U	N/A	0.0532 U	N/A	0.018 U	N/A	0.0525 U	N/A
Aroclor 1248	mg/kg	0.94	N/A	0.0593 U	N/A	0.0606 U	N/A	0.0568 U	N/A	0.0541 U	N/A	0.0532 U	N/A	0.018 U	N/A	0.0525 U	N/A
Aroclor 1254	mg/kg	0.97	N/A	**0.0647**	N/A	0.0606 U	N/A	0.0568 U	N/A	0.0541 U	N/A	0.0532 U	N/A	0.018 U	N/A	0.0525 U	N/A
Aroclor 1260	mg/kg	0.99	N/A	0.0593 U	N/A	0.0606 U	N/A	0.0568 U	N/A	0.0541 U	N/A	0.0532 U	N/A	**0.0096 J**	N/A	0.0525 U	N/A
Aroclor 1262	mg/kg		N/A	0.0593 U	N/A	0.0606 U	N/A	0.0568 U	N/A	0.0541 U	N/A	0.0532 U	N/A	0.018 U	N/A	0.0525 U	N/A
Aroclor 1268	mg/kg		N/A	**0.412**	N/A	0.0606 U	N/A	0.0568 U	N/A	0.0541 U	N/A	0.0532 U	N/A	0.018 U	N/A	0.0525 U	N/A
PCBs (total)	mg/kg	0.97	N/A	**0.4767**	N/A	**0.0744**	N/A	0.0568 U	N/A	0.0541 U	N/A	0.0532 U	N/A	0.13 U	N/A	0.0525 U	N/A
TPH/Oil and Grease																	
Diesel Range Organics	mg/kg	6,200	**17.3**	**216**	**82.9**	**6.4 J**	8.9 UJ	**3.6 J**	**706 J**	**36.8**	**11.3**	**6.6 J**	**14**	**15.6 B**	**51.3 B**	**151**	**653**
Gasoline Range Organics	mg/kg	6,200	13.4 U	9.8 U	11 U	17 U	11.3 U	13.6 U	**7.5 J**	13.6 U	10.1 U	13.3 U	14.3 U	21.7 U	12.3 U	12.8 U	13.3 U
Oil and Grease	mg/kg	6,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**553**	**653**	N/A	N/A

Detections in bold
N/A indicates that the parameter was not analyzed for this sample
* indicates non-validated data results
^PAH compounds were analyzed for SIM
Values in red indicate an exceedance of the Project Action Limit (PAL)
Gray highlight indicates within building footprint

J: The positive result reported for this anaytle is a quantitative estimate.
B: The compound/analyte was not detected substantially above the level of the associated method blank/preparation for field blank.
U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitative/detection limit may be higher than reported.
R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this compound/analyte in the sample.

Table 1
Summary of Organics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint, Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B6-007-SB-1	B6-007-SB-4	B6-008-SB-1	B6-008-SB-4	B6-011-SB-1	B6-011-SB-8	B6-012-SB-1	B6-012-SB-4	B6-013-SB-1*	B6-013-SB-7*	B6-014-SB-1*	B6-014-SB-4*	B6-015-SB-1	B6-015-SB-5	B6-016-SB-1
Volatile Organic Compounds																	
1,1,1-Trichloroethane	mg/kg	36,000	0.0081 U	0.0051 U	0.0058 U	0.0053 U	0.0046 U	0.0061 U	0.0054 U	0.0055 U	0.0049 U	0.005 U	0.0061 U	0.0076 U	0.005 U	0.0054 U	0.0056 U
1,1,2-Trichloroethane	mg/kg	5	0.0081 U	0.0051 U	0.0058 U	0.0053 U	0.0046 U	0.0061 U	0.0054 U	0.0055 U	0.0049 U	0.005 U	0.0061 U	0.0076 U	0.005 U	0.0054 U	0.0056 U
1,1-Dichloroethane	mg/kg	16	0.0081 U	0.0051 U	0.0058 U	0.0053 U	0.0046 U	0.0061 U	0.0054 U	0.0055 U	0.0049 U	0.005 U	0.0061 U	0.0076 U	0.005 U	0.0054 U	0.0056 U
1,1-Dichloroethene	mg/kg	1,000	0.0081 U	0.0051 U	0.0058 U	0.0053 U	0.0046 U	0.0061 U	0.0054 U	0.0055 U	0.0049 U	0.005 U	0.0061 U	0.0076 U	0.005 U	0.0054 U	0.0056 U
1,2-Dichloroethane	mg/kg	2	0.0081 U	0.0051 U	0.0058 U	0.0053 U	0.0046 U	0.0061 U	0.0054 U	0.0055 U	0.0049 U	0.005 U	0.0061 U	0.0076 U	0.005 U	0.0054 U	0.0056 U
1,2-Dichloroethene (Total)	mg/kg	2,300	0.016 U	0.01 U	0.012 U	0.011 U	0.0092 U	0.012 U	0.011 U	0.011 U	0.0099 U	0.01 U	0.012 U	0.015 U	0.0099 U	0.011 U	0.011 U
1,4-Dioxane	mg/kg	24	0.16 R	0.1 R	0.12 R	0.11 R	0.092 R	0.12 R	0.11 R	0.11 R	0.099 U	0.1 U	0.12 U	0.15 U	0.099 R	0.11 R	0.11 R
2-Butanone (MEK)	mg/kg	190,000	0.016 U	**0.006 J**	0.012 U	0.011 U	0.0092 U	0.012 U	0.011 U	0.011 U	0.0099 U	0.01 U	0.012 U	0.015 U	0.0099 U	0.011 U	0.011 U
2-Hexanone	mg/kg	1,300	0.016 U	0.01 U	0.012 U	0.011 U	0.0092 U	0.012 U	0.011 U	0.011 U	0.0099 U	0.01 U	0.012 U	0.015 U	0.0099 U	0.011 U	0.011 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.016 U	0.01 U	0.012 U	0.011 U	0.0092 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.0099 U	0.01 U	0.012 U	0.015 U	0.0099 U	0.011 U	0.011 U
Acetone	mg/kg	670,000	0.016 U	**0.024**	0.012 U	0.011 U	0.0092 UJ	**0.014 J**	**0.01 B**	0.011 UJ	**0.0056 J**	0.01 U	0.012 U	0.015 U	0.0099 U	0.011 U	0.011 U
Benzene	mg/kg	5.1	0.0081 U	0.0051 U	0.0058 U	0.0053 U	0.0046 U	**0.037**	0.0054 U	0.0055 U	0.0049 U	0.005 U	0.0061 U	0.0076 U	0.005 U	0.0054 U	0.0056 U
Chloroethane	mg/kg	57,000	0.0081 U	0.0051 U	0.0058 U	0.0053 U	0.0046 UJ	0.0061 UJ	0.0054 UJ	0.0055 UJ	0.0049 U	0.005 U	0.0061 U	0.0076 U	0.005 U	0.0054 UJ	0.0056 UJ
cis-1,2-Dichloroethene	mg/kg	2,300	0.0081 U	0.0051 U	0.0058 U	0.0053 U	0.0046 U	0.0061 U	0.0054 U	0.0055 U	0.0049 U	0.005 U	0.0061 U	0.0076 U	0.005 U	0.0054 U	0.0056 U
Cyclohexane	mg/kg	27,000	0.016 U	0.01 U	0.012 U	0.011 U	0.0092 UJ	**0.023 J**	0.011 UJ	0.011 UJ	0.0099 U	0.01 U	0.012 U	0.015 U	0.0099 U	0.011 U	0.011 U
Ethylbenzene	mg/kg	25	0.0081 U	0.0051 U	0.0058 U	0.0053 U	0.0046 U	**0.19**	0.0054 U	0.0055 U	0.0049 U	0.005 U	0.0061 U	0.0076 U	0.005 U	0.0054 U	0.0056 U
Isopropylbenzene	mg/kg	9,900	0.0081 U	0.0051 U	0.0058 U	0.0053 U	0.0046 U	**0.02 J**	0.0054 U	0.0055 U	0.0049 U	0.005 U	0.0061 U	0.0076 U	0.005 U	0.0054 U	0.0056 U
Methyl Acetate	mg/kg	1,200,000	0.081 U	0.051 U	0.058 U	0.053 U	0.046 U	0.061 U	0.054 U	0.055 U	0.049 U	0.05 U	0.061 U	0.076 U	0.05 U	0.054 U	0.056 U
Methylene Chloride	mg/kg	1,000	0.0081 U	0.0051 U	0.0058 U	0.0053 U	0.0046 U	0.0061 U	0.0054 U	0.0055 U	0.0049 U	0.005 U	0.0061 U	0.0076 U	0.005 U	0.0054 U	0.0056 U
Styrene	mg/kg	35,000	0.0081 U	0.0051 U	0.0058 U	0.0053 U	0.0046 U	**0.01**	0.0054 U	0.0055 U	0.0049 U	0.005 U	0.0061 U	0.0076 U	0.005 U	0.0054 U	0.0056 U
Tetrachloroethene	mg/kg	100	0.0081 U	0.0051 U	0.0058 U	0.0053 U	0.0046 UJ	**0.0066 J**	0.0054 UJ	0.0055 UJ	0.0049 U	0.005 U	0.0061 U	0.0076 U	0.005 U	0.0054 U	0.0056 U
Toluene	mg/kg	47,000	0.0081 U	0.0051 U	0.0058 U	0.0053 U	0.0046 U	**0.14**	0.0054 U	0.0055 U	0.0049 U	0.005 U	0.0061 U	0.0076 U	0.005 U	0.0054 U	0.0056 U
Trichloroethene	mg/kg	6	0.0081 U	0.0051 U	0.0058 U	0.0053 U	0.0046 U	0.0061 U	0.0054 U	0.0055 U	0.0049 U	0.005 U	0.0061 U	0.0076 U	0.005 U	0.0054 U	0.0056 U
Vinyl chloride	mg/kg	1.7	0.0081 U	0.0051 U	0.0058 U	0.0053 U	0.0046 U	0.0061 U	0.0054 U	0.0055 U	0.0049 U	0.005 U	0.0061 U	0.0076 U	0.005 U	0.0054 U	0.0056 U
Xylenes	mg/kg	2,800	0.024 U	0.015 U	0.017 U	0.016 U	0.014 U	**0.67**	0.016 U	0.016 U	0.015 U	0.015 U	0.018 U	0.023 U	0.015 U	0.016 U	0.017 U
Semi-Volatile Organic Compounds																	
1,1-Biphenyl	mg/kg	200	**0.051 J**	0.074 U	0.075 U	0.078 U	0.069 U	**0.4 J**	0.078 U	0.081 U	**0.026 J**	0.079 U	**0.037 J**	0.08 U	0.077 U	0.071 U	0.072 U
2,4-Dimethylphenol	mg/kg	16,000	0.076 U	**0.027 J**	0.075 U	0.078 U	0.069 U	0.084 U	0.078 U	0.081 U	0.076 U	0.079 U	0.077 U	0.08 U	0.077 U	0.071 U	0.072 U
2,6-Dinitrotoluene	mg/kg	1.5	0.076 U	0.074 U	0.075 U	0.078 U	0.069 U	0.084 U	0.078 U	0.081 U	0.076 U	0.079 U	0.077 U	0.08 U	0.077 U	0.071 U	0.072 U
2-Chloronaphthalene	mg/kg	60,000	0.076 U	0.074 U	0.075 U	0.078 U	0.069 U	0.084 U	0.078 U	0.081 U	0.076 U	0.079 U	0.077 U	0.08 U	0.077 U	0.071 U	0.072 U
2-Methylnaphthalene	mg/kg	3,000	**0.38**	**0.039 J**	0.076 U	**0.029**	**0.0048 J**	**43.8**	0.078 U	**0.019**	**0.021 J**	0.0079 U	**0.028**	**0.028**	0.077 U	**0.0085**	0.072 U
2-Methylphenol	mg/kg	41,000	0.076 U	0.074 U	0.075 U	0.078 U	0.069 U	0.084 U	0.078 U	0.081 U	0.076 U	0.079 U	0.077 U	0.08 U	0.077 U	0.071 U	0.072 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.15 U	0.15 U	0.15 U	0.16 U	0.14 U	0.17 U	0.15 U	0.16 U	0.15 U	0.16 U	0.15 U	0.16 U	0.15 U	0.14 U	0.14 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.076 UJ	0.074 UJ	0.075 UJ	0.078 U	0.069 UJ	**0.15 J**	0.078 UJ	0.081 U	0.076 U	0.079 U	0.077 U	0.08 U	0.077 UJ	0.071 U	0.072 UJ
4-Chloroaniline	mg/kg	11	0.076 U	0.074 U	0.075 U	0.078 U	0.069 U	0.084 U	0.078 U	0.081 U	0.076 U	0.079 U	0.077 U	0.08 U	0.077 U	0.071 U	0.072 U
Acenaphthene	mg/kg	45,000	**0.21**	0.075 U	0.076 U	**0.0035 J**	**0.002 J**	**5.6**	0.078 U	**0.0099**	**0.0054 J**	0.0079 U	**0.00071 J**	**0.0015 J**	0.077 U	**0.00057 J**	0.072 U
Acenaphthylene	mg/kg	45,000	**0.074 J**	0.075 U	**0.012 J**	**0.078**	**0.008**	**1.6**	**0.0098 J**	**0.022**	**0.012 J**	0.0079 U	**0.024**	**0.02**	**0.013 J**	**0.00081 J**	0.072 U
Acetophenone	mg/kg	120,000	0.076 U	0.074 U	0.075 U	0.078 U	0.069 U	0.084 U	0.078 U	0.081 U	0.076 U	0.079 U	0.077 U	0.08 U	0.077 U	0.071 U	0.072 U
Anthracene	mg/kg	230,000	**0.49**	0.075 U	**0.011 J**	**0.061**	**0.0094**	**4.2**	**0.024 J**	**0.074**	**0.037 J**	0.0079 U	**0.041**	**0.016**	**0.01 J**	**0.023**	0.072 U
Benz[a]anthracene	mg/kg	21	**1.3**	**0.019 J**	**0.083**	**0.38**	**0.072**	**1.9**	**0.074 J**	**0.19**	**0.095**	**0.0011 J**	**0.25**	**0.11**	**0.076 J**	**0.072**	**0.027 J**
Benzaldehyde	mg/kg	120,000	**0.047 J**	**0.03 J**	0.075 UJ	0.078 UJ	0.069 UJ	0.084 UJ	0.078 UJ	**0.019 J**	0.076 U	0.079 U	0.077 U	0.08 U	0.077 UJ	0.071 UJ	0.072 UJ
Benzo[a]pyrene	mg/kg	2.1	**1.3**	**0.01 J**	**0.068 J**	**0.49**	**0.085 J**	**2.1 J**	**0.1**	**0.17 J**	**0.075 J**	0.0079 U	**0.21**	**0.13**	**0.061 J**	**0.047**	**0.019 J**
Benzo[b]fluoranthene	mg/kg	21	**2.8**	**0.028 J**	**0.17**	**1.2**	**0.2 J**	**1.7 J**	**0.21**	**0.46 J**	**0.21**	**0.00062 J**	**0.62**	**0.22**	**0.15**	**0.16**	**0.063 J**
Benzo[g,h,i]perylene	mg/kg		**0.52**	**0.013 J**	**0.031 J**	**0.19**	**0.029 J**	**0.32 J**	**0.092**	**0.041 J**	**0.058 J**	0.0079 U	**0.2**	**0.11**	**0.026 J**	**0.019**	**0.009 J**
Benzo[k]fluoranthene	mg/kg	210	**2.4**	**0.026 J**	**0.15**	**1**	**0.17 J**	**1.7 J**	**0.18**	**0.4 J**	**0.18**	0.0079 U	**0.54**	**0.096**	**0.13**	**0.14**	**0.054 J**
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.076 UJ	0.074 UJ	**0.029 B**	0.078 U	**0.018 J**	**0.36 J**	**0.26 J**	0.081 U	**0.16**	0.079 U	0.077 U	0.08 U	**0.024 B**	0.071 U	**0.28 J**
Carbazole	mg/kg		**0.11**	0.074 U	0.075 U	**0.03 J**	0.069 U	0.084 UJ	0.078 UJ	0.081 U	**0.023 J**	0.079 U	**0.044 J**	**0.025 J**	0.077 U	0.071 U	0.072 U
Chrysene	mg/kg	2,100	**1.3**	**0.01 J**	**0.069 J**	**0.44**	**0.067**	**5.7**	**0.062 J**	**0.15**	**0.1**	0.0079 U	**0.34**	**0.14**	**0.056 J**	**0.072**	**0.024 J**
Dibenz[a,h]anthracene	mg/kg	2.1	**0.19**	0.075 U	0.076 U	**0.065**	**0.0092 J**	**0.22 J**	0.078 U	**0.019 J**	0.077 U	0.0079 U	**0.068**	**0.04**	0.077 U	**0.0075**	0.072 U
Di-n-butylphthalate	mg/kg	82,000	0.076 U	0.074 U	0.075 U	0.078 U	0.069 U	0.084 UJ	0.078 UJ	0.081 U	0.076 U	0.079 U	0.077 U	0.08 U	0.077 U	0.071 U	0.072 U
Di-n-ocytlphthalate	mg/kg	8,200	0.076 UJ	0.074 UJ	0.075 UJ	0.078 U	0.069 UJ	0.084 UJ	0.078 UJ	0.081 U	0.076 U	0.079 U	0.077 U	0.08 U	0.077 UJ	0.071 U	0.072 UJ
Fluoranthene	mg/kg	30,000	**3.1**	**0.017 J**	**0.13**	**0.39**	**0.072**	**1.1**	**0.12**	**0.34**	**0.16**	**0.0005 J**	**0.59**	**0.17**	**0.11**	**0.16**	**0.029 J**
Fluorene	mg/kg	30,000	**0.24**	0.075 U	0.076 U	**0.0062 J**	**0.0012 J**	**5.3**	0.078 U	**0.015**	0.077 U	0.0079 U	**0.00068 J**	**0.0014 J**	0.077 U	0.0074 U	0.072 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.47**	0.075 U	**0.026 J**	**0.19**	**0.024 J**	0.42 UJ	**0.034 J**	**0.044 J**	**0.036 J**	0.0079 U	**0.19**	**0.11**	**0.023 J**	**0.02**	0.072 U
Naphthalene	mg/kg	17	**0.27**	**0.025 B**	**0.025 B**	**0.04**	**0.0071**	**24.3**	**0.019 B**	**0.042**	**0.04 J**	0.0079 U	**0.11**	**0.072**	**0.026 B**	**0.015**	0.072 U
N-Nitrosodiphenylamine	mg/kg	470	0.076 U	0.074 U	0.075 U	0.078 U	0.069 U	0.084 UJ	0.078 UJ	0.081 U	0.076 U	0.079 U	0.077 U	0.08 U	0.077 U	0.071 U	0.072 U
Pentachlorophenol	mg/kg	4	0.19 U	0.19 U	0.19 U	0.2 U	0.17 U	0.21 UJ	0.19 UJ	0.2 U	**0.041 J**	0.2 U	0.19 U	0.2 U	0.19 U	0.18 U	0.18 U
Phenanthrene	mg/kg		**2.3**	**0.013 J**	**0.062 J**	**0.13**	**0.024**	**16.3**	**0.051 J**	**0.22**	**0.1**	0.0079 U	**0.35**	**0.14**	**0.045 J**	**0.11**	**0.015 J**
Phenol	mg/kg	250,000	0.076 U	0.074 U	0.075 U	0.078 U	0.069 U	0.084 U	0.078 U	0.081 U	0.076 U	0.079 U	0.077 U	0.08 U	0.077 U	0.071 U	0.072 U
Pyrene	mg/kg	23,000	**2.6**	**0.021 J**	**0.11**	**0.33**	**0.063**	**8.3**	**0.2**	**0.28**	**0.15**	0.0079 U	**0.33**	**0.16**	**0.089**	**0.11**	**0.031 J**
PCBs																	
Aroclor 1242	mg/kg	0.97	0.0582 U	N/A	0.0568 U	N/A	0.0556 U	N/A	0.0577 U	N/A	0.0532 U	N/A	0.057 U	N/A	0.0586 U	N/A	0.0528 U
Aroclor 1248	mg/kg	0.94	0.0582 U	N/A	0.0568 U	N/A	0.0556 U	N/A	0.0577 U	N/A	0.0532 U	N/A	0.057 U	N/A	0.0586 U	N/A	0.0528 U
Aroclor 1254	mg/kg	0.97	0.0582 U	N/A	**0.0793**	N/A	0.0556 U	N/A	**0.255**	N/A	**0.557**	N/A	0.057 U	N/A	**0.114**	N/A	**0.289**
Aroclor 1260	mg/kg	0.99	0.0582 U	N/A	0.0568 U	N/A	0.0556 U	N/A	0.0577 U	N/A	0.0532 U	N/A	0.057 U	N/A	0.0586 U	N/A	0.0528 U
Aroclor 1262	mg/kg		0.0582 U	N/A	0.0568 U	N/A	**0.0714**	N/A	**0.348**	N/A	0.0532 U	N/A	0.057 U	N/A	0.0586 U	N/A	**0.157**
Aroclor 1268	mg/kg		0.0582 U	N/A	**0.151**	N/A	0.0556 U	N/A	0.0577 U	N/A	**0.0372 J**	N/A	0.057 U	N/A	**0.0357 J**	N/A	0.0528 U
PCBs (total)	mg/kg	0.97	0.0582 U	N/A	**0.2303**	N/A	**0.0714**	N/A	**0.603**	N/A	**0.5942**	N/A	0.057 U	N/A	**0.1497**	N/A	**0.446**
TPH/Oil and Grease																	
Diesel Range Organics	mg/kg	6,200	**635 J**	**266 J**	**83.3 J**	**44.6 J**	**11.3 J**	**7,340 J**	**120 J**	**5.3 J**	**123**	**5.8 J**	**39.6**	**62.6**	**162 J**	**22.1 J**	**47.1 J**
Gasoline Range Organics	mg/kg	6,200	12.1 U	11.2 U	12.2 U	11.6 U	10.4 U	**13.6**	11.2 U	13.2 U	12.8 U	9.4 U	11.5 U	12.6 U	9.6 U	10.9 U	11 U
Oil and Grease	mg/kg	6,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Detections in bold
N/A indicates that the parameter was not analyzed for this sample
* indicates non-validated data results
^PAH compounds were analyzed for SIM
Values in red indicate an exceedance of the Project Action Limit (PAL)
Gray highlight indicates within building footprint

J: The positive result reported for this anaytle is a quantitative estimate.
B: The compound/analyte was not detected substantially above the level of the associated method blank/preparation for field blank.
U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitative/detection limit may be higher than reported.
R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this compound/analyte in the sample.

Table 1
Summary of Organics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint, Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B6-016-SB-5	B6-017-SB-1	B6-017-SB-6	B6-018-SB-1	B6-018-SB-4	B6-021-SB-1*	B6-021-SB-4*	B6-022-SB-1	B6-023-SB-1	B6-023-SB-4	B6-023-SB-10	B6-024-SB-1*	B6-024-SB-5*	B6-025-SB-1	B6-025-SB-5
Volatile Organic Compounds																	
1,1,1-Trichloroethane	mg/kg	36,000	0.0061 U	0.0057 U	0.0049 U	0.0091 U	0.0054 U	0.0057 U	0.0049 U	0.0047 U	0.0032 U	0.0064 U	N/A	0.0061 U	0.0048 U	0.0035 U	0.0052 U
1,1,2-Trichloroethane	mg/kg	5	0.0061 U	0.0057 U	0.0049 U	0.0091 U	0.0054 U	0.0057 U	0.0049 U	0.0047 U	0.0032 U	0.0064 U	N/A	0.0061 U	0.0048 U	0.0035 U	0.0052 U
1,1-Dichloroethane	mg/kg	16	0.0061 U	0.0057 U	0.0049 U	0.0091 U	0.0054 U	0.0057 U	0.0049 U	0.0047 U	0.0032 U	0.0064 U	N/A	0.0061 U	0.0048 U	0.0035 U	0.0052 U
1,1-Dichloroethene	mg/kg	1,000	0.0061 U	0.0057 U	0.0049 U	0.0091 U	0.0054 U	0.0057 U	0.0049 U	0.0047 U	0.0032 U	0.0064 U	N/A	0.0061 U	0.0048 U	0.0035 U	0.0052 U
1,2-Dichloroethane	mg/kg	2	0.0061 U	0.0057 U	0.0049 U	0.0091 U	0.0054 U	0.0057 U	0.0049 U	0.0047 U	0.0032 U	0.0064 U	N/A	0.0061 U	0.0048 U	0.0035 U	0.0052 U
1,2-Dichloroethene (Total)	mg/kg	2,300	0.012 U	0.011 U	0.0098 U	0.018 U	0.011 U	0.011 U	0.0099 U	0.0095 U	0.0064 U	0.013 U	N/A	0.012 U	0.0095 U	0.0071 U	0.01 U
1,4-Dioxane	mg/kg	24	0.12 R	0.11 R	0.098 R	0.18 R	0.11 R	0.11 U	0.099 U	0.095 R	0.064 R	0.13 R	N/A	0.12 U	0.095 U	0.071 R	0.1 R
2-Butanone (MEK)	mg/kg	190,000	0.012 U	**0.0072 J**	0.0098 U	0.018 U	0.011 U	0.011 U	0.0099 U	0.0095 U	0.0064 U	0.013 U	N/A	0.012 U	0.0095 U	0.0071 U	0.01 U
2-Hexanone	mg/kg	1,300	0.012 U	0.011 UJ	0.0098 U	0.018 U	0.011 U	0.011 U	0.0099 U	0.0095 U	0.0064 U	0.013 U	N/A	0.012 U	0.0095 U	0.0071 U	0.01 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.012 U	0.011 U	0.0098 U	0.018 U	0.011 U	0.011 U	0.0099 U	0.0095 U	0.0064 U	0.013 U	N/A	0.012 U	0.0095 U	0.0071 U	0.01 U
Acetone	mg/kg	670,000	0.012 U	**0.024 J**	**0.042 J**	0.018 UJ	0.011 UJ	**0.0078 J**	0.0099 U	0.0095 UJ	0.0064 UJ	0.013 UJ	N/A	**0.0075 J**	**0.019**	0.0071 UJ	0.01 UJ
Benzene	mg/kg	5.1	0.0061 U	0.0057 U	0.0049 U	0.0091 U	0.0054 U	0.0057 U	0.0049 U	0.0047 U	0.0032 U	0.0064 U	N/A	0.0061 U	0.0048 U	0.0035 U	0.0052 U
Chloroethane	mg/kg	57,000	0.0061 UJ	0.0057 U	0.0049 U	0.0091 U	0.0054 U	0.0057 U	0.0049 U	0.0047 U	0.0032 U	0.0064 U	N/A	0.0061 U	0.0048 U	0.0035 U	0.0052 U
cis-1,2-Dichloroethene	mg/kg	2,300	0.0061 U	0.0057 U	0.0049 U	0.0091 U	0.0054 U	0.0057 U	0.0049 U	0.0047 U	0.0032 U	0.0064 U	N/A	0.0061 U	0.0048 U	0.0035 U	0.0052 U
Cyclohexane	mg/kg	27,000	0.012 U	0.011 U	0.0098 U	0.018 U	0.011 U	0.011 U	0.0099 U	0.0095 U	0.0064 U	0.013 U	N/A	0.012 U	0.0095 U	0.0071 U	0.01 U
Ethylbenzene	mg/kg	25	0.0061 U	0.0057 U	0.0049 U	0.0091 U	0.0054 U	0.0057 U	0.0049 U	0.0047 U	0.0032 U	**0.002 J**	N/A	0.0061 U	0.0048 U	0.0035 U	0.0052 U
Isopropylbenzene	mg/kg	9,900	0.0061 U	0.0057 U	0.0049 U	0.0091 U	0.0054 U	0.0057 U	0.0049 U	0.0047 U	0.0032 U	0.0064 U	N/A	0.0061 U	0.0048 U	0.0035 U	0.0052 U
Methyl Acetate	mg/kg	1,200,000	0.061 U	0.057 R	0.049 R	0.091 U	0.054 U	0.057 U	0.049 U	0.047 U	0.032 U	0.064 U	N/A	0.061 U	0.048 U	0.035 U	**0.0024 J**
Methylene Chloride	mg/kg	1,000	0.0061 U	0.0057 U	**0.0095**	0.0091 U	0.0054 U	0.0057 U	0.0049 U	0.0047 U	0.0032 U	0.0064 U	N/A	0.0061 U	0.0048 U	0.0035 U	0.0052 U
Styrene	mg/kg	35,000	0.0061 U	0.0057 U	0.0049 U	0.0091 U	0.0054 U	0.0057 U	0.0049 U	0.0047 U	0.0032 U	0.0064 U	N/A	0.0061 U	0.0048 U	0.0035 U	0.0052 U
Tetrachloroethene	mg/kg	100	0.0061 U	0.0057 U	0.0049 U	0.0091 U	0.0054 U	0.0057 U	0.0049 U	0.0047 U	0.0032 U	0.0064 U	N/A	0.0061 U	0.0048 U	0.0035 U	0.0052 U
Toluene	mg/kg	47,000	0.0061 U	0.0057 U	0.0049 U	0.0091 U	0.0054 U	0.0057 U	0.0049 U	0.0047 U	0.0032 U	**0.0061 J**	N/A	0.0061 U	0.0048 U	0.0035 U	0.0052 U
Trichloroethene	mg/kg	6	0.0061 U	0.0057 U	0.0049 U	0.0091 U	0.0054 U	0.0057 U	0.0049 U	0.0047 U	0.0032 U	0.0064 U	N/A	0.0061 U	0.0048 U	0.0035 U	0.0052 U
Vinyl chloride	mg/kg	1.7	0.0061 U	0.0057 U	0.0049 U	0.0091 U	0.0054 U	0.0057 U	0.0049 U	0.0047 U	0.0032 U	0.0064 U	N/A	0.0061 U	0.0048 U	0.0035 U	0.0052 U
Xylenes	mg/kg	2,800	0.018 U	0.017 U	0.015 U	0.027 U	0.016 U	0.017 U	0.015 U	0.014 U	0.0096 U	**0.013 J**	N/A	0.018 U	0.014 U	0.011 U	0.015 U
Semi-Volatile Organic Compounds																	
1,1-Biphenyl	mg/kg	200	0.071 U	0.073 U	0.074 U	0.085 U	0.071 U	0.077 U	0.077 U	0.071 U	0.069 U	**0.044 J**	N/A	0.071 U	0.083 U	**0.069 J**	0.072 U
2,4-Dimethylphenol	mg/kg	16,000	0.071 U	0.073 U	0.074 U	0.085 U	0.071 U	0.077 U	0.077 U	0.071 UJ	0.069 U	**0.075**	N/A	0.071 U	0.083 U	**0.1**	0.072 U
2,6-Dinitrotoluene	mg/kg	1.5	0.071 U	0.073 U	**0.024 J**	0.085 U	0.071 U	0.077 U	0.077 U	0.071 U	0.069 U	0.075 U	N/A	0.071 U	0.083 U	0.071 U	0.072 U
2-Chloronaphthalene	mg/kg	60,000	0.071 U	0.073 U	0.074 U	0.085 U	0.071 U	0.077 U	0.077 U	0.071 U	0.069 U	0.075 U	N/A	0.071 U	0.083 U	0.071 U	0.072 U
2-Methylnaphthalene	mg/kg	3,000	0.0072 U	0.073 U	0.076 U	0.0085 U	0.007 U	0.078 U	0.0079 U	0.072 U	0.07 U	**0.25**	N/A	**0.0024 J**	0.0084 U	0.072 U	0.074 U
2-Methylphenol	mg/kg	41,000	0.071 U	0.073 U	0.074 U	0.085 U	0.071 U	0.077 U	0.077 U	0.071 UJ	0.069 U	0.075 U	N/A	0.071 U	0.083 U	**0.11**	0.072 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.14 U	0.15 U	0.15 U	0.17 U	0.14 U	0.15 U	0.15 U	0.14 UJ	0.14 U	**0.033 J**	N/A	0.14 U	0.17 U	**0.18**	0.14 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.071 U	0.073 UJ	0.074 U	0.085 U	0.071 U	0.077 U	0.077 U	0.071 UJ	0.069 UJ	0.075 UJ	N/A	0.071 U	0.083 U	0.071 UJ	0.072 UJ
4-Chloroaniline	mg/kg	11	0.071 U	0.073 U	0.074 U	0.085 U	0.071 U	0.077 U	0.077 U	0.071 U	0.069 U	0.075 U	N/A	0.071 U	0.083 U	0.071 U	0.072 U
Acenaphthene	mg/kg	45,000	0.0072 U	0.073 U	0.076 U	0.0085 U	0.007 U	0.078 U	0.0079 U	0.072 U	0.07 U	**0.073 J**	N/A	**0.0005 J**	0.0084 U	**0.0061 J**	0.074 U
Acenaphthylene	mg/kg	45,000	0.0072 U	0.073 U	0.076 U	0.0085 U	0.007 U	**0.0074 J**	0.0079 U	**0.0086 J**	0.07 U	**0.11**	N/A	**0.00076 J**	0.0084 U	**0.026 J**	**0.042 J**
Acetophenone	mg/kg	120,000	0.071 U	0.073 U	0.074 U	0.085 U	0.071 U	0.077 U	0.077 U	**0.028 J**	0.069 U	0.075 U	N/A	0.071 U	0.083 U	**0.29**	0.072 U
Anthracene	mg/kg	230,000	0.0072 U	0.073 U	0.076 U	**0.0011 J**	0.007 U	**0.014 J**	0.0079 U	**0.0086 J**	0.07 U	**0.44**	N/A	**0.0015 J**	0.0084 U	**0.035 J**	**0.013 J**
Benz[a]anthracene	mg/kg	21	0.0072 U	0.073 U	0.076 U	0.0085 U	0.007 U	**0.074 J**	0.0079 U	**0.043 J**	**0.016 J**	**1.6**	N/A	**0.0057 J**	0.0084 U	**0.076**	**0.12**
Benzaldehyde	mg/kg	120,000	0.071 UJ	**0.026 J**	0.074 UJ	0.085 U	0.071 U	0.077 U	0.077 U	**0.1 J**	0.069 UJ	**0.13 J**	N/A	0.071 U	0.083 U	**0.68 J**	**0.023 J**
Benzo[a]pyrene	mg/kg	2.1	0.0072 U	**0.0096 J**	0.076 U	0.0085 U	0.007 U	**0.059 J**	0.0079 U	**0.035 J**	**0.01 J**	**1.4 J**	0.0082 U	**0.0069 J**	0.0084 U	**0.076 J**	**0.18 J**
Benzo[b]fluoranthene	mg/kg	21	**0.00057 J**	**0.015 J**	**0.0062 J**	**0.0023 J**	**0.0021 J**	**0.15**	0.0079 U	**0.063 J**	**0.022 J**	**3.4 J**	0.0082 U	**0.015**	0.0084 U	**0.17 J**	**0.36 J**
Benzo[g,h,i]perylene	mg/kg		0.0072 U	0.073 U	0.076 U	0.0085 U	0.007 U	**0.039 J**	0.0079 U	**0.011 J**	0.07 UJ	**0.35 J**	N/A	**0.006 J**	0.0084 U	**0.068 J**	**0.065 J**
Benzo[k]fluoranthene	mg/kg	210	0.0072 U	0.073 U	0.076 U	**0.002 J**	**0.0021 J**	**0.13**	0.0079 U	**0.057 J**	**0.02 J**	**3 J**	N/A	**0.013**	0.0084 U	**0.15 J**	**0.32 J**
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.071 U	**0.39 J**	**0.038 B**	0.085 U	0.071 U	**0.019 J**	0.077 U	**0.043 J**	**0.015 J**	0.075 UJ	N/A	0.071 U	0.083 U	0.071 UJ	0.072 UJ
Carbazole	mg/kg		0.071 U	0.073 U	0.074 U	0.085 U	0.071 U	0.077 U	0.077 U	0.071 U	0.069 U	**0.15**	N/A	0.071 U	0.083 U	0.071 U	0.072 U
Chrysene	mg/kg	2,100	0.0072 U	**0.0065 J**	0.076 U	**0.0012 J**	**0.0011 J**	**0.068 J**	0.0079 U	**0.028 J**	**0.0085 J**	**1.2**	N/A	**0.0043 J**	0.0084 U	**0.049 J**	**0.096**
Dibenz[a,h]anthracene	mg/kg	2.1	0.0072 U	0.073 U	0.076 U	0.0085 U	0.007 U	**0.016 J**	0.0079 U	0.072 UJ	0.07 UJ	**0.16 J**	N/A	**0.0014 J**	0.0084 U	0.072 UJ	**0.018 J**
Di-n-butylphthalate	mg/kg	82,000	0.071 U	0.073 U	0.074 U	0.085 U	0.071 U	0.077 U	0.077 U	**0.071**	0.069 U	0.075 U	N/A	0.071 U	0.083 U	0.071 U	0.072 U
Di-n-ocytlphthalate	mg/kg	8,200	0.071 U	0.073 UJ	0.074 UJ	0.085 U	0.071 U	0.077 U	0.077 U	0.071 UJ	0.069 UJ	0.075 UJ	N/A	0.071 U	0.083 U	0.071 UJ	0.072 UJ
Fluoranthene	mg/kg	30,000	**0.00057 J**	**0.016 J**	**0.0069 J**	**0.0018 J**	**0.0023 J**	**0.089**	0.0079 U	**0.039 J**	**0.013 J**	**2.1**	N/A	**0.0072**	**0.00063 J**	**0.1**	**0.1**
Fluorene	mg/kg	30,000	0.0072 U	0.073 U	0.076 U	0.0085 U	0.007 U	0.078 U	0.0079 U	0.072 U	0.07 U	**0.13**	N/A	0.0071 U	0.0084 U	**0.0076 J**	0.074 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	0.0072 U	0.073 U	0.076 U	0.0085 U	0.007 U	**0.032 J**	0.0079 U	0.072 UJ	0.07 UJ	**0.38 J**	N/A	**0.0039 J**	0.0084 U	**0.031 J**	**0.057 J**
Naphthalene	mg/kg	17	0.0072 U	0.073 U	0.076 U	0.0085 U	0.007 U	0.078 U	0.0079 U	0.072 U	0.07 U	**0.35**	N/A	**0.0019 J**	0.0084 U	**0.032 B**	**0.02 B**
N-Nitrosodiphenylamine	mg/kg	470	0.071 U	0.073 U	0.074 U	0.085 U	0.071 U	0.077 U	0.077 U	0.071 U	0.069 U	0.075 U	N/A	0.071 U	0.083 U	0.071 U	0.072 U
Pentachlorophenol	mg/kg	4	0.18 U	0.18 U	0.19 U	0.21 U	0.18 U	0.19 U	0.19 U	0.18 UJ	0.17 U	0.19 U	N/A	0.18 U	0.21 U	0.18 U	0.18 U
Phenanthrene	mg/kg		**0.00057 J**	**0.0068 J**	**0.0089 J**	**0.0027 J**	**0.0016 J**	**0.069 J**	0.0079 U	**0.0087 J**	**0.0092 J**	**1.2**	N/A	**0.0067 J**	**0.0012 J**	**0.041 J**	**0.023 J**
Phenol	mg/kg	250,000	0.071 U	0.073 U	0.074 U	0.085 U	0.071 U	0.077 U	0.077 U	0.071 UJ	0.069 U	0.075 U	N/A	0.071 U	0.083 U	**0.22**	0.072 U
Pyrene	mg/kg	23,000	0.0072 U	**0.019 J**	**0.0078 J**	**0.0023 J**	**0.0024 J**	**0.073 J**	0.0079 U	**0.037 J**	**0.011 J**	**1.8**	N/A	**0.0059 J**	0.0084 U	**0.082**	**0.1**
PCBs																	
Aroclor 1242	mg/kg	0.97	N/A	**1.13**	N/A	0.0527 U	N/A	0.058 U	N/A	0.0558 U	0.05 U	N/A	N/A	0.053 U	N/A	0.0527 U	N/A
Aroclor 1248	mg/kg	0.94	N/A	0.0577 U	N/A	0.0527 U	N/A	0.058 U	N/A	0.0558 U	0.05 U	N/A	N/A	0.053 U	N/A	0.0527 U	N/A
Aroclor 1254	mg/kg	0.97	N/A	0.0577 U	N/A	0.0527 U	N/A	0.058 U	N/A	0.0558 U	0.05 U	N/A	N/A	0.053 U	N/A	**0.107**	N/A
Aroclor 1260	mg/kg	0.99	N/A	0.0577 U	N/A	0.0527 U	N/A	0.058 U	N/A	0.0558 U	0.05 U	N/A	N/A	0.053 U	N/A	0.0527 U	N/A
Aroclor 1262	mg/kg		N/A	0.0577 U	N/A	0.0527 U	N/A	**0.111**	N/A	**0.0466 J**	0.05 U	N/A	N/A	0.053 U	N/A	0.0527 U	N/A
Aroclor 1268	mg/kg		N/A	0.0577 U	N/A	0.0527 U	N/A	0.058 U	N/A	0.0558 U	0.05 U	N/A	N/A	0.053 U	N/A	0.0527 U	N/A
PCBs (total)	mg/kg	0.97	N/A	**1.13**	N/A	0.0527 U	N/A	**0.111**	N/A	**0.0466 J**	0.05 U	N/A	N/A	0.053 U	N/A	**0.107**	N/A
TPH/Oil and Grease																	
Diesel Range Organics	mg/kg	6,200	**5.8 J**	**98.4 J**	**47.1 J**	**43.7 J**	**12.7 J**	**32.9**	N/A	**248 J**	**40.1 J**	**653 J**	**4.1 J**	**10.3**	**5.6 J**	**211 J**	**27.7 J**
Gasoline Range Organics	mg/kg	6,200	14 U	10.5 U	10.3 U	16.1 U	11.4 U	11 U	N/A	9.3 U	6.6 U	**17.3**	N/A	13.8 U	10.4 U	8.3 U	11.6 U
Oil and Grease	mg/kg	6,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Detections in bold
N/A indicates that the parameter was not analyzed for this sample
* indicates non-validated data results
^PAH compounds were analyzed for SIM
Values in red indicate an exceedance of the Project Action Limit (PAL)
Gray highlight indicates within building footprint

J: The positive result reported for this anaytle is a quantitative estimate.
B: The compound/analyte was not detected substantially above the level of the associated method blank/preparation for field blank.
U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitative/detection limit may be higher than reported.
R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this compound/analyte in the sample.

Table 1
Summary of Organics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint, Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B6-026-SB-1*	B6-026-SB-4*	B6-027-SB-1	B6-027-SB-4	B6-028-SB-1*	B6-028-SB-9*	B6-029-SB-1*	B6-029-SB-5*	B6-039-SB-1*	B6-039-SB-5*	B6-040-SB-1*	B6-040-SB-5*	B6-041-SB-1	B6-041-SB-4	B6-042-SB-1
Volatile Organic Compounds																	
1,1,1-Trichloroethane	mg/kg	36,000	0.0055 U	0.0054 U	0.0063 U	0.0048 U	0.0059 U	0.005 U	0.0067 U	0.0062 U	0.0056 U	0.0049 U	0.0036 U	0.0054 U	0.0042 U	0.0055 U	0.0054 U
1,1,2-Trichloroethane	mg/kg	5	0.0055 U	0.0054 U	0.0063 U	0.0048 U	0.0059 U	0.005 U	0.0067 U	0.0062 U	0.0056 U	0.0049 U	0.0036 U	0.0054 U	0.0042 U	0.0055 U	0.0054 U
1,1-Dichloroethane	mg/kg	16	0.0055 U	0.0054 U	0.0063 U	0.0048 U	0.0059 U	0.005 U	0.0067 U	0.0062 U	0.0056 U	0.0049 U	0.0036 U	0.0054 U	0.0042 U	0.0055 U	0.0054 U
1,1-Dichloroethene	mg/kg	1,000	0.0055 U	0.0054 U	0.0063 U	0.0048 U	0.0059 U	0.005 U	0.0067 U	0.0062 U	0.0056 U	0.0049 U	0.0036 U	0.0054 U	0.0042 U	0.0055 U	0.0054 U
1,2-Dichloroethane	mg/kg	2	0.0055 U	0.0054 U	0.0063 U	0.0048 U	0.0059 U	0.005 U	0.0067 U	0.0062 U	**0.002 J**	0.0049 U	0.0036 U	0.0054 U	0.0042 U	0.0055 U	0.0054 U
1,2-Dichloroethene (Total)	mg/kg	2,300	0.011 U	0.011 U	0.013 U	0.0096 U	0.012 U	0.01 U	0.013 U	0.012 U	0.011 U	0.0099 U	0.0072 U	0.011 U	0.0085 U	0.011 U	0.011 U
1,4-Dioxane	mg/kg	24	0.11 U	0.11 U	0.13 R	0.096 R	0.12 U	0.1 U	0.13 U	0.12 U	0.11 U	0.099 U	0.072 U	0.11 U	0.085 R	0.11 R	0.11 R
2-Butanone (MEK)	mg/kg	190,000	0.011 U	**0.0029 J**	0.013 U	0.0096 U	0.012 U	0.01 U	0.013 U	0.012 U	0.011 U	0.0099 U	0.0072 U	0.011 U	0.0085 U	0.011 U	0.011 U
2-Hexanone	mg/kg	1,300	0.011 U	0.011 U	0.013 U	0.0096 U	0.012 U	0.01 U	0.013 U	0.012 U	0.011 U	0.0099 U	0.0072 U	0.011 U	0.0085 U	0.011 U	0.011 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.011 U	0.011 U	0.013 U	0.0096 U	0.012 U	0.01 U	0.013 U	0.012 U	0.011 U	0.0099 U	0.0072 U	0.011 U	0.0085 UJ	0.011 UJ	0.011 UJ
Acetone	mg/kg	670,000	**0.016**	**0.028**	0.013 UJ	0.0096 UJ	0.012 U	**0.0093 J**	**0.02**	0.012 U	0.011 U	**0.011**	0.0072 U	**0.01 J**	**0.0072 B**	0.011 UJ	**0.016 J**
Benzene	mg/kg	5.1	0.0055 U	0.0054 U	0.0063 U	0.0048 U	0.0059 U	0.005 U	0.0067 U	0.0062 U	0.0056 U	0.0049 U	0.0036 U	0.0054 U	0.0042 U	0.0055 U	0.0054 U
Chloroethane	mg/kg	57,000	0.0055 U	0.0054 U	0.0063 U	0.0048 U	0.0059 U	0.005 U	0.0067 U	0.0062 U	0.0056 U	0.0049 U	0.0036 U	0.0054 U	0.0042 UJ	0.0055 UJ	0.0054 UJ
cis-1,2-Dichloroethene	mg/kg	2,300	0.0055 U	0.0054 U	0.0063 U	0.0048 U	0.0059 U	0.005 U	0.0067 U	0.0062 U	0.0056 U	0.0049 U	0.0036 U	0.0054 U	0.0042 U	0.0055 U	0.0054 U
Cyclohexane	mg/kg	27,000	0.011 U	0.011 U	0.013 U	0.0096 U	0.012 U	0.01 U	0.013 U	0.012 U	0.011 U	0.0099 U	0.0072 U	0.011 U	0.0085 UJ	0.011 UJ	0.011 UJ
Ethylbenzene	mg/kg	25	0.0055 U	0.0054 U	0.0063 U	0.0048 U	0.0059 U	0.005 U	0.0067 U	0.0062 U	0.0056 U	0.0049 U	0.0036 U	0.0054 U	0.0042 U	0.0055 U	0.0054 U
Isopropylbenzene	mg/kg	9,900	0.0055 U	0.0054 U	0.0063 U	0.0048 U	0.0059 U	0.005 U	0.0067 U	0.0062 U	0.0056 U	0.0049 U	0.0036 U	0.0054 U	0.0042 U	0.0055 U	0.0054 U
Methyl Acetate	mg/kg	1,200,000	0.055 U	0.054 U	0.063 U	0.048 U	0.059 U	0.05 U	0.067 U	0.062 U	0.056 U	0.049 U	0.036 U	0.054 U	0.042 U	0.055 U	0.054 U
Methylene Chloride	mg/kg	1,000	0.0055 U	0.0054 U	0.0063 U	0.0048 U	0.0059 U	0.005 U	0.0067 U	0.0062 U	0.0056 U	0.0049 U	0.0036 U	0.0054 U	0.0042 U	0.0055 U	0.0054 U
Styrene	mg/kg	35,000	0.0055 U	0.0054 U	0.0063 U	0.0048 U	0.0059 U	0.005 U	0.0067 U	0.0062 U	0.0056 U	0.0049 U	0.0036 U	0.0054 U	0.0042 U	0.0055 U	0.0054 U
Tetrachloroethene	mg/kg	100	0.0055 U	0.0054 U	0.0063 U	0.0048 U	0.0059 U	0.005 U	0.0067 U	0.0062 U	0.0056 U	0.0049 U	0.0036 U	0.0054 U	0.0042 UJ	0.0055 UJ	0.0054 UJ
Toluene	mg/kg	47,000	0.0055 U	0.0054 U	0.0063 U	0.0048 U	0.0059 U	0.005 U	0.0067 U	0.0062 U	0.0056 U	0.0049 U	0.0036 U	0.0054 U	0.0042 U	0.0055 U	0.0054 U
Trichloroethene	mg/kg	6	0.0055 U	0.0054 U	0.0063 U	0.0048 U	0.0059 U	0.005 U	0.0067 U	0.0062 U	0.0056 U	0.0049 U	0.0036 U	0.0054 U	0.0042 U	0.0055 U	0.0054 U
Vinyl chloride	mg/kg	1.7	0.0055 U	0.0054 U	0.0063 U	0.0048 U	0.0059 U	0.005 U	0.0067 U	0.0062 U	0.0056 U	0.0049 U	0.0036 U	0.0054 U	0.0042 U	0.0055 U	0.0054 U
Xylenes	mg/kg	2,800	0.016 U	0.016 U	0.019 U	0.014 U	0.018 U	0.015 U	0.02 U	0.019 U	**0.0038 J**	0.015 U	0.011 U	0.016 U	0.013 U	0.016 U	0.016 U
Semi-Volatile Organic Compounds																	
1,1-Biphenyl	mg/kg	200	0.072 U	0.078 U	0.072 U	0.073 U	0.07 U	0.071 U	0.072 U	0.074 U	0.075 U	0.078 U	0.068 U	0.083 U	0.076 U	0.077 U	0.071 U
2,4-Dimethylphenol	mg/kg	16,000	0.072 U	0.078 U	0.072 R	0.073 U	0.07 U	0.071 U	0.072 U	0.074 U	0.075 U	0.078 U	0.068 U	0.083 U	0.076 U	0.077 UJ	0.071 U
2,6-Dinitrotoluene	mg/kg	1.5	0.072 U	0.078 U	0.072 U	0.073 U	0.07 U	0.071 U	0.072 U	0.074 U	0.075 U	0.078 U	**0.028 J**	0.083 U	0.076 U	0.077 U	0.071 U
2-Chloronaphthalene	mg/kg	60,000	0.072 U	0.078 U	0.072 U	0.073 U	0.07 U	0.071 U	0.072 U	0.074 U	0.075 U	0.078 U	0.068 U	0.083 U	0.076 U	0.077 U	0.071 U
2-Methylnaphthalene	mg/kg	3,000	0.071 U	**0.0075 J**	0.072 U	**0.025**	0.071 U	0.0072 U	0.36 U	0.0074 U	0.075 U	0.0079 U	**1.2**	**0.0031 J**	0.076 U	0.077 U	0.07 U
2-Methylphenol	mg/kg	41,000	0.072 U	0.078 U	0.072 R	0.073 U	0.07 U	0.071 U	0.072 U	0.074 U	0.075 U	0.078 U	0.068 U	0.083 U	0.076 U	0.077 UJ	0.071 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.14 U	0.16 U	0.14 R	0.15 U	0.14 U	0.14 U	0.14 U	0.15 U	0.15 U	0.16 U	0.14 U	0.17 U	0.15 U	0.15 UJ	0.14 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.072 U	0.078 U	0.072 UJ	0.073 U	0.07 U	0.071 U	0.072 U	0.074 U	0.075 U	0.078 U	0.068 U	0.083 U	0.076 UJ	0.077 UJ	0.071 UJ
4-Chloroaniline	mg/kg	11	0.072 U	0.078 U	0.072 U	0.073 U	**0.051 J**	0.071 U	**0.071 J**	0.074 U	0.075 U	0.078 U	0.068 U	0.083 U	0.076 U	0.077 U	0.071 U
Acenaphthene	mg/kg	45,000	0.071 U	**0.015**	0.072 U	**0.011**	0.071 U	0.0072 U	0.36 U	**0.0012 J**	**0.0082 J**	0.0079 U	**0.071**	**0.0007 J**	0.076 U	**0.0054 J**	0.07 U
Acenaphthylene	mg/kg	45,000	0.071 U	0.0078 U	0.072 U	**0.022**	0.071 U	0.0072 U	0.36 U	**0.0012 J**	0.075 U	0.0079 U	**0.059 J**	**0.00067 J**	0.076 U	0.077 U	0.07 U
Acetophenone	mg/kg	120,000	0.072 U	0.078 U	0.072 U	0.073 U	0.07 U	0.071 U	0.072 U	0.074 U	0.075 U	0.078 U	0.068 U	0.083 U	0.076 U	0.077 U	**0.07 J**
Anthracene	mg/kg	230,000	0.071 U	**0.019**	0.072 U	**0.076 J**	0.071 U	0.0072 U	0.36 U	**0.0032 J**	**0.021 J**	0.0079 U	**0.049 J**	**0.0019 J**	**0.011 J**	**0.019 J**	0.07 U
Benz[a]anthracene	mg/kg	21	0.071 U	**0.0092**	0.072 U	**0.13 J**	0.071 U	0.0072 U	0.36 U	**0.017**	**0.15**	**0.0029 J**	**0.024 J**	**0.0072 J**	**0.054 J**	**0.086**	0.07 U
Benzaldehyde	mg/kg	120,000	0.072 U	0.078 U	0.072 UJ	**0.017 J**	0.07 U	0.071 U	0.072 U	0.074 U	0.075 U	0.078 U	**0.036 J**	0.083 U	**0.017 J**	0.077 UJ	**0.042 J**
Benzo[a]pyrene	mg/kg	2.1	0.071 U	**0.0056 J**	**0.0096 J**	**0.11 J**	**0.011 J**	0.0072 U	**0.055 J**	**0.011**	**0.14**	**0.0015 J**	**0.011 J**	**0.0053 J**	**0.035 J**	**0.11**	**0.012 J**
Benzo[b]fluoranthene	mg/kg	21	**0.0072 J**	**0.013**	**0.015 J**	**0.23 J**	**0.021 J**	**0.0014 J**	**0.071 J**	**0.03**	**0.3**	**0.0034 J**	**0.034 J**	**0.011**	**0.11**	**0.23**	**0.034 J**
Benzo[g,h,i]perylene	mg/kg		0.071 U	**0.0021 J**	**0.011 J**	**0.043**	**0.012 J**	0.0072 U	0.36 U	**0.0059 J**	**0.13**	0.0079 U	**0.011 J**	**0.004 J**	**0.046 J**	**0.11**	**0.028 J**
Benzo[k]fluoranthene	mg/kg	210	0.071 U	**0.011**	0.072 UJ	**0.2 J**	**0.02 J**	**0.0012 J**	0.36 U	**0.026**	**0.26**	**0.003 J**	**0.03 J**	**0.0099**	**0.095**	**0.2**	**0.03 J**
bis(2-Ethylhexyl)phthalate	mg/kg	160	**0.028 J**	0.078 U	**0.032 J**	0.073 U	**0.091**	0.071 U	**0.086**	0.074 U	**0.043 J**	0.078 U	**0.069**	0.083 U	**0.24 J**	0.077 UJ	**0.15 J**
Carbazole	mg/kg		0.072 U	0.078 U	0.072 U	**0.049 J**	0.07 U	0.071 U	0.072 U	0.074 U	0.075 U	0.078 U	**0.15**	0.083 U	0.076 U	0.077 U	0.071 U
Chrysene	mg/kg	2,100	0.071 U	**0.0064 J**	**0.0089 J**	**0.12 J**	**0.0092 J**	**0.00071 J**	0.36 U	**0.014**	**0.14**	**0.0019 J**	**0.057 J**	**0.0055 J**	**0.065 J**	**0.089**	0.07 U
Dibenz[a,h]anthracene	mg/kg	2.1	0.071 U	0.0078 U	0.072 UJ	**0.017**	0.071 U	0.0072 U	0.36 U	**0.0021 J**	**0.028 J**	0.0079 U	0.069 U	**0.0013 J**	0.076 U	**0.032 J**	0.07 U
Di-n-butylphthalate	mg/kg	82,000	**0.06 J**	0.078 U	0.072 U	0.073 U	**0.021 J**	0.071 U	0.072 U	0.074 U	0.075 U	0.078 U	**0.99**	0.083 U	0.076 U	0.077 U	0.071 U
Di-n-ocytlphthalate	mg/kg	8,200	0.072 U	0.078 U	0.072 UJ	0.073 U	0.07 U	0.071 U	0.072 U	0.074 U	0.075 U	0.078 U	0.068 U	0.083 U	0.076 UJ	0.077 UJ	0.071 UJ
Fluoranthene	mg/kg	30,000	0.071 U	**0.023**	**0.01 J**	**0.32 J**	**0.017 J**	**0.0013 J**	0.36 U	**0.029**	**0.27**	**0.0032 J**	**0.098**	**0.012**	**0.09**	**0.11**	**0.008 J**
Fluorene	mg/kg	30,000	0.071 U	**0.013**	0.072 U	**0.047**	0.071 U	0.0072 U	0.36 U	**0.00093 J**	0.075 U	0.0079 U	**0.14**	**0.00088 J**	0.076 U	0.077 U	0.07 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	0.071 U	**0.002 J**	0.072 UJ	**0.043**	0.071 U	0.0072 U	0.36 U	**0.0054 J**	**0.097**	0.0079 U	0.069 U	**0.0031 J**	**0.032 J**	**0.082**	0.07 U
Naphthalene	mg/kg	17	0.071 U	**0.0069 J**	0.072 U	**0.04 J**	0.071 U	0.0072 U	0.36 U	**0.0034 J**	0.075 U	0.0079 U	**0.97**	**0.0061 J**	0.076 U	0.077 U	0.07 U
N-Nitrosodiphenylamine	mg/kg	470	0.072 U	0.078 U	0.072 U	0.073 U	0.07 U	0.071 U	0.072 U	0.074 U	0.075 U	0.078 U	0.068 U	0.083 U	0.076 U	0.077 U	0.071 U
Pentachlorophenol	mg/kg	4	0.18 U	0.2 U	0.18 R	0.18 UJ	0.18 U	0.18 U	0.18 U	0.19 U	**0.036 J**	0.2 U	0.17 U	0.21 U	0.19 U	0.19 UJ	0.18 U
Phenanthrene	mg/kg		0.071 U	**0.036**	**0.0094 J**	**0.3 J**	**0.013 J**	**0.0013 J**	0.36 U	**0.014**	**0.11**	**0.0018 J**	**0.34**	**0.0082**	**0.03 J**	**0.04 J**	0.07 U
Phenol	mg/kg	250,000	0.072 U	0.078 U	0.072 R	0.073 U	**0.019 J**	0.071 U	0.072 U	0.074 U	0.075 U	0.078 U	0.068 U	0.083 U	0.076 U	0.077 UJ	0.071 U
Pyrene	mg/kg	23,000	0.071 U	**0.021**	**0.011 J**	**0.22 J**	**0.022 J**	**0.0011 J**	**0.091 J**	**0.022**	**0.24**	**0.0027 J**	**0.077**	**0.0098**	**0.074 J**	**0.11**	**0.023 J**
PCBs																	
Aroclor 1242	mg/kg	0.97	0.256 U	N/A	0.0587 U	N/A	0.0535 U	N/A	0.0535 U	N/A	0.054 U	N/A	0.155 U	N/A	0.056 U	N/A	0.0539 U
Aroclor 1248	mg/kg	0.94	0.256 U	N/A	0.0587 U	N/A	0.0535 U	N/A	0.0535 U	N/A	0.054 U	N/A	0.155 U	N/A	0.056 U	N/A	0.0539 U
Aroclor 1254	mg/kg	0.97	**7.68**	N/A	0.0587 U	N/A	**0.0454 J**	N/A	**0.0804**	N/A	**0.0416 J**	N/A	**4.64**	N/A	0.056 U	N/A	0.0539 U
Aroclor 1260	mg/kg	0.99	0.256 U	N/A	0.0587 U	N/A	0.0535 U	N/A	0.0535 U	N/A	0.054 U	N/A	0.155 U	N/A	0.056 U	N/A	0.0539 U
Aroclor 1262	mg/kg		0.256 U	N/A	0.0587 U	N/A	0.0535 U	N/A	0.0535 U	N/A	**0.122**	N/A	0.155 U	N/A	**0.0731**	N/A	**0.284**
Aroclor 1268	mg/kg		0.256 U	N/A	0.0587 U	N/A	0.0535 U	N/A	0.0535 U	N/A	0.054 U	N/A	0.155 U	N/A	0.056 U	N/A	0.0539 U
PCBs (total)	mg/kg	0.97	**7.68**	N/A	0.0587 U	N/A	**0.0454 J**	N/A	**0.0804**	N/A	**0.1636**	N/A	**4.64**	N/A	**0.0731**	N/A	**0.284**
TPH/Oil and Grease																	
Diesel Range Organics	mg/kg	6,200	**61.5**	**93.4**	**69.7 J**	**31.5 J**	**99.6**	**7.6**	**432**	**14.6**	**34.9**	**4.4 J**	**166**	**43.5**	**269 J**	**217 J**	**659 J**
Gasoline Range Organics	mg/kg	6,200	12.8 U	9.9 U	12.3 U	10.6 U	10.8 U	10.1 U	11 U	14 U	11.9 U	**20.8**	6.8 U	11.7 U	8.9 U	11 U	12 U
Oil and Grease	mg/kg	6,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Detections in bold
N/A indicates that the parameter was not analyzed for this sample
* indicates non-validated data results
^PAH compounds were analyzed for SIM
Values in red indicate an exceedance of the Project Action Limit (PAL)
Gray highlight indicates within building footprint

J: The positive result reported for this anaytle is a quantitative estimate.
B: The compound/analyte was not detected substantially above the level of the associated method blank/preparation for field blank.
U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitative/detection limit may be higher than reported.
R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this compound/analyte in the sample.

Table 1
Summary of Organics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint, Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B6-042-SB-8	B6-043-SB-1	B6-043-SB-8	B6-044-SB-1*	B6-044-SB-4*	B6-045-SB-1	B6-045-SB-5	B6-045-SB-10	B6-046-SB-1	B6-046-SB-6	B6-051-SB-1	B6-051-SB-6	B6-052-SB-1	B6-057-SB-1*	B6-057-SB-8*
Volatile Organic Compounds																	
1,1,1-Trichloroethane	mg/kg	36,000	0.0068 U	0.0058 U	0.0059 U	0.0034 U	0.0053 U	0.0039 U	0.0058 U	N/A	0.0055 U	0.0055 U	0.0051 U	0.0051 U	0.0054 U	0.0058 U	0.005 U
1,1,2-Trichloroethane	mg/kg	5	0.0068 U	0.0058 U	0.0059 U	0.0034 U	0.0053 U	0.0039 U	0.0058 U	N/A	0.0055 U	0.0055 U	0.0051 U	0.0051 U	0.0054 U	0.0058 U	0.005 U
1,1-Dichloroethane	mg/kg	16	0.0068 U	0.0058 U	0.0059 U	0.0034 U	0.0053 U	0.0039 U	0.0058 U	N/A	0.0055 U	0.0055 U	0.0051 U	0.0051 U	0.0054 U	0.0058 U	0.005 U
1,1-Dichloroethene	mg/kg	1,000	0.0068 U	0.0058 U	0.0059 U	0.0034 U	0.0053 U	0.0039 U	0.0058 U	N/A	0.0055 U	0.0055 U	0.0051 U	0.0051 U	0.0054 U	0.0058 U	0.005 U
1,2-Dichloroethane	mg/kg	2	0.0068 U	0.0058 U	0.0059 U	0.0034 U	0.0053 U	0.0039 U	0.0058 U	N/A	0.0055 U	0.0055 U	0.0051 U	0.0051 U	0.0054 U	0.0058 U	0.005 U
1,2-Dichloroethene (Total)	mg/kg	2,300	0.014 U	0.012 U	0.012 U	0.0069 U	0.011 U	0.0078 U	0.012 U	N/A	0.011 U	0.011 U	0.01 U	0.01 U	0.011 U	0.012 U	0.01 U
1,4-Dioxane	mg/kg	24	0.14 R	0.12 R	0.12 R	0.069 U	0.11 U	0.078 R	0.12 R	N/A	0.11 R	0.11 R	0.1 R	0.1 R	0.11 R	0.12 U	0.1 U
2-Butanone (MEK)	mg/kg	190,000	0.014 U	0.012 U	0.012 U	**0.058**	0.011 U	0.0078 U	**0.0067 J**	N/A	0.011 U	**0.0051 J**	0.01 U	0.01 U	0.011 U	0.012 U	0.01 U
2-Hexanone	mg/kg	1,300	0.014 U	0.012 U	0.012 U	**0.0088**	0.011 U	0.0078 U	0.012 U	N/A	0.011 U	0.011 U	0.01 U	0.01 U	0.011 U	0.012 U	0.01 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.014 UJ	0.012 U	0.012 U	**0.0046 J**	0.011 U	0.0078 U	0.012 U	N/A	0.011 U	0.011 U	0.01 UJ	0.01 UJ	0.011 UJ	0.012 U	0.01 U
Acetone	mg/kg	670,000	**0.0093 B**	0.012 UJ	0.012 UJ	**0.2**	**0.0074 J**	0.0078 UJ	**0.032 J**	N/A	0.011 UJ	**0.052 J**	**0.009 B**	**0.023 J**	**0.0066 B**	0.012 U	0.01 U
Benzene	mg/kg	5.1	**0.0033 J**	0.0058 U	0.0059 U	0.0034 U	0.0053 U	0.0039 U	0.0058 U	N/A	0.0055 U	0.0055 U	0.0051 U	0.0051 U	0.0054 U	0.0058 U	0.005 U
Chloroethane	mg/kg	57,000	0.0068 UJ	0.0058 U	0.0059 U	0.0034 U	0.0053 U	0.0039 U	0.0058 U	N/A	0.0055 U	0.0055 U	0.0051 UJ	0.0051 UJ	0.0054 UJ	0.0058 U	0.005 U
cis-1,2-Dichloroethene	mg/kg	2,300	0.0068 U	0.0058 U	0.0059 U	0.0034 U	0.0053 U	0.0039 U	0.0058 U	N/A	0.0055 U	0.0055 U	0.0051 U	0.0051 U	0.0054 U	0.0058 U	0.005 U
Cyclohexane	mg/kg	27,000	0.014 UJ	0.012 U	0.012 U	0.0069 U	0.011 U	0.0078 U	0.012 U	N/A	0.011 U	0.011 U	0.01 UJ	0.01 UJ	0.011 UJ	0.012 U	0.01 U
Ethylbenzene	mg/kg	25	0.0068 U	0.0058 U	0.0059 U	0.0034 U	0.0053 U	0.0039 U	0.0058 U	N/A	0.0055 U	0.0055 U	0.0051 U	0.0051 U	0.0054 U	0.0058 U	0.005 U
Isopropylbenzene	mg/kg	9,900	0.0068 U	0.0058 U	0.0059 U	0.0034 U	0.0053 U	0.0039 U	0.0058 U	N/A	0.0055 U	0.0055 U	0.0051 U	0.0051 U	0.0054 U	0.0058 U	0.005 U
Methyl Acetate	mg/kg	1,200,000	0.068 U	0.058 U	0.059 U	0.034 U	0.053 U	0.039 U	0.058 U	N/A	0.055 U	0.055 U	0.051 U	0.051 U	0.054 U	0.058 U	0.05 U
Methylene Chloride	mg/kg	1,000	0.0068 U	0.0058 U	0.0059 U	0.0034 U	0.0053 U	0.0039 U	0.0058 U	N/A	0.0055 U	0.0055 U	0.0051 U	0.0051 U	0.0054 U	0.0058 U	0.005 U
Styrene	mg/kg	35,000	0.0068 U	0.0058 U	0.0059 U	0.0034 U	0.0053 U	0.0039 U	0.0058 U	N/A	0.0055 U	0.0055 U	0.0051 U	0.0051 U	0.0054 U	0.0058 U	0.005 U
Tetrachloroethene	mg/kg	100	0.0068 UJ	0.0058 U	0.0059 U	0.0034 U	0.0053 U	0.0039 U	0.0058 U	N/A	0.0055 U	0.0055 U	0.0051 UJ	0.0051 UJ	0.0054 UJ	0.0058 U	0.005 U
Toluene	mg/kg	47,000	**0.0055 J**	0.0058 U	0.0059 U	**0.0024 J**	0.0053 U	0.0039 U	0.0058 U	N/A	0.0055 U	0.0055 U	0.0051 U	0.0051 U	0.0054 U	0.0058 U	0.005 U
Trichloroethene	mg/kg	6	0.0068 U	0.0058 U	0.0059 U	0.0034 U	0.0053 U	0.0039 U	0.0058 U	N/A	0.0055 U	0.0055 U	0.0051 U	0.0051 U	0.0054 U	0.0058 U	0.005 U
Vinyl chloride	mg/kg	1.7	0.0068 U	0.0058 U	0.0059 U	0.0034 U	0.0053 U	0.0039 U	0.0058 U	N/A	0.0055 U	0.0055 U	0.0051 U	0.0051 U	0.0054 U	0.0058 U	0.005 U
Xylenes	mg/kg	2,800	0.02 U	0.017 U	0.018 U	0.01 U	0.016 U	0.012 U	0.017 U	N/A	0.017 U	0.016 U	0.015 U	0.015 U	0.016 U	0.017 U	0.015 U
Semi-Volatile Organic Compounds																	
1,1-Biphenyl	mg/kg	200	0.075 U	0.07 U	0.072 U	0.36 U	0.073 U	0.07 U	**0.13**	N/A	0.076 U	0.084 U	0.079 U	0.081 U	0.08 U	0.077 U	0.081 U
2,4-Dimethylphenol	mg/kg	16,000	0.075 U	0.07 U	0.072 U	0.36 U	0.073 U	0.07 U	0.085 U	N/A	0.076 UJ	0.084 U	0.079 U	0.081 U	0.08 U	0.077 U	0.081 U
2,6-Dinitrotoluene	mg/kg	1.5	0.075 U	0.07 U	0.072 U	0.36 U	0.073 U	0.07 U	0.085 U	N/A	0.076 U	0.084 U	0.079 U	0.081 U	0.08 U	0.077 U	0.081 U
2-Chloronaphthalene	mg/kg	60,000	0.075 U	0.07 U	0.072 U	0.36 U	0.073 U	0.07 U	0.085 U	N/A	0.076 U	0.084 U	0.079 U	0.081 U	0.08 U	0.077 U	0.081 U
2-Methylnaphthalene	mg/kg	3,000	**0.0065 J**	0.0068 U	0.0073 U	0.37 U	0.074 U	0.007 U	**0.55**	N/A	**0.038**	**0.0023 J**	0.0079 U	0.008 U	0.08 U	**0.006 J**	0.0082 U
2-Methylphenol	mg/kg	41,000	0.075 U	0.07 U	0.072 U	0.36 U	0.073 U	0.07 U	**0.051 J**	N/A	0.076 UJ	0.084 U	0.079 U	0.081 U	0.08 U	0.077 U	0.081 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.15 U	0.14 U	0.14 U	0.72 U	0.15 U	0.14 U	**0.027 J**	N/A	**0.02 J**	0.17 U	0.16 U	0.16 U	0.16 U	0.15 U	0.16 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.075 U	0.07 U	0.072 U	0.36 U	0.073 U	0.07 U	0.085 UJ	N/A	0.076 U	0.084 U	0.079 U	0.081 U	0.08 UJ	0.077 U	0.081 U
4-Chloroaniline	mg/kg	11	0.075 U	0.07 U	0.072 U	0.36 U	0.073 U	0.07 U	0.085 U	N/A	0.076 U	0.084 U	0.079 U	0.081 U	0.08 U	0.077 U	0.081 U
Acenaphthene	mg/kg	45,000	**0.0011 J**	0.0068 U	0.0073 U	**0.99**	**0.021 J**	0.007 U	**0.56**	N/A	**0.0033 J**	**0.0017 J**	0.0079 U	0.008 U	0.08 U	0.0078 U	0.0082 U
Acenaphthylene	mg/kg	45,000	0.0076 U	0.0068 U	0.0073 U	0.37 U	0.074 U	**0.0028 J**	**1.2**	N/A	**0.026**	0.0084 U	0.0079 U	**0.00066 J**	0.08 U	**0.0044 J**	0.0082 U
Acetophenone	mg/kg	120,000	0.075 U	0.07 U	0.072 U	0.36 U	0.073 U	0.07 U	**0.15**	N/A	0.076 U	0.084 U	0.079 U	0.081 U	0.08 U	0.077 U	0.081 U
Anthracene	mg/kg	230,000	**0.0098**	0.0068 U	**0.0013 J**	**0.19 J**	**0.0099 J**	**0.0029 J**	**1.2**	N/A	**0.022**	0.0084 U	**0.0016 J**	**0.0014 J**	**0.039 J**	**0.0024 J**	0.0082 U
Benz[a]anthracene	mg/kg	21	**0.15**	**0.0058 J**	**0.01**	**1.6**	**0.079**	**0.0084**	**2.2**	N/A	**0.036**	**0.0037 J**	**0.0029 J**	**0.0034 J**	**0.1**	**0.0089**	0.0082 U
Benzaldehyde	mg/kg	120,000	0.075 UJ	0.07 UJ	0.072 UJ	0.36 U	0.073 U	0.07 UJ	**0.22 J**	N/A	**0.021 J**	0.084 UJ	0.079 UJ	0.081 UJ	0.08 UJ	0.077 U	0.081 U
Benzo[a]pyrene	mg/kg	2.1	**0.14**	**0.0045 J**	**0.0093**	**3.5**	**0.13**	**0.0084 J**	**1.4 J**	0.0078 U	**0.03**	**0.0022 J**	**0.0076 J**	**0.0073 J**	**0.085**	**0.0077 J**	0.0082 U
Benzo[b]fluoranthene	mg/kg	21	**0.28**	**0.012**	**0.021**	**5.2**	**0.22**	**0.026 J**	**4.1 J**	0.0078 U	**0.094**	**0.0061 J**	**0.019**	**0.017**	**0.18**	**0.017**	0.0082 U
Benzo[g,h,i]perylene	mg/kg		**0.061**	**0.0045 J**	**0.008**	**2.4**	**0.1**	**0.0046 J**	**0.42 J**	N/A	**0.031**	**0.002 J**	**0.0029 J**	**0.0028 J**	**0.053 J**	**0.0056 J**	0.0082 U
Benzo[k]fluoranthene	mg/kg	210	**0.25**	**0.011**	**0.018**	**4.6**	**0.19**	**0.023 J**	**3.5 J**	N/A	**0.082**	**0.0053 J**	**0.016**	**0.015**	**0.16**	**0.017**	0.0082 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.075 U	0.07 U	0.072 U	**0.46**	**0.021 J**	0.07 U	0.085 UJ	N/A	0.076 U	0.084 U	**0.055 J**	**0.049 J**	**0.99 J**	0.077 U	0.081 U
Carbazole	mg/kg		0.075 U	0.07 U	0.072 U	0.36 U	0.073 U	0.07 U	**0.076 J**	N/A	**0.028 J**	0.084 U	0.079 U	0.081 U	0.08 U	0.077 U	0.081 U
Chrysene	mg/kg	2,100	**0.13**	**0.0056 J**	**0.0087**	**1.4**	**0.072 J**	**0.0067 J**	**1.5**	N/A	**0.075**	**0.0029 J**	**0.0079**	**0.0071 J**	**0.099**	**0.012**	0.0082 U
Dibenz[a,h]anthracene	mg/kg	2.1	**0.022**	0.0068 U	**0.0029 J**	**0.66**	**0.028 J**	**0.0019 J**	**0.15 J**	N/A	**0.011**	0.0084 U	0.0079 U	0.008 U	0.08 U	**0.0019 J**	0.0082 U
Di-n-butylphthalate	mg/kg	82,000	0.075 U	0.07 U	0.072 U	0.36 U	0.073 U	0.07 U	0.085 U	N/A	0.076 U	0.084 U	0.079 U	0.081 U	0.08 U	0.077 U	0.081 U
Di-n-octylphthalate	mg/kg	8,200	0.075 U	0.07 U	0.072 U	0.36 U	0.073 U	0.07 UJ	0.085 UJ	N/A	0.076 UJ	0.084 U	0.079 U	0.081 U	0.08 UJ	0.077 U	0.081 U
Fluoranthene	mg/kg	30,000	**0.19**	**0.0092**	**0.015**	**1.5**	**0.072 J**	**0.011**	**5.5**	N/A	**0.082**	**0.0059 J**	**0.0084**	**0.0078 J**	**0.17**	**0.018**	0.0082 U
Fluorene	mg/kg	30,000	**0.00095 J**	0.0068 U	0.0073 U	**0.088 J**	0.074 U	0.007 U	**0.91**	N/A	**0.0066 J**	**0.0014 J**	0.0079 U	0.008 U	0.08 U	**0.00071 J**	0.0082 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.059**	**0.0031 J**	**0.0059 J**	**2**	**0.081**	**0.0038 J**	**0.49 J**	N/A	**0.022**	**0.0016 J**	**0.0025 J**	**0.0022 J**	**0.037 J**	**0.0052 J**	0.0082 U
Naphthalene	mg/kg	17	**0.0069 B**	0.0068 U	**0.0025 B**	**0.092 J**	0.074 U	0.007 U	**3.1**	N/A	**0.1**	**0.0047 B**	0.0079 U	0.008 U	0.08 U	**0.0067 J**	0.0082 U
N-Nitrosodiphenylamine	mg/kg	470	0.075 U	0.07 U	0.072 U	0.36 U	0.073 U	0.07 U	0.085 U	N/A	0.076 U	0.084 U	0.079 U	0.081 U	0.08 U	0.077 U	0.081 U
Pentachlorophenol	mg/kg	4	0.19 U	0.18 U	0.18 U	0.91 U	0.18 U	0.17 U	0.21 U	N/A	0.19 UJ	0.21 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U
Phenanthrene	mg/kg		**0.04**	**0.0037 J**	**0.0071 J**	**0.61**	**0.045 J**	**0.0064 J**	**5.7**	N/A	**0.16**	**0.0053 J**	**0.0027 J**	**0.003 J**	**0.055 J**	**0.013**	0.0082 U
Phenol	mg/kg	250,000	0.075 U	0.07 U	0.072 U	0.36 U	0.073 U	0.07 U	**0.082 J**	N/A	0.076 UJ	0.084 U	0.079 U	0.081 U	0.08 U	0.077 U	0.081 U
Pyrene	mg/kg	23,000	**0.16**	**0.008**	**0.013**	**1.5**	**0.07 J**	**0.0094**	**4.4**	N/A	**0.069**	**0.0048 J**	**0.015**	**0.013**	**0.18**	**0.014**	0.0082 U
PCBs																	
Aroclor 1242	mg/kg	0.97	N/A	0.0518 U	N/A	0.053 U	N/A	0.059 U	N/A	N/A	0.0568 U	N/A	0.0612 U	N/A	**0.143**	0.0632 U	N/A
Aroclor 1248	mg/kg	0.94	N/A	0.0518 U	N/A	0.053 U	N/A	0.059 U	N/A	N/A	0.0568 U	N/A	0.0612 U	N/A	0.0606 U	0.0632 U	N/A
Aroclor 1254	mg/kg	0.97	N/A	0.0518 U	N/A	0.053 U	N/A	**0.299**	N/A	N/A	0.0568 U	N/A	0.0612 U	N/A	**0.107**	0.0632 U	N/A
Aroclor 1260	mg/kg	0.99	N/A	0.0518 U	N/A	0.053 U	N/A	0.059 U	N/A	N/A	0.0568 U	N/A	0.0612 U	N/A	0.0606 U	0.0632 U	N/A
Aroclor 1262	mg/kg		N/A	0.0518 U	N/A	0.053 U	N/A	0.059 U	N/A	N/A	0.0568 U	N/A	0.0612 U	N/A	0.0606 U	0.0632 U	N/A
Aroclor 1268	mg/kg		N/A	0.0518 U	N/A	0.053 U	N/A	0.059 U	N/A	N/A	0.0568 U	N/A	0.0612 U	N/A	**0.348**	0.0632 U	N/A
PCBs (total)	mg/kg	0.97	N/A	0.0518 U	N/A	0.053 U	N/A	**0.299**	N/A	N/A	0.0568 U	N/A	0.0612 U	N/A	**0.598**	0.0632 U	N/A
TPH/Oil and Grease																	
Diesel Range Organics	mg/kg	6,200	**8.1 J**	**14 J**	**8.7 J**	**251**	**43.6**	**32.8 J**	**807 J**	7.9 UJ	**64.8 J**	**10.6 J**	**191 J**	**99.4 J**	**150 J**	**45**	**4.4 J**
Gasoline Range Organics	mg/kg	6,200	13.8 U	12.2 U	12.8 U	11.8 U	9.8 U	8.3 U	10.7 U	N/A	11.1 U	10.3 U	9.9 U	10.6 U	11.6 U	10.8 U	9.5 U
Oil and Grease	mg/kg	6,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Detections in bold
N/A indicates that the parameter was not analyzed for this sample
* indicates non-validated data results
^PAH compounds were analyzed for SIM
Values in red indicate an exceedance of the Project Action Limit (PAL)
Gray highlight indicates within building footprint

J: The positive result reported for this anaytle is a quantitative estimate.
B: The compound/analyte was not detected substantially above the level of the associated method blank/preparation for field blank.
U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitative/detection limit may be higher than reported.
R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this compound/analyte in the sample.

Table 1
Summary of Organics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint, Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B6-058-SB-1*	B6-058-SB-5*	B6-058-SB-10*	B6-059-SB-1	B6-059-SB-8	B6-060-SB-1	B6-060-SB-4	B6-061-SB-1	B6-061-SB-4	B6-062-SB-1	B6-062-SB-4	B6-078-SB-1	B6-078-SB-8	B6-083-SB-1*	B6-083-SB-8*
Volatile Organic Compounds																	
1,1,1-Trichloroethane	mg/kg	36,000	0.0064 U	0.0057 U	N/A	0.0057 U	0.005 U	0.0048 U	0.0068 U	0.005 U	0.0047 U	0.0063 U	0.0071 U	0.0064 U	0.0069 U	0.0035 U	0.0047 U
1,1,2-Trichloroethane	mg/kg	5	0.0064 U	0.0057 U	N/A	0.0057 U	0.005 U	0.0048 U	0.0068 U	0.005 U	0.0047 U	0.0063 U	0.0071 U	0.0064 U	0.0069 U	0.0035 U	0.0047 U
1,1-Dichloroethane	mg/kg	16	0.0064 U	0.0057 U	N/A	0.0057 U	0.005 U	0.0048 U	0.0068 U	0.005 U	0.0047 U	0.0063 U	0.0071 U	0.0064 U	0.0069 U	0.0035 U	0.0047 U
1,1-Dichloroethene	mg/kg	1,000	0.0064 U	0.0057 U	N/A	0.0057 U	0.005 U	0.0048 U	0.0068 U	0.005 U	0.0047 U	0.0063 U	0.0071 U	0.0064 U	0.0069 U	0.0035 U	0.0047 U
1,2-Dichloroethane	mg/kg	2	0.0064 U	0.0057 U	N/A	0.0057 U	0.005 U	0.0048 U	0.0068 U	0.005 U	0.0047 U	0.0063 U	0.0071 U	0.0064 U	0.0069 U	0.0035 U	0.0047 U
1,2-Dichloroethene (Total)	mg/kg	2,300	0.013 U	0.011 U	N/A	0.011 U	0.01 U	0.0096 U	0.014 U	0.0099 U	0.0095 U	0.013 U	0.014 U	0.013 U	0.014 U	0.007 U	0.0095 U
1,4-Dioxane	mg/kg	24	0.13 U	0.11 U	N/A	0.11 R	0.1 R	0.096 R	0.14 R	0.099 R	0.095 R	0.13 R	0.14 R	0.13 R	0.14 R	0.07 U	0.095 U
2-Butanone (MEK)	mg/kg	190,000	0.013 U	0.011 U	N/A	0.011 U	0.01 U	0.0096 U	**0.0049 J**	0.0099 U	0.0095 U	0.013 U	0.014 U	0.013 U	**0.0035 J**	0.007 U	0.0095 U
2-Hexanone	mg/kg	1,300	0.013 U	0.011 U	N/A	0.011 U	0.01 U	0.0096 U	0.014 U	0.0099 U	0.0095 U	0.013 U	0.014 U	0.013 U	0.014 U	0.007 U	0.0095 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.013 U	0.011 U	N/A	0.011 U	0.01 U	0.0096 U	0.014 U	0.0099 UJ	0.0095 UJ	0.013 UJ	0.014 UJ	0.013 U	0.014 U	0.007 U	0.0095 U
Acetone	mg/kg	670,000	**0.012 J**	**0.014**	N/A	0.011 U	0.01 U	0.0096 U	0.014 U	0.0099 UJ	**0.0081 B**	**0.018 J**	**0.0098 B**	0.013 U	0.014 U	**0.0095**	0.0095 U
Benzene	mg/kg	5.1	0.0064 U	0.0057 U	N/A	0.0057 U	0.005 U	0.0048 U	0.0068 U	0.005 U	0.0047 U	0.0063 U	0.0071 U	0.0064 U	0.0069 U	0.0035 U	0.0047 U
Chloroethane	mg/kg	57,000	0.0064 U	0.0057 U	N/A	0.0057 UJ	0.005 UJ	0.0048 UJ	0.0068 UJ	0.005 UJ	0.0047 UJ	0.0063 UJ	0.0071 UJ	0.0064 U	0.0069 U	0.0035 U	0.0047 U
cis-1,2-Dichloroethene	mg/kg	2,300	0.0064 U	0.0057 U	N/A	0.0057 U	0.005 U	0.0048 U	0.0068 U	0.005 U	0.0047 U	0.0063 U	0.0071 U	0.0064 U	0.0069 U	0.0035 U	0.0047 U
Cyclohexane	mg/kg	27,000	0.013 U	0.011 U	N/A	0.011 U	0.01 U	0.0096 U	0.014 U	0.0099 UJ	0.0095 UJ	0.013 UJ	0.014 UJ	0.013 U	0.014 U	0.007 U	0.0095 U
Ethylbenzene	mg/kg	25	0.0064 U	0.0057 U	N/A	0.0057 U	0.005 U	0.0048 U	0.0068 U	0.005 U	0.0047 U	0.0063 U	0.0071 U	0.0064 U	0.0069 U	0.0035 U	0.0047 U
Isopropylbenzene	mg/kg	9,900	0.0064 U	0.0057 U	N/A	0.0057 U	0.005 U	0.0048 U	0.0068 U	0.005 U	0.0047 U	0.0063 U	0.0071 U	0.0064 U	0.0069 U	0.0035 U	0.0047 U
Methyl Acetate	mg/kg	1,200,000	0.064 U	0.057 U	N/A	0.057 U	0.05 U	0.048 U	0.068 U	0.05 U	0.047 U	0.063 U	0.071 U	0.064 U	0.069 U	0.035 U	0.047 U
Methylene Chloride	mg/kg	1,000	0.0064 U	0.0057 U	N/A	0.0057 U	0.005 U	0.0048 U	0.0068 U	0.005 U	0.0047 U	0.0063 U	0.0071 U	0.0064 U	0.0069 U	0.0035 U	0.0047 U
Styrene	mg/kg	35,000	0.0064 U	0.0057 U	N/A	0.0057 U	0.005 U	0.0048 U	0.0068 U	0.005 U	0.0047 U	0.0063 U	0.0071 U	0.0064 U	0.0069 U	0.0035 U	0.0047 U
Tetrachloroethene	mg/kg	100	0.0064 U	0.0057 U	N/A	0.0057 U	0.005 U	0.0048 U	0.0068 U	0.005 UJ	0.0047 UJ	0.0063 UJ	0.0071 UJ	0.0064 U	0.0069 U	0.0035 U	0.0047 U
Toluene	mg/kg	47,000	0.0064 U	0.0057 U	N/A	0.0057 U	0.005 U	0.0048 U	0.0068 U	0.005 U	0.0047 U	0.0063 U	0.0071 U	0.0064 U	0.0069 U	0.0035 U	0.0047 U
Trichloroethene	mg/kg	6	0.0064 U	0.0057 U	N/A	0.0057 U	0.005 U	0.0048 U	0.0068 U	0.005 U	0.0047 U	0.0063 U	0.0071 U	0.0064 U	0.0069 U	0.0035 U	0.0047 U
Vinyl chloride	mg/kg	1.7	0.0064 U	0.0057 U	N/A	0.0057 U	0.005 U	0.0048 U	0.0068 U	0.005 U	0.0047 U	0.0063 U	0.0071 U	0.0064 U	0.0069 U	0.0035 U	0.0047 U
Xylenes	mg/kg	2,800	0.019 U	0.017 U	N/A	0.017 U	0.015 U	0.014 U	0.021 U	0.015 U	0.014 U	0.019 U	0.021 U	0.019 U	0.021 U	0.01 U	0.014 U
Semi-Volatile Organic Compounds																	
1,1-Biphenyl	mg/kg	200	0.082 U	**0.017 J**	N/A	0.076 U	0.072 U	0.079 U	**0.027 J**	0.069 U	0.079 U	0.079 U	0.086 U	0.073 U	**0.028 J**	0.07 U	0.082 U
2,4-Dimethylphenol	mg/kg	16,000	0.082 U	**0.077 J**	N/A	0.076 U	0.072 U	0.079 U	0.076 U	0.069 U	0.079 U	0.079 U	0.086 U	0.073 U	0.074 U	0.07 U	0.082 U
2,6-Dinitrotoluene	mg/kg	1.5	0.082 U	0.08 U	N/A	0.076 U	0.072 U	0.079 U	0.076 U	0.069 U	0.079 U	0.079 U	0.086 U	0.073 U	0.074 U	0.07 U	0.082 U
2-Chloronaphthalene	mg/kg	60,000	0.082 U	0.08 U	N/A	0.076 U	0.072 U	0.079 U	0.076 U	0.069 U	0.079 U	0.079 U	0.086 U	0.073 U	0.074 U	0.07 U	0.082 U
2-Methylnaphthalene	mg/kg	3,000	0.0084 U	**0.029 J**	N/A	**0.1**	0.0073 U	**0.0041 J**	**0.068**	**0.037 J**	0.081 U	0.08 U	0.088 U	**0.027 J**	**0.19**	**0.02**	0.0082 U
2-Methylphenol	mg/kg	41,000	0.082 U	**0.042 J**	N/A	**0.02 J**	0.072 U	0.079 U	0.076 U	0.069 U	0.079 U	0.079 U	0.086 U	0.073 U	0.074 U	0.07 U	0.082 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.16 U	**0.1 J**	N/A	**0.045 J**	0.14 U	0.16 U	0.15 U	0.14 U	0.16 U	0.16 U	0.17 U	0.15 U	0.15 U	0.14 U	0.16 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.082 U	0.08 U	N/A	0.076 UJ	0.072 U	0.079 UJ	0.076 UJ	0.069 UJ	0.079 UJ	0.079 UJ	0.086 UJ	0.073 U	0.074 UJ	0.07 U	0.082 U
4-Chloroaniline	mg/kg	11	0.082 U	0.08 U	N/A	0.076 U	0.072 U	0.079 U	0.076 U	0.069 U	0.079 U	0.079 U	0.086 U	0.073 U	0.074 U	0.07 U	0.082 U
Acenaphthene	mg/kg	45,000	0.0084 U	**0.025 J**	N/A	0.075 U	0.0073 U	0.0079 U	**0.0095**	0.07 U	0.081 U	0.08 U	0.088 U	**0.0016 J**	**0.063**	**0.0013 J**	0.0082 U
Acenaphthylene	mg/kg	45,000	0.0084 U	**0.015 J**	N/A	**0.0079 J**	**0.00078 J**	**0.0055 J**	**0.16**	0.07 U	**0.0093 J**	**0.011 J**	**0.049 J**	**0.026**	**0.11**	**0.007**	0.0082 U
Acetophenone	mg/kg	120,000	0.082 U	0.08 U	N/A	0.076 U	0.072 U	0.079 U	0.076 U	0.069 U	0.079 U	**0.038 J**	0.086 U	0.073 U	0.074 U	0.07 U	0.082 U
Anthracene	mg/kg	230,000	0.0084 U	**0.17**	N/A	**0.036 J**	**0.0011 J**	**0.004 J**	**0.14**	**0.018 J**	**0.025 J**	**0.023 J**	**0.055 J**	**0.034**	**0.17**	**0.0046 J**	0.0082 U
Benz[a]anthracene	mg/kg	21	0.0084 U	**0.4**	N/A	**0.1**	**0.0089**	**0.039**	**0.48**	**0.03 J**	**0.064 J**	**0.044 J**	**0.18**	**0.18 J**	**0.51**	**0.0049 J**	0.0082 U
Benzaldehyde	mg/kg	120,000	0.082 U	0.08 U	N/A	**0.018 J**	0.072 UJ	0.079 UJ	**0.039 J**	0.069 UJ	0.079 UJ	**0.045 J**	0.086 UJ	0.073 UJ	**0.026 J**	0.07 U	0.082 U
Benzo[a]pyrene	mg/kg	2.1	0.0084 U	**0.37**	**0.0012 J**	**0.082**	**0.0066 J**	**0.042**	**0.63**	**0.049 J**	**0.072 J**	**0.076 J**	**0.22**	**0.16 J**	**0.51**	**0.0034 J**	0.0082 U
Benzo[b]fluoranthene	mg/kg	21	**0.001 J**	**0.77**	N/A	**0.2**	**0.022**	**0.092**	**2.2**	**0.11**	**0.12**	**0.15**	**0.56**	**0.4 J**	**1.1**	**0.024**	0.0082 U
Benzo[g,h,i]perylene	mg/kg		0.0084 U	**0.15**	N/A	**0.039 J**	**0.0024 J**	**0.015**	**0.2**	**0.034 J**	**0.061 J**	**0.1**	**0.066 J**	**0.11 J**	**0.21**	**0.0045 J**	0.0082 U
Benzo[k]fluoranthene	mg/kg	210	0.0084 U	**0.67**	N/A	**0.17**	**0.019**	**0.08**	**1.9**	**0.1**	**0.11**	**0.13**	**0.49**	**0.35 J**	**0.94**	**0.021**	0.0082 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.082 U	0.08 U	N/A	**0.029 B**	0.072 U	0.079 UJ	0.076 UJ	**0.29 J**	0.079 UJ	**0.12 J**	0.086 UJ	0.073 U	0.074 UJ	0.07 U	0.082 U
Carbazole	mg/kg		0.082 U	**0.042 J**	N/A	0.076 U	0.072 U	0.079 U	**0.021 J**	0.069 U	0.079 U	0.079 U	0.086 U	**0.036 J**	**0.07 J**	0.07 U	0.082 U
Chrysene	mg/kg	2,100	**0.0012 J**	**0.39**	N/A	**0.11**	**0.01**	**0.032**	**0.62**	**0.077**	**0.049 J**	**0.09**	**0.18**	**0.2 J**	**0.46**	**0.023**	0.0082 U
Dibenz[a,h]anthracene	mg/kg	2.1	0.0084 U	**0.056 J**	N/A	**0.015 J**	**0.0016 J**	**0.0048 J**	**0.11**	0.07 U	0.081 U	0.08 U	**0.04 J**	**0.037 J**	**0.09**	**0.0013 J**	0.0082 U
Di-n-butylphthalate	mg/kg	82,000	0.082 U	0.08 U	N/A	0.076 U	0.072 U	0.079 U	0.076 U	0.069 U	0.079 U	0.079 U	0.086 U	0.073 U	0.074 U	0.07 U	0.082 U
Di-n-octylphthalate	mg/kg	8,200	0.082 U	0.08 U	N/A	0.076 UJ	0.072 U	0.079 UJ	0.076 UJ	0.069 UJ	0.079 UJ	0.079 UJ	0.086 UJ	0.073 UJ	0.074 UJ	0.07 U	0.082 U
Fluoranthene	mg/kg	30,000	**0.0019 J**	**0.84**	N/A	**0.14**	**0.014**	**0.058**	**0.58**	**0.07 J**	**0.063 J**	**0.07 J**	**0.21**	**0.41 J**	**0.98**	**0.021**	0.0082 U
Fluorene	mg/kg	30,000	0.0084 U	**0.029 J**	N/A	0.075 U	0.0073 U	0.0079 U	**0.012**	0.07 U	0.081 U	0.08 U	0.088 U	**0.0022 J**	**0.084**	**0.0033 J**	0.0082 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	0.0084 U	**0.13**	N/A	**0.029 J**	**0.0025 J**	**0.014**	**0.23**	**0.017 J**	**0.022 J**	**0.021 J**	**0.069 J**	**0.099 J**	**0.22**	**0.0032 J**	0.0082 U
Naphthalene	mg/kg	17	0.0084 U	**0.07 J**	N/A	**0.084**	**0.002 B**	**0.0053 B**	**0.038**	0.07 U	**0.03 B**	**0.02 B**	**0.045 B**	**0.025 J**	**0.45**	**0.045**	0.0082 U
N-Nitrosodiphenylamine	mg/kg	470	0.082 U	0.08 U	N/A	0.076 U	0.072 U	0.079 U	0.076 U	0.069 U	0.079 U	0.079 U	0.086 U	0.073 U	0.074 U	0.07 U	0.082 U
Pentachlorophenol	mg/kg	4	0.21 U	0.2 U	N/A	0.19 U	0.18 U	0.2 U	0.19 U	0.17 U	0.2 U	0.2 U	0.22 U	0.18 UJ	0.19 U	0.18 U	0.2 U
Phenanthrene	mg/kg		**0.0023 J**	**0.43**	N/A	**0.16**	**0.0072 J**	**0.016**	**0.19**	**0.039 J**	**0.035 J**	**0.045 J**	**0.067 J**	**0.11**	**0.65**	**0.019**	0.0082 U
Phenol	mg/kg	250,000	0.082 U	**0.15**	N/A	**0.049 J**	0.072 U	0.079 U	0.076 U	0.069 U	0.079 U	0.079 U	0.086 U	0.073 UJ	0.074 U	0.07 U	0.082 U
Pyrene	mg/kg	23,000	**0.0012 J**	**0.6**	N/A	**0.12**	**0.0091**	**0.053**	**0.74**	**0.069 J**	**0.11**	**0.097**	**0.2**	**0.28 J**	**0.74**	**0.021**	0.0082 U
PCBs																	
Aroclor 1242	mg/kg	0.97	0.054 U	N/A	N/A	0.0547 U	N/A	0.0614 U	N/A	0.272 U	N/A	0.056 U	N/A	0.0574 U	N/A	0.05 U	N/A
Aroclor 1248	mg/kg	0.94	0.054 U	N/A	N/A	0.0547 U	N/A	0.0614 U	N/A	0.272 U	N/A	**0.0695**	N/A	0.0574 U	N/A	0.05 U	N/A
Aroclor 1254	mg/kg	0.97	0.054 U	N/A	N/A	0.0547 U	N/A	0.0614 U	N/A	0.272 U	N/A	**0.0737**	N/A	0.0574 U	N/A	**0.1**	N/A
Aroclor 1260	mg/kg	0.99	0.054 U	N/A	N/A	0.0547 U	N/A	0.0614 U	N/A	0.272 U	N/A	0.056 U	N/A	0.0574 U	N/A	0.05 U	N/A
Aroclor 1262	mg/kg		0.054 U	N/A	N/A	0.0547 U	N/A	0.0614 U	N/A	0.272 U	N/A	**0.528**	N/A	0.0574 U	N/A	**0.125**	N/A
Aroclor 1268	mg/kg		0.054 U	N/A	N/A	0.0547 U	N/A	0.0614 U	N/A	**10.6**	N/A	0.056 U	N/A	0.0574 U	N/A	0.05 U	N/A
PCBs (total)	mg/kg	0.97	0.054 U	N/A	N/A	0.0547 U	N/A	0.0614 U	N/A	**10.6**	N/A	**0.6712**	N/A	0.0574 U	N/A	**0.225**	N/A
TPH/Oil and Grease																	
Diesel Range Organics	mg/kg	6,200	**16.5**	**222**	N/A	**32.2 J**	**11.3 J**	**29.2 J**	**43.8 J**	**136 J**	**86.3 J**	**367 J**	**73.5 J**	**19.2 J**	**50.1 J**	**40.7**	8.1 U
Gasoline Range Organics	mg/kg	6,200	16 U	11.4 U	N/A	13.4 U	10.4 U	12.3 U	12.7 U	9.8 U	9.2 U	12.6 U	13.4 U	14.7 U	11.3 U	10.3 U	10.6 U
Oil and Grease	mg/kg	6,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Detections in bold
N/A indicates that the parameter was not analyzed for this sample
* indicates non-validated data results
^PAH compounds were analyzed for SIM
Values in red indicate an exceedance of the Project Action Limit (PAL)
Gray highlight indicates within building footprint

J: The positive result reported for this anaytle is a quantitative estimate.
B: The compound/analyte was not detected substantially above the level of the associated method blank/preparation for field blank.
U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitative/detection limit may be higher than reported.
R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this compound/analyte in the sample.

Table 1
Summary of Organics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint, Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B6-084-SB-1*	B6-084-SB-7*	B6-085-SB-1*	B6-085-SB-8*	B6-087-SB-5*	B6-087-SB-7.5*	B6-088-SB-1	B6-088-SB-5	B6-090-SB-2	B6-090-SB-8	B6-091-SB-1	B6-091-SB-9	B6-092-SB-1*	B6-092-SB-9*
Volatile Organic Compounds																
1,1,1-Trichloroethane	mg/kg	36,000	0.0045 U	0.0052 U	0.0058 U	0.0058 U	N/A	N/A	N/A	0.0056 U	0.0066 U	0.0044 U	N/A	0.0054 U	0.005 U	0.005 U
1,1,2-Trichloroethane	mg/kg	5	0.0045 U	0.0052 U	0.0058 U	0.0058 U	N/A	N/A	N/A	0.0056 U	0.0066 U	0.0044 U	N/A	0.0054 U	0.005 U	0.005 U
1,1-Dichloroethane	mg/kg	16	0.0045 U	0.0052 U	0.0058 U	0.0058 U	N/A	N/A	N/A	0.0056 U	0.0066 U	0.0044 U	N/A	0.0054 U	0.005 U	0.005 U
1,1-Dichloroethene	mg/kg	1,000	0.0045 U	0.0052 U	0.0058 U	0.0058 U	N/A	N/A	N/A	0.0056 U	0.0066 U	0.0044 U	N/A	0.0054 U	0.005 U	0.005 U
1,2-Dichloroethane	mg/kg	2	0.0045 U	0.0052 U	0.0058 U	0.0058 U	N/A	N/A	N/A	0.0056 U	0.0066 U	0.0044 U	N/A	0.0054 U	0.005 U	0.005 U
1,2-Dichloroethene (Total)	mg/kg	2,300	0.0091 U	0.01 U	0.012 U	0.012 U	N/A	N/A	N/A	0.011 U	0.013 U	0.0089 U	N/A	0.011 U	0.01 U	0.01 U
1,4-Dioxane	mg/kg	24	0.091 U	0.1 U	0.12 U	0.12 U	N/A	N/A	N/A	0.11 R	0.13 R	0.089 R	N/A	0.11 R	0.1 U	0.1 U
2-Butanone (MEK)	mg/kg	190,000	0.0091 U	0.01 U	0.012 U	0.012 U	N/A	N/A	N/A	0.011 U	**0.0033 J**	0.0089 U	N/A	0.011 U	**0.0048 J**	0.01 U
2-Hexanone	mg/kg	1,300	0.0091 U	0.01 U	0.012 U	0.012 U	N/A	N/A	N/A	0.011 U	0.013 U	0.0089 U	N/A	0.011 U	0.01 U	0.01 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.0091 U	0.01 U	0.012 U	0.012 U	N/A	N/A	N/A	0.011 U	0.013 U	0.0089 U	N/A	0.011 U	0.01 U	0.01 U
Acetone	mg/kg	670,000	0.0091 U	**0.0051 J**	0.012 U	0.012 U	N/A	N/A	N/A	0.011 U	**0.016 B**	**0.015 B**	N/A	**0.0085 B**	**0.02 B**	0.01 U
Benzene	mg/kg	5.1	0.0045 U	0.0052 U	0.0058 U	0.0058 U	N/A	N/A	N/A	0.0056 U	0.0066 U	0.0044 U	N/A	0.0054 U	0.005 U	0.005 U
Chloroethane	mg/kg	57,000	0.0045 U	0.0052 U	0.0058 U	0.0058 U	N/A	N/A	N/A	0.0056 U	0.0066 U	0.0044 U	N/A	0.0054 U	0.005 U	0.005 U
cis-1,2-Dichloroethene	mg/kg	2,300	0.0045 U	0.0052 U	0.0058 U	0.0058 U	N/A	N/A	N/A	0.0056 U	0.0066 U	0.0044 U	N/A	0.0054 U	0.005 U	0.005 U
Cyclohexane	mg/kg	27,000	0.0091 U	0.01 U	0.012 U	0.012 U	N/A	N/A	N/A	0.011 U	0.013 U	0.0089 U	N/A	0.011 U	0.01 U	0.01 U
Ethylbenzene	mg/kg	25	0.0045 U	0.0052 U	0.0058 U	0.0058 U	N/A	N/A	N/A	**0.0012 J**	0.0066 U	0.0044 U	N/A	0.0054 U	**0.0042 J**	0.005 U
Isopropylbenzene	mg/kg	9,900	0.0045 U	0.0052 U	0.0058 U	0.0058 U	N/A	N/A	N/A	0.0056 U	0.0066 U	0.0044 U	N/A	0.0054 U	0.005 U	0.005 U
Methyl Acetate	mg/kg	1,200,000	0.045 U	0.052 U	0.058 U	0.058 U	N/A	N/A	N/A	0.056 R	0.066 R	0.044 R	N/A	0.054 R	0.05 U	0.05 U
Methylene Chloride	mg/kg	1,000	0.0045 U	0.0052 U	0.0058 U	0.0058 U	N/A	N/A	N/A	0.0056 U	0.0066 U	0.0044 U	N/A	0.0054 U	0.005 U	0.005 U
Styrene	mg/kg	35,000	0.0045 U	0.0052 U	0.0058 U	0.0058 U	N/A	N/A	N/A	0.0056 U	0.0066 U	0.0044 U	N/A	0.0054 U	0.005 U	0.005 U
Tetrachloroethene	mg/kg	100	0.0045 U	0.0052 U	0.0058 U	0.0058 U	N/A	N/A	N/A	0.0056 U	0.0066 U	0.0044 U	N/A	0.0054 U	0.005 U	0.005 U
Toluene	mg/kg	47,000	0.0045 U	0.0052 U	0.0058 U	0.0058 U	N/A	N/A	N/A	0.0056 U	0.0066 U	0.0044 U	N/A	0.0054 U	0.005 U	0.005 U
Trichloroethene	mg/kg	6	0.0045 U	0.0052 U	0.0058 U	0.0058 U	N/A	N/A	N/A	0.0056 U	0.0066 U	0.0044 U	N/A	0.0054 U	0.005 U	0.005 U
Vinyl chloride	mg/kg	1.7	0.0045 U	0.0052 U	0.0058 U	0.0058 U	N/A	N/A	N/A	0.0056 U	0.0066 U	0.0044 U	N/A	0.0054 U	0.005 U	0.005 U
Xylenes	mg/kg	2,800	0.014 U	0.016 U	0.017 U	0.017 U	N/A	N/A	N/A	**0.0066 J**	0.02 U	0.013 U	N/A	0.016 U	**0.023**	0.015 U
Semi-Volatile Organic Compounds																
1,1-Biphenyl	mg/kg	200	0.074 U	0.077 U	0.075 U	**0.03 J**	0.075 U	0.078 U	0.074 U	0.072 U	**0.059 J**	0.077 U	0.07 U	0.083 U	0.069 U	0.079 U
2,4-Dimethylphenol	mg/kg	16,000	0.074 U	0.077 U	0.075 U	0.078 U	0.075 U	0.078 U	0.074 U	0.072 U	0.082 UJ	0.077 U	0.07 U	0.083 UJ	0.069 U	0.079 U
2,6-Dinitrotoluene	mg/kg	1.5	0.074 U	0.077 U	0.075 U	0.078 U	0.075 U	0.078 U	0.074 U	0.072 U	0.082 U	0.077 U	0.07 U	0.083 U	0.069 U	0.079 U
2-Chloronaphthalene	mg/kg	60,000	0.074 U	0.077 U	0.075 U	0.078 U	0.075 U	0.078 U	0.074 U	0.072 U	0.082 U	0.077 U	0.07 U	0.083 U	0.069 U	0.079 U
2-Methylnaphthalene	mg/kg	3,000	0.075 U	0.0078 U	**0.1**	**0.13**	**0.0058 J**	**0.0082**	0.075 U	0.0072 U	**0.54**	**0.0025 J**	0.069 U	0.0081 U	**0.042**	0.008 U
2-Methylphenol	mg/kg	41,000	0.074 U	0.077 U	0.075 U	0.078 U	0.075 U	0.078 U	0.074 U	0.072 U	0.082 UJ	0.077 U	0.07 U	0.083 U	0.069 U	0.079 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.15 U	0.15 U	0.15 U	**0.021 J**	0.15 U	0.16 U	0.15 U	0.14 U	0.16 UJ	0.15 U	0.14 U	0.17 U	0.14 U	0.16 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.074 U	0.077 U	0.075 U	0.078 U	0.075 U	0.078 U	0.074 UJ	0.072 U	0.082 UJ	0.077 U	0.07 UJ	0.083 U	0.069 U	0.079 U
4-Chloroaniline	mg/kg	11	0.074 U	0.077 U	0.075 U	0.078 U	0.075 U	0.078 U	0.074 U	0.072 U	0.082 U	0.077 U	0.07 U	0.083 U	0.069 U	0.079 U
Acenaphthene	mg/kg	45,000	0.075 U	0.0078 U	**0.004 J**	**0.0073 J**	**0.0038 J**	**0.0013 J**	0.075 U	0.0072 U	**0.012**	**0.0031 J**	**0.0045 J**	0.0081 U	**0.0042 J**	0.008 U
Acenaphthylene	mg/kg	45,000	0.075 U	0.0078 U	**0.018**	**0.0071 J**	**0.0029 J**	**0.0025 J**	0.075 U	**0.0038 J**	**0.024**	**0.0029 J**	**0.0079 J**	0.0081 U	**0.0096**	0.008 U
Acetophenone	mg/kg	120,000	0.074 U	0.077 U	0.075 U	0.078 U	0.075 U	0.078 U	**0.095 J**	0.072 U	**0.055 J**	0.077 U	0.07 U	0.083 U	0.069 U	0.079 U
Anthracene	mg/kg	230,000	**0.013 J**	0.0078 U	**0.033**	**0.035**	**0.013**	**0.0037 J**	**0.0083 J**	**0.0009 J**	**0.094**	**0.0035 J**	**0.016 J**	0.0081 U	**0.014**	0.008 U
Benz[a]anthracene	mg/kg	21	0.075 U	0.0078 U	**0.13**	**0.066**	**0.044**	**0.015**	**0.027 J**	**0.011**	**0.41**	**0.024**	**0.11**	0.0081 U	**0.033**	0.008 U
Benzaldehyde	mg/kg	120,000	0.074 U	0.077 U	**0.019 J**	**0.056 J**	0.075 U	0.078 U	**0.018 J**	0.072 UJ	**0.053 J**	0.077 UJ	0.07 UJ	0.083 UJ	0.069 U	0.079 U
Benzo[a]pyrene	mg/kg	2.1	**0.015 J**	0.0078 U	**0.14**	**0.054**	**0.034**	**0.014**	**0.066 J**	**0.013**	**0.34 J**	**0.019**	**0.11**	0.0081 U	**0.023**	0.008 U
Benzo[b]fluoranthene	mg/kg	21	**0.032 J**	0.0078 U	**0.3**	**0.16**	**0.054**	**0.025**	**0.13**	**0.029**	**0.78 J**	**0.044**	**0.25**	**0.00073 J**	**0.096**	**0.00069 J**
Benzo[g,h,i]perylene	mg/kg		0.075 U	0.0078 U	**0.074**	**0.036**	**0.023**	**0.013**	**0.04 J**	**0.0039 J**	**0.1 J**	**0.0054 J**	**0.043 J**	0.0081 U	**0.016**	0.008 U
Benzo[k]fluoranthene	mg/kg	210	**0.019 J**	0.0078 U	**0.26**	**0.14**	**0.02**	**0.0087**	**0.11**	**0.024**	**0.68 J**	**0.037**	**0.21**	0.0081 U	**0.075**	0.008 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	**0.24**	0.077 U	0.075 U	0.078 U	0.075 U	0.078 U	**0.75 J**	0.072 U	0.082 UJ	0.077 U	**0.036 J**	0.083 U	**0.19**	0.079 U
Carbazole	mg/kg		0.074 U	0.077 U	0.075 U	0.078 U	0.075 U	0.078 U	0.074 U	0.072 U	**0.099**	0.077 U	**0.041 J**	0.083 U	0.069 U	0.079 U
Chrysene	mg/kg	2,100	**0.033 J**	0.0078 U	**0.15**	**0.15**	**0.045**	**0.019**	**0.14**	**0.0081**	**0.38**	**0.022**	**0.11**	0.0081 U	**0.12**	0.008 U
Dibenz[a,h]anthracene	mg/kg	2.1	0.075 U	0.0078 U	**0.027**	**0.017**	**0.0064 J**	**0.003 J**	**0.017 J**	**0.0012 J**	**0.044 J**	**0.0024 J**	**0.013 J**	0.0081 U	**0.0057 J**	0.008 U
Di-n-butylphthalate	mg/kg	82,000	0.074 U	0.077 U	0.075 U	0.078 U	**0.048 J**	**0.11**	**0.026 J**	0.072 U	0.082 U	0.077 U	0.07 U	0.083 U	0.069 U	0.079 U
Di-n-ocytlphthalate	mg/kg	8,200	0.074 U	0.077 U	0.075 U	0.078 U	0.075 U	0.078 U	0.074 UJ	0.072 UJ	0.082 UJ	0.077 UJ	0.07 UJ	0.083 UJ	**0.019 J**	0.079 U
Fluoranthene	mg/kg	30,000	**0.053 J**	**0.00071 J**	**0.21**	**0.12**	**0.11**	**0.033**	**0.035 J**	**0.0061 J**	**0.65**	**0.034**	**0.19**	**0.00052 J**	**0.1**	**0.00061 J**
Fluorene	mg/kg	30,000	0.075 U	0.0078 U	**0.0082**	**0.017**	**0.0051 J**	**0.0014 J**	0.075 U	0.0072 U	**0.017**	**0.0011 J**	0.069 U	0.0081 U	**0.0053 J**	0.008 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	0.075 U	0.0078 U	**0.068**	**0.026**	**0.02**	**0.01**	**0.014 J**	**0.0044 J**	**0.12 J**	**0.0058 J**	**0.038 J**	0.0081 U	**0.014**	0.008 U
Naphthalene	mg/kg	17	0.075 U	0.0078 U	**0.069**	**0.067**	**0.007 J**	**0.0072 J**	0.075 U	**0.0045 J**	**0.39**	**0.0046 J**	0.069 U	0.0081 U	**0.057**	0.008 U
N-Nitrosodiphenylamine	mg/kg	470	0.074 U	0.077 U	0.075 U	**0.029 J**	0.075 U	0.078 U	0.074 U	0.072 U	0.082 U	0.077 U	0.07 U	0.083 U	0.069 U	0.079 U
Pentachlorophenol	mg/kg	4	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.2 U	0.19 U	0.18 U	0.21 UJ	0.19 U	0.17 U	0.21 U	0.17 U	0.2 U
Phenanthrene	mg/kg		**0.035 J**	**0.00097 J**	**0.16**	**0.21**	**0.077**	**0.031**	**0.022 B**	**0.0029 B**	**0.59**	**0.013**	**0.075**	0.0081 U	**0.077**	**0.00062 J**
Phenol	mg/kg	250,000	0.074 U	0.077 U	0.075 U	**0.021 J**	0.075 U	0.078 U	0.074 U	0.072 U	0.082 UJ	0.077 U	0.07 U	0.083 U	0.069 U	0.079 U
Pyrene	mg/kg	23,000	**0.036 J**	0.0078 U	**0.18**	**0.099**	**0.09**	**0.028**	**0.085**	**0.0062 J**	**0.47**	**0.032**	**0.16**	0.0081 U	**0.08**	0.008 U
PCBs																
Aroclor 1242	mg/kg	0.97	0.157 U	N/A	0.0546 U	N/A	0.019 U	N/A	0.0565 U	N/A	0.064 U	N/A	0.05 U	N/A	0.0537 U	N/A
Aroclor 1248	mg/kg	0.94	0.157 U	N/A	0.0546 U	N/A	0.019 U	N/A	0.0565 U	N/A	0.064 U	N/A	0.05 U	N/A	0.0537 U	N/A
Aroclor 1254	mg/kg	0.97	0.157 U	N/A	0.0546 U	N/A	0.019 U	N/A	0.0565 U	N/A	0.064 U	N/A	0.05 U	N/A	0.0537 U	N/A
Aroclor 1260	mg/kg	0.99	0.157 U	N/A	0.0546 U	N/A	0.019 U	N/A	0.0565 U	N/A	0.064 U	N/A	0.05 U	N/A	0.0537 U	N/A
Aroclor 1262	mg/kg		0.157 U	N/A	0.0546 U	N/A	0.019 U	N/A	0.0565 U	N/A	0.064 U	N/A	0.05 U	N/A	0.0537 U	N/A
Aroclor 1268	mg/kg		**4.41**	N/A	0.0546 U	N/A	0.019 U	N/A	0.0565 U	N/A	**0.0412 J**	N/A	**0.0584**	N/A	0.0537 U	N/A
PCBs (total)	mg/kg	0.97	**4.41**	N/A	0.0546 U	N/A	0.13 U	N/A	0.0565 U	N/A	**0.0412 J**	N/A	**0.0584**	N/A	0.0537 U	N/A
TPH/Oil and Grease																
Diesel Range Organics	mg/kg	6,200	**63.5**	7.7 U	**31.6**	**50.9**	**11.1 B**	**5.4 JB**	**452**	**11.8**	**117**	**6.9 J**	**14.5**	**4.4 J**	**71.5**	**4.8 JB**
Gasoline Range Organics	mg/kg	6,200	8.4 U	10.2 U	9.1 U	10 U	13.9 U	11 U	11.6 U	9.6 U	14.3 U	9.4 U	8.9 U	9.9 U	9.4 U	8.9 U
Oil and Grease	mg/kg	6,200	N/A	N/A	N/A	N/A	**573**	**331**	**420**	**473**	**1,700**	**832**	**1,710**	**379**	**500**	**216**

Detections in bold
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^PAH compounds were analyzed for SIM
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Table 2
Summary of Inorganics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-001-SB-1	B22-001-SB-4	B22-002-SB-1	B22-002-SB-7	B22-002-SB-10*
Metals							
Aluminum	mg/kg	1,100,000	**15,800**	**1,860**	**3,050**	**15,800**	N/A
Antimony	mg/kg	470	2.5 UJ	2.8 UJ	2.5 UJ	2.9 UJ	N/A
Arsenic	mg/kg	3	**9.3**	**17.6**	**11.6**	**7.6**	2.2 U
Barium	mg/kg	220,000	**324 J**	**114 J**	**70.5 J**	**57.2 J**	N/A
Beryllium	mg/kg	2,300	**1.7**	0.94 U	**0.27 J**	**1.1**	N/A
Cadmium	mg/kg	980	**0.5 B**	1.4 U	**1.1 B**	**0.2 B**	N/A
Chromium	mg/kg	120,000	**89.7**	**101**	**123**	**32.7**	N/A
Chromium VI	mg/kg	6.3	**0.29 B**	**0.39 B**	**0.42 B**	**0.34 B**	N/A
Cobalt	mg/kg	350	**30.1**	**20.7**	**35.2**	**5.9**	N/A
Copper	mg/kg	47,000	**297**	**268**	**244**	**16**	N/A
Iron	mg/kg	820,000	**232,000 J**	**179,000 J**	**313,000 J**	**26,800 J**	N/A
Lead	mg/kg	800	**138**	**65.4**	**183**	**23.2**	N/A
Manganese	mg/kg	26,000	**3,780 J**	**875 J**	**2,010 J**	**129 J**	N/A
Mercury	mg/kg	350	**0.013 J+**	**0.013 J+**	**0.018 J+**	**0.043 J-**	N/A
Nickel	mg/kg	22,000	**115**	**185**	**87.9**	**17.2**	N/A
Selenium	mg/kg	5,800	3.3 U	3.8 U	3.3 U	3.8 U	N/A
Silver	mg/kg	5,800	**2.5 J**	**2.3 J**	**4.5**	2.9 U	N/A
Thallium	mg/kg	12	8.4 UJ	9.4 UJ	8.3 UJ	9.6 UJ	N/A
Vanadium	mg/kg	5,800	**21.1 J**	**17.3 J**	**30.9 J**	**44.1 J**	N/A
Zinc	mg/kg	350,000	**62.3 J**	**24.2 J**	**73.9 J**	**58.3 J**	N/A
Other							
Cyanide	mg/kg	150	**0.095 J-**	**0.05 J-**	**0.36 J-**	**0.49 J-**	N/A

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Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-005-SB-1*	B22-005-SB-4*	B22-005-SB-10*	B22-006-SB-1*	B22-006-SB-7*
Metals							
Aluminum	mg/kg	1,100,000	**34,400**	**11,600**	N/A	**8,060**	**10,900**
Antimony	mg/kg	470	2.7 U	3 U	N/A	3.2 U	3.2 U
Arsenic	mg/kg	3	**4.7**	**10.1**	**4.8**	**3**	**3.8**
Barium	mg/kg	220,000	**311**	**103**	N/A	**82.9**	**45.1**
Beryllium	mg/kg	2,300	**5**	**0.4 J**	N/A	**0.27 J**	**0.51 J**
Cadmium	mg/kg	980	**0.99 JB**	**5.8**	N/A	**0.55 JB**	1.6 U
Chromium	mg/kg	120,000	**84.7**	**784**	N/A	**1,310**	**22**
Chromium VI	mg/kg	6.3	**0.35 JB**	**0.97 JB**	N/A	**0.7 JB**	**0.33 JB**
Cobalt	mg/kg	350	**6.1**	**10.4**	N/A	**6.8**	**3.2 J**
Copper	mg/kg	47,000	**62.6**	**258**	N/A	**51.6**	**15.6 B**
Iron	mg/kg	820,000	**57,200**	**92,100**	N/A	**188,000**	**15,100**
Lead	mg/kg	800	**60.3**	**555**	N/A	**67.1**	**12.9**
Manganese	mg/kg	26,000	**4,800**	**18,400**	N/A	**22,600**	**299**
Mercury	mg/kg	350	0.1 U	**0.26**	N/A	**0.5**	**0.016 J**
Nickel	mg/kg	22,000	**27**	**36.9**	N/A	**32.3**	**8.8 J**
Selenium	mg/kg	5,800	**3.5 J**	4 U	N/A	4.2 U	4.3 U
Silver	mg/kg	5,800	2.7 U	3 U	N/A	3.2 U	3.2 U
Thallium	mg/kg	12	8.9 U	**15.4**	8 U	**6.8 J**	10.7 U
Vanadium	mg/kg	5,800	**170**	**5,420**	N/A	**3,070**	**90.7**
Zinc	mg/kg	350,000	**186**	**1,320**	N/A	**185**	**79.6**
Other							
Cyanide	mg/kg	150	**0.57 JB**	**0.89**	N/A	**2.7**	**0.12 JB**

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Table 2
Summary of Inorganics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-011-SB-1*	B22-011-SB-4*	B22-012-SB-1	B22-012-SB-4	B22-043-SB-1*
Metals							
Aluminum	mg/kg	1,100,000	**7,520**	**8,390**	**8,810**	**35,100**	**23,100**
Antimony	mg/kg	470	3 U	3 U	3.1 UJ	**2 J-**	**27.1**
Arsenic	mg/kg	3	**7.7**	**3.4**	**6**	**7.6**	**15.3**
Barium	mg/kg	220,000	**75.3**	**86.5**	**86.5 J+**	**995 J+**	**408**
Beryllium	mg/kg	2,300	**0.24 J**	**0.46 J**	1 U	**3.3**	**2**
Cadmium	mg/kg	980	**0.6 JB**	**0.58 JB**	**0.39 J**	**0.7 J**	**2.3**
Chromium	mg/kg	120,000	**1,100**	**1,440**	**1,030**	**57.2**	**93.7**
Chromium VI	mg/kg	6.3	**0.65 JB**	**0.53 JB**	**1.1 B**	**0.42 B**	**0.46 JB**
Cobalt	mg/kg	350	**5.4**	**3.7 J**	**6.6**	**24.9**	**12.4**
Copper	mg/kg	47,000	**43.5**	**43.8**	**51.1**	**61.8**	**202**
Iron	mg/kg	820,000	**143,000**	**163,000**	**140,000 J**	**19,000 J**	**82,900**
Lead	mg/kg	800	**42.7**	**61.4**	**64.4**	**456**	**580**
Manganese	mg/kg	26,000	**25,900**	**32,000**	**21,500 J-**	**7,180 J-**	**5,080**
Mercury	mg/kg	350	**0.027 J**	**0.037 J**	**0.041 J-**	0.11 UJ	0.11 U
Nickel	mg/kg	22,000	**24.5**	**18.6**	**38.9**	**8.4 J**	**71**
Selenium	mg/kg	5,800	4.1 U	4 U	4.2 U	4.1 U	4 U
Silver	mg/kg	5,800	3 U	3 U	3.1 U	3.1 U	3 U
Thallium	mg/kg	12	**5 J**	**10 J**	10.4 U	10.3 U	10 U
Vanadium	mg/kg	5,800	**2,940**	**4,880**	**2,070**	**215**	**224**
Zinc	mg/kg	350,000	**134**	**101**	**272**	**163**	**744**
Other							
Cyanide	mg/kg	150	**0.97**	**0.8**	**0.82 J-**	**1 J-**	**0.32 JB**

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Table 2
Summary of Inorganics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-043-SB-4*	B22-047-SB-1*	B22-047-SB-5*	B22-047-SB-10	B22-063-SB-1
Metals							
Aluminum	mg/kg	1,100,000	**15,900**	**7,790**	**13,800**	N/A	**26,700**
Antimony	mg/kg	470	3.4 U	**9.6**	3.7 U	N/A	2.6 UJ
Arsenic	mg/kg	3	2.8 U	**14.2**	**6.7**	**5**	**8.3**
Barium	mg/kg	220,000	**82.6**	**1,060**	**123**	N/A	**144 J**
Beryllium	mg/kg	2,300	**0.51 J**	**0.61 J**	**0.76 J**	N/A	**1**
Cadmium	mg/kg	980	1.7 U	**3.8**	**0.65 J**	N/A	**0.9 B**
Chromium	mg/kg	120,000	**32.4**	**190**	**37.3**	N/A	**899**
Chromium VI	mg/kg	6.3	**0.46 JB**	**17**	**0.4 JB**	N/A	**7.2 J-**
Cobalt	mg/kg	350	**3.4 J**	**19.3**	**7.4**	N/A	**3 J**
Copper	mg/kg	47,000	**26**	**221**	**37.2**	N/A	**51.5**
Iron	mg/kg	820,000	**10,200**	**95,900**	**27,800**	N/A	**169,000 J**
Lead	mg/kg	800	**55.2**	**6,600**	**129**	N/A	**191**
Manganese	mg/kg	26,000	**119**	**2,530**	**737**	N/A	**20,000 J**
Mercury	mg/kg	350	**0.1 J**	**0.38**	**0.041 J**	N/A	**0.056 J+**
Nickel	mg/kg	22,000	**9.9 J**	**55.2**	**18.1**	N/A	**22.8**
Selenium	mg/kg	5,800	4.5 U	4.2 U	4.9 U	N/A	3.4 U
Silver	mg/kg	5,800	3.4 U	3.1 U	3.7 U	N/A	**1.5 J**
Thallium	mg/kg	12	11.2 U	10.4 U	9.8 U	N/A	8.6 UJ
Vanadium	mg/kg	5,800	**34.7**	**90.9**	**54.9**	N/A	**476 J**
Zinc	mg/kg	350,000	**68.5**	**959**	**142**	N/A	**158 J**
Other							
Cyanide	mg/kg	150	**0.48 JB**	**0.65 JB**	**1**	N/A	**0.17 J-**

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Table 2
Summary of Inorganics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-063-SB-9	B22-063-SB-10*	B22-066-SB-1	B22-066-SB-9	B22-067-SB-1*
Metals							
Aluminum	mg/kg	1,100,000	**11,600**	N/A	**13,200**	**4,070**	**23,500**
Antimony	mg/kg	470	2.7 UJ	N/A	2.4 UJ	2.5 UJ	2.9 U
Arsenic	mg/kg	3	**3.8**	2.2 U	**6.4**	**2.9**	2.4 U
Barium	mg/kg	220,000	**179 J**	N/A	**76.8 J**	**90 J**	**315**
Beryllium	mg/kg	2,300	**1.3**	N/A	0.8 U	0.85 U	**3.2**
Cadmium	mg/kg	980	**0.38 B**	N/A	**0.44 B**	1.3 U	**0.4 JB**
Chromium	mg/kg	120,000	**29**	N/A	**1,230**	**13.6**	**66.1**
Chromium VI	mg/kg	6.3	**0.32 B**	N/A	**2.9 J-**	**0.76 B**	**0.41 JB**
Cobalt	mg/kg	350	**3.6 J**	N/A	**1.5 J**	**1.7 J**	**11.5**
Copper	mg/kg	47,000	**40.1**	N/A	**40.1**	**12.2**	**23.9 B**
Iron	mg/kg	820,000	**52,900 J**	N/A	**222,000 J**	**7,990 J**	**149,000**
Lead	mg/kg	800	**35.5**	N/A	**39.4**	**54.7**	**11.8**
Manganese	mg/kg	26,000	**1,560 J**	N/A	**25,300 J**	**282 J**	**7,410**
Mercury	mg/kg	350	**0.038 J+**	N/A	**0.0065 J+**	**0.042 J+**	0.1 U
Nickel	mg/kg	22,000	**11.7**	N/A	**19.7**	**3.7 J**	**9.7**
Selenium	mg/kg	5,800	3.6 U	N/A	3.2 U	3.4 U	**3.2 J**
Silver	mg/kg	5,800	2.7 U	N/A	**2.1 J**	2.5 U	**0.71 J**
Thallium	mg/kg	12	8.9 UJ	N/A	8 UJ	8.5 UJ	9.7 U
Vanadium	mg/kg	5,800	**16.2 J**	N/A	**772 J**	**9.3 J**	**207**
Zinc	mg/kg	350,000	**56.4 J**	N/A	**90.8 J**	**8.1 J**	**14.4 B**
Other							
Cyanide	mg/kg	150	**0.36 J-**	N/A	**0.14 J-**	**0.081 J-**	**0.25 JB**

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Table 2
Summary of Inorganics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-067-SB-7*	B22-067-SB-10*	B22-068-SB-1*	B22-068-SB-6*	B22-069-SB-1*
Metals							
Aluminum	mg/kg	1,100,000	**14,800**	N/A	**13,600**	**12,600**	**28,900**
Antimony	mg/kg	470	3.1 U	N/A	3.4 U	2.7 U	2.7 U
Arsenic	mg/kg	3	**5.2**	**5**	**3.3**	**2.3**	2.3 U
Barium	mg/kg	220,000	**209**	N/A	**175**	**25.2**	**407**
Beryllium	mg/kg	2,300	**1**	N/A	**2**	**0.68 J**	**4**
Cadmium	mg/kg	980	**0.51 JB**	N/A	**0.3 JB**	1.4 U	**0.35 JB**
Chromium	mg/kg	120,000	**107**	N/A	**38.5**	**25.7**	**25.2**
Chromium VI	mg/kg	6.3	**0.37 JB**	N/A	**0.35 JB**	**0.39 JB**	**0.39 JB**
Cobalt	mg/kg	350	**12**	N/A	**3 J**	**8.3**	**2 J**
Copper	mg/kg	47,000	**282**	N/A	**44.5**	**9.6**	**10.2**
Iron	mg/kg	820,000	**24,700**	N/A	**66,500**	**24,000**	**14,900**
Lead	mg/kg	800	**280**	N/A	**26**	**14.5**	2.3 U
Manganese	mg/kg	26,000	**1,180**	N/A	**1,810**	**87.6**	**3,910**
Mercury	mg/kg	350	**0.04 J**	N/A	**0.0037 J**	**0.0024 J**	0.11 U
Nickel	mg/kg	22,000	**18.1**	N/A	**14.3 B**	**14.9 B**	**3.6 JB**
Selenium	mg/kg	5,800	**2.6 J**	N/A	4.5 U	3.7 U	**3.5 J**
Silver	mg/kg	5,800	3.1 U	N/A	3.4 U	2.7 U	2.7 U
Thallium	mg/kg	12	10.2 U	N/A	11.2 U	9.1 U	9 U
Vanadium	mg/kg	5,800	**170**	N/A	**17.2**	**63.1**	**47.2**
Zinc	mg/kg	350,000	**229**	N/A	**80.8**	**57.3**	**42.1**
Other							
Cyanide	mg/kg	150	**0.15 JB**	N/A	**0.24 JB**	**0.065 JB**	**0.095 JB**

Detections in bold
N/A indicates that the parameter was not analyzed for this sample
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U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
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R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this compound/analyte in the sample.

Table 2
Summary of Inorganics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-069-SB-4*	B22-069-SB-10*	B22-070-SB-1*	B22-070-SB-9*	B22-087-SB-1*
Metals							
Aluminum	mg/kg	1,100,000	**14,600**	N/A	**34,500**	**16,500**	**12,800**
Antimony	mg/kg	470	2.7 U	N/A	2.5 U	2.7 U	2.7 U
Arsenic	mg/kg	3	**7.5**	**39.8**	**4.3**	**2.7**	**5.2**
Barium	mg/kg	220,000	**20.8**	N/A	**1,010**	**50**	**156**
Beryllium	mg/kg	2,300	**0.78 J**	N/A	**2.8**	**0.66 J**	**0.84 J**
Cadmium	mg/kg	980	1.4 U	N/A	**0.97 JB**	1.3 U	**1.6 B**
Chromium	mg/kg	120,000	**24**	N/A	**40.9**	**27.5**	**69.5**
Chromium VI	mg/kg	6.3	**0.9 JB**	N/A	**0.5 JB**	**0.79 JB**	**0.42 JB**
Cobalt	mg/kg	350	**4.3 J**	N/A	**3.7 J**	**7.2**	**7.8**
Copper	mg/kg	47,000	**12.7**	N/A	**53**	**11.4**	**65.5**
Iron	mg/kg	820,000	**26,500**	N/A	**20,800**	**21,800**	**31,300**
Lead	mg/kg	800	**13.8**	N/A	**157**	**12.3**	**338**
Manganese	mg/kg	26,000	**92**	N/A	**7,000**	**88.5**	**1,670**
Mercury	mg/kg	350	**0.015 J**	N/A	0.12 U	0.12 U	0.1 U
Nickel	mg/kg	22,000	**11.7 B**	N/A	**10.1 B**	**14.8 B**	**24.1**
Selenium	mg/kg	5,800	3.7 U	N/A	3.3 U	3.6 U	3.5 U
Silver	mg/kg	5,800	2.7 U	N/A	2.5 U	2.7 U	2.7 U
Thallium	mg/kg	12	9.2 U	N/A	8.2 U	9 U	8.8 U
Vanadium	mg/kg	5,800	**33.4**	N/A	**193**	**32.3**	**257**
Zinc	mg/kg	350,000	**31.2**	N/A	**189**	**56.2**	**555**
Other							
Cyanide	mg/kg	150	**0.13 JB**	N/A	**0.36 JB**	0.63 U	**0.34 JB**

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Table 2
Summary of Inorganics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-087-SB-5*	B22-087-SB-10*	B22-088-SB-1*	B22-088-SB-6*	B22-089-SB-1*
Metals							
Aluminum	mg/kg	1,100,000	**11,500**	N/A	**13,600**	**10,400**	**32,600**
Antimony	mg/kg	470	2.8 U	N/A	2.3 U	2.5 U	2.7 U
Arsenic	mg/kg	3	**4.5**	**2.6**	**28.7**	**10.8**	**3.9**
Barium	mg/kg	220,000	**55.5**	N/A	**104**	**102**	**453**
Beryllium	mg/kg	2,300	**0.74 J**	N/A	**0.45 J**	**0.34 J**	**4.2**
Cadmium	mg/kg	980	1.4 U	N/A	**1.8 B**	**2.5**	**0.53 JB**
Chromium	mg/kg	120,000	**15.4**	N/A	**1,400**	**820**	**199**
Chromium VI	mg/kg	6.3	**0.62 JB**	N/A	**0.53 JB**	**0.37 JB**	**0.35 JB**
Cobalt	mg/kg	350	**10.2**	N/A	**6.1**	**10.8**	**2.6 J**
Copper	mg/kg	47,000	**10.7**	N/A	**101**	**100**	**19.9**
Iron	mg/kg	820,000	**12,000**	N/A	**165,000**	**127,000**	**29,300**
Lead	mg/kg	800	**30**	N/A	**123**	**297**	**13.6**
Manganese	mg/kg	26,000	**248**	N/A	**46,000**	**31,800**	**9,730**
Mercury	mg/kg	350	**0.034 J**	N/A	**0.037 J**	**0.037 J**	0.11 U
Nickel	mg/kg	22,000	**14.8 B**	N/A	**18.4 B**	**24.6**	**6 JB**
Selenium	mg/kg	5,800	3.8 U	N/A	3.1 U	3.3 U	**2.6 J**
Silver	mg/kg	5,800	2.8 U	N/A	**0.82 J**	**0.93 J**	2.7 U
Thallium	mg/kg	12	9.4 U	N/A	7.7 U	8.2 U	8.9 U
Vanadium	mg/kg	5,800	**22.3**	N/A	**1,720**	**1,280**	**342**
Zinc	mg/kg	350,000	**49.7**	N/A	**341**	**803**	**55.8**
Other							
Cyanide	mg/kg	150	**0.077 JB**	N/A	**0.76**	**1**	**0.18 JB**

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Table 2
Summary of Inorganics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-089-SB-5*	B22-128-SB-1	B22-129-SB-1	B22-129-SB-4	B22-130-SB-1
Metals							
Aluminum	mg/kg	1,100,000	**37,600**	**11,900**	**40,900**	**31,900**	**17,800**
Antimony	mg/kg	470	2.3 U	2.4 UJ	2.4 UJ	2.6 UJ	2.4 UJ
Arsenic	mg/kg	3	1.9 U	**4**	**9.9**	**4.7**	**9.8**
Barium	mg/kg	220,000	**504**	**54.8 J**	**353 J**	**478 J**	**65**
Beryllium	mg/kg	2,300	**4.9**	**0.28 J**	**6.3**	**3.6**	0.8 U
Cadmium	mg/kg	980	**0.21 JB**	**0.46 B**	**0.37 B**	**0.27 B**	**0.47 J**
Chromium	mg/kg	120,000	**9.1**	**1,340**	**191**	**30.6**	**1,240 J**
Chromium VI	mg/kg	6.3	**0.3 JB**	**1.8 J-**	**1.1 B**	**0.32 B**	**11.7 J-**
Cobalt	mg/kg	350	**1.8 J**	**0.88 J**	**1.1 J**	**5.3**	**3.3 J**
Copper	mg/kg	47,000	**10.4**	**28.4**	**23.1**	**34.7**	**80.8**
Iron	mg/kg	820,000	**11,500**	**179,000 J**	**43,100 J**	**31,200 J**	**151,000 J**
Lead	mg/kg	800	**2**	**68.7**	**31.4**	**16.3**	**170 J**
Manganese	mg/kg	26,000	**6,100**	**26,400 J**	**5,470 J**	**5,050 J**	**29,100 J**
Mercury	mg/kg	350	0.11 U	**0.44 J+**	0.1 U	0.11 U	**0.13 J-**
Nickel	mg/kg	22,000	**1.9 JB**	**13.5**	**8.3**	**18.9**	**39.2 J**
Selenium	mg/kg	5,800	**3.3**	3.1 U	**4.1**	3.5 U	3.2 U
Silver	mg/kg	5,800	2.3 U	**1.6 J**	2.4 U	2.6 U	**2.5**
Thallium	mg/kg	12	7.6 U	7.9 UJ	8 UJ	8.7 UJ	8 UJ
Vanadium	mg/kg	5,800	**26.1**	**803 J**	**102 J**	**57.7 J**	**842 J**
Zinc	mg/kg	350,000	**8.2**	**59.1 J**	**49.6 J**	**35.4 J**	**327 J**
Other							
Cyanide	mg/kg	150	**0.13 JB**	**0.1 J-**	**0.46 J-**	**0.13 J-**	**0.52 J**

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Table 2
Summary of Inorganics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-130-SB-4	B22-133-SB-1	B22-133-SB-5	B22-134-SB-1	B22-134-SB-7
Metals							
Aluminum	mg/kg	1,100,000	**8,220**	**9,520**	**8,820**	**19,900**	**18,900**
Antimony	mg/kg	470	2.6 UJ	2.9 UJ	2.8 UJ	2.8 UJ	2.6 UJ
Arsenic	mg/kg	3	**4.8**	**3.2**	**5.6**	**6.8**	**6.4**
Barium	mg/kg	220,000	**62.8**	**57.1 J**	**67.4 J**	**285**	**210**
Beryllium	mg/kg	2,300	**0.59 J**	**0.43 J**	**0.44 J**	**2.3**	**2.4**
Cadmium	mg/kg	980	1.3 U	**1.4 B**	**1 B**	**1.6**	**0.98 J**
Chromium	mg/kg	120,000	**16.1 J**	**549**	**844**	**472 J**	**664 J**
Chromium VI	mg/kg	6.3	**0.33 B**	**0.32 B**	**0.38 B**	**2.3 J-**	**1.1 B**
Cobalt	mg/kg	350	**5.4**	**2.8 J**	**3.3 J**	**3.9 J**	**2.9 J**
Copper	mg/kg	47,000	**11.4**	**41.5**	**49.3**	**69**	**54.8**
Iron	mg/kg	820,000	**14,100 J**	**99,000 J**	**143,000 J**	**102,000 J**	**105,000 J**
Lead	mg/kg	800	**32 J**	**104 J**	**130 J**	**168 J**	**555 J**
Manganese	mg/kg	26,000	**506 J**	**13,300 J**	**19,400 J**	**11,500 J**	**12,600 J**
Mercury	mg/kg	350	**0.02 J-**	**0.1 J**	**0.12**	**0.099 J-**	**0.12 J-**
Nickel	mg/kg	22,000	**8 J**	**22.2**	**29.7**	**31.2 J**	**18.2 J**
Selenium	mg/kg	5,800	3.5 U	3.9 U	3.8 U	3.7 U	3.5 U
Silver	mg/kg	5,800	2.6 U	2.9 U	2.8 U	2.8 U	2.6 U
Thallium	mg/kg	12	8.7 U	9.7 U	9.4 U	9.3 UJ	8.8 UJ
Vanadium	mg/kg	5,800	**24.9 J**	**327 J**	**506 J**	**314 J**	**343 J**
Zinc	mg/kg	350,000	**53 J**	**165**	**176**	**246 J**	**283 J**
Other							
Cyanide	mg/kg	150	**0.13 J**	**3.5**	**6.8**	**0.92**	**1**

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Table 2
Summary of Inorganics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-135-SB-1	B22-135-SB-8	B22-136-SB-1	B22-136-SB-5	B22-140-SB-1
Metals							
Aluminum	mg/kg	1,100,000	**9,260**	**20,600**	**16,100**	**11,600**	**21,200**
Antimony	mg/kg	470	2.7 UJ	2.9 UJ	2.4 UJ	3.9 UJ	3 UJ
Arsenic	mg/kg	3	**9.9**	**8.5**	**3.1**	**8.8**	**2.4 J**
Barium	mg/kg	220,000	**47.2**	**489**	**102 J**	**111 J**	**34**
Beryllium	mg/kg	2,300	**0.19 J**	**2.3**	**0.61 J**	**0.84 J**	1 U
Cadmium	mg/kg	980	**0.52 J**	**1.3 J**	**0.48 B**	**2.7**	1.5 U
Chromium	mg/kg	120,000	**1,030 J**	**1,150 J**	**852**	**360**	**1,280**
Chromium VI	mg/kg	6.3	**11 J-**	**0.38 B**	**1.6 J-**	**0.51 B**	**7.8 J-**
Cobalt	mg/kg	350	**2 J**	**7.4**	**1.1 J**	**6.9**	**1.4 J**
Copper	mg/kg	47,000	**40.9**	**69.9**	**23.9**	**93.8**	**24.7**
Iron	mg/kg	820,000	**175,000 J**	**114,000 J**	**148,000 J**	**92,600 J**	**218,000 J**
Lead	mg/kg	800	**108 J**	**189 J**	**23.9 J**	**275 J**	2.5 U
Manganese	mg/kg	26,000	**22,500 J**	**19,000 J**	**21,000 J**	**8,230 J**	**29,900**
Mercury	mg/kg	350	**0.018 J-**	**0.17 J-**	**0.013 J**	**0.58**	0.11 U
Nickel	mg/kg	22,000	**20 J**	**25.1 J**	**11.1**	**42.9**	**22.6**
Selenium	mg/kg	5,800	3.6 U	**2.2 J**	3.2 U	5.2 U	4 U
Silver	mg/kg	5,800	**1.9 J**	**1.2 J**	2.4 U	3.9 U	**2.2 J**
Thallium	mg/kg	12	8.9 UJ	9.8 UJ	8 U	10.4 U	10 U
Vanadium	mg/kg	5,800	**673 J**	**502 J**	**568 J**	**234 J**	**881**
Zinc	mg/kg	350,000	**114 J**	**208 J**	**97.8**	**485**	**122**
Other							
Cyanide	mg/kg	150	**0.84**	**1.9**	**0.32 J**	**17.2**	**0.59 J-**

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Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-140-SB-5	B22-140-SB-10	B22-141-SB-1	B22-141-SB-5	B22-144-SB-1*
Metals							
Aluminum	mg/kg	1,100,000	**28,700**	N/A	**32,000**	**19,300**	**3,300**
Antimony	mg/kg	470	3.5 UJ	N/A	3.2 UJ	3.5 UJ	4.3 U
Arsenic	mg/kg	3	**6**	**2.8**	**4.2**	**6.1**	2.9 U
Barium	mg/kg	220,000	**805**	N/A	**506**	**65.3**	**584**
Beryllium	mg/kg	2,300	**2.1**	N/A	**4.8**	**0.83 J**	1.4 U
Cadmium	mg/kg	980	**0.57 J**	N/A	**0.52 J**	1.7 U	2.2 U
Chromium	mg/kg	120,000	**73.6**	N/A	**297**	**26.5**	**55.5**
Chromium VI	mg/kg	6.3	**0.27 B**	N/A	**0.31 B**	**0.42 B**	**0.45 JB**
Cobalt	mg/kg	350	**6.1**	N/A	**3.7 J**	**5.4 J**	**1.2 J**
Copper	mg/kg	47,000	**21.2**	N/A	**29.6**	**9.1**	**17.6 B**
Iron	mg/kg	820,000	**17,800 J**	N/A	**104,000 J**	**18,300**	**12,500**
Lead	mg/kg	800	**46.5**	N/A	**20.2**	**11.1**	**114**
Manganese	mg/kg	26,000	**5,970**	N/A	**9,510**	**98.5**	**759**
Mercury	mg/kg	350	**0.0091 J**	N/A	0.1 U	0.11 U	**0.062 J**
Nickel	mg/kg	22,000	**11.9**	N/A	**20.3**	**14.1**	**6.3 J**
Selenium	mg/kg	5,800	4.6 U	N/A	4.3 U	4.7 U	5.7 U
Silver	mg/kg	5,800	3.5 U	N/A	3.2 U	3.5 U	4.3 U
Thallium	mg/kg	12	11.5 U	N/A	10.7 U	11.6 U	11.5 U
Vanadium	mg/kg	5,800	**209**	N/A	**276**	**40.4**	**31.4**
Zinc	mg/kg	350,000	**91.9**	N/A	**97.5**	**30.6**	**88.3**
Other							
Cyanide	mg/kg	150	**2.7 J-**	N/A	**0.92 J-**	**1.6 J-**	**0.35 JB**

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Table 2
Summary of Inorganics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-144-SB-7*	B22-145-SB-1*	B22-145-SB-4*	B22-145-SB-10*	B22-154-SB-1*
Metals							
Aluminum	mg/kg	1,100,000	**25,700**	**15,300**	**15,900**	N/A	**8,950**
Antimony	mg/kg	470	3.1 U	2.8 U	3 U	N/A	3.2 U
Arsenic	mg/kg	3	2.6 U	**5.9**	**4.2**	**3.3**	**3.9**
Barium	mg/kg	220,000	**86.8**	**269**	**291**	N/A	**76.9**
Beryllium	mg/kg	2,300	**1.1**	**1.6**	**0.97 J**	N/A	**0.4 J**
Cadmium	mg/kg	980	**0.43 JB**	**2.3 B**	**2.2 B**	N/A	**0.53 JB**
Chromium	mg/kg	120,000	**79.5**	**329**	**58.5**	N/A	**1,150**
Chromium VI	mg/kg	6.3	**0.72 JB**	**0.53 JB**	**0.62 JB**	N/A	**0.51 JB**
Cobalt	mg/kg	350	**4.7 J**	**8.2**	**10.2**	N/A	**4.5 J**
Copper	mg/kg	47,000	**13 B**	**136**	**87.4**	N/A	**58.3**
Iron	mg/kg	820,000	**10,400**	**99,800**	**29,000**	N/A	**179,000**
Lead	mg/kg	800	**97.3**	**900**	**578**	N/A	**59.4**
Manganese	mg/kg	26,000	**281**	**6,480**	**2,370**	N/A	**21,300**
Mercury	mg/kg	350	**0.2**	**0.9**	**0.044 J**	N/A	**0.043 J**
Nickel	mg/kg	22,000	**18**	**55.3**	**24.8**	N/A	**32.9**
Selenium	mg/kg	5,800	4.2 U	3.8 U	4 U	N/A	4.2 U
Silver	mg/kg	5,800	3.1 U	**1.6 J**	3 U	N/A	3.2 U
Thallium	mg/kg	12	10.5 U	9.4 U	10 U	N/A	10.6 U
Vanadium	mg/kg	5,800	**209**	**162**	**144**	N/A	**2,110**
Zinc	mg/kg	350,000	**158**	**671**	**1,170**	N/A	**145**
Other							
Cyanide	mg/kg	150	**1.1**	**0.61 JB**	**0.58 JB**	N/A	**0.81**

Detections in bold
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Table 2
Summary of Inorganics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-154-SB-5*	B22-155-SB-1*	B22-155-SB-5*	B22-169-SB-1	B22-169-SB-4
Metals							
Aluminum	mg/kg	1,100,000	**48,500**	**8,250**	**24,100**	**41,800**	**11,900**
Antimony	mg/kg	470	2.9 U	3 U	3.2 U	2.8 UJ	3 UJ
Arsenic	mg/kg	3	2.4 U	**3.4**	2.6 U	2.3 U	**2.3 J**
Barium	mg/kg	220,000	**2,490**	**124**	**193**	**1,050 J**	**39.7 J**
Beryllium	mg/kg	2,300	**3.9**	**0.3 J**	**2.8**	**2.5**	**0.43 J**
Cadmium	mg/kg	980	**0.46 JB**	**0.57 JB**	**1.2 JB**	**0.4 J**	1.5 U
Chromium	mg/kg	120,000	**33.9**	**1,450**	**848**	**34.2**	**15.2**
Chromium VI	mg/kg	6.3	**0.4 JB**	**0.53 JB**	**0.71 JB**	**0.41 B**	**0.81 B**
Cobalt	mg/kg	350	**3.1 J**	**7.8**	**2.5 J**	**2.7 J**	**4.5 J**
Copper	mg/kg	47,000	**18.8 B**	**44.5**	**30.1**	**25.8 J**	**8.1 J**
Iron	mg/kg	820,000	**19,000**	**188,000**	**107,000**	**12,600**	**10,900**
Lead	mg/kg	800	**12.6**	**39.1**	**63.4**	**76.4 J**	**7.5 J**
Manganese	mg/kg	26,000	**8,090**	**21,500**	**17,500**	**2,130 J**	**77.2 J**
Mercury	mg/kg	350	0.11 U	**0.076 J**	**0.01 J**	0.11 U	**0.015 J**
Nickel	mg/kg	22,000	**10**	**43.3**	**12.5**	**5.5 J**	**8.8 J**
Selenium	mg/kg	5,800	3.9 U	3.9 U	4.2 U	**4.5**	4 U
Silver	mg/kg	5,800	2.9 U	3 U	**1.5 J**	2.8 U	3 U
Thallium	mg/kg	12	9.8 U	9.9 U	10.6 U	9.3 U	10 U
Vanadium	mg/kg	5,800	**256**	**2,270**	**482**	**162**	**26.2**
Zinc	mg/kg	350,000	**57.8**	**192**	**254**	**60 J**	**37.4 J**
Other							
Cyanide	mg/kg	150	**0.18 JB**	**1.4**	**0.25 JB**	**0.79**	0.81 U

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Table 2
Summary of Inorganics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-172-SB-1	B22-172-SB-5	B22-177-SB-1*	B22-177-SB-5*	B22-179-SB-1*
Metals							
Aluminum	mg/kg	1,100,000	**14,500**	**16,700**	**36,900**	**15,800**	**55,100**
Antimony	mg/kg	470	3.2 UJ	3 UJ	2.4 U	2.7 U	2.5 U
Arsenic	mg/kg	3	**5.9**	**3.9**	**2.3**	**5.5**	**2 J**
Barium	mg/kg	220,000	**70.2**	**58.3**	**513**	**62.3**	**463**
Beryllium	mg/kg	2,300	**0.37 J**	**0.31 J**	**4.3**	**0.65 J**	**8.1**
Cadmium	mg/kg	980	1.6 U	1.5 U	**0.57 J**	**0.16 J**	**0.32 J**
Chromium	mg/kg	120,000	**19.2**	**18.3**	**432**	**25.9**	**17.5**
Chromium VI	mg/kg	6.3	**0.32 B**	**0.29 B**	**0.43 JB**	**0.43 JB**	**0.36 JB**
Cobalt	mg/kg	350	**2.8 J**	**3 J**	**2 J**	**6.1**	**0.34 J**
Copper	mg/kg	47,000	**6.7**	**8.2**	**28.8**	**315**	**4.8**
Iron	mg/kg	820,000	**15,300 J**	**15,700 J**	**75,900**	**21,100**	**26,200**
Lead	mg/kg	800	**8.1**	**12.3**	**61.8**	**27.9**	**5.8**
Manganese	mg/kg	26,000	**356**	**31.3**	**15,400**	**174**	**2,420**
Mercury	mg/kg	350	**0.025 J**	**0.018 J**	0.1 U	**0.024 J**	0.11 U
Nickel	mg/kg	22,000	**5.9 J**	**7.3 J**	**23.3**	**13.3**	**2.3 J**
Selenium	mg/kg	5,800	4.3 U	4 U	3.1 U	3.6 U	**6.8 B**
Silver	mg/kg	5,800	3.2 U	3 U	2.4 U	2.7 U	2.5 U
Thallium	mg/kg	12	10.8 U	10 U	**4.3 J**	9.1 U	8.2 U
Vanadium	mg/kg	5,800	**30.8**	**25.3**	**346**	**39.7**	**22**
Zinc	mg/kg	350,000	**20.2**	**21.8**	**56.8**	**61.2**	**7.3**
Other							
Cyanide	mg/kg	150	**0.8 J-**	**2 J-**	**0.56 J**	0.7 U	**0.21 J**

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Table 2
Summary of Inorganics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-179-SB-6*	B6-005-SB-2*	B6-005-SB-8*	B6-005-SB-10*	B6-006-SB-1*
Metals							
Aluminum	mg/kg	1,100,000	**18,100**	**26,500**	**26,300**	N/A	**29,300**
Antimony	mg/kg	470	2.7 U	2.6 U	3 U	N/A	2.6 U
Arsenic	mg/kg	3	**3.6**	**2.7**	**7.6**	**6.7**	2.2 U
Barium	mg/kg	220,000	**82**	**409**	**390**	N/A	**282**
Beryllium	mg/kg	2,300	**0.65 J**	**2.2**	**2.5**	N/A	**5.5**
Cadmium	mg/kg	980	**0.19 J**	**0.29 J**	**6**	N/A	1.3 U
Chromium	mg/kg	120,000	**25.2**	**74.6**	**54.7**	N/A	**25.6**
Chromium VI	mg/kg	6.3	**0.38 JB**	**0.47 JB**	**0.29 JB**	N/A	**0.3 JB**
Cobalt	mg/kg	350	**6.7**	**6.4**	**7**	N/A	**1 J**
Copper	mg/kg	47,000	**13**	**15.7**	**145**	N/A	**13.1**
Iron	mg/kg	820,000	**18,100**	**45,400**	**38,500**	N/A	**5,580**
Lead	mg/kg	800	**23.8**	**8.5**	**207**	N/A	**6.2**
Manganese	mg/kg	26,000	**142**	**5,420**	**4,330**	N/A	**1,560**
Mercury	mg/kg	350	**0.027 J**	0.098 U	**0.0089 J**	N/A	0.11 U
Nickel	mg/kg	22,000	**14.2**	**15.7**	**31.7**	N/A	**8.1 J**
Selenium	mg/kg	5,800	3.6 U	3.5 U	4 U	N/A	3.5 U
Silver	mg/kg	5,800	2.7 U	**0.88 J**	**1.2 J**	N/A	2.6 U
Thallium	mg/kg	12	9 U	8.7 U	10.1 U	N/A	8.8 U
Vanadium	mg/kg	5,800	**37.4**	**161**	**105**	N/A	**11.5**
Zinc	mg/kg	350,000	**58.1**	**18.2**	**3,670**	N/A	**13.6**
Other							
Cyanide	mg/kg	150	0.59 U	**0.31 J**	**0.63 J**	N/A	**0.89**

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Table 2
Summary of Inorganics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B6-006-SB-5*	B6-007-SB-1	B6-007-SB-4	B6-008-SB-1	B6-008-SB-4
Metals							
Aluminum	mg/kg	1,100,000	**18,300**	**29,000**	**23,800**	**25,700**	**25,600**
Antimony	mg/kg	470	2.5 U	2.9 R	2.3 R	2.6 R	3.1 R
Arsenic	mg/kg	3	**3.2**	**4**	**3.3**	**10.7**	**8.9**
Barium	mg/kg	220,000	**227**	**726 J**	**417 J**	**394 J**	**440 J**
Beryllium	mg/kg	2,300	**2**	**2.2**	**2.1**	**1.7**	**1.8**
Cadmium	mg/kg	980	**0.2 J**	**1.3 B**	**0.46 B**	**0.67 B**	**1.1 B**
Chromium	mg/kg	120,000	**42.6**	**138**	**98.5**	**262**	**564**
Chromium VI	mg/kg	6.3	**0.26 JB**	**0.83 B**	**0.32 B**	**0.77 B**	**0.97 B**
Cobalt	mg/kg	350	**3.4 J**	**7.5**	**6.3**	**22.8**	**25.8**
Copper	mg/kg	47,000	**77.9**	**46.6 J**	**25.4 J**	**58.5 J**	**117 J**
Iron	mg/kg	820,000	**64,800**	**48,100 J**	**20,800 J**	**56,200 J**	**92,800 J**
Lead	mg/kg	800	**51.7**	**254 J**	**104 J**	**320 J**	**357 J**
Manganese	mg/kg	26,000	**2,550**	**15,100**	**5,730**	**6,460**	**13,100**
Mercury	mg/kg	350	**0.0054 J**	**0.0075 J-**	0.11 UJ	**0.019 J-**	**0.01 J-**
Nickel	mg/kg	22,000	**16.5**	**23.2 J**	**25.6 J**	**81.6 J**	**161 J**
Selenium	mg/kg	5,800	3.3 U	3.8 U	3 U	3.5 U	4.1 U
Silver	mg/kg	5,800	2.5 U	2.9 U	2.3 U	2.6 U	**1.1 J**
Thallium	mg/kg	12	8.2 U	**14.8**	**3.8 J**	**6.3 J**	**20.4**
Vanadium	mg/kg	5,800	**63.7**	**1,320 J**	**247 J**	**585 J**	**1,730 J**
Zinc	mg/kg	350,000	**91.9**	**342 J**	**83.4 J**	**232 J**	**332 J**
Other							
Cyanide	mg/kg	150	**0.2 J**	**0.97**	**0.47 J**	**1.1**	**1.2**

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Table 2
Summary of Inorganics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B6-011-SB-1	B6-011-SB-8	B6-012-SB-1	B6-012-SB-4	B6-013-SB-1*
Metals							
Aluminum	mg/kg	1,100,000	**43,000**	**32,300**	**32,700**	**13,700**	**20,400**
Antimony	mg/kg	470	2.3 UJ	3.2 UJ	2.8 UJ	2.7 UJ	**90.3**
Arsenic	mg/kg	3	1.9 U	**2.7 J**	**6.4**	**7**	**5.1**
Barium	mg/kg	220,000	**383 J**	**452 J**	**494 J**	**82.4 J**	**138**
Beryllium	mg/kg	2,300	**7.3**	**5.1**	**3.4**	**0.49 J**	**1.1**
Cadmium	mg/kg	980	**0.31 B**	**0.53 B**	**0.89 B**	**0.73 B**	**1.2 J**
Chromium	mg/kg	120,000	**35.6**	**37.9**	**250**	**52.9**	**748**
Chromium VI	mg/kg	6.3	**0.33 B**	**0.41 B**	**0.42 B**	**0.53 B**	**0.94 JB**
Cobalt	mg/kg	350	**0.29 J**	**2.8 J**	**7.7**	**5.8**	**4.3 J**
Copper	mg/kg	47,000	**3.5 J**	**15.9**	**200**	**23.1**	**176**
Iron	mg/kg	820,000	**14,700**	**19,900**	**74,000**	**19,200**	**170,000**
Lead	mg/kg	800	**6.4 J**	**23.2 J**	**136 J**	**107 J**	**240**
Manganese	mg/kg	26,000	**3,400**	**3,860**	**9,240**	**1,900**	**18,400**
Mercury	mg/kg	350	0.1 U	0.13 U	**0.073 J**	**0.02 J**	**0.73**
Nickel	mg/kg	22,000	**3.3 J**	**42.7**	**152**	**14.3**	**57.6**
Selenium	mg/kg	5,800	**2.1 B**	**2.9 J**	3.8 U	3.6 U	3.8 U
Silver	mg/kg	5,800	2.3 U	3.2 U	2.8 U	2.7 U	**1.3 J**
Thallium	mg/kg	12	7.5 U	10.7 U	9.4 U	9.1 U	**6 J**
Vanadium	mg/kg	5,800	**27.3 J**	**64.3 J**	**135 J**	**139 J**	**459**
Zinc	mg/kg	350,000	**13 J**	**52 J**	**211 J**	**382 J**	**372**
Other							
Cyanide	mg/kg	150	**0.84 J+**	**0.23 J+**	**0.77 J+**	**0.11 J+**	**0.26 JB**

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Summary of Inorganics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B6-013-SB-7*	B6-014-SB-1*	B6-014-SB-4*	B6-014-SB-10*	B6-015-SB-1
Metals							
Aluminum	mg/kg	1,100,000	**10,000**	**17,500**	**38,100**	**35,900**	**20,000**
Antimony	mg/kg	470	2.7 U	2.9 U	2.9 U	3 U	2.7 R
Arsenic	mg/kg	3	**2.7**	**6**	**3.3**	**4.1**	**7.3**
Barium	mg/kg	220,000	**39.6**	**414**	**1,020**	**1,550**	**371 J**
Beryllium	mg/kg	2,300	**0.43 J**	**1.9**	**3.4**	**3.1**	**1.4**
Cadmium	mg/kg	980	1.4 U	**0.55 J**	**0.21 J**	**0.56 JB**	**1.1 B**
Chromium	mg/kg	120,000	**29.7**	**636**	**88.7**	**31.6**	**415**
Chromium VI	mg/kg	6.3	**0.24 JB**	**0.37 JB**	**0.35 JB**	N/A	**0.51 B**
Cobalt	mg/kg	350	**3.7 J**	**5**	**6.7**	**5.6**	**39.2**
Copper	mg/kg	47,000	**8.2**	**48.2**	**40**	**35.8**	**68.1 J**
Iron	mg/kg	820,000	**14,200**	**75,900**	**44,700**	**27,800**	**71,900 J**
Lead	mg/kg	800	**13.3**	**61.3**	**60.3**	**160**	**392 J**
Manganese	mg/kg	26,000	**136**	**49,000**	**8,220**	**8,040**	**9,290**
Mercury	mg/kg	350	**0.014 J**	**0.027 J**	**0.0025 J**	N/A	**0.004 J-**
Nickel	mg/kg	22,000	**7.2 J**	**39.6**	**20.6**	**9.7 J**	**145 J**
Selenium	mg/kg	5,800	3.7 U	3.8 U	**2.9 J**	**5.6**	3.6 U
Silver	mg/kg	5,800	2.7 U	**0.74 J**	2.9 U	3 U	2.7 U
Thallium	mg/kg	12	9.1 U	**13**	9.7 U	10 U	**14.3**
Vanadium	mg/kg	5,800	**32**	**804**	**269**	**69.8**	**1,330 J**
Zinc	mg/kg	350,000	**30.8**	**141**	**66.8**	**160**	**300 J**
Other							
Cyanide	mg/kg	150	0.58 U	**0.25 J**	**1.1**	N/A	**1.1**

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Table 2
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Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B6-015-SB-5	B6-016-SB-1	B6-016-SB-5	B6-017-SB-1	B6-017-SB-6
Metals							
Aluminum	mg/kg	1,100,000	**6,360**	**38,600**	**40,700**	**18,600**	**41,500**
Antimony	mg/kg	470	2.3 R	2.8 R	2.3 R	2.8 R	2.5 R
Arsenic	mg/kg	3	**2.6**	**2.1 J**	**1.8 J**	**5**	2.1 U
Barium	mg/kg	220,000	**49.5 J**	**347 J**	**373 J**	**239 J**	**490 J**
Beryllium	mg/kg	2,300	0.77 U	**6.7**	**7.8**	**2.3**	**4.5**
Cadmium	mg/kg	980	**0.3 B**	**0.86 B**	**0.2 B**	**0.74 B**	**0.41 B**
Chromium	mg/kg	120,000	**1,100**	**146**	**10.1**	**553**	**96.2**
Chromium VI	mg/kg	6.3	**8.7**	**0.4 B**	**0.34 B**	**0.22 B**	**0.4 B**
Cobalt	mg/kg	350	3.8 U	**2.4 J**	**0.24 J**	**3 J**	**1.3 J**
Copper	mg/kg	47,000	**14.5 J**	**44.8 J**	3.9 U	**57.4 J**	**19.4 J**
Iron	mg/kg	820,000	**174,000 J**	**49,200 J**	**1,270 J**	**91,700 J**	**31,900 J**
Lead	mg/kg	800	**3.6 J**	**113 J**	2 U	**19.6 J**	**10 J**
Manganese	mg/kg	26,000	**26,100**	**4,740**	**2,070**	**42,600**	**8,100**
Mercury	mg/kg	350	0.1 UJ	0.11 UJ	0.1 UJ	**0.019 J**	0.11 U
Nickel	mg/kg	22,000	**11 J**	**16.4 J**	7.8 UJ	**24.6 J**	**5.9 J**
Selenium	mg/kg	5,800	3.1 U	3.7 U	3.1 U	3.8 UJ	3.3 UJ
Silver	mg/kg	5,800	**1.9 J**	2.8 U	2.3 U	2.8 U	2.5 U
Thallium	mg/kg	12	**8.2**	9.3 U	7.8 U	**12.3 J**	8.2 U
Vanadium	mg/kg	5,800	**677 J**	**48.4 J**	**5.6**	**954**	**112**
Zinc	mg/kg	350,000	**9.5 J**	**92.7 J**	**0.63 B**	**36.1 J**	**14.6 J**
Other							
Cyanide	mg/kg	150	**0.14 J**	**2.2**	**1.9**	**1.7**	**0.71**

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Table 2
Summary of Inorganics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B6-018-SB-1	B6-018-SB-4	B6-021-SB-1*	B6-021-SB-4*	B6-022-SB-1
Metals							
Aluminum	mg/kg	1,100,000	**55,900**	**49,000**	**30,400**	**9,730**	**21,200**
Antimony	mg/kg	470	3 UJ	2.5 UJ	2.6 U	3 U	2.4 UJ
Arsenic	mg/kg	3	2.5 U	2.1 U	**3.6**	**2.4 J**	**6**
Barium	mg/kg	220,000	**474 J**	**412 J**	**236**	**42.2**	**154**
Beryllium	mg/kg	2,300	**10**	**8.2**	**5.8**	**0.19 J**	**2.7**
Cadmium	mg/kg	980	**0.26 B**	**0.27 B**	**0.5 JB**	1.5 U	**0.68 B**
Chromium	mg/kg	120,000	**20.2 J**	**20.2 J**	**416**	**14.2**	**355**
Chromium VI	mg/kg	6.3	**0.51 B**	**0.43 B**	**0.55 JB**	**0.56 JB**	**1.3 J-**
Cobalt	mg/kg	350	**0.44 J**	**0.34 J**	**1.2 J**	**2.6 J**	**3.1 J**
Copper	mg/kg	47,000	**2.4 J**	4.1 U	**21**	**6.2**	**40.7 J**
Iron	mg/kg	820,000	**6,080**	**6,170**	**53,500**	**13,900**	**176,000**
Lead	mg/kg	800	**5.1**	**4.6**	**31.2**	**6.1**	**13.8 J**
Manganese	mg/kg	26,000	**3,210**	**3,000**	**10,200**	**66.1**	**9,190**
Mercury	mg/kg	350	0.12 R	0.099 R	**0.0029 J**	**0.011 J**	**0.0021 J-**
Nickel	mg/kg	22,000	10.1 U	8.3 U	**29.7**	**6.3 J**	**53.9**
Selenium	mg/kg	5,800	**4.9**	**2.9 J**	**2.3 J**	3.9 U	3.3 U
Silver	mg/kg	5,800	3 U	2.5 U	2.6 U	3 U	**1.1 J**
Thallium	mg/kg	12	10.1 U	8.3 U	**5.3 J**	9.9 U	**4.6 J**
Vanadium	mg/kg	5,800	**13.5**	**11.9**	**166**	**72.4**	**176**
Zinc	mg/kg	350,000	**5 B**	**4 B**	**60.7**	**18**	**96.5 J**
Other							
Cyanide	mg/kg	150	**3.1 J**	**1.4 J**	**0.43 J**	0.62 U	**0.27 J-**

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Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B6-023-SB-1	B6-023-SB-4	B6-023-SB-10	B6-024-SB-1*	B6-024-SB-5*
Metals							
Aluminum	mg/kg	1,100,000	**3,790**	**20,400**	N/A	**52,600**	**14,000**
Antimony	mg/kg	470	2.3 UJ	2.5 UJ	N/A	2.3 U	3 U
Arsenic	mg/kg	3	**10.9**	**17.4**	**7.6**	**3.1**	**3.9**
Barium	mg/kg	220,000	**45.3**	**366**	N/A	**513**	**57**
Beryllium	mg/kg	2,300	**0.72 J**	**1.5**	N/A	**9.8**	**0.87 J**
Cadmium	mg/kg	980	**0.27 B**	**3.1**	N/A	**0.42 JB**	1.5 U
Chromium	mg/kg	120,000	**112**	**145**	N/A	**24.1**	**25.3**
Chromium VI	mg/kg	6.3	**0.34 B**	**0.68 B**	N/A	**0.39 JB**	**0.49 JB**
Cobalt	mg/kg	350	**8.4**	**13**	N/A	**1.4 J**	**5.9**
Copper	mg/kg	47,000	**68.4 J**	**199 J**	N/A	**10.8**	**11.2**
Iron	mg/kg	820,000	**232,000**	**85,100**	N/A	**50,500**	**24,300**
Lead	mg/kg	800	**2.5 J**	**498 J**	N/A	**8.7**	**12.8**
Manganese	mg/kg	26,000	**1,290**	**5,550**	N/A	**2,940**	**197**
Mercury	mg/kg	350	**0.01 J-**	**0.075 J-**	N/A	0.11 U	**0.017 J**
Nickel	mg/kg	22,000	**138**	**33**	N/A	**12.4**	**15**
Selenium	mg/kg	5,800	3.1 U	3.4 U	N/A	3 U	4.1 U
Silver	mg/kg	5,800	**2.6**	2.5 U	N/A	2.3 U	3 U
Thallium	mg/kg	12	7.8 UJ	**7.4 J**	N/A	7.6 U	10.1 U
Vanadium	mg/kg	5,800	**7.2**	**554**	N/A	**12.5**	**45.2**
Zinc	mg/kg	350,000	**24.6 J**	**1,180 J**	N/A	**24.7**	**50**
Other							
Cyanide	mg/kg	150	**0.3 J-**	**2 J-**	N/A	**1.9**	0.6 U

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Summary of Inorganics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B6-024-SB-10	B6-025-SB-1	B6-025-SB-5	B6-026-SB-1*	B6-026-SB-4*
Metals							
Aluminum	mg/kg	1,100,000	N/A	**11,200**	**4,840**	**36,700**	**11,900**
Antimony	mg/kg	470	N/A	2.5 UJ	2.4 UJ	2.4 U	3 U
Arsenic	mg/kg	3	2.2 U	**5.7**	**5.3**	**2.8**	2.5 U
Barium	mg/kg	220,000	N/A	**129**	**61.8**	**298**	**58.2**
Beryllium	mg/kg	2,300	N/A	**1.3**	**0.66 J**	**6.9**	**0.55 J**
Cadmium	mg/kg	980	N/A	**0.68 B**	**0.48 B**	**0.41 JB**	1.5 U
Chromium	mg/kg	120,000	N/A	**718**	**116**	**74.7**	**200**
Chromium VI	mg/kg	6.3	N/A	**0.84 B**	**0.35 B**	**0.35 JB**	**0.38 JB**
Cobalt	mg/kg	350	N/A	**3.8 J**	**3.4 J**	**1.6 J**	**6.8**
Copper	mg/kg	47,000	N/A	**47.7 J**	**37 J**	**19**	**8.7**
Iron	mg/kg	820,000	N/A	**202,000**	**95,100**	**79,700**	**17,200**
Lead	mg/kg	800	N/A	**27 J**	**18.9 J**	**8.7**	**15.5**
Manganese	mg/kg	26,000	N/A	**14,800**	**2,060**	**4,500**	**3,160**
Mercury	mg/kg	350	N/A	**0.029 J-**	**0.01 J-**	0.11 U	**0.016 J**
Nickel	mg/kg	22,000	N/A	**62**	**41.9**	**17.7**	**12.9**
Selenium	mg/kg	5,800	N/A	3.3 U	3.2 U	3.2 U	4 U
Silver	mg/kg	5,800	N/A	**1.2 J**	**0.77 J**	2.4 U	3 U
Thallium	mg/kg	12	N/A	**5.5 J**	8 UJ	8.1 U	**5.9 J**
Vanadium	mg/kg	5,800	N/A	**245**	**64.6**	**37.3**	**669**
Zinc	mg/kg	350,000	N/A	**69.6 J**	**63.2 J**	**26.3**	**53.2**
Other							
Cyanide	mg/kg	150	N/A	**0.28 J-**	**0.12 J-**	**0.12 J**	**0.18 J**

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Table 2
Summary of Inorganics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B6-027-SB-1	B6-027-SB-4	B6-028-SB-1*	B6-028-SB-9*	B6-028-SB-10
Metals							
Aluminum	mg/kg	1,100,000	**45,400**	**21,900**	**46,700**	**4,540**	N/A
Antimony	mg/kg	470	2.7 UJ	2.6 UJ	2.5 U	2.4 U	N/A
Arsenic	mg/kg	3	**3.5**	**3.9**	**2.4**	**4.2**	**13**
Barium	mg/kg	220,000	**304**	**268**	**405**	**19.5**	N/A
Beryllium	mg/kg	2,300	**7**	**2.8**	**9.1**	**0.23 J**	N/A
Cadmium	mg/kg	980	**0.42 B**	**0.45 B**	**0.44 JB**	1.2 U	N/A
Chromium	mg/kg	120,000	**121**	**327**	**52.3**	**55.8**	N/A
Chromium VI	mg/kg	6.3	**0.43 B**	**0.35 B**	**0.42 JB**	**0.34 JB**	N/A
Cobalt	mg/kg	350	**1.1 J**	**2.7 J**	**0.77 J**	**1 J**	N/A
Copper	mg/kg	47,000	**17.6 J**	**37.2 J**	**22.4**	**11.8**	N/A
Iron	mg/kg	820,000	**56,200**	**48,000**	**30,000**	**37,900**	N/A
Lead	mg/kg	800	**11.4 J**	**43.4 J**	**18.7**	**3.7**	N/A
Manganese	mg/kg	26,000	**6,290**	**22,500**	**4,040**	**952**	N/A
Mercury	mg/kg	350	0.11 UJ	**0.079 J-**	0.1 U	**0.0037 J**	N/A
Nickel	mg/kg	22,000	**25.2**	**12.8**	**31.8**	**8.4**	N/A
Selenium	mg/kg	5,800	3.5 U	3.4 U	3.4 U	3.2 U	N/A
Silver	mg/kg	5,800	2.7 U	2.6 U	2.5 U	2.4 U	N/A
Thallium	mg/kg	12	8.8 UJ	**9.4 J**	8.5 U	8 U	N/A
Vanadium	mg/kg	5,800	**99.1**	**383**	**23.5**	**28.3**	N/A
Zinc	mg/kg	350,000	**20.2 J**	**69.1 J**	**22.1**	**19.1**	N/A
Other							
Cyanide	mg/kg	150	**0.5 J-**	**2.2 J-**	**1.2**	0.62 U	N/A

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Table 2
Summary of Inorganics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B6-029-SB-1*	B6-029-SB-5*	B6-039-SB-1*	B6-039-SB-5*	B6-040-SB-1*
Metals							
Aluminum	mg/kg	1,100,000	**37,500**	**22,100**	**39,200**	**14,100**	**5,610**
Antimony	mg/kg	470	2.5 U	2.7 U	2.9 U	2.7 U	**1.6 J**
Arsenic	mg/kg	3	**4.8**	**3.1**	**5.2**	**2 J**	**8.2**
Barium	mg/kg	220,000	**311**	**351**	**541**	**85**	**83.7**
Beryllium	mg/kg	2,300	**8.8**	**2.9**	**4**	**0.48 J**	**0.79 J**
Cadmium	mg/kg	980	**0.5 JB**	**0.48 JB**	**0.61 JB**	1.3 U	**1.3 B**
Chromium	mg/kg	120,000	**53.1**	**429**	**57.2**	**33.3**	**262**
Chromium VI	mg/kg	6.3	**0.35 JB**	**0.39 JB**	**0.36 JB**	**0.52 JB**	**0.49 JB**
Cobalt	mg/kg	350	**1.9 J**	**1.3 J**	**3 J**	**6**	**11.3**
Copper	mg/kg	47,000	**57.8**	**32.2**	**27.2**	**9.8**	**152**
Iron	mg/kg	820,000	**57,900**	**65,500**	**19,200**	**15,300**	**383,000**
Lead	mg/kg	800	**71.7**	**15.5**	**193**	**9.2**	**227**
Manganese	mg/kg	26,000	**2,800**	**52,300**	**7,980**	**388**	**3,160**
Mercury	mg/kg	350	0.11 U	0.1 U	0.1 U	**0.0055 J**	**0.61**
Nickel	mg/kg	22,000	**48.8**	**12.2**	**15.6**	**14.8**	**121**
Selenium	mg/kg	5,800	3.3 U	3.7 U	3.9 U	3.5 U	3.3 U
Silver	mg/kg	5,800	2.5 U	2.7 U	2.9 U	2.7 U	**4.3**
Thallium	mg/kg	12	8.4 U	**20**	**4.7 J**	8.8 U	8.2 U
Vanadium	mg/kg	5,800	**12.9**	**528**	**205**	**30.6**	**46.6**
Zinc	mg/kg	350,000	**45.5**	**29**	**98**	**37.2**	**255**
Other							
Cyanide	mg/kg	150	**0.038 J**	**0.56 J**	**0.28 J**	0.65 U	0.5 U

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Summary of Inorganics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B6-040-SB-5*	B6-040-SB-10	B6-041-SB-1	B6-041-SB-4	B6-042-SB-1
Metals							
Aluminum	mg/kg	1,100,000	**24,300**	N/A	**19,400**	**25,900**	**20,200**
Antimony	mg/kg	470	2.9 U	N/A	2.8 UJ	2.9 UJ	2.7 UJ
Arsenic	mg/kg	3	**5.5**	**7.1**	**3**	**3.2**	**2 J**
Barium	mg/kg	220,000	**276**	N/A	**278 J**	**233 J**	**330 J**
Beryllium	mg/kg	2,300	**2**	N/A	**1.3**	**4.2**	**2.4**
Cadmium	mg/kg	980	**0.39 JB**	N/A	**0.92 B**	**0.45 B**	**0.73 B**
Chromium	mg/kg	120,000	**87.9**	N/A	**566**	**47.5**	**82.8**
Chromium VI	mg/kg	6.3	**0.5 JB**	N/A	**0.67 B**	**0.36 B**	**1.2 J-**
Cobalt	mg/kg	350	**5.6**	N/A	**4.7**	**3.9 J**	**9.9**
Copper	mg/kg	47,000	**18.1**	N/A	**67.4**	**17.5**	**152**
Iron	mg/kg	820,000	**44,400**	N/A	**245,000**	**15,700**	**72,900**
Lead	mg/kg	800	**24**	N/A	**99.5 J**	**18 J**	**293 J**
Manganese	mg/kg	26,000	**4,680**	N/A	**14,600**	**1,570**	**3,610**
Mercury	mg/kg	350	**0.0035 J**	N/A	**0.12**	**0.027 J**	**0.063 J**
Nickel	mg/kg	22,000	**14.8**	N/A	**46.2**	**9.4 J**	**38.8**
Selenium	mg/kg	5,800	**2.2 J**	N/A	3.7 U	3.9 U	3.6 U
Silver	mg/kg	5,800	2.9 U	N/A	**1.6 J**	2.9 U	2.7 U
Thallium	mg/kg	12	**5.3 J**	N/A	9.3 U	9.6 U	9 U
Vanadium	mg/kg	5,800	**393**	N/A	**325 J**	**42.1 J**	**147 J**
Zinc	mg/kg	350,000	**44.1**	N/A	**234 J**	**67.7 J**	**72.3 J**
Other							
Cyanide	mg/kg	150	**0.2 J**	N/A	**0.29 J-**	**0.23 J-**	**0.36 J-**

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Table 2
Summary of Inorganics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B6-042-SB-8	B6-043-SB-1	B6-043-SB-8	B6-044-SB-1*	B6-044-SB-4*
Metals							
Aluminum	mg/kg	1,100,000	**35,600**	**45,800**	**51,700**	**25,000**	**10,400**
Antimony	mg/kg	470	2.8 UJ	2.4 UJ	2.5 UJ	2.3 U	2.6 U
Arsenic	mg/kg	3	**2.2 J**	**2.6**	**2.3**	**7.8**	**13.6**
Barium	mg/kg	220,000	**626 J**	**467**	**508**	**284**	**147**
Beryllium	mg/kg	2,300	**3.1**	**8.9**	**9.6**	**4.4**	**1.2**
Cadmium	mg/kg	980	**0.4 B**	**0.31 B**	**0.5 B**	**0.88 JB**	**0.84 JB**
Chromium	mg/kg	120,000	**22.5**	**17.3**	**21**	**365**	**850**
Chromium VI	mg/kg	6.3	**0.31 B**	**0.42 B**	**0.35 B**	**0.22 JB**	**0.44 JB**
Cobalt	mg/kg	350	**2.4 J**	4.1 U	**0.57 J**	**6.7**	**11.8**
Copper	mg/kg	47,000	**17.2**	**3.3 J**	**9.1 J**	**84.6**	**127**
Iron	mg/kg	820,000	**14,600**	**7,520**	**9,720**	**181,000**	**228,000**
Lead	mg/kg	800	**9.4 J**	**6.5 J**	**26.7 J**	**50.5**	**227**
Manganese	mg/kg	26,000	**8,360**	**2,790**	**3,040**	**6,490**	**14,300**
Mercury	mg/kg	350	0.11 U	0.1 UJ	0.11 UJ	**0.013 J**	**0.0025 J**
Nickel	mg/kg	22,000	**7.3 J**	**1.9 J**	**6.2 J**	**82.5**	**76.3**
Selenium	mg/kg	5,800	3.7 U	**2 J**	3.3 U	3.1 U	3.5 U
Silver	mg/kg	5,800	2.8 U	2.4 U	2.5 U	**0.86 J**	**0.96 J**
Thallium	mg/kg	12	9.3 U	8.1 UJ	8.2 UJ	**6.9 J**	**18.5**
Vanadium	mg/kg	5,800	**159 J**	**20.1**	**15.9**	**472**	**1,480**
Zinc	mg/kg	350,000	**12.2 J**	**8.7 J**	**30.3 J**	**121**	**239**
Other							
Cyanide	mg/kg	150	**0.25 J+**	**1.3 J-**	**0.48 J-**	**0.37 J**	**0.41 J**

Detections in bold
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Table 2
Summary of Inorganics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B6-045-SB-1	B6-045-SB-5	B6-045-SB-10	B6-046-SB-1	B6-046-SB-6
Metals							
Aluminum	mg/kg	1,100,000	**36,900**	**16,200**	N/A	**18,500**	**23,600**
Antimony	mg/kg	470	2.5 UJ	3.1 UJ	N/A	2.7 UJ	3.1 UJ
Arsenic	mg/kg	3	**4.5**	**7.9**	**3.6**	**29.4**	**3.8**
Barium	mg/kg	220,000	**359**	**161**	N/A	**357**	**86**
Beryllium	mg/kg	2,300	**7.1**	**1.3**	N/A	**2.1**	**0.63 J**
Cadmium	mg/kg	980	**0.66 B**	**1.4 B**	N/A	**11.1**	**0.18 B**
Chromium	mg/kg	120,000	**61.8**	**50.1**	N/A	**1,050**	**31.1**
Chromium VI	mg/kg	6.3	**0.46 B**	**0.45 B**	N/A	**0.41 B**	**0.35 B**
Cobalt	mg/kg	350	**2.9 J**	**6.8**	N/A	**128**	**4.1 J**
Copper	mg/kg	47,000	**25.2 J**	**57.9 J**	N/A	**669 J**	**13.5 J**
Iron	mg/kg	820,000	**111,000**	**33,500**	N/A	**221,000**	**22,000**
Lead	mg/kg	800	**8.7 J**	**149 J**	N/A	**1,800 J**	**24.5 J**
Manganese	mg/kg	26,000	**3,240**	**1,390**	N/A	**8,330**	**127**
Mercury	mg/kg	350	0.1 UJ	**0.44 J-**	N/A	**0.065 J**	**0.059 J-**
Nickel	mg/kg	22,000	**32.2**	**17.8**	N/A	**1,010**	**10.7**
Selenium	mg/kg	5,800	**3 J**	4.1 U	N/A	3.6 U	4.2 U
Silver	mg/kg	5,800	2.5 U	3.1 U	N/A	**4.7**	3.1 U
Thallium	mg/kg	12	8.2 UJ	10.3 UJ	N/A	**5.7 J**	10.4 UJ
Vanadium	mg/kg	5,800	**15.2**	**136**	N/A	**195**	**48.4**
Zinc	mg/kg	350,000	**622 J**	**769 J**	N/A	**6,260 J**	**45.7 J**
Other							
Cyanide	mg/kg	150	**0.84 J-**	**0.69 J-**	N/A	**0.65 J-**	0.76 UJ

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Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B6-046-SB-10	B6-051-SB-1	B6-051-SB-6	B6-052-SB-1	B6-057-SB-1*
Metals							
Aluminum	mg/kg	1,100,000	N/A	**17,000**	**7,940**	**22,300**	**23,500**
Antimony	mg/kg	470	N/A	**2.2 J**	**3.4 J**	3 UJ	2.7 U
Arsenic	mg/kg	3	**7.3**	**5**	**7.2**	**2.2 J**	**3.2**
Barium	mg/kg	220,000	N/A	**65.1 J**	**25.3 J**	**96.1 J**	**278**
Beryllium	mg/kg	2,300	N/A	**0.36 J**	**0.43 J**	**0.43 J**	**1.5**
Cadmium	mg/kg	980	N/A	**0.18 B**	1.4 U	**0.93 B**	**0.14 J**
Chromium	mg/kg	120,000	N/A	**32.5**	**18.8**	**347**	**25**
Chromium VI	mg/kg	6.3	N/A	**0.52 B**	**0.71 B**	**0.56 B**	**0.32 JB**
Cobalt	mg/kg	350	N/A	**3.4 J**	**2.2 J**	**3.4 J**	**4.4 J**
Copper	mg/kg	47,000	N/A	**8.5**	**6.9**	**94.8**	**15.6**
Iron	mg/kg	820,000	N/A	**13,700**	**21,800**	**78,000**	**18,400**
Lead	mg/kg	800	N/A	**87.7 J**	**100 J**	**122 J**	**15.1**
Manganese	mg/kg	26,000	N/A	**105**	**108**	**8,410**	**2,530**
Mercury	mg/kg	350	N/A	**0.0093 J**	**0.016 J**	**0.18**	**0.026 J**
Nickel	mg/kg	22,000	N/A	**11.8**	**8.6 J**	**27.5**	**8 J**
Selenium	mg/kg	5,800	N/A	4 U	3.8 U	4 U	3.6 U
Silver	mg/kg	5,800	N/A	3 U	2.9 U	3 U	2.7 U
Thallium	mg/kg	12	N/A	9.9 U	9.5 U	9.9 U	9 U
Vanadium	mg/kg	5,800	N/A	**31.5 J**	**17.3 J**	**184 J**	**85**
Zinc	mg/kg	350,000	N/A	**31.3 J**	**25.5 J**	**171 J**	**35**
Other							
Cyanide	mg/kg	150	N/A	0.72 U	0.7 U	**0.47 J+**	**0.59 J**

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Table 2
Summary of Inorganics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B6-057-SB-8*	B6-057-SB-10*	B6-058-SB-1*	B6-058-SB-5*	B6-058-SB-10*
Metals							
Aluminum	mg/kg	1,100,000	**13,400**	**22,300**	**50,300**	**22,300**	N/A
Antimony	mg/kg	470	2.7 U	3.4 U	2.6 U	2.8 U	N/A
Arsenic	mg/kg	3	**3.6**	**5.7**	2.2 U	**3.9**	**4.1**
Barium	mg/kg	220,000	**46**	**62.7**	**429**	**225**	N/A
Beryllium	mg/kg	2,300	**0.7 J**	**0.72 J**	**8.6**	**1.3**	N/A
Cadmium	mg/kg	980	1.3 U	1.7 U	**0.14 J**	**0.27 J**	N/A
Chromium	mg/kg	120,000	**22.4**	**34.5**	**42.7**	**67.6**	N/A
Chromium VI	mg/kg	6.3	**0.39 JB**	N/A	**0.35 JB**	**0.39 JB**	N/A
Cobalt	mg/kg	350	**6.5**	**7.3**	**1.7 J**	**7.7**	N/A
Copper	mg/kg	47,000	**7.4**	**10.3**	**6.6**	**34.8**	N/A
Iron	mg/kg	820,000	**18,700**	**22,000**	**51,700**	**27,000**	N/A
Lead	mg/kg	800	**9.7**	**11.7**	**4.9**	**103**	N/A
Manganese	mg/kg	26,000	**79.4**	**71.5**	**3,260**	**1,680**	N/A
Mercury	mg/kg	350	**0.044 J**	N/A	0.12 U	0.12 U	N/A
Nickel	mg/kg	22,000	**11.9**	**14.1**	**9.4**	**103**	N/A
Selenium	mg/kg	5,800	3.6 U	4.5 U	**3.7**	3.7 U	N/A
Silver	mg/kg	5,800	2.7 U	3.4 U	2.6 U	2.8 U	N/A
Thallium	mg/kg	12	8.9 U	11.3 U	8.7 U	9.2 U	N/A
Vanadium	mg/kg	5,800	**30.2**	**51.9**	**17.3**	**81.6**	N/A
Zinc	mg/kg	350,000	**39.2**	**42.9**	**5.2 B**	**87.1**	N/A
Other							
Cyanide	mg/kg	150	0.74 U	N/A	**1.7**	**0.66 J**	N/A

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Table 2
Summary of Inorganics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B6-059-SB-1	B6-059-SB-8	B6-059-SB-10	B6-060-SB-1	B6-060-SB-4
Metals							
Aluminum	mg/kg	1,100,000	**23,800**	**7,740**	N/A	**18,200**	**19,700**
Antimony	mg/kg	470	2.8 R	2.7 R	N/A	2.9 R	2.8 R
Arsenic	mg/kg	3	**9.3**	**17.9**	**2.3 J**	**5.6**	**10.9**
Barium	mg/kg	220,000	**291 J**	**256 J**	N/A	**243 J**	**240 J**
Beryllium	mg/kg	2,300	**2.4**	0.88 U	N/A	**1.2**	**1.6**
Cadmium	mg/kg	980	**0.83 B**	**0.91 B**	N/A	**0.39 B**	**0.67 B**
Chromium	mg/kg	120,000	**96.7**	**2,310**	N/A	**35.1**	**68.6**
Chromium VI	mg/kg	6.3	**0.37 B**	**0.87 B**	N/A	**0.42 B**	**0.41 B**
Cobalt	mg/kg	350	**8.9**	**14.6**	N/A	**8.4**	**11.4**
Copper	mg/kg	47,000	**82.2 J**	**369 J**	N/A	**38.5 J**	**241 J**
Iron	mg/kg	820,000	**57,600 J**	**195,000 J**	N/A	**42,100 J**	**90,600 J**
Lead	mg/kg	800	**2,220 J**	**25.7 J**	N/A	**45.1 J**	**104 J**
Manganese	mg/kg	26,000	**4,230**	**66,600**	**5,740**	**1,930**	**2,950**
Mercury	mg/kg	350	**0.034 J-**	**0.0022 J-**	N/A	**0.044 J-**	**0.0042 J-**
Nickel	mg/kg	22,000	**27.6 J**	**90.1 J**	N/A	**27 J**	**38.6 J**
Selenium	mg/kg	5,800	3.8 U	3.5 U	N/A	3.9 U	3.7 U
Silver	mg/kg	5,800	2.8 U	**16.6 J**	N/A	2.9 U	**0.8 J**
Thallium	mg/kg	12	9.4 U	**151**	8.8 U	9.7 U	9.2 U
Vanadium	mg/kg	5,800	**237 J**	**13,800 J**	**222 J**	**84.9 J**	**144 J**
Zinc	mg/kg	350,000	**278 J**	**37.3 J**	N/A	**67.5 J**	**371 J**
Other							
Cyanide	mg/kg	150	**0.82**	**0.38 J**	N/A	0.65 U	**0.41 J**

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Table 2
Summary of Inorganics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B6-061-SB-1	B6-061-SB-4	B6-062-SB-1	B6-062-SB-4	B6-078-SB-1
Metals							
Aluminum	mg/kg	1,100,000	**20,400**	**10,800**	**21,300**	**32,500**	**24,900**
Antimony	mg/kg	470	2.7 UJ	2.9 UJ	3 UJ	3.1 UJ	2.7 R
Arsenic	mg/kg	3	**4.1**	**6.3**	**3.6**	**7.6**	**2.5**
Barium	mg/kg	220,000	**258 J**	**99.6 J**	**274 J**	**650 J**	**288 J**
Beryllium	mg/kg	2,300	**2.6**	**0.81 J**	**2.2**	**3.2**	**1.7**
Cadmium	mg/kg	980	**3.3**	**0.21 B**	**1.1 B**	**1.1 B**	**0.45 B**
Chromium	mg/kg	120,000	**443**	**24.3**	**32.5**	**75.4**	**518**
Chromium VI	mg/kg	6.3	**0.47 B**	**0.39 B**	**0.38 B**	**0.43 B**	**0.78 B**
Cobalt	mg/kg	350	**3 J**	**5.3**	**3.9 J**	**5.6**	**2.5 J**
Copper	mg/kg	47,000	**59.8**	**9.8**	**16.6**	**38.6**	**36.9 J**
Iron	mg/kg	820,000	**105,000**	**18,900**	**18,200**	**38,100**	**41,700 J**
Lead	mg/kg	800	**191 J**	**33.7 J**	**60.6 J**	**113 J**	**25.7 J**
Manganese	mg/kg	26,000	**11,100**	**577**	**2,920**	**6,780**	**17,700**
Mercury	mg/kg	350	**0.081 J**	**0.021 J**	0.12 U	**0.098 J**	**0.012 J-**
Nickel	mg/kg	22,000	**35.8**	**10.6**	**10.4**	**19.2**	**8.9 J**
Selenium	mg/kg	5,800	3.6 U	3.9 U	4 U	**3.5 B**	3.5 U
Silver	mg/kg	5,800	2.7 U	2.9 U	3 U	3.1 U	**0.74 J**
Thallium	mg/kg	12	8.9 U	9.8 U	10 U	10.3 U	**29.1**
Vanadium	mg/kg	5,800	**333 J**	**40.7 J**	**68 J**	**287 J**	**2,980 J**
Zinc	mg/kg	350,000	**265 J**	**71.6 J**	**132 J**	**156 J**	**37.7 J**
Other							
Cyanide	mg/kg	150	**0.19 J+**	**0.064 J+**	**0.19 J+**	**0.57 J+**	**0.58 J**

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Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B6-078-SB-8	B6-083-SB-1*	B6-083-SB-8*	B6-084-SB-1*	B6-084-SB-7*
Metals							
Aluminum	mg/kg	1,100,000	**10,900**	**16,900**	**12,400**	**17,600**	**4,890**
Antimony	mg/kg	470	2.7 R	2.7 U	2.8 U	2.3 U	2.5 U
Arsenic	mg/kg	3	**15**	**16**	2.3 U	**2.1**	2.1 U
Barium	mg/kg	220,000	**227 J**	**233**	**60.3**	**200**	**21.8**
Beryllium	mg/kg	2,300	0.91 U	**2.1**	**0.69 J**	**2.1**	**0.19 J**
Cadmium	mg/kg	980	**2.7**	**0.92 J**	1.4 U	**0.43 J**	1.3 U
Chromium	mg/kg	120,000	**605**	**102**	**28.6**	**444**	**21.3**
Chromium VI	mg/kg	6.3	**0.87 B**	**0.3 JB**	**0.4 JB**	**0.36 JB**	**0.37 JB**
Cobalt	mg/kg	350	**11.7**	**34.6**	**7.8**	**2.3 J**	**1.9 J**
Copper	mg/kg	47,000	**172 J**	**196**	**7.5**	**67.2**	**5.7**
Iron	mg/kg	820,000	**132,000 J**	**246,000**	**7,980**	**194,000**	**14,900**
Lead	mg/kg	800	**565 J**	**19.3**	**10.3**	**109**	**7.1**
Manganese	mg/kg	26,000	**12,800**	**2,980**	**162**	**10,300**	**246**
Mercury	mg/kg	350	**0.059 J-**	0.1 U	**0.033 J**	**0.0036 J**	**0.0076 J**
Nickel	mg/kg	22,000	**35.5 J**	**122**	**20.7**	**22.9**	**4.6 J**
Selenium	mg/kg	5,800	3.6 U	3.6 U	3.7 U	3.1 U	3.4 U
Silver	mg/kg	5,800	**2.5 J**	**2.2 J**	2.8 U	**1.7 J**	2.5 U
Thallium	mg/kg	12	**43.9**	8.9 U	9.3 U	7.8 U	8.4 U
Vanadium	mg/kg	5,800	**4,450 J**	**55.3**	**25.3**	**210**	**15.4**
Zinc	mg/kg	350,000	**676 J**	**25.4**	**48.4**	**85.9**	**14**
Other							
Cyanide	mg/kg	150	**0.52 J**	**0.42 J**	0.75 U	**0.27 JB**	0.7 U

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Summary of Inorganics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B6-085-SB-1*	B6-085-SB-8*	B6-087-SB-5*	B6-087-SB-7.5*	B6-088-SB-1
Metals							
Aluminum	mg/kg	1,100,000	**24,500**	**11,800**	**12,800**	**9,230**	**11,000**
Antimony	mg/kg	470	2.3 U	2.8 U	2.8 U	2.6 U	2.6 UJ
Arsenic	mg/kg	3	**7.7**	**43.7**	**3.6**	**3.6**	**4**
Barium	mg/kg	220,000	**428**	**403**	**150**	**77.9**	**75.8 J**
Beryllium	mg/kg	2,300	**2.2**	**0.75 J**	**1.3**	**0.8 J**	**0.77 J**
Cadmium	mg/kg	980	**1 JB**	**8.8**	1.4 U	1.3 U	**0.6 B**
Chromium	mg/kg	120,000	**248**	**1,600**	**41.6**	**13.1**	**156 J**
Chromium VI	mg/kg	6.3	**0.45 JB**	**0.29 JB**	**0.37 JB**	**0.44 JB**	**0.22 B**
Cobalt	mg/kg	350	**8.2**	**173**	**2.5 J**	**3.8 J**	**4.8**
Copper	mg/kg	47,000	**73.3**	**720**	**14.9**	**18.3**	**31.1**
Iron	mg/kg	820,000	**77,500**	**333,000**	**13,900**	**12,100**	**24,500**
Lead	mg/kg	800	**168**	**2,940**	**5**	**5.7**	**32.8 J**
Manganese	mg/kg	26,000	**11,900**	**7,840**	**3,100**	**843**	**2,260**
Mercury	mg/kg	350	**0.0085 J**	**0.079 J**	0.097 U	**0.0061 J**	**0.017 J**
Nickel	mg/kg	22,000	**36.7**	**1,460**	**6.2 J**	**8.5 J**	**18.6**
Selenium	mg/kg	5,800	3 U	3.7 U	3.7 U	3.5 U	3.5 UJ
Silver	mg/kg	5,800	2.3 U	**7.3**	2.8 U	2.6 U	2.6 U
Thallium	mg/kg	12	7.6 U	9.2 U	9.3 U	8.8 U	8.7 U
Vanadium	mg/kg	5,800	**250**	**344**	**73.6**	**27.6**	**104 J**
Zinc	mg/kg	350,000	**319**	**7,360**	**26.9**	**74.1**	**206 J**
Other							
Cyanide	mg/kg	150	**0.49 J**	**1.3**	**0.62 J**	**0.23 J**	**0.4 J**

Detections in bold
N/A indicates that the parameter was not analyzed for this sample
* indicates non-validated data results
Values in red indicate an exceedance of the Project Action Limit (PAL)
Gray highlight indicates within building footprint

J: The positive result reported for this analyte is a quantitative estimate.
J+: The positive result reported for this analyte is a quantitative estimate, but may be biased high.
J-: The positive result reported for this analyte is a quantitative estimate, but may be biased low.
B: The analyte was not detected substantially above the level of the associated method blank or field blank.
U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
UJ: This analyte was not detected in the sample. The quantitation/detection limit may be higher than reported.
R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this compound/analyte in the sample.

Table 2
Summary of Inorganics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B6-088-SB-5	B6-090-SB-2	B6-090-SB-8	B6-090-SB-10*	B6-091-SB-1
Metals							
Aluminum	mg/kg	1,100,000	**46,300**	**17,700**	**10,300**	N/A	**27,500**
Antimony	mg/kg	470	2.5 UJ	3.1 UJ	3 UJ	N/A	2.4 UJ
Arsenic	mg/kg	3	**3.4**	**5.4**	**8.4**	**3.7**	**4.2**
Barium	mg/kg	220,000	**419 J**	**535 J**	**40.4 J**	N/A	**422 J**
Beryllium	mg/kg	2,300	**8.4**	**1.1**	**0.56 J**	N/A	**4.5**
Cadmium	mg/kg	980	**0.22 B**	**0.42 B**	1.5 U	N/A	**0.43 B**
Chromium	mg/kg	120,000	**15.3 J**	**45.5 J**	**18.6 J**	N/A	**133 J**
Chromium VI	mg/kg	6.3	**0.38 B**	**0.35 B**	**0.37 B**	N/A	**0.29 B**
Cobalt	mg/kg	350	**0.43 J**	**6**	**9.6**	N/A	**13.5**
Copper	mg/kg	47,000	**1.7 J**	**56.5**	**6.6**	N/A	**82.4**
Iron	mg/kg	820,000	**7,530**	**24,300**	**25,100**	N/A	**132,000**
Lead	mg/kg	800	**3.9 J**	**165 J**	**8.2 J**	N/A	**20.2 J**
Manganese	mg/kg	26,000	**2,490**	**1,040**	**135**	N/A	**8,830**
Mercury	mg/kg	350	0.11 U	0.12 U	**0.011 J**	N/A	0.1 U
Nickel	mg/kg	22,000	**1.8 J**	**22.1**	**8.9 J**	N/A	**34.7**
Selenium	mg/kg	5,800	3.4 UJ	4.2 UJ	4 UJ	N/A	3.2 UJ
Silver	mg/kg	5,800	2.5 U	3.1 U	3 U	N/A	2.4 U
Thallium	mg/kg	12	8.5 U	10.5 U	10 U	N/A	8.1 U
Vanadium	mg/kg	5,800	**10.9 J**	**144 J**	**20.3 J**	N/A	**95.8 J**
Zinc	mg/kg	350,000	**5.8 J**	**105 J**	**32 J**	N/A	**24.7 J**
Other							
Cyanide	mg/kg	150	**0.77**	**2.2**	**0.64 J**	N/A	**0.41 J**

Detections in bold
N/A indicates that the parameter was not analyzed for this sample
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Gray highlight indicates within building footprint

J: The positive result reported for this analyte is a quantitative estimate.
J+: The positive result reported for this analyte is a quantitative estimate, but may be biased high.
J-: The positive result reported for this analyte is a quantitative estimate, but may be biased low.
B: The analyte was not detected substantially above the level of the associated method blank or field blank.
U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
UJ: This analyte was not detected in the sample. The quantitation/detection limit may be higher than reported.
R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this compound/analyte in the sample.

Table 2
Summary of Inorganics Detected in Soil
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B6-091-SB-9	B6-091-SB-10*	B6-092-SB-1*	B6-092-SB-9*
Metals						
Aluminum	mg/kg	1,100,000	**12,700**	N/A	**14,900**	**13,100**
Antimony	mg/kg	470	2.8 UJ	N/A	2.3 U	3.3 U
Arsenic	mg/kg	3	**3.7**	2.2 U	**9.3**	2.7 U
Barium	mg/kg	220,000	**28.7 J**	N/A	**199**	**33.3**
Beryllium	mg/kg	2,300	**0.49 J**	N/A	**0.92**	**0.34 J**
Cadmium	mg/kg	980	1.4 U	N/A	**2.5**	1.6 U
Chromium	mg/kg	120,000	**26.7 J**	N/A	**1,220**	**15.8**
Chromium VI	mg/kg	6.3	**1.1 B**	N/A	**0.8 JB**	**0.52 JB**
Cobalt	mg/kg	350	**4.8**	N/A	**10**	**3 J**
Copper	mg/kg	47,000	**8.6**	N/A	**138**	**3.1 J**
Iron	mg/kg	820,000	**18,200**	N/A	**195,000**	**5,900**
Lead	mg/kg	800	**12.7 J**	N/A	**241**	**8.3**
Manganese	mg/kg	26,000	**76.1**	N/A	**45,500**	**85.5**
Mercury	mg/kg	350	**0.0024 J**	N/A	**0.032 J**	0.12 U
Nickel	mg/kg	22,000	**10.9**	N/A	**54.1**	**7.8 J**
Selenium	mg/kg	5,800	3.7 UJ	N/A	3 U	4.3 U
Silver	mg/kg	5,800	2.8 U	N/A	**1.1 J**	3.3 U
Thallium	mg/kg	12	9.3 U	N/A	7.5 U	10.8 U
Vanadium	mg/kg	5,800	**20.6 J**	N/A	**3,040**	**33.1**
Zinc	mg/kg	350,000	**36.7 J**	N/A	**614**	**23.6**
Other						
Cyanide	mg/kg	150	0.75 U	N/A	**0.61 J**	0.57 U

Detections in bold
N/A indicates that the parameter was not analyzed for this sample
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Values in red indicate an exceedance of the Project Action Limit (PAL)
Gray highlight indicates within building footprint

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J+: The positive result reported for this analyte is a quantitative estimate, but may be biased high.
J-: The positive result reported for this analyte is a quantitative estimate, but may be biased low.
B: The analyte was not detected substantially above the level of the associated method blank or field blank.
U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
UJ: This analyte was not detected in the sample. The quantitation/detection limit may be higher than reported.
R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this compound/analyte in the sample.

Table 3
Summary of Organics Detected in Groundwater
Sub-Parcel B6-1 - Development Area
Tradepoint, Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	FM-008-PZI	FM-008-PZS*	FM-009-PZI	FM-009-PZS	FM-014-PZI
Volatile Organic Compounds							
1,1-Dichloroethane	µg/L	2.7	1 U	1 U	1 U	1 U	**1.9**
1,1-Dichloroethene	µg/L	7	1 U	1 U	1 U	1 U	**3.7**
Acetone	µg/L	14,000	10 U	10 U	10 U	10 U	10 U
Benzene	µg/L	5	1 U	1 U	1 U	1 U	1 U
Carbon disulfide	µg/L	810	1 U	1 U	1 U	1 U	1 U
Chloroform	µg/L	0.22	**1.3**	1 U	**5.8**	1 U	1 U
Ethylbenzene	µg/L	700	1 U	**0.99 J**	1 U	1 U	1 U
Toluene	µg/L	1,000	1 U	1 U	**0.91 J**	1 U	1 U
Xylenes	µg/L	10,000	3 U	**2.3 J**	3 U	3 U	3 U
Semi-Volatile Organic Compounds^							
1,4-Dioxane	µg/L	0.46	0.1 UJ	**0.098 J**	**0.23**	0.1 U	**2.5**
2,4-Dimethylphenol	µg/L	360	1 UJ	**0.58 J**	1.1 U	1 U	1 U
2-Methylnaphthalene	µg/L	36	**1.1 J**	**0.091 J**	0.11 U	0.1 UJ	0.1 UJ
2-Methylphenol	µg/L	930	1 UJ	1 U	1.1 U	1 U	1 U
3&4-Methylphenol(m&p Cresol)	µg/L	930	2 UJ	**1.3 J**	**1.9 J**	2.1 U	2 U
Acenaphthene	µg/L	530	**4.2 J**	**0.074 J**	0.11 U	0.1 U	0.1 U
Acenaphthylene	µg/L	530	**0.049 J**	**0.026 J**	0.11 U	0.1 U	0.1 U
Acetophenone	µg/L	1,900	1 UJ	1 U	1.1 U	1 U	1 U
Anthracene	µg/L	1,800	**1.5 J**	**0.23**	0.11 U	**0.078 J**	0.1 U
Benz[a]anthracene	µg/L	0.0298	**0.074 J**	0.1 U	0.11 U	0.1 U	0.1 U
Benzo[a]pyrene	µg/L	0.2	**0.026 J**	0.1 U	0.11 U	0.1 UJ	0.1 U
Benzo[b]fluoranthene	µg/L	0.25	**0.058 J**	0.1 U	0.11 U	0.1 UJ	0.1 U
Benzo[k]fluoranthene	µg/L	2.5	**0.025 J**	0.1 U	0.11 U	0.1 UJ	0.1 U
bis(2-Ethylhexyl)phthalate	µg/L	6	1 UJ	**0.4 J**	**0.23 J**	**0.36 J**	**0.24 J**
Carbazole	µg/L		**2.6 J**	1 U	1.1 U	1 U	1 U
Chrysene	µg/L	25	**0.067 J**	0.1 U	0.11 U	0.1 U	0.1 U
Di-n-butylphthalate	µg/L	900	**0.12 J**	1 U	1.1 U	1 U	1 U
Fluoranthene	µg/L	800	**1 J**	**0.044 J**	0.11 U	0.1 U	**0.032 J**
Fluorene	µg/L	290	**3.5 J**	**0.042 J**	0.11 U	0.1 U	0.1 U
Naphthalene	µg/L	0.17	**1.8 J**	**0.63**	**0.032 B**	**0.035 B**	**0.14**
Pentachlorophenol	µg/L	1	2.6 UJ	2.6 U	2.8 U	**0.75 J**	2.6 U
Phenanthrene	µg/L		**6.1 J**	**0.082 J**	0.11 U	0.1 U	**0.05 J**
Pyrene	µg/L	120	**0.57 J**	**0.027 J**	0.11 U	0.1 U	**0.02 J**
TPH/Oil and Grease							
Diesel Range Organics	µg/L	47	**101 J**	**939**	**126 J**	**595 J**	**55.9 J**

Detections in bold
N/A indicates that the parameter was not analyzed for this sample
* indicates non-validated data results
^PAH compounds were analyzed for SIM
Values in red indicate an exceedance of the Project Action Limit (PAL)

J: The positive result reported for this anaytle is a quantitative estimate.
B: The compound/analyte was not detected substantially above the level of the associated method blank/preparation for field blank.
U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitative/detection limit may be higher than reported.
R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this compound/analyte in the sample.

Table 3
Summary of Organics Detected in Groundwater
Sub-Parcel B6-1 - Development Area
Tradepoint, Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	FM-014-PZS	FM-015-PZI	FM-015-PZS*	FM05-PZM004	FM05-PZM024
Volatile Organic Compounds							
1,1-Dichloroethane	µg/L	2.7	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	µg/L	7	1 U	1 U	1 U	1 U	1 U
Acetone	µg/L	14,000	10 U	10 U	**47.1**	10 R	**15.1 J**
Benzene	µg/L	5	1 U	1 U	1 U	**2.6**	1 U
Carbon disulfide	µg/L	810	1 U	1 U	1 U	**1.1**	1 U
Chloroform	µg/L	0.22	1 U	**0.96 J**	1 U	1 U	1 U
Ethylbenzene	µg/L	700	1 U	1 U	1 U	1 U	1 U
Toluene	µg/L	1,000	1 U	1 U	1 U	**0.39 J**	1 U
Xylenes	µg/L	10,000	3 U	3 U	3 U	3 U	3 U
Semi-Volatile Organic Compounds^							
1,4-Dioxane	µg/L	0.46	**0.47**	**0.36**	0.1 U	**0.036 J**	0.1 U
2,4-Dimethylphenol	µg/L	360	1.1 U	1 U	1 U	1 U	1 U
2-Methylnaphthalene	µg/L	36	0.1 U	0.1 U	**0.074 J**	**0.6**	**0.07 J**
2-Methylphenol	µg/L	930	1.1 U	1 U	1 U	**0.39 J**	1 U
3&4-Methylphenol(m&p Cresol)	µg/L	930	2.1 U	2.1 U	2 U	**0.79 J**	2 U
Acenaphthene	µg/L	530	0.1 U	0.1 U	0.1 U	**0.77**	0.1 U
Acenaphthylene	µg/L	530	0.1 U	0.1 U	0.1 U	**0.12**	0.1 U
Acetophenone	µg/L	1,900	1.1 U	1 U	**0.31 J**	**0.37 J**	1 U
Anthracene	µg/L	1,800	**0.068 J**	0.1 U	**0.088 J**	**0.33**	0.1 U
Benz[a]anthracene	µg/L	0.0298	**0.039 J**	0.1 U	**0.024 J**	**0.044 J**	0.1 U
Benzo[a]pyrene	µg/L	0.2	**0.018 J**	0.1 U	0.1 U	**0.013 J**	0.1 U
Benzo[b]fluoranthene	µg/L	0.25	**0.032 J**	0.1 U	0.1 U	**0.027 J**	0.1 U
Benzo[k]fluoranthene	µg/L	2.5	**0.014 J**	0.1 U	0.1 U	**0.027 J**	0.1 U
bis(2-Ethylhexyl)phthalate	µg/L	6	1.1 U	1 U	**0.21 J**	**0.29 J**	**0.23 J**
Carbazole	µg/L		1.1 U	1 U	**0.32 J**	**1.9**	1 U
Chrysene	µg/L	25	**0.022 J**	0.1 U	**0.011 J**	**0.024 J**	0.1 U
Di-n-butylphthalate	µg/L	900	1.1 U	1 U	1 U	**0.22 J**	1 U
Fluoranthene	µg/L	800	**0.056 J**	0.1 U	**0.49**	**0.38**	0.1 U
Fluorene	µg/L	290	0.1 U	0.1 U	0.1 U	**0.75**	0.1 U
Naphthalene	µg/L	0.17	**0.027 B**	**0.044 B**	**0.3 B**	**108**	**4.8**
Pentachlorophenol	µg/L	1	2.6 U	2.6 U	2.6 U	2.5 U	2.5 U
Phenanthrene	µg/L		**0.033 J**	**0.029 J**	**0.89**	**0.93**	**0.026 J**
Pyrene	µg/L	120	**0.047 J**	0.1 U	**0.33**	**0.25**	0.1 U
TPH/Oil and Grease							
Diesel Range Organics	µg/L	47	**156 J**	**161 J**	**57.8 J**	**1,610**	105 UJ

Detections in bold
N/A indicates that the parameter was not analyzed for this sample
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^PAH compounds were analyzed for SIM
Values in red indicate an exceedance of the Project Action Limit (PAL)

J: The positive result reported for this anaytle is a quantitative estimate.
B: The compound/analyte was not detected substantially above the level of the associated method blank/preparation for field blank.
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R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this compound/analyte in the sample.

Table 4
Summary of Inorganics Detected in Groundwater
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	FM-008-PZI	FM-008-PZS*	FM-009-PZI	FM-009-PZS	FM-014-PZI
Total Metals							
Aluminum	µg/L	20,000	N/A	N/A	N/A	N/A	N/A
Arsenic	µg/L	10	N/A	N/A	N/A	N/A	N/A
Barium	µg/L	2,000	N/A	N/A	N/A	N/A	N/A
Chromium	µg/L	100	N/A	N/A	N/A	N/A	N/A
Chromium VI	µg/L	0.035	10 U	**8,000 J ^**	10 U	10 U	10 U
Copper	µg/L	1,300	N/A	N/A	N/A	N/A	N/A
Iron	µg/L	14,000	N/A	N/A	N/A	N/A	N/A
Manganese	µg/L	430	N/A	N/A	N/A	N/A	N/A
Nickel	µg/L	390	N/A	N/A	N/A	N/A	N/A
Vanadium	µg/L	86	N/A	N/A	N/A	N/A	N/A
Zinc	µg/L	6,000	N/A	N/A	N/A	N/A	N/A
Dissolved Metals							
Aluminum, Dissolved	µg/L	20,000	**2,310**	**193**	**10,800**	**34 J**	50 U
Arsenic, Dissolved	µg/L	10	**37.2**	**4.6 J**	**6.1**	**3.4 J**	5 U
Barium, Dissolved	µg/L	2,000	**528**	**71**	**249**	**81.7**	**144**
Beryllium, Dissolved	µg/L	4	1 U	1 U	**0.84 J**	1 U	1 U
Cadmium, Dissolved	µg/L	5	**0.75 J**	3 U	**0.7 J**	3 U	3 U
Chromium VI, Dissolved	µg/L	0.035	N/A	10 U	N/A	N/A	N/A
Chromium, Dissolved	µg/L	100	**7**	**3.6 J**	**19.4**	**4 J**	**0.99 J**
Cobalt, Dissolved	µg/L	6	**0.83 J**	5 U	**8**	5 U	5 U
Copper, Dissolved	µg/L	1,300	**1.9 J**	5 U	**11.6**	5 U	5 U
Iron, Dissolved	µg/L	14,000	**135,000**	70 U	**83,200**	**39.5 J**	**84,900**
Lead, Dissolved	µg/L	15	10 U	5 U	**7.2**	5 U	5 U
Manganese, Dissolved	µg/L	430	**1,560**	**1.3 J**	**3,440**	**25.2**	**2,470**
Nickel, Dissolved	µg/L	390	**7.9 B**	**3 J**	**21.4 J**	**2.5 J**	**1.6 J**
Selenium, Dissolved	µg/L	50	8 U	**10.1**	8 U	**10.4**	8 U
Silver, Dissolved	µg/L	94	**1.9 J**	6 U	**0.91 B**	6 U	6 U
Thallium, Dissolved	µg/L	2	10 U	**4.7 J**	10 U	**3.9 J**	10 U
Vanadium, Dissolved	µg/L	86	**13.2**	**236**	**24.2**	**193**	5 U
Zinc, Dissolved	µg/L	6,000	**13.7 J**	**0.92 JB**	**56.2 J**	**0.78 B**	**6.4 B**
Other							
Cyanide	µg/L	200	10 U	**12.1**	10 U	**3 J**	10 U

Detections in bold
N/A indicates that the parameter was not analyzed for this sample
* indicates non-validated data results
Values in red indicate an exceedance of the Project Action Limit (PAL)

J: The positive result reported for this analyte is a quantitative estimate.
B: The analyte was not detected substantially above the level of the associated method blank or field blank.
U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

^Resampled on July 5, 2016 for total hexavalent chromium using method 7196A and produced a detection of 7 ug/L (displayed on Figure GW-4).
^Resampled again on July 15, 2016 for dissovled hexavalent chromium and produced a non-detect result with a reporting limit of 10 ug/L.

Table 4
Summary of Inorganics Detected in Groundwater
Sub-Parcel B6-1 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	FM-014-PZS	FM-015-PZI	FM-015-PZS*	FM05-PZM004	FM05-PZM024
Total Metals							
Aluminum	µg/L	20,000	N/A	N/A	N/A	**658 J**	50 U
Arsenic	µg/L	10	N/A	N/A	N/A	**7.4**	5 U
Barium	µg/L	2,000	N/A	N/A	N/A	**28.4**	**120**
Chromium	µg/L	100	N/A	N/A	N/A	**4.6 B**	5 U
Chromium VI	µg/L	0.035	10 U	10 U	**25 ^**	10 U	10 U
Copper	µg/L	1,300	N/A	N/A	N/A	**1.9 B**	5 U
Iron	µg/L	14,000	N/A	N/A	N/A	**843**	**50,800**
Manganese	µg/L	430	N/A	N/A	N/A	**38.5**	**2,560**
Nickel	µg/L	390	N/A	N/A	N/A	**3.1 B**	**0.93 B**
Vanadium	µg/L	86	N/A	N/A	N/A	**25.2**	5 U
Zinc	µg/L	6,000	N/A	N/A	N/A	**3.7 B**	**1.9 B**
Dissolved Metals							
Aluminum, Dissolved	µg/L	20,000	50 U	**35.8 J**	**80.8**	**103**	50 U
Arsenic, Dissolved	µg/L	10	**6.4**	**3.4 J**	5 U	**8.6**	5 U
Barium, Dissolved	µg/L	2,000	**40.3**	**35.3**	**132**	**26.9**	**114**
Beryllium, Dissolved	µg/L	4	1 U	1 U	1 U	1 U	1 U
Cadmium, Dissolved	µg/L	5	3 U	3 U	3 U	3 U	3 U
Chromium VI, Dissolved	µg/L	0.035	N/A	N/A	**62**	N/A	N/A
Chromium, Dissolved	µg/L	100	**1.1 J**	**1.6 J**	**35.1**	**0.91 J**	5 U
Cobalt, Dissolved	µg/L	6	**2.8 J**	5 U	5 U	5 U	5 U
Copper, Dissolved	µg/L	1,300	**2 J**	5 U	**2.1 J**	5 U	5 U
Iron, Dissolved	µg/L	14,000	**1,260**	**23,600**	70 U	**45.3 B**	**47,300**
Lead, Dissolved	µg/L	15	5 U	5 U	5 U	5 U	5 U
Manganese, Dissolved	µg/L	430	**403**	**1,180**	5 U	**34.1**	**2,520**
Nickel, Dissolved	µg/L	390	10 U	**0.63 B**	10 U	**1.8 J**	10 U
Selenium, Dissolved	µg/L	50	**5.8 J**	8 U	**4.1 J**	8 U	8 U
Silver, Dissolved	µg/L	94	6 U	6 U	6 U	6 U	6 U
Thallium, Dissolved	µg/L	2	**3.8 J**	10 U	10 U	10 U	10 U
Vanadium, Dissolved	µg/L	86	**16**	**1.8 J**	**0.61 J**	**23**	5 U
Zinc, Dissolved	µg/L	6,000	**34.7**	10 U	**0.69 JB**	**0.84 B**	**1.1 B**
Other							
Cyanide	µg/L	200	**2.6 J**	10 U	10 U	**9.3 J**	10 U

Detections in bold
N/A indicates that the parameter was not analyzed for this sample
* indicates non-validated data results
Values in red indicate an exceedance of the Project Action Limit (PAL)

J: The positive result reported for this analyte is a quantitative estimate.
B: The analyte was not detected substantially above the level of the associated method blank or field blank.
U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

^Resampled on July 15, 2016 for dissolved hexavalent chromium using method 7196A and produced a detection of 62 ug/L (displayed on Figure GW-4).

Table 5 - Sub-Parcel B6-1
COPC Screening Analysis

Parameter	CAS#	Location of Max Result	Max Detection (mg/kg)	Final Flag	Min Detection (mg/kg)	Average Detection (mg/kg)	Total Samples	Frequency of Detection (%)	Cancer TR=1E-06 (mg/kg)	Non-Cancer HQ=0.1 (mg/kg)	COPC?
1,1,1-Trichloroethane	71-55-6	B22-070-SB-9	0.045		0.045	0.05	153	0.65		3,600	no
1,1,2-Trichloroethane	79-00-5	B22-070-SB-9	0.0023	J	0.0023	0.002	153	0.65	5	0.63	no
1,1-Biphenyl	92-52-4	B22-136-SB-5	0.75		0.014	0.11	157	21.66	410	20	no
1,1-Dichloroethane	75-34-3	B22-070-SB-1	44.7		1.4	23.1	153	1.31	16	23,000	YES (C)
1,1-Dichloroethene	75-35-4	B22-070-SB-9	0.22		0.22	0.22	153	0.65		100	no
1,2-Dichloroethane	107-06-2	B22-070-SB-9	0.01		0.002	0.01	153	1.31	2	14	no
1,4-Dioxane	123-91-1	B22-070-SB-9	1.4		1.4	1.40	72	1.39	24	450	no
2,4-Dimethylphenol	105-67-9	B22-067-SB-7	0.37		0.016	0.10	145	11.03		1,600	no
2,6-Dinitrotoluene	606-20-2	B6-040-SB-1	0.028	J	0.024	0.03	157	1.27	1.5	25	no
2-Butanone (MEK)	78-93-3	B22-070-SB-1	0.18	J	0.0028	0.02	153	14.38		19,000	no
2-Chloronaphthalene	91-58-7	B22-001-SB-4	0.05	J	0.05	0.05	157	0.64		6,000	no
2-Hexanone	591-78-6	B6-044-SB-1	0.0088		0.0015	0.004	153	1.96		130	no
2-Methylnaphthalene	91-57-6	B6-011-SB-8	43.8		0.0023	0.75	158	53.16		300	no
2-Methylphenol	95-48-7	B22-001-SB-1	0.14	J	0.02	0.07	143	5.59		4,100	no
3,3'-Dichlorobenzidine	91-94-1	B6-011-SB-8	0.15	J	0.15	0.15	157	0.64	5.1		no
4-Chloroaniline	106-47-8	B6-029-SB-1	0.071	J	0.051	0.06	157	1.27	11	330	no
4-Methyl-2-pentanone (MIBK)	108-10-1	B6-044-SB-1	0.0046	J	0.0046	0.005	153	0.65		14,000	no
Acenaphthene	83-32-9	B6-011-SB-8	5.6		0.00049	0.17	158	51.27		4,500	no
Acenaphthylene	208-96-8	B6-011-SB-8	1.6		0.00066	0.08	158	65.19			no
Acetone	67-64-1	B6-044-SB-1	0.2		0.0049	0.02	153	45.10		67,000	no
Acetophenone	98-86-2	B22-067-SB-7	0.88		0.026	0.13	157	12.74		12,000	no
Aluminum	7429-90-5	B6-018-SB-1	55,900		1,860	21,392	159	100.00		110,000	no
Anthracene	120-12-7	B22-155-SB-1	4.3		0.0008	0.21	158	77.22		23,000	no
Antimony	7440-36-0	B6-013-SB-1	90.3		1.6	19.5	143	4.90		47	YES (NC)
Aroclor 1242	53469-21-9	B22-140-SB-1	6.64		0.0744	1.07	81	11.11	0.95		YES (C)
Aroclor 1248	12672-29-6	B22-144-SB-1	1.48		0.0349	0.26	81	8.64	0.95		YES (C)
Aroclor 1254	11097-69-1	B6-026-SB-1	7.68		0.0416	0.87	81	37.04	0.97	1.5	YES (C/NC)
Aroclor 1260	11096-82-5	B22-141-SB-1	0.0259	J	0.0096	0.02	81	2.47	0.99		no
Arsenic	7440-38-2	B6-085-SB-8	43.7		1.8	6.45	179	87.15	3	48	YES (C)
Barium	7440-39-3	B22-154-SB-5	2,490		19.5	282	159	100.00		22,000	no
Benz[a]anthracene	56-55-3	B22-155-SB-1	7.3		0.0011	0.45	158	81.65	21		no
Benzaldehyde	100-52-7	B6-025-SB-1	0.68	J	0.017	0.09	137	30.66	820	12,000	no
Benzene	71-43-2	B6-011-SB-8	0.037		0.0022	0.01	153	5.88	5.1	42	no
Benzo[a]pyrene	50-32-8	B22-155-SB-1	6		0.0012	0.42	163	83.44	2.1	22	YES (C)
Benzo[b]fluoranthene	205-99-2	B22-155-SB-1	11.9		0.00057	0.77	161	91.93	21		no
Benzo[g,h,i]perylene	191-24-2	B22-155-SB-1	2.9		0.002	0.20	158	79.75			no
Benzo[k]fluoranthene	207-08-9	B22-155-SB-1	10.3		0.0012	0.72	158	85.44	210		no
Beryllium	7440-41-7	B6-018-SB-1	10		0.19	2.43	159	93.71	6,900	230	no

Table 5 - Sub-Parcel B6-1
COPC Screening Analysis

Parameter	CAS#	Location of Max Result	Max Detection (mg/kg)	Final Flag	Min Detection (mg/kg)	Average Detection (mg/kg)	Total Samples	Frequency of Detection (%)	Cancer TR=1E-06 (mg/kg)	Non-Cancer HQ=0.1 (mg/kg)	COPC?
bis(2-Ethylhexyl)phthalate	117-81-7	B22-145-SB-1	1.8		0.015	0.17	157	38.85	160	1,600	no
Cadmium	7440-43-9	B6-046-SB-1	11.1		0.14	1.01	159	79.87	9,300	98	no
Carbazole	86-74-8	B22-136-SB-5	0.89		0.018	0.16	157	26.11			no
Chloroethane	75-00-3	B22-070-SB-1	0.78		0.019	0.40	153	1.31		5,700	no
Chromium	7440-47-3	B6-059-SB-8	2,310		9.1	301	159	100.00			no
Chromium VI	18540-29-9	B22-047-SB-1	17		0.22	0.91	157	100.00	6.3	350	YES (C)
Chrysene	218-01-9	B22-155-SB-1	5.9		0.00071	0.45	158	87.97	2,100		no
cis-1,2-Dichloroethene	156-59-2	B22-070-SB-1	0.28	J	0.025	0.15	153	1.31		230	no
Cobalt	7440-48-4	B6-085-SB-8	173		0.24	8.09	159	98.74	1,900	35	YES (NC)
Copper	7440-50-8	B6-085-SB-8	720		1.7	65.96	159	98.74		4,700	no
Cyanide	57-12-5	B22-136-SB-5	17.2		0.038	0.86	157	87.90		120	no
Cyclohexane	110-82-7	B6-011-SB-8	0.023	J	0.0059	0.01	153	1.96		2,700	no
Dibenz[a,h]anthracene	53-70-3	B22-155-SB-1	0.83		0.0012	0.09	158	58.86	2.1		no
Di-n-butylphthalate	84-74-2	B6-040-SB-1	0.99		0.021	0.13	157	10.19		8,200	no
Di-n-ocytlphthalate	117-84-0	B22-128-SB-1	0.36	J	0.019	0.19	157	1.27		820	no
Ethylbenzene	100-41-4	B6-011-SB-8	0.19		0.0012	0.04	153	3.92	25	2,000	no
Fluoranthene	206-44-0	B22-155-SB-1	16		0.0005	0.73	158	94.30		3,000	no
Fluorene	86-73-7	B6-011-SB-8	5.3		0.00068	0.20	158	46.20		3,000	no
Indeno[1,2,3-c,d]pyrene	193-39-5	B22-155-SB-1	2.9		0.0016	0.21	158	74.05	21		no
Iron	7439-89-6	B6-040-SB-1	383,000		1,270	76,054	159	100.00		82,000	YES (NC)
Isopropylbenzene	98-82-8	B6-011-SB-8	0.02	J	0.0036	0.01	153	2.61		990	no
Lead^	7439-92-1	B22-047-SB-1	6,600		2	186	159	98.11		800	YES (NC)
Manganese	7439-96-5	B6-059-SB-8	66,600		31.3	8,628	160	100.00		2,600	YES (NC)
Mercury	7439-97-6	B22-145-SB-1	0.9		0.0021	0.08	155	69.03		35	no
Methyl Acetate	79-20-9	B22-069-SB-1	0.12	J	0.0024	0.04	147	2.04		120,000	no
Methylene Chloride	75-09-2	B6-017-SB-6	0.0095		0.0095	0.01	153	0.65	1,000	320	no
Naphthalene	91-20-3	B6-011-SB-8	24.3		0.0019	0.55	158	64.56	17	59	YES (C)
Nickel	7440-02-0	B6-085-SB-8	1,460		1.8	44.6	159	98.11	64,000	2,200	no
N-Nitrosodiphenylamine	86-30-6	B6-085-SB-8	0.029	J	0.015	0.02	157	1.27	470		no
PCBs (total)*	1336-36-3	B22-047-SB-1	13.37		0.0245	1.78	81	67.90	0.94		YES (C)
Pentachlorophenol	87-86-5	B6-013-SB-1	0.041	J	0.036	0.04	142	1.41	4	280	no
Phenanthrene	85-01-8	B6-011-SB-8	16.3		0.00057	0.61	158	93.04			no
Phenol	108-95-2	B6-025-SB-1	0.22		0.019	0.09	143	9.09		25,000	no
Pyrene	129-00-0	B22-155-SB-1	14.1		0.0011	0.70	158	89.87		2,300	no

Table 5 - Sub-Parcel B6-1
COPC Screening Analysis

Parameter	CAS#	Location of Max Result	Max Detection (mg/kg)	Final Flag	Min Detection (mg/kg)	Average Detection (mg/kg)	Total Samples	Frequency of Detection (%)	Cancer TR=1E-06 (mg/kg)	Non-Cancer HQ=0.1 (mg/kg)	COPC?
Selenium	7782-49-2	B22-179-SB-1	6.8	B	2	3.38	159	13.84		580	no
Silver	7440-22-4	B6-059-SB-8	16.6	J	0.71	2.26	159	23.90		580	no
Styrene	100-42-5	B6-011-SB-8	0.01		0.01	0.01	153	0.65		3,500	no
Tetrachloroethene	127-18-4	B6-011-SB-8	0.0066	J	0.0066	0.01	153	0.65	100	39	no
Thallium	7440-28-0	B6-059-SB-8	151		3.8	16.0	161	18.01		1.2	YES (NC)
Toluene	108-88-3	B6-011-SB-8	0.14		0.0017	0.02	153	8.50		4,700	no
Trichloroethene	79-01-6	B22-070-SB-1	2		0.088	1.04	153	1.31	6	1.9	YES (NC)
Vanadium	7440-62-2	B6-059-SB-8	13,800	J	5.6	512	160	100.00		580	YES (NC)
Vinyl chloride	75-01-4	B22-070-SB-1	1.6		0.058	0.83	153	1.31	1.7	37	no
Xylenes	1330-20-7	B6-011-SB-8	0.67		0.0031	0.08	153	8.50		250	no
Zinc	7440-66-6	B6-085-SB-8	7,360		0.63	265	159	100.00		35,000	no

J: The positive result reported for this analyte is a quantitative estimate.
B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

COPC = Constituent of Potential Concern
C = Compound was identified as a cancer COPC
NC = Compound was identified as a non-cancer COPC
TR = Target Risk
HQ = Hazard Quotient

*PCBs (total) include the sum of all detected aroclor mixtures, including those without regional screening levels (e.g. Aroclor 1262, Aroclor 1268) which are not displayed.
^The COPC screening level for lead was not adjusted to the HQ=0.1 because lead is not assessed in the SLRA. The 800 mg/kg PAL is relevant to the Adult Lead Model procedure.

Table 6 - Sub-Parcel B6-1
Development Area
Assessment of Lead

Exposure Unit	Surface/Sub-Surface	Arithmetic Mean (mg/kg)
Outside Building Footprint (53.5 ac.)	Surface	281.42
	Sub-Surface	139.46
	Pooled	211.01
Inside Building Footprint (19.6 ac.)	Surface	62.60
	Sub-Surface	100.70
	Pooled	84.83
Site-wide (73.2 ac.)	Surface	238.79
	Sub-Surface	129.53
	Pooled	182.44

Adult Lead Model (ALM) Risk Levels	
Soil Concentration (mg/kg)	Probability of Blood Concentration of 10 ug/dL
2,518 mg/kg	5%
3,216 mg/kg	10%

Table 7 - Sub-Parcel B6-1
Composite Worker Soil EPCs

			Exposure Point Concentrations - Surface Soils			
Parameter	Cancer COPC Screening Level (mg/kg)	Non-Cancer COPC Screening Level (mg/kg)	EPC Type Outside Building Footprint	EPC Outside Building Footprint (mg/kg)	EPC Type Inside Building Footprint	EPC Inside Building Footprint (mg/kg)
Arsenic	3.00	48.0	95% GROS Approximate Gamma UCL	**8.11**	95% KM (t) UCL	**4.49**
Chromium VI	6.30	350	95% Chebyshev (Mean, Sd) UCL	3.14	95% Adjusted Gamma UCL	0.53
Cobalt	1,900	35.0	95% KM (Chebyshev) UCL	18.4	95% Student's-t UCL	6.40
Iron		82,000	95% Approximate Gamma UCL	**130,700**	95% Student's-t UCL	**122,700**
Manganese		2,600	95% Approximate Gamma UCL	**13,000**	95% Student's-t UCL	**19,473**
Thallium		1.20	95% KM (t) UCL	**6.48**	95% KM (t) UCL	**11.2**
Vanadium		580	95% Approximate Gamma UCL	487	95% Adjusted Gamma UCL	**2,371**
PCBs (total)	0.94		95% KM (Chebyshev) UCL	**3.04**	95% GROS Adjusted Gamma UCL	**3.30**
Aroclor 1254	NE	1.50	95% KM (Chebyshev) UCL	1.13	95% KM (t) UCL	0.07
Benzo[a]pyrene	2.10	22.0	97.5% KM (Chebyshev) UCL	0.69	95% GROS Adjusted Gamma UCL	**2.84**
Naphthalene	17.0	59.0	97.5% KM (Chebyshev) UCL	0.37	95% KM (t) UCL	0.14

Bold indicates EPC higher than lowest COPC Screening Level
COPC = Constituent of Potential Concern
Benzo[a]pyrene screening level was derived from the USEPA IRIS Recent Additions dated January 19, 2017
PAH compounds screening levels were adjusted based on the relative potency factor
NE = Not Evaluated. Aroclor 1254 was included for non-cancer hazard only. The carcinogenic risk is evaluated with total PCBs.

Table 7 - Sub-Parcel B6-1
Composite Worker Soil EPCs

			Exposure Point Concentrations - Sub-Surface Soils			
Parameter	Cancer COPC Screening Level (mg/kg)	Non-Cancer COPC Screening Level (mg/kg)	EPC Type Outside Building Footprint	EPC Outside Building Footprint (mg/kg)	EPC Type Inside Building Footprint	EPC Inside Building Footprint (mg/kg)
Arsenic	3.00	48.0	95% KM (BCA) UCL	**7.87**	95% KM (Chebyshev) UCL	**7.01**
Chromium VI	6.30	350	95% Chebyshev (Mean, Sd) UCL	1.19	95% Modified-t UCL	0.62
Cobalt	1,900	35.0	95% KM (Chebyshev) UCL	21.1	95% Student's-t UCL	6.99
Iron		82,000	95% Chebyshev (Mean, Sd) UCL	**85,704**	95% H-UCL	67,119
Manganese		2,600	95% Adjusted Gamma UCL	**9,226**	95% Adjusted Gamma UCL	**12,318**
Thallium		1.20	95% KM (BCA) UCL	**14.1**	95% KM (t) UCL	**13.2**
Vanadium		580	95% Chebyshev (Mean, Sd) UCL	**1,409**	95% Chebyshev (Mean, Sd) UCL	**2,445**
PCBs (total)	0.94		Maximum Value	0.18	Maximum Value	0.04
Aroclor 1254	NE	1.50				
Benzo[a]pyrene	2.10	22.0	97.5% KM (Chebyshev) UCL	0.97	95% GROS Adjusted Gamma UCL	1.09
Naphthalene	17.0	59.0	97.5% KM (Chebyshev) UCL	3.31	95% GROS Adjusted Gamma UCL	0.79

Bold indicates EPC higher than lowest COPC Screening Level
Gray highlighting indicates parameter was not detected
COPC = Constituent of Potential Concern
Benzo[a]pyrene screening level was derived from the USEPA IRIS Recent Additions dated January 19, 2017
PAH compounds screening levels were adjusted based on the relative potency factor
NE = Not Evaluated. Aroclor 1254 was included for non-cancer hazard only. The carcinogenic risk is evaluated with total PCBs.

Table 7 - Sub-Parcel B6-1
Composite Worker Soil EPCs

			Exposure Point Concentrations - Pooled Soils			
Parameter	Cancer COPC Screening Level (mg/kg)	Non-Cancer COPC Screening Level (mg/kg)	EPC Type Outside Building Footprint	EPC Outside Building Footprint (mg/kg)	EPC Type Inside Building Footprint	EPC Inside Building Footprint (mg/kg)
Arsenic	3.00	48.0	95% KM (BCA) UCL	**7.35**	95% KM (Chebyshev) UCL	**5.97**
Chromium VI	6.30	350	95% Chebyshev (Mean, Sd) UCL	1.94	95% Modified-t UCL	0.55
Cobalt	1,900	35.0	95% KM (Chebyshev) UCL	16.6	95% Student's-t UCL	6.36
Iron		82,000	95% Chebyshev (Mean, Sd) UCL	**111,000**	95% H-UCL	**97,032**
Manganese		2,600	95% Approximate Gamma UCL	**10,368**	95% Adjusted Gamma UCL	**14,257**
Thallium		1.20	95% KM (%Bootstrap) UCL	**9.76**	95% KM (Percentile Bootstrap)	**10.84**
Vanadium		580	95% Chebyshev (Mean, Sd) UCL	**909**	95% Chebyshev (Mean, Sd) UCL	**2,008**
PCBs (total)	0.94		97.5% KM (Chebyshev) UCL	**3.64**	95% GROS Adjusted Gamma UCL	**2.57**
Aroclor 1254	NE	1.50	95% KM (Chebyshev) UCL	1.11	95% KM (t) UCL	0.07
Benzo[a]pyrene	2.10	22.0	97.5% KM (Chebyshev) UCL	0.68	95% KM (Chebyshev) UCL	1.42
Naphthalene	17.0	59.0	97.5% KM (Chebyshev) UCL	1.71	95% GROS Adjusted Gamma UCL	0.38

Bold indicates EPC higher than lowest COPC Screening Level
COPC = Constituent of Potential Concern
Benzo[a]pyrene screening level was derived from the USEPA IRIS Recent Additions dated January 19, 2017
PAH compounds screening levels were adjusted based on the relative potency factor
NE = Not Evaluated. Aroclor 1254 was included for non-cancer hazard only. The carcinogenic risk is evaluated with total PCBs.

Table 8 - Sub-Parcel B6-1
Surface Soils
Composite Worker Risk Ratios

		Surface Composite Worker									
		Outside Building Footprint (53.5 ac.)					Inside Building Footprint (19.6 ac.)				
			RSLs		Risk Estimates			RSLs		Risk Estimates	
Parameter	Target Organ	EPC mg/kg	Cancer	Non-Cancer	Risk	HQ	EPC mg/kg	Cancer	Non-Cancer	Risk	HQ
Arsenic	**Cardiovascular; Dermal**	8.11	3.00	480	2.7E-06	0.02	4.49	3.00	480	1.5E-06	0.009
Chromium VI	**Respiratory**	3.14	6.30	3,500	5.0E-07	0.0009	0.53	6.30	3,500	8.4E-08	0.0002
Cobalt	**Thyroid**	18.4	1,900	350	9.7E-09	0.05	6.40	1,900	350	3.4E-09	0.02
Iron	**Gastrointestinal**	130,700		820,000		0.2	122,700		820,000		0.1
Manganese	**Nervous**	13,000		26,000		0.5	19,473		26,000		0.7
Thallium	**Dermal**	6.48		12.0		0.5	11.2		12.0		0.9
Vanadium	**Dermal**	487		5,800		0.08	2,371		5,800		0.4
PCBs (total)		3.04	0.94		3.2E-06		3.30	0.94		3.5E-06	
Aroclor 1254	**Dermal; Immune; Ocular**	1.13	NE	15.0		0.08	0.07	NE	15.0		0.005
Benzo[a]pyrene	**Developmental**	0.69	2.10	220	3.3E-07	0.003	2.84	2.10	220	1.4E-06	0.01
Naphthalene	**Nervous; Respiratory**	0.37	17.0	590	2.2E-08	0.0006	0.14	17.0	590	8.2E-09	0.0002
					7E-06	↓				**6E-06**	↓

RSLs were obtained from the EPA Regional Screening Levels at https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search

NE = Not Evaluated. Aroclor 1254 was included for non-cancer hazard only. The carcinogenic risk is evaluated with total PCBs.

Total HI	Dermal	1
	Immune	0
	Cardiovascular	0
	Respiratory	0
	Nervous	1
	Ocular	0
	Developmental	0
	Thyroid	0
	Gastrointestinal	0

Total HI	Dermal	1
	Immune	0
	Cardiovascular	0
	Respiratory	0
	Nervous	1
	Ocular	0
	Developmental	0
	Thyroid	0
	Gastrointestinal	0

Table 9 - Sub-Parcel B6-1
Sub-Surface Soils
Composite Worker Risk Ratios

Parameter	Target Organ	Outside Building Footprint (53.5 ac.)					Inside Building Footprint (19.6 ac.)				
			Composite Worker					Composite Worker			
			RSLs		Risk Estimates			RSLs		Risk Estimates	
		EPC mg/kg	Cancer	Non-Cancer	Risk	HQ	EPC mg/kg	Cancer	Non-Cancer	Risk	HQ
Arsenic	**Cardiovascular; Dermal**	7.87	3.00	480	2.6E-06	0.02	7.01	3.00	480	2.3E-06	0.01
Chromium VI	**Respiratory**	1.19	6.30	3,500	1.9E-07	0.0003	0.62	6.30	3,500	9.8E-08	0.0002
Cobalt	**Thyroid**	21.1	1,900	350	1.1E-08	0.06	6.99	1,900	350	3.7E-09	0.02
Iron	**Gastrointestinal**	85,704		820,000		0.1	67,119		820,000		0.08
Manganese	**Nervous**	9,226		26,000		0.4	12,318		26,000		0.5
Thallium	**Dermal**	14.1		12.0		1	13.2		12.0		1
Vanadium	**Dermal**	1,409		5,800		0.2	2,445		5,800		0.4
PCBs (total)		**0.18**	0.94		1.9E-07		**0.04**	0.94		4.3E-08	
Benzo[a]pyrene	**Developmental**	0.97	2.10	220	4.6E-07	0.004	1.09	2.10	220	5.2E-07	0.005
Naphthalene	**Nervous; Respiratory**	3.31	17.0	590	1.9E-07	0.006	0.79	17.0	590	4.6E-08	0.001
					4E-06	↓				**3E-06**	↓

Bold indicates max value due to too few detections
RSLs were obtained from the EPA Regional Screening Levels at https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search

Total HI	Dermal	1
	Cardiovascular	0
	Respiratory	0
	Nervous	0
	Developmental	0
	Thyroid	0
	Gastrointestinal	0

Total HI	Dermal	2
	Cardiovascular	0
	Respiratory	0
	Nervous	0
	Developmental	0
	Thyroid	0
	Gastrointestinal	0

Table 10 - Sub-Parcel B6-1
Pooled Soils
Composite Worker Risk Ratios

Parameter	Target Organ	Outside Building Footprint (53.5 ac.)					Inside Building Footprint (19.6 ac.)				
			Composite Worker					Composite Worker			
			RSLs		Risk Estimates			RSLs		Risk Estimates	
		EPC mg/kg	Cancer	Non-Cancer	Risk	HQ	EPC mg/kg	Cancer	Non-Cancer	Risk	HQ
Arsenic	**Cardiovascular; Dermal**	7.35	3.00	480	2.5E-06	0.02	5.97	3.00	480	2.0E-06	0.01
Chromium VI	**Respiratory**	1.94	6.30	3,500	3.1E-07	0.0006	0.55	6.30	3,500	8.7E-08	0.0002
Cobalt	**Thyroid**	16.6	1,900	350	8.7E-09	0.05	6.36	1,900	350	3.3E-09	0.02
Iron	**Gastrointestinal**	111,000		820,000		0.1	97,032		820,000		0.1
Manganese	**Nervous**	10,368		26,000		0.4	14,257		26,000		0.5
Thallium	**Dermal**	9.76		12.0		0.8	10.84		12.0		0.9
Vanadium	**Dermal**	909		5,800		0.2	2,008		5,800		0.3
PCBs (total)		3.64	0.94		3.9E-06		2.57	0.94		2.7E-06	
Aroclor 1254	**Dermal; Immune; Ocular**	1.11	NE	15.0		0.07	0.07	NE	15.0		0.005
Benzo[a]pyrene	**Developmental**	0.68	2.10	220	3.2E-07	0.003	1.42	2.10	220	6.8E-07	0.006
Naphthalene	**Nervous; Respiratory**	1.71	17.0	590	1.0E-07	0.003	0.38	17.0	590	2.2E-08	0.0006
					7E-06	↓				**6E-06**	↓

RSLs were obtained from the EPA Regional Screening Levels at https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search

NE = Not Evaluated. Aroclor 1254 was included for non-cancer hazard only. The carcinogenic risk is evaluated with total PCBs.

Total HI	Dermal	1
	Immune	0
	Cardiovascular	0
	Respiratory	0
	Nervous	0
	Ocular	0
	Developmental	0
	Thyroid	0
	Gastrointestinal	0

Total HI	Dermal	1
	Immune	0
	Cardiovascular	0
	Respiratory	0
	Nervous	1
	Ocular	0
	Developmental	0
	Thyroid	0
	Gastrointestinal	0

Table 11 - Sub-Parcel B6-1
Construction Worker Soil EPCs

			Exposure Point Concentrations - Surface Soils		**Exposure Point Concentrations - Sub-Surface Soils**		**Exposure Point Concentrations - Pooled Soils**	
Parameter	Cancer COPC Screening Level (mg/kg)	Non-Cancer COPC Screening Level (mg/kg)	EPC Type Site-Wide	EPC Site-Wide (mg/kg)	EPC Type Site-Wide	EPC Site-Wide (mg/kg)	EPC Type Site-Wide	EPC Site-Wide (mg/kg)
Arsenic	3.00	48.0	95% KM (BCA) UCL	**6.98**	95% KM (BCA) UCL	**6.91**	95% KM (BCA) UCL	**6.67**
Chromium VI	6.30	350	95% Chebyshev (Mean, Sd) UCL	2.63	95% Modified-t UCL	0.77	95% Chebyshev (Mean, Sd) UCL	1.63
Cobalt	1,900	35.0	95% KM (Chebyshev) UCL	15.9	95% KM (BCA) UCL	12.3	95% KM (Chebyshev) UCL	14.1
Iron		82,000	95% Approximate Gamma UCL	**124,200**	95% Chebyshev (Mean, Sd) UCL	77,075	95% Chebyshev (Mean, Sd) UCL	**102,300**
Manganese		2,600	95% Approximate Gamma UCL	**13,416**	95% Chebyshev (Mean, Sd) UCL	**11,652**	95% Approximate Gamma UCL	**10,311**
Thallium		1.20	95% KM (% Bootstrap) UCL	**7.05**	95% KM (% Bootstrap) UCL	**12.2**	95% KM (% Bootstrap) UCL	**9.32**
Vanadium		580	95% Chebyshev (Mean, Sd) UCL	**879**	95% Chebyshev (Mean, Sd) UCL	**1,364**	95% Chebyshev (Mean, Sd) UCL	**982**
PCBs (total)	0.94		97.5% KM (Chebyshev) UCL	**3.19**	Maximum Value	0.18	97.5% KM (Chebyshev) UCL	**3.05**
Aroclor 1254	NE	1.50	95% KM (BCA) UCL	0.62			95% KM (BCA) UCL	0.60
Benzo[a]pyrene	2.10	22.0	97.5% KM (Chebyshev) UCL	1.00	95% KM (Chebyshev) UCL	0.71	97.5% KM (Chebyshev) UCL	0.76
Naphthalene	17.0	59.0	95% Approximate Gamma KM-UCL	0.19	97.5% KM (Chebyshev) UCL	2.56	97.5% KM (Chebyshev) UCL	1.37

Bold indicates EPC higher than lowest COPC Screening Level
Gray highlighting indicates parameter was not detected
COPC = Constituent of Potential Concern
Benzo[a]pyrene screening level was derived from the USEPA IRIS Recent Additions dated January 19, 2017
PAH compounds screening levels were adjusted based on the relative potency factor
NE = Not Evaluated. Aroclor 1254 was included for non-cancer hazard only. The carcinogenic risk is evaluated with total PCBs.

Table 12 - Sub-Parcel B6-1
Surface Soils
Construction Worker Risk Ratios

		120 day Site-Wide (73.2 ac.)				
			Construction Worker			
			SSLs		Risk Estimates	
Parameter	Target Organ	EPC mg/kg	Cancer	Non-Cancer	Risk	HQ
Arsenic	**Cardiovascular; Dermal**	6.98	31.5	201	2.2E-07	0.03
Chromium VI	**Respiratory**	2.63	45.4	1,670	5.8E-08	0.002
Cobalt	**Thyroid**	15.9	13,304	2,021	1.2E-09	0.008
Iron	**Gastrointestinal**	124,200		501,128		0.2
Manganese	**Nervous**	13,416		9,043		1
Thallium	**Dermal**	7.05		28.6		0.2
Vanadium	**Dermal**	879		3,356		0.3
PCBs (total)		3.19	9.33		3.4E-07	
Aroclor 1254	**Dermal; Immune; Ocular**	0.62	NE	15.6		0.04
Benzo[a]pyrene	**Developmental**	1.00	35.5	12.7	2.8E-08	0.08
Naphthalene	**Nervous; Respiratory**	0.19	27.6	40.2	6.9E-09	0.005
					7E-07	↓

SSLs calculated using equations in the EPA Supplemental Guidance dated 2002
Guidance Equation Input Assumptions:
5 cars/day (2 tons/car)
5 trucks/day (20 tons/truck)
3 meter source depth thickness

NE = Not Evaluated. Aroclor 1254 was included for non-cancer hazard only. The carcinogenic risk is evaluated with total PCBs.

Total HI	Dermal	1
	Immune	0
	Cardiovascular	0
	Respiratory	0
	Nervous	1
	Occular	0
	Developmental	0
	Thyroid	0
	Gastrointestinal	0

Table 13 - Sub-Parcel B6-1
Sub-Surface Soils
Construction Worker Risk Ratios

		120 day Site-Wide (73.2 ac.)				
			Construction Worker			
			SSLs		Risk Estimates	
Parameter	Target Organ	EPC mg/kg	Cancer	Non-Cancer	Risk	HQ
Arsenic	Cardiovascular; Dermal	6.91	31.5	201	2.2E-07	0.03
Chromium VI	Respiratory	0.77	45.4	1,670	1.7E-08	0.0005
Cobalt	Thyroid	12.3	13,304	2,021	9.2E-10	0.01
Iron	Gastrointestinal	77,075		501,128		0.2
Manganese	Nervous	11,652		9,043		1
Thallium	Dermal	12.2		28.6		0.4
Vanadium	Dermal	1,364		3,356		0.4
PCBs (total)		**0.18**	9.33		1.9E-08	
Benzo[a]pyrene	Developmental	0.71	35.5	12.7	2.0E-08	0.06
Naphthalene	Nervous; Respiratory	2.56	27.6	40.2	9.3E-08	0.06
					4E-07	↓

Bold indicates max value due to too few detections
SSLs calculated using equations in the EPA Supplemental Guidance dated 2002
Guidance Equation Input Assumptions:
5 cars/day (2 tons/car)
5 trucks/day (20 tons/truck)
3 meter source depth thickness

Total HI	Dermal	1
	Cardiovascular	0
	Respiratory	0
	Nervous	1
	Developmental	0
	Thyroid	0
	Gastrointestinal	0

Table 14 - Sub-Parcel B6-1
Pooled Soils
Construction Worker Risk Ratios

		120 day Site-Wide (73.2 ac.)				
			Construction Worker			
			SSLs		Risk Estimates	
Parameter	Target Organ	EPC mg/kg	Cancer	Non-Cancer	Risk	HQ
Arsenic	Cardiovascular; Dermal	6.67	31.5	201	2.1E-07	0.03
Chromium VI	Respiratory	1.63	45.4	1,670	3.6E-08	0.001
Cobalt	Thyroid	14.1	13,304	2,021	1.1E-09	0.007
Iron	Gastrointestinal	102,300		501,128		0.2
Manganese	Nervous	10,311		9,043		1
Thallium	Dermal	9.32		28.6		0.3
Vanadium	Dermal	982		3,356		0.3
PCBs (total)		3.05	9.33		3.3E-07	
Aroclor 1254	Dermal; Immune; Ocular	0.60	NE	15.6		0.04
Benzo[a]pyrene	Developmental	0.76	35.5	12.7	2.1E-08	0.06
Naphthalene	Nervous; Respiratory	1.37	27.6	40.2	5.0E-08	0.03
					6E-07	↓

SSLs calculated using equations in the EPA Supplemental Guidance dated 2002
Guidance Equation Input Assumptions:
5 cars/day (2 tons/car)
5 trucks/day (20 tons/truck)
3 meter source depth thickness

NE = Not Evaluated. Aroclor 1254 was included for non-cancer hazard only. The carcinogenic risk is evaluated with total PCBs.

Total HI	Dermal	1
	Immune	0
	Cardiovascular	0
	Respiratory	0
	Nervous	1
	Occular	0
	Developmental	0
	Thyroid	0
	Gastrointestinal	0

APPENDIX A

TRADEPOINT
ATLANTIC
1600 Sparrows Point Boulevard
Baltimore, Maryland 21219

April 11, 2017

Maryland Department of Environment
1800 Washington Boulevard
Baltimore MD, 21230

Attention: Ms. Barbara Brown

Subject: Request to Enter Temporary CHS Review
Tradepoint Atlantic Parcel B-6-1

Dear Ms. Brown:

The conduct of any environmental assessment and cleanup activities on the Tradepoint Atlantic property, as well as any associated development, is subject to the requirements outlined in the following agreements:

- Administrative Consent Order (ACO) between Tradepoint Atlantic (formerly Sparrows Point Terminal, LLC) and the Maryland Department of the Environment (effective September 12, 2014); and
- Settlement Agreement and Covenant Not to Sue (SA) between Tradepoint Atlantic (formerly Sparrows Point Terminal, LLC) and the United States Environmental Protection Agency (effective November 25, 2014).

On September 11, 2014, Tradepoint Atlantic submitted an application to the Maryland Department of the Environment's (Department) Voluntary Cleanup Program (VCP).

In consultation with the Department, Tradepoint Atlantic affirms that it desires to accelerate the assessment, remediation and redevelopment of certain sub-parcels within the larger site due to current market conditions. To that end, the Department and Tradepoint Atlantic agree that the Controlled Hazardous Substance (CHS) Act (Section 7-222 of the Environment Article) and the CHS Response Plan (COMAR 26.14.02) shall serve as the governing statutory and regulatory authority for completing the development activities on Parcel B-6-1 and complement the statutory requirements of the Voluntary Cleanup Program (Section 7-501 of the Environment Article). Upon submission of a Site Response and Development Work Plan and completion of the remedial activities for the sub-parcel, the Department shall issue a "No Further Action" letter upon a recordation of an environmental covenant describing any necessary land use controls for the specific sub-parcel. At such time that all the sub-parcels within the larger parcel have completed remedial activities, Tradepoint Atlantic shall submit to the Department a request for issuing a Certificate of Completion (COC) as well as all pertinent information concerning completion of remedial activities conducted on the parcel. Once the VCP has completed its review of

TRADEPOINT
ATLANTIC
1600 Sparrows Point Boulevard
Baltimore, Maryland 21219

the submitted information it shall issue a COC for the entire parcel described in Tradepoint Atlantic's VCP application.

Alternatively, Tradepoint Atlantic or other entity may elect to submit an application for a specific sub-parcel and submit it to the VCP for review and acceptance. If the application is received after the cleanup and redevelopment activities described in this work plan are implemented and a No Further Action letter is issued by the Department pursuant to the CHS Act, the VCP shall prepare a No Further Requirements Determination for the sub-parcel.

If Tradepoint Atlantic or other entity has not carried out cleanup and redevelopment activities described in the work plan, the cleanup and redevelopment activities may be conducted under the oversight authority of either the VCP or the CHS Act, so long as those activities comport with this work plan.

Engineering and institutional controls approved as part of this Site Response and Development Work Plan shall be described in documentation submitted to the Department demonstrating that the exposure pathways on the sub-parcel are addressed in a manner that protects public health and the environment. This information shall support Tradepoint Atlantic's request for the issuance of a COC for the larger parcel.

Please do not hesitate to contact Tradepoint Atlantic for further information.

Thank you,

Peter Haid

Environmental Director
TRADEPOINT ATLANTIC
1600 Sparrows Point Boulevard
Baltimore, Maryland 21219
T 443.649.5055 C 732.841.7935
phaid@tradepointatlantic.com

APPENDIX B

Construction Worker Soil Screening Levels
120 Work Day Exposure
Calculation Spreadsheet - Sub-Parcel B6-1

Description	Variable	Value
Days worked per week	DW	5
Exposure duration (yr)	ED	1
Hours worked per day	ET	8
A/constant (unitless) - particulate emission factor	Aconst	12.9351
B/constant (unitless) - particulate emission factor	Bconst	5.7383
C/constant (unitless) - particulate emission factor	Cconst	71.7711
Dispersion correction factor (unitless)	FD	0.185
Days per year with at least .01" precipitation	P	130
Target hazard quotient (unitless)	THQ	1
Body weight (kg)	BW	80
Averaging time - noncancer (yr)	ATnc	1
Soil ingestion rate (mg/d)	IR	330
Skin-soil adherence factor (mg/cm2)	AF	0.3
Skin surface exposed (cm2)	SA	3300
Event frequency (ev/day)	EV	1
Target cancer risk (unitless)	TR	01E-06
Averaging time - cancer (yr)	ATc	70
A/constant (unitless) - volatilization	Aconstv	2.4538
B/constant (unitless) - volatilization	Bconstv	17.566
C/constant (unitless) - volatilization	Cconstv	189.0426
Dry soil bulk density (kg/L)	Pb	1.5
Average source depth (m)	ds	3
Soil particle density (g/cm3)	Ps	2.65
Total soil porosity	Lpore/Lsoil	0.43
Air-filled soil porosity	Lair/Lsoil	0.28

Construction Worker Soil Screening Levels
120 Work Day Exposure
Calculation Spreadsheet - Sub-Parcel B6-1

Area of site (ac)	Ac	73.2
Overall duration of construction (wk/yr)	EW	24
Exposure frequency (day/yr)	EF	**120**
Cars per day	Ca	5
Tons per car	CaT	2
Trucks per day	Tru	5
Tons per truck	TrT	20
Mean vehicle weight (tons)	w	**11**
Derivation of dispersion factor - particulate emission factor (g/m2-s per kg/m3)	Q/Csr	**13.3**
Overall duration of traffic (s)	Tt	**3,456,000**
Surface area (m2)	AR	**296,230**
Length (m)	LR	**544**
Distance traveled (km)	ΣVKT	**653**
Particulate emission factor (m3/kg)	PEFsc	**187,449,164**
Derivation of dispersion factor - volatilization (g/m2-s per kg/m3)	Q/Csa	**6.23**
Total time of construction (s)	Tcv	**3,456,000**

B6-1 Full

Input
Calculation

Chemical	Toxicity Criteria Source	^Ingestion SF $(mg/kg\text{-}day)^{-1}$	^Inhalation Unit Risk $(ug/m^3)^{-1}$	^Subchronic RfD (mg/kg-day)	^Subchronic RfC (mg/m^3)	^GIABS	Dermally Adjusted RfD (mg/kg-day)	^ABS	^RBA	*Dia	*Diw	*Henry's Law Constant (unitless)	*Kd	*Koc	DA	Volatilization Factor - Unlimited Reservoir (m^3/kg)	Carcinogenic Ingestion/ Dermal SL (SLing/der)	Carcinogenic Inhalation SL (SLinh)	Carcinogenic SL (mg/kg)	Non-Carcinogenic Ingestion/ Dermal SL (SLing/der)	Non-Carcinogenic Inhalation SL (SLinh)	Non-Carcinogenic SL (mg/kg)
Arsenic, Inorganic	I/C	1.50E+00	4.30E-03	3.00E-04	1.50E-05	1	3.00E-04	0.03	0.6			-	2.90E+01				31.6	27,845	31.5	203	25,657	201
Chromium(VI)	A/N/I	5.00E-01	8.40E-02	5.00E-03	3.00E-04	0.025	1.25E-04	**0.01**	1			-	1.90E+01				46.9	1,425	45.4	1,676	513,142	1,670
Cobalt	P	-	9.00E-03	3.00E-03	2.00E-05	1	3.00E-03	**0.01**	1			-	4.50E+01					13,304	13,304	2,148	34,209	2,021
Iron	P	-	-	7.00E-01	-	1	7.00E-01	**0.01**	1			-	2.50E+01							501,128		501,128
Manganese (Non-diet)	I	-	-	2.40E-02	5.00E-05	0.04	9.60E-04	**0.01**	1			-	6.50E+01							10,113	85,524	9,043
Thallium (Soluble Salts)	P	-	-	4.00E-05	-	1	4.00E-05	**0.01**	1			-	7.10E+01							28.6		28.6
Vanadium and Compounds	A	-	-	1.00E-02	1.00E-04	0.026	2.60E-04	**0.01**	1			-	1.00E+03							3,424	171,047	3,356
PCB Total	I	2.00E+00	5.71E-04	-	-	1		0.14	1	2.40E-02	6.30E-06	1.70E-02	4.68E+02	7.80E+04	4.66E-08	1.71E+4	18.2	19.2	9.33			
Aroclor 1254	A/I	2.00E+00	5.71E-04	3.00E-05	-	1	3.00E-05	0.14	1	2.40E-02	6.10E-06	1.16E-02	7.80E+02	1.30E+05	1.91E-08	2.67E+4	18.2	29.9	NE	15.6		15.6
Benzo[a]pyrene	I	1.00E+00	6.00E-04	3.00E-04	2.00E-06	1	3.00E-04	0.13	1	4.80E-02	5.60E-06	1.87E-05	3.54E+03	5.90E+05	2.37E-11	7.60E+5	37.1	806	35.5	159	13.8	12.7
Naphthalene	C/I/A	-	3.40E-05	6.00E-01	3.00E-03	1	6.00E-01	0.13	1	6.00E-02	8.40E-06	1.80E-02	9.00E+00	1.50E+03	6.35E-06	1.47E+3		27.6	27.6	318,291	40.2	40.2

*chemical specific parameters found in Chemical Specific Parameters Spreadsheet at https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-may-2016
^chemical specific parameters found in Unpaved Road Traffic calculator at https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search
I: chemical specific parameters found in the IRIS at https://www.epa.gov/iris or IRIS 2017 Recent Additions at https://www.epa.gov/iris/iris-recent-additions ; in addition, PAH compounds were adjusted based on the relative potency factor
C: chemical specific parameters found in Cal EPA at https://www.dtsc.ca.gov/AssessingRisk/upload/HHRA-Note-3-2016-01.pdf
A: chemical specific parameters found in Agency for Toxic Substances and Disease Registry Minimal Risk Levels (MRLs) at https://www.atsdr.cdc.gov/mrls/pdfs/atsdr_mrls.pdf
P: chemical specific parameters found in the Database of EPA PPRTVs at https://hhpprtv.ornl.gov/quickview/pprtv.php
N: chemical specific parameters found in NJDEP

NE = Not Evaluated. Aroclor 1254 was included for non-cancer hazard only. The carcinogenic risk is evaluated with total PCBs.

APPENDIX C

HEALTH AND SAFETY PLAN

SPARROWS POINT TERMINAL
SPARROWS POINT, MARYLAND

Prepared by:

EnviroAnalytics Group

Environmental Engineers

January 2015

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ATTACHMENTS

1.0 INTRODUCTION

1.1 Background

The Sparrows Point Terminal site has historically been a steel making facility. It is located in Baltimore County, Maryland in the southeast corner of the Baltimore metropolitan area (approximately 9 miles from the downtown area), on the Sparrows Point Peninsula in the Chesapeake Bay watershed. The facility occupies the entire peninsula and is bounded to the west by Bear Creek; to the south by Patapsco River; and to the east by Jones Creek, Old Road Bay and residential areas of the City of Edgemere. The facility is bounded to the north by the Sparrows Point Country Club. The site is approximately 3,100 acres in size.

Pennsylvania Steel built the furnace at Sparrows Point in 1887 and the first iron was cast in 1889. Bethlehem Steel Corporation (BSC) purchased the facility in 1916 and enlarged it by building additional and plating facilities. BSC filed for bankruptcy in 2001. A series of entities has owned the site between then and now: the International Steel Group (ISG), Mittal Steel, ISG Sparrows Point, LLC, Severstal Sparrows Holding LLC, which was renamed to Severstal Sparrows Point, LLC, RG Steel Sparrows Point, LLC, and then a joint venture to Sparrows Point LLC (SP) and HRE Sparrows Point LLC. Most recently, in 2014, the property and assets were sold to Sparrows Point Terminal LLC (SPT). Environmental liability was retained by SP and work is currently being conducted by EnviroAnalytics Group, LLC (EAG) on behalf of SP.

- In addition to the current environmental investigation and remediation being conducted onsite by EAG and their consultants, there are other entities conducting work on the facility. Demolition of the remaining structures is currently ongoing at the site, and those contractors are being managed by SPT.
- The purpose of this document is to provide an overall health and safety plan (HASP) for EAG personnel and EAG directed contractors who are engaging in environmental investigation and remediation activities onsite. EAG directed contractors will also be expected to have their own Health and Safety Program, and they may opt to draft their own site specific HASP, provided it meets the requirements in this HASP.

1.2 Historic Operations

Steel manufacturing involves handling vast amounts of raw material including coke, iron ore, limestone and scrap steel, as well as recovering byproducts and managing waste materials. The operations listed below either were or are currently performed at the Sparrows Point Facility.

- Iron and steel production
- Coal chemical recovery system
- Other byproducts recovery systems
- Wastewater treatment systems
- Solid waste management
- Air pollution control

A number of site-specific environmental and hydrogeologic investigations have been prepared for the Sparrows Point facility. For the purposes of this HASP, information was obtained from the "Special Study Area Release Site Characterization" completed in 2001 by CH2MHill, as well as additional documents submitted since that time. There are five separate Special Study Areas as put forth in the Consent Decree:

- Humphrey Impoundment,
- Tin Mill Canal/Finishing Mills Areas,
- Coke Oven Area,
- Coke Point Landfill, and
- Greys Landfill.

Contaminated soils and groundwater may be present at the site. This plan was prepared based on an assessment of hazards expected to be present and a review of data from the previous site investigations and groundwater sampling events.

During the current investigations and remedial efforts, all related work will be performed in accordance with the requirements of this HASP and Occupational Safety and Health Administration (OSHA) regulations as defined in 29 Code of Federal Regulations (CFR) 1910.120 and 1926.65.

2.0 PURPOSE, SCOPE AND ORGANIZATION

This section describes the purpose, scope and organization of this HASP and the health and safety responsibilities of EAG, their employees, and their subcontractors involved in the field investigation and remediation activities at the Sparrows Point facility.

2.1 Scope

Field investigation and remediation activities for this project may include, but are not limited to:

- Groundwater sampling and monitoring,
- Groundwater and remediation well installation,
- Groundwater and remediation well repairs,
- Groundwater and remediation well closure and abandonment,
- Surface water sampling,
- Sediment sampling,
- Soil boring and subsurface soil sampling,
- Soil excavations for remedial purposes,
- Installation and operation of remediation systems for soil, soil vapor, and groundwater,
- Decommissioning and closure of remediation systems,
- Soil excavations for remedial purposes,
- Insitu soil mixing/soil stabilization,
- Exsitu soil mixing/soil stabilization,
- Dredging operations along Tin Mill Canal,
- Insitu chemical and/or biological injections, and
- Recovery of non-aqueous phase liquids (NAPL)

When EAG personnel are providing oversight of subcontractors, they will attend the safety and health briefings held by the contractor. EAG personnel will follow the requirements of this HASP, as well as any potentially more stringent requirements of the contractor's health and safety plan.

When EAG personnel are conducting tasks on their own, with or without subcontractors, they will follow the requirements of this HASP. EAG contractors, such as drillers, will also be required to follow the requirements of this HASP, as well as any more stringent requirements of the contractor's health and safety plan.

All EAG field personnel, including subcontractors to EAG, will be required to read and understand this HASP and agree to implement its provisions. All site personnel will sign the Acknowledgement Form included in **Attachment A** stating that they have read, understood, and agree to abide by the guidelines and requirements set forth in this plan.

2.2 Organization of Document

This HASP includes health and safety procedures for all generally anticipated project field activities. This plan also meets the OSHA requirements contained in the CFR, specifically 29 CFR 1910.120 and 29 CFR 1926, by including the following items:

- A description of staff organization, qualifications and responsibilities (Section 2.3),
- Hazard analysis (Section 3.0),
- Health hazard information (Section 4.0),
- Personal protective equipment (PPE), including available first aid, emergency, and safety equipment (Section 5.0),
- Employee and subcontractor training and standard safety procedures (section 6.0),
- Exposure monitoring plan (Section 7.0),
- Medical surveillance (Section 8.0),
- Site control measures and decontamination procedures for personnel and equipment (Section 9.0),
- Emergency response and contingency procedures (section 10.0), and
- Material Safety Data Sheets (MSDSs) for chemicals used on-site (**Attachment B**).

2.3 EAG Health and Safety Personnel

Personnel responsible for implementing this HASP include:

EAG Contacts for Sparrows Point Project Work	
VP Remediation, Russ Becker	(314) 686-5611
Senior Project Manager, James Calenda	(314) 620-3056
Senior Project Engineer, Elizabeth Schlaeger	(314) 307-1732
Josh Burke – Field Operations Manager	(314) 686-5623
Project Field Team Members, Jeff Wilson and Bill Trentzsch	(314) 620-3135, (314) 686-5598

3.0 HAZARD ANALYSIS

This section outlines the potential hazards related to the field activities listed in Section 2.1.

3.1 Hazard Analysis

The field activities planned for this project pose potential health and safety hazards for field team members. This section describes the hazards associated with the above-listed field activities. Detailed chemical, physical, and biological hazards information is provided in Section 4.0 (Health Hazard Information).

Hazards to which employees and subcontractors may be exposed to as a result of the above-listed activities include potential chemical exposures, lacerations, excessive noise, thermal stress, lifting of excessive weight or bulk, hand tools and heavy equipment, drilling and slips, trips and falls.

3.1.1 Chemical Hazards

Potential exposures to chemicals in the soil or groundwater include the possibility of dermal exposure (contact and/or absorption), inhalation of chemical contamination that may be encountered during sampling or during equipment decontamination activities, or ingestion of contaminants if good personal hygiene practices are not followed.

Benzene, naphthalene, and various metals are the major contaminants that have been identified in groundwater during previous investigations at the site In addition, light NAPL (LNAPL – benzene, in particular) and dense NAPL (DNAPL – naphthalene, in particular) have also been identified or are heavily suspected in various locations in the Coke Oven Area. Dissolved metals the chemicals of concern primarily located in the area of Tin Mill Canal and the Rod and Wire Mill Area. Treatment chemicals, such as sulfuric acid, are currently being used in remediation systems. All appropriate MSDS sheets will be reviewed that apply to the investigation or remedial tasks being conducted. MSDS sheets are located in **Attachment B**. It should be noted that this is a dynamic document: should any additional chemicals be introduced or discovered, the MSDS sheets will be added to **Attachment B**, as necessary.

3.1.2 Physical Hazards

The potential physical hazards associated with field activities include:

- Excessive lifting
- Slips, trips, and falls
- Working at heights
- Exposure to extreme outside temperatures and weather
- Equipment hazards
- Drilling Hazards
- Noise
- Dust and fumes
- Injury from tools, equipment, rotating parts
- Electrical hazards
- Buried and overhead hazards
- Work over water
- Driving to, from, and around the site (including working in trafficked areas)

Additional hazards may be encountered based on the various task at hand. It will be the responsibility of the site manager, with the help of field staff, to identify and address any additional hazards on a "per task or job" basis. A Job Safety Analyses (JSA) may need to be conducted prior to the start of various tasks. Safety meetings will be conducted with all staff in attendance, before the start of any new task or when any significant personnel or other changes (such as a swift change in weather, for example) occur. Updated information relating to physical hazards will be presented during these meetings in an effort to familiarize the crew with potential hazards, discuss new situations, and determine how the associated risks can be reduced. Further, good housekeeping practices will be enforced to preclude other risks resulting from clutter and inattention to detail. In addition, internal field audits will be randomly conducted to ensure adherence to all procedures are being followed.

3.1.3 Biological Hazards

Biological hazards that may be encountered when conducting field activities include the following:

- Poisonous snakes and spiders
- Ticks and tick-borne diseases
- Stinging insects such as chiggers, bees, wasps, etc.
- Various viruses and diseases spread via animal to human contact such as West Nile virus or rabies
- Various viruses and diseases spread via human to human contact such as colds or the flu
- Dermal contact with poison ivy, oak, and/or sumac
- Bloodborne pathogens when administering first aid

First aid kits will be available on-site. It is crucial to note that any site personnel who has significant allergies should communicate that information to the field team they are working with, along with the location of their auto-injector pen (such as an Epi-Pen) for use in case of going into anaphylactic shock from something that would cause such a reaction (like a bee sting, for example). Personnel who suffer from such allergies are responsible for providing their own auto-injector devices as those are typically prescription based as well as specific to their particular allergy.

4.0 HEALTH HAZARD INFORMATION

This section provides chemical hazard information for those potentially hazardous materials expected to be present at the facility. Potential physical and biological hazards are also discussed in this section.

4.1 Chemical Hazards

Exposure to chemicals through inhalation, ingestion, or skin contact may result in health hazards to field workers. Hazards associated with exposure will be evaluated using OSHA Permissible Exposure Limits (PELs) and the American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs). Each of these values are 8-hour, time-weighted averaged (TWAs) above which an employee cannot be exposed. EAG may also use the National Institute of Occupational Safety and Health (NIOSH) Recommended Exposure Limits (RELs) where applicable. Although the OSHA PELs are the only exposure limits enforceable by law, the most stringent of exposure limits will be used as the EAG-enforced exposure criteria during field activities.

The following is a summary of the potential hazards created by the compounds that may be encountered during field activities. Data from sampling of groundwater wells was reviewed to identify potential contaminants at the site. Contaminants of concern may include benzene, toluene, ethylbenzene and xylenes (BTEX), polycyclic aromatic hydrocarbons (PAHs), phenols, metals and water treatment chemicals. Table 4-1 contains chemical information and exposure limits for various chemicals that may be expected to be present in the investigation and remediation efforts. During the recovery of NAPL, the major contaminants of concern are benzene and naphthalene. It is possible that carbon monoxide may also be encountered from the use of various internal combustion engines (vehicular or otherwise); however, it is anticipated that since any such engine will be used outdoors, it is not expected that concentrations of concern will accumulate. With the use of any such engine, the engine should be positioned such that site personnel are upwind of the engine exhaust.

If any chemicals are brought on-site, MSDS must be made available and added to **Attachment B**. Personnel must be trained in the hazards and use of chemicals.

Table 4-1
Chemical Contaminants of Potential Concern

Chemical Name Synonyms (trade name)	Exposure Limits	Characteristics	Route of Exposure	Symptoms of Exposure
Benzene	PEL: 1PPM REL: 0.1 CA TLV: 0.5PPM STEL: 1PPM (NIOSH) Skin: YES	Colorless to light-yellow liquid with aromatic odor. LEL: 1.2% UEL: 7.8% VP: 75mm FI.P: 12°F	INH ABS ING CON	Irritation of eyes, skin, nose, respiratory system, giddiness, headache, nausea, fatigue, anorexia, dermatitis, bone marrow depression
Ethylbenzene	PEL: 100PPM REL: 100PPM TLV: 100PPM STEL: 125PPM IDLH: 800PPM Skin: NO	Colorless liquid with an aromatic odor. LEL: 0.85 UEL: 6.7% IP: 8.76EV VP: 7mm FI.P: 55°F	INH ING CON	Irritation of eyes, skin, mucous membranes; headache; dermatitis
1,1 dichloroethane	PEL: 100PPM REL: 100PPM TLV: 100PPM STEL: NA IDLH: 3000PPM Skin: NO	Colorless, oily liquid with a chloroform-like odor. LEL: 6.2% UEL: 16% IP: 11.05EV Vp: 64mm FI.P: 56°F	INH ING CON	Irritation of eyes, CNS depression, liver, kidney, lung damage
Phenol	PEL: 5PPM REL: 5PPM, 15.6PPM (C) TLV: 5PPM STEL: NA IDLH 250PPM Skin: YES	Colorless to light pink crystalline solid with a sweet, acrid odor. LEL: 1.8% UEL: 5.9% IP: 8.12EV Vp: 0.08mm FI.P: 175°F	INH ING CON ABS	Irritated eyes, nose, throat, anorexia, weakness, muscular ache, pain, dark urine, cyanosis, liver, kidney damage, skin burns, dermatitis, tremor, convulsions, twitch
Naphthalene	PEL: 10PPM REL: 10PPM TLV: 10PPM STEL: 15PPM IDLH: 250PPM Skin: YES	Colorless to brown solid with an odor of mothballs LEL: 0.9% UEL: 5.9% IP: 8.12EV Vp: 0.08mm FI.P: 174°F	INH ABS ING CON	Irritation of eyes, headache, confusion, excitement, malaise, nausea, vomiting, abdominal pain, irritated bladder, profuse sweating, jaundice, hematuria, renal shutdown, dermatitis, optical neuritis, corneal damage
Toluene	PEL: 200PPM, 300PPM (C) REL: 100PPM TLV: 20PPM STEL: 150PPM IDLH: 500PPM Skin: YES	Colorless liquid with a sweet, pungent benzene-like odor. LEL: 1.1% UEL: 7.1% IP: 8.82EV VP: 21MM FI.P: 40°F	INH ABS ING CON	Irritation of eyes, nose, fatigue, weakness, confusion, euphoria, dizziness, headache, dilated pupils, lacrimation, nervousness, muscle fatigue, insomnia, dermatitis, liver, kidney damage
Xylenes	PEL: 100PPM REL: 100PPM TLV: 100PPM STEL: 150PPM IDLH: 900PPM Skin: NO	Colorless liquid with an aromatic odor. LEL: 0.9% UEL: 6.7% IP: 8.40EV VP: 5MM FI.P: 88°F	INH ABS ING CON	Irritated eyes, nose, respiratory system, headache, fatigue, dizziness, confusion, malaise, drowsiness, incoherence, staggering gait, corneal vacuolization, anorexia, nausea, vomiting, abdominal pain, dermatitis

Chemical Name Synonyms (trade name)	Exposure Limits	Characteristics	Route of Exposure	Symptoms of Exposure
Styrene	PEL: 100PPM, 200PPM (C) REL: 50PPM TLV: 20PPM STEL: 40PPM IDLH: 700PPM Skin: NO	Colorless to yellow, oily liquid with a sweet, floral odor. LEL: 0.9% UEL: 6.8% IP: 8.40eV VP: 5MM FI.P: 88°F	INH ABS ING CON	Irritated eyes, nose, respiratory system, headache, fatigue, dizziness, confusion, malaise, drowsiness, weakness, narcosis, dermatitis
Chlorodiphenyl (54% chlorine) (11097-69-1)	PEL: 0.5mg/m³ REL: 0.001mg/m³ TLV: 0.5mg/m³ STEL: N/A IDLH: 5mg/m³(CA) Skin: YES	Colorless to pale yellow viscous liquid with a mild hydrocarbon odor. LEL: NA UEL: NA IP: UNKNOWN VP: 0.00006MM FI.P: NA	INH ABS ING CON	Irritated eyes, chloracne, liver damage, reproductive effects (carcinogen)
Polynuclear aromatic hydrocarbons (PAHs) (coal tar pitch volatiles) (65996-93-2)	PEL: 0.2mg/m³ REL: 0.1mg/m³ TLV: 0.2 mg/m³ STEL: N/A IDLH: 80mg/m³(CA) Skin: NO	The pitch of coal tar is black or dark brown amorphous residue that remains after the redistillation process. LEL: N/A UEL: N/A IP: VARIES VP: VARIES FI.P: VARIES	INH CON	Direct contact or exposure to vapors may be irritating to the eyes. Direct contact can be highly irritating to the skin and produce dermatitis. Exposure to vapors may cause nausea and vomiting. A potential human carcinogen.
Arsenic (inorganic)	PEL: 0.01mg/m³ REL: NONE TLV: 0.5 mg/m³ STEL: N/A IDLH: 5mg/m³ (CA) Skin: NO	Silver-gray or tin-white brittle odorless solid. Air odor threshold: N/D.	INH ABS CON ING	Symptoms include ulceration of nasal septum, gastrointestinal disturbances, respiratory irritation and peripheral neuropathy. Potential occupational carcinogen.
Barium	PEL: 0.5mg/m³ REL: 0.5mg/m³ TLV: 0.5mg/m³ STEL: N/A IDLH: 50mg/m³ Skin: NO	White, odorless solid. Air odor threshold: N/D.	INH ING CON	Irritated eyes, skin, upper respiratory system, skin burns, gastroenteritis, muscle spasm, slow pulse, cardiac arrhythmia
Cadmium (elemental)	PEL: 0.005mg/m³ REL: CA TLV: 0.01mg/m³ STEL: N/A IDLH: 9mg/m³ (CA) Skin: NO	Silver-white, blue-tinged lustrous, odorless solid. Air odor threshold: N/D.	INH ING	Symptoms include pulmonary edema, cough, tight chest, head pain, chills, muscle aches, vomiting and diarrhea. Potential occupational carcinogen.
Chromium (Metal)	PEL: 1.0mg/m³ REL: 0.5mg/m³ TLV: 0.5mg/m³ STEL: N/A IDLH: 250mg/m³ Skin: NO	Blue-white to steel-gray lustrous, brittle, hard odorless solid. Air odor threshold: N/D.	INH ING CON	Symptoms may include irritated eyes and skin, lung fibrosis.
Chromium (Chromium III inorganic compounds)	PEL: 0.5mg/m³ REL: 0.5mg/m³ TLV: 0.5mg/m³ STEL: N/A IDLH: 25mg/m³ Skin: NO	Varies depending on specific compound.	INH ING CON	Irritation of eyes, sensitivity dermatitis

Chemical Name Synonyms (trade name)	Exposure Limits	Characteristics	Route of Exposure	Symptoms of Exposure
Copper	PEL: 1mg/m³ REL: 1mg/m³ TLV: 1mg/m³ STEL: N/A IDLH: 100mg/m³ Skin: NO	Reddish, lustrous, malleable, odorless solid	INH ING CON	Irritation of eyes, nose, pharynx, nasal septum perforations, metallic taste, dermatitis
Lead (Elemental & Inorganic as Pb)	PEL: 0.05mg/m³ REL0.1mg/m³ TLV: 0.05mg/m³ STEL: N/A IDLH: 100mg/m³ Skin: NO	A heavy, ductile soft gray solid. Air odor threshold: N/D.	INH ING CON	Accumulative poison may cause weakness, insomnia, facial pallor, anorexia, malnutrition, constipation, abdominal pain, anemia, gingival lead line, paralysis of wrists and ankles, hypertension and kidney disease.
Nickel	PEL: 1mg/m³ REL: 0.015mg/m³ (Ca) TLV: 0.1mg/m³ STEL: N/A IDLH: 10mg/m³ Skin: NO	Lustrous, silvery, odorless solid. Air odor threshold: N/A VP: 0mm	INH CON ING	Sensitivity dermatitis, allergic asthma, pneumonitis
Vanadium pentoxide dust	PEL: 0.5mg/m³ (C) REL: 0.05mg/m³ (C) TLV: 0.05mg/m³ STEL: N/A IDLH: 35mg/m³ Skin: NO	Yellow-orange powder or dark gray, odorless flakes dispersed in air. VP: 0mm	INH ING CON	Irritated eyes, skin, throat, green tongue, metallic taste, eczema, cough, fine rales, wheezing, bronchitis
Zinc oxide	PEL: 5mg/m³ REL: 5mg/m³ TLV: 2mg/m³ STEL: 10mg/m³ IDLH: 500mg/m³ Skin: NO	White, lustrous solid	INH	Metal fume fever, chills, muscular ache, nausea, fever, dry throat, cough, weakness, metallic taste, headache, blurred vision, low back pain, vomiting, fatigue, malaise
Sulfuric Acid (water treatment chemical)	PEL: 1mg/m³ TLV: 0.2mg/m³ Skin: YES	Oily, colorless to slightly yellow, clear to turbid liquid	IHN ABS ING CON	Can cause irritation or corrosive burns to the upper respiratory system, lung irritation, pulmonary edema, burns to mouth throat and stomach, erode teeth, skin lesions
Antiscale (water treatment chemical)	PEL: 1mg/m³ TLV: 0.2mg/m³ Skin: YES	Liquid, colorless, clear	IHN ABS ING CON	May cause severe skin burns and eye damage, can cause cancer, fatal if inhaled, may damage organs through prolonged exposure
Antifoam (water treatment chemical)	N/E	Liquid emulsion, white, opaque	IHN ABS ING CON	May be harmful to skin, if inhaled and if swallowed
Gases				
Carbon Monoxide	PEL: 50PPM REL: 35PPM TLV: 25PPM STEL: 200PPM (C) IDLH: 1200PPM Skin: NO	Colorless, odorless gas LEL: 12.5% UEL: 74% IP: 14.01eV VP: >35atm FI.P: N/A	INH	Headache, rapid breathing, nausea, tiredness, dizziness, confusion

NOTES:

OSHA PEL	Occupational Safety and Health administration Final Rule Limits, Permissible Exposure Limit for an eight=hour, time-weighted average
ACGIH TLV	American Conference of Governmental Industrial Hygienists, Threshold Limit Value for eight-hour, time-weighted average
STEL	Short-term Exposure Limit for a 15-minute, time-weighted average
NIOSH IDLH	National Institute for Occupational Safety and Health, Immediately Dangerous to Life or Health concentration
PPM	Part of vapor or gas per millions parts of air by volume at 25°Celsius and 760mm Hg mg/m³ (milligram of substance per cubic meter of air)
CA	NIOSH has identified numerous chemicals that it recommends to be treated as potential or confirmed human carcinogens.
(C)	The (ceiling) concentration that should not be exceed during any part of the working exposure.
Skin	Refers to the potential contribution to the overall exposure by the cutaneous (absorption) route, including mucous membranes and eye, either by airborne or more particularly by direct contact with the substance.
UEL	Upper Explosive Limit – the highest concentration of a material in air that produces an explosion in fire or ignites when it contacts an ignition source.
LEL	Lower Explosive Limit – the lowest concentration of the material in air that can be detonated by spark, shock, fire, etc.
INH	Inhalation
ABS	Skin absorption
ING	Ingestion
CON	Skin and/or eye contact

4.2 Physical Hazards

Field employees and subcontractors may be exposed to a number of physical hazards during this project. Physical hazards that may be encountered include the following:

- Heat and cold stress
- Lifting hazards
- Slips, trips and falls
- Working around heavy equipment
- Drilling hazards
- Noise
- Use of hand and power tools
- Buried hazards
- Electrical hazards
- Underground and overhead utilities
- Working over water
- Travel to and from site

4.2.1 Heat Stress

Local weather conditions may produce an environment that will require restricted work schedules in order to protect employees from heat stress. The Project Manager or the Field Lead Team Member will observe workers for any potential symptoms of heat stress. Adaptation of work schedules and training on recognition of heat stress conditions should help prevent heat-related illnesses from occurring. Heat stress controls will be stated at 70°F for personnel in protective clothing and at 90°F for personnel in regular work clothing. Heat stress prevention controls include:

- Allow workers to become acclimatized to heat (three to six days)
- Provide rest breaks in a shaded or air-conditioned break area
- Provide sun screen to prevent sun burn
- Provide drinking water and electrolyte-replenishing fluids
- Keep ice readily available to rapidly cool field team members

The following Heat Stress Index should be used as a guide to evaluate heat stress situations. If the Heat Stress exceeds 105 degrees Fahrenheit, contact the project manager prior to conducting work for detailed guidance.

Heat Stress Index

Temp. °F	Relative Humidity								
	10%	20%	30%	40%	50%	60%	70%	80%	90%
105	98	104	110	120	132				
102	97	101	108	117	125				
100	95	99	105	110	120	132			
98	93	97	101	106	110	125			
96	91	95	98	104	108	120	128		
94	89	93	95	100	105	111	122		
92	87	90	92	96	100	106	114	122	
90	85	88	90	92	96	100	106	114	122
88	82	86	87	89	93	95	100	106	115
86	80	84	85	87	90	92	96	100	109
84	78	81	83	85	86	89	91	95	99
82	77	79	80	81	84	86	89	91	95
80	75	77	78	79	81	83	85	86	89
78	72	75	77	78	79	80	81	83	85
76	70	72	75	76	77	77	77	78	79
74	68	70	73	74	75	75	75	76	77

NOTES: Add 10° F when protective clothing is being used; Add 10° F when in direct sunlight

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HSI Temp	Category	Injury Threat
Above 130° F	Extreme Danger	No work unless emergency exists. Contact Cardno ATC RSC and Corporate Risk Management Department prior to proceeding. Heat cramps or exhaustion likely, heat stroke possible if exposure is prolonged and there is physical activity.
105° to 130° F	Danger	Contact RSC prior to proceeding. Requires strict adherence to ACGIH Heat Stress Guidelines, including use of on-site WBGT equipment. Heat cramps or exhaustion likely, heat stroke possible if exposure is prolonged and there is physical activity.
90° to 105° F	Extreme Caution	Heat cramps or exhaustion likely, heat stroke possible if exposure is prolonged and there is physical activity.
80° to 90° F	Caution	Heat cramps or exhaustion likely, heat stroke possible if exposure is prolonged and there is physical activity.
Below 80° F	Normal Range	Typical conditions for time of year. Little or no danger under normal circumstances. As always, anticipate problems and work safely.

4.2.2 Cold Stress

Frostbite and hypothermia are two types of cold injury that personnel must be protected against during the performance of field duties. The objective is to prevent the deep body temperature from falling below 96.8° F and to prevent cold injury to body extremities. Two factors influence the development of a cold injury the ambient temperature, and wind velocity. Reduced body temperature will very likely result in reduced mental alertness, reduction in rational decision making, and/or loss of consciousness with the threat of death.

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Use appropriate cold weather clothing when temperatures are at or below 40° F as exposed skin surfaces must be protected. These protective items can include facemask, hand wear, and foot wear. Workers handling evaporative solvents during cold stress conditions will take special precautions to avoid soaking gloves and clothing because of the added danger of prolonged skin contact and evaporative cooling. Personnel will wear protective clothing appropriate for the level of cold and planned physical activity. The objective is to protect all parts of the body, with emphasis on the hands and feet. Eye protection against glare and ultraviolet light should be worn in snowy and icy conditions.

The work rate should not be so great as to cause heavy sweating that could result in wet clothing. If heavy work must be done, opportunities for rest breaks will be provided where workers have the opportunity to change into dry clothing. Conversely, plan work activities to minimize time spent sitting or standing still. Rest breaks should be taken in a warm, dry area. Windbreaks can also be used to shield the work area from the cooling effects of wind.

If extreme cold-related weather conditions occur, EAG field personnel and subcontractors will take the following precautions:

- Wear adequate insulated clothing when the air temperature drops below 40°F
- Reduce work periods in extreme conditions to allow adequate rest periods in a warm area
- Change clothes when work clothes become wet
- Avoid caffeine (which has diuretic and circulatory effects)

4.2.3 Lifting Hazards

Field personnel may be exposed to injury caused by lifting heavy objects and various pieces large or unwieldy pieces of equipment. All field team members will be trained in the proper methods for lifting heavy and/or large equipment and are cautioned against lifting objects that are too heavy or too big for one person. Proper lifting techniques include the following:

- Keep feet approximately shoulder width apart
- Bend at the knees
- Tighten abdominal muscles
- Lift with the legs
- Keep the load close to the body
- Keep the back upright
- Use the buddy system for larger or heavy pieces of equipment

All drums will be staged using an approved drum dolly or other appropriate equipment. Proper care will be taken in the use of this equipment. Healthy employees with no medical restrictions may lift and carry a maximum of 50 pounds using proper lifting and carrying techniques. This recommended weight limit may be reduced depending on physical and workplace factors.

4.2.4 Slips, Trips and Falls

The most common hazards that will be encountered during field activities will be slips, trips and falls. Field team members are trained to use common sense to avoid these hazards such as using work boots/safety shoes with nonskid soles. When working on slippery surfaces, tasks will be planned to decrease the risk of slipping via avoiding the slippery areas, if possible, or utilizing engineering controls. Engineering controls may involve the placement of supplemental material such as boards, gravel, or ice melt should be utilized to mitigate slippery conditions. Other engineering controls may involve the use of footgear traction control devices. Employees and subcontractors will avoid slippery surfaces, use engineering controls as appropriate, not hurry, and maintain good housekeeping.

4.2.5 Buried Hazards

Whenever the ground is penetrated, the potential for contacting buried hazards exists. During the planning/mobilization phase, prior to drilling or other excavation activities, EAG personnel and/or their contractors will establish the location of underground utility lines (gas, electrical, telephone, fiber optic cable, etc.) and/or substructures or other potential buried hazardous items. This may be conducted by review of historic utility and substructure maps, private utility locates, ground penetrating radar, or other technologies. If there is any evidence of utilities or subsurface objects/structures, drilling or excavation activities may be offset. If activities cannot be offset, measures will be taken to remove, disconnect, and/or protect the utilities and/or subsurface structures and/or objects. Every reasonable effort will be made to clear the area of intrusive work prior to fieldwork being started.

4.2.6 Electrical Hazards

It may be possible that overhead power lines will be in proximate locations during drilling or excavation activities. At least a 20 foot clearance must be maintained from overhead power lines. No equipment such as drill rigs or dump trucks can be moved while masts or buckets are in the upright position. Field personnel and subcontractors performing electrical work are required to be appropriately trained to work on the electrical systems in question prior to start of work. Authorization from project management personnel is required prior to any electrical work or work near overhead power lines. . When using extension cords, all field workers will ensure that they are in good working condition, are correctly rated for use, and do not contain abrasions such that bare wires could be exposed to the environment. Extension cords will not be used in wet areas without plugging the extension cord into a ground fault circuit interrupter (GFCI). GFCIs will detect a short circuit and cut power.

4.2.7 Heavy Equipment Operations

Heavy equipment must be operated in a safe manner and be properly maintained such that operators and ground personnel are protected.

Requirements for Operators

- Only qualified, trained, and authorized operators are allowed to operate equipment
- Seat belts will be used at all times in all equipment and trucks
- Operators will stop work whenever ground personnel or other equipment enter their work area; work will resume only when the area has been cleared
- No personnel may ride on equipment other than the Authorized Operator
- No personnel may be carried or lifted in the buckets or working "arms" of the equipment
- Spotters will be used when ground personnel are in the vicinity of heavy equipment work areas and/or when an operator is backing equipment near other structures or congested area

Requirements for Ground Personnel

- All ground personnel must wear orange protective vests in work areas with any operating heavy equipment
- Ground personnel will stay outside of the swing zone or work area of any operating equipment
- Ground personnel may only enter the swing or work area of any operating equipment when:
  -They have attracted the operators attention and made eye contact
  -The operator has idled the equipment down and grounded all extensions
  -The operator gives the ground personnel permission to approach
- Ground personnel shall never walk or position themselves between any fixed object and running equipment or between two running pieces of equipment

Equipment

- Maintain operations manuals at the site for each piece of equipment that is present and in use
- Ensure operators are familiar with the manual for the equipment and operate the equipment within the parameters of the manual
- Ensure all equipment is provided with roll-over protection systems
- Verify that seatbelts are present and functional in all equipment
- Prohibit the use of equipment that has cab glass which is broken or missing
- Ensure that backup alarms are functional on all trucks and equipment
- Require all extensions such as buckets, blades, forks, etc. to be grounded when not in use
- Require brakes to be set and wheels chocked (when applicable) when not in use

Daily inspections of equipment are required using a Daily Heavy Equipment Safety Checklist. Equipment deemed to be unsafe as a result of daily inspection will not be used until required repairs or maintenance occurs. During maintenance/repair, ensure that motors are turned off, all extensions are grounded or securely blocked, controls are in a neutral position, and the brakes are set.

4.2.8 Drilling and Excavation Safety

Prior to any intrusive work, as previously mentioned, the location of underground utilities, such as sewer, telephone, gas, water and electric lines must be determined and plainly staked. Necessary arrangements must be made with the utility company or owner for the protection, removal or relocation of the underground utilities. In such circumstances, excavation will be done in a manner that

does not endanger the field personnel engaged in the work or the underground utility. Utilities left in place will be protected by barricading, shoring, suspension or other measures, as necessary.

The use of unsafe or defective equipment is not permitted. Equipment must be inspected regularly. If found to be defective, equipment must be immediately removed from use and either repaired or replaced prior to resuming work with that equipment. Field personnel will be familiar with the location of first-aid kits and fire extinguishers. Telephone numbers for emergency assistance must be prominently posted and kept current.

Good housekeeping conditions will be observed in and around the work areas. Suitable storage places will be provided for all materials and supplies. Pipe, drill rods, etc. must be securely stacked on solid, level sills. Work surfaces, platforms, stairways, walkways, scaffolding, and access ways will be kept free of obstructions. All debris will be collected and stored in piles or containers for removal and disposal.

The area of the site to undergo intrusive activity must be walked over with the drillers and/or heavy equipment operators to identify all work locations, as well as making sure all marked utilities are seen by those doing the intrusive work.

Drilling Specific Concerns:

In areas where utilities have been identified or may be suspected, pre-drilling clearance such hand-augering, hand excavation (with shovels or post-hole diggers), or air-knifing to a depth of at least 5' below ground surface (BGS) may be required. The Project Manager will provide guidance in those instances on what has been determined as an acceptable means of clearing drilling locations. It should be noted that if the soil lithology changes to gravel within those 5 feet, that may be an indication of a utility trench and extreme caution should be taken OR the drilling location should be offset 5 horizontal feet from the original location. Should 3 consecutive attempts be made without success to offset a particular drilling location, the field personnel should stop and contact the Project Manager for further instruction.

Special precaution must be taken when using a drill rig on a site within the vicinity of electrical power lines and other overhead utilities. Electricity can shock, burn and cause death. When overhead electrical power lines exist at or near a drilling site, all wires will be considered dangerous.

A check will be made for sagging power lines before a site is entered. Power lines will not be lifted to gain entrance. The appropriate utility company will be contacted and a request will be made that it lift or raise cut off power to the lines.

The area around the drill rig will be inspected before the drill rig mast (derrick) is raised at a site in the vicinity of power lines. The minimum distance from any point on the drill rig to the nearest power line will be determined when the mast is raised or is being raised. The mast will not be raised and the drill rig will not be operated if this distance is less than 20 feet, because hoist lines and overhead power lines can be moved toward each other by the wind.

Before the mast is raised, personnel will be cleared from the immediate area, with the exception of the operator and a helper, when necessary. A check will be made to ensure safe clearance from energized power lines or equipment (minimum 20-foot clearance). Unsecured equipment must be removed from the mast and cables, mud lines and catline ropes must be adequately secured to the mast before raising. After it is raised, the mast must be secured to the rig in an upright position with steel pins.

Excavation Specific Concerns:

For excavation work, entry into an excavated area or trench will only be allowed when:

- Shoring, sloping, and spoil pile placement is in conformance with 29 CFR 1926 Subpart P, and
- Personal protection and monitoring, as detailed in this HASP, has been implemented.

All excavation contractors are required to provide an OSHA trained and certified Competent Person. Daily inspections of excavations, the adjacent areas, and protective systems shall be made by the Competent Person for evidence of a situation that could result in a possible cave-in, indications of failure of protective systems, hazardous atmospheres, or other hazardous conditions. An inspection shall be conducted by the Competent Person prior to the start of work and as needed throughout each shift. Inspections shall also be made after every rainstorm or other hazard increasing occurrence. All inspections made by the Competent Person should be recorded in the field log book. No personnel shall perform work in a trench or excavation that contains accumulated water (any accumulated water will need to be either pumped out until the trench/excavation is dry, or the accumulated water is allowed to disperse naturally). Each employee in an excavation shall be protected from cave-ins by an adequate protective system except when excavations are made entirely in stable rock or the excavation is less than 5 feet in depth and examination by the Competent Person provides no indication of a potential cave-in. Protective systems consist of sloping or benching, use of trench boxes or other shielding mechanisms, or the use of a shoring system in accordance with the regulations.

When mobile equipment is operated adjacent to an excavation and the operators/drivers do not have a clear and direct view of the edge of the excavation, a warning system such as barricades, hand or mechanical signals, or spotters are required.

Adequate protection shall be provided to protect employees from loose rock or soil that could pose a hazard to personnel in the excavation. All temporary spoil piles shall be kept at least 2 feet away from the edge of the excavation. Spoil piles should be placed to channel rainwater or other run-off water away from the excavation.

All excavations deeper than 4 feet deep and which have the potential to have a hazardous atmosphere or oxygen deficient atmospheres (less than 19.5% oxygen) must be tested to ensure safe working conditions, prior to entry.

4.2.9 Use of Hand Tools and Portable Power Tools

Hand tools will be kept in good repair and used only for their designed purposes. Proper protective eyewear will be worn when using hand tools and portable power tools. Unguarded sharp-edged or

pointed tools will not be carried in field personnel's pockets. The use of tools with mushroomed heads, split or defective handles, worn parts, or other defects will not be permitted. Inspect all tools prior to start-up or use to identify any defects. Tools that have become unsafe will be reconditioned before reissue or they will be discarded and replaced. Throwing or dropping of tools from one level to another will not be permitted; rather, containers and hand lines will be used for transporting tools from one level to another if working at heights.

Non-sparking tools will be used in atmospheres where sources of ignition may cause fire or explosion. Electric-powered shop and hand tools will be of the double-insulated, shockproof type, or they will be effectively grounded. Power tools will be operated only by designated personnel who are familiar and trained with their use. When not in use, tools will not be left on scaffolds, ladders or overhead working surfaces.

4.2.10 Noise

Exposure to high levels of noise may occur when working near drill rigs or other heavy equipment. Also, depending upon where the work is being performed, local equipment (e.g., airports, factory machines, etc.) may produce high levels of noise. A good indication of the need for hearing protection is when verbal communication is difficult at a distance of 2-3 feet. Personnel will be provided with ear plugs and/or earmuffs when exposed to noise levels in excess of the 8-hour Permissible Exposure Limit (PEL) of 90 decibels.

4.2.11 Work Zone Traffic Control

Personnel will exercise caution when working near areas of vehicular traffic. Work zones will be identified by the use of delineators (traffic cones, flags, vehicles, DOT approved devices, temporary or permanent fencing, and/or safety barrier tape). Personnel will wear reflective vests when working in these areas. Depending on frequency, proximity, and nature of traffic, a flag person may also be utilized.

4.2.12 Work Over Water

If personnel will be working near, above or immediately adjacent to or within 6 feet of water that is 3 feet or more deep or where water presents a drowning hazard (e.g., fast-moving stream, water body with a soft bottom), employees are required to a U.S. Coast Guard (USCG) approved personal flotation device (PFD). All PFDs must have reflective tape on them to facilitate visibility. Employees must inspect PFDs daily before use for defects. Do no use defective PFDs.

4.2.13 Vehicle Use

Personnel must use caution when driving to, from, and across the site, paying special attention to other site traffic, as well as weather and road conditions. Heavy equipment should be transported during non-rush hour traffic.

4.3 Biological Hazards

Site activities on this Site may expose workers to other hazards such as poisonous plants, insects, animals, and indigenous pathogens. Protective clothing and respiratory protection equipment, and being capable of identifying poisonous plants, animals, and insects, can greatly reduce the chances of exposure. Thoroughly washing any exposed body parts, clothing, and equipment will also protect against infections. Avoiding contact with biological hazards is the best way to prevent potential adverse health effects. Recognition of potential hazards is essential. When avoidance is impractical or impossible, PPE, personal hygiene, good general health and awareness must be used to prevent adverse effects. If working in wooded/grassy areas, use appropriate insect repellants (containing DEET and/or Permethrin) and apply them per the manufacturers' directions. The following is a list of biological hazards that may be encountered while performing field activities at the project site and surrounding areas:

BIOLOGICAL HAZARD and LOCATION	CONTROL MEASURES
Snakes typically are found in underbrush and tall grassy areas.	If you encounter a snake, stay calm and look around; there may be other snakes. Turn around and walk away on the same path you used to approach the area. If a person is bitten by a snake, wash and immobilize the injured area, keeping it lower than the heart if possible. Seek medical attention immediately. **DO NOT** apply ice, cut the wound or apply a tourniquet. Carry the victim or have him/her walk slowly if the victim must be moved. Try to identify the snake: note color, size, patterns and markings.
Poison ivy, poison oak and poison sumac typically are found in brush or wooded areas. They are more commonly found in moist areas or along the edges of wooded areas.	Become familiar with the identity of these plants. Wear protective clothing that covers exposed skin and clothes. Avoid contact with plants and the outside of protective clothing. If skin contacts a plant, wash the area with soap and water immediately. If the reaction is severe or worsens, seek medical attention.
Exposure to **bloodborne pathogens** may occur when rendering first aid or CPR, or when coming into contact with medical or other potentially infectious material or when coming into contact with landfill waste or waste streams containing such infectious material.	Training is required before a task involving potential exposure is performed. Exposure controls and personal protective equipment (PPE) area required. Hepatitis B vaccination must be offered before the person participates in a task where exposure is a possibility.
Bees, spiders and other stinging insects may be encountered almost anywhere and may present a serious hazard particularly to people who are allergic.	Watch for and avoid nests. Keep exposed skin to a minimum. Carry a kit if you have had allergic reactions in the past and inform the Project Manager and/or the buddy. If a stinger is present, remove it carefully with tweezers. Watch for allergic reaction; seek medical attention if a reaction develops.
Ticks typically are in wooded areas, bushes, tall grass and brush. Ticks are black, black and red or brown and can be up to one-quarter inch in size.	Avoid tick areas. Wear tightly woven, light-colored clothing with pants tucked into boots or socks. Spray outside of clothing with insect repellent containing permethrin. Check yourself for ticks often. If bitten, carefully remove tick with tweezers. Report the bit to the Project Manager. Look for symptoms of Lyme

	disease that include a rash that looks like a bulls eye and chills, fever, headache, fatigue, stiff neck or bone pain. If symptoms appear, seek medical attention.

5.0 PERSONAL PROTECTIVE EQUIPMENT

PPE ensembles are used to protect employees and subcontractors from potential contamination hazards while conducting project field activities. Level D is expected to be used for most activities at the site. The following subsections describe the PPE requirements for the field activities.

5.1 Level D Protection

When the atmosphere contains no known hazards and work functions preclude splashes, immersions or the potential for unexpected inhalation of or contact with hazardous levels of any chemicals, Level D protection may be used. Level D does not provide respiratory protection and only provides minimal dermal protection. The Level D ensemble consists of the following:

- Work clothes that may consist of a short or long-sleeved cotton shirt and cotton pants, cotton overalls, or disposal overalls such as Tyvek™
- Steel-toe/steel-shank work boots
- Safety glasses with side shields
- Hearing protection, as necessary
- Hand protection, as appropriate
- Hard hat when working around overhead equipment such as a drilling rig
- Reflective vests when working around heavy equipment or near roadways
- Body harness and life vests when working on or within 6 feet of bulkheads, at heights, or in 3 feet or more of standing water (such as in Tin Mill Canal)

5.2 Modified Level D Protection

This is the level of protection that may be needed for material handling, sampling operations, and operation of remediation equipment when splash hazards are present. Modified Level D protection consists of the following:

- Disposable overalls such as polyethylene-coated Tyvek™
- Latex, vinyl, or nitrite inner gloves when handling liquids/fluids
- Nitrile outer gloves (taped to outer suit)
- Chemical-protective over-boots (taped to outer suit)
- Steel-toe/steel-shank, high-ankle work boots
- Hard hat with face shield
- Safety glasses with side shields or goggles
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- Hearing protection, as necessary

5.3 Level C Protection

Level C protection will be used when site action levels are exceeded and respiratory protection is required. The Level C ensemble consists of Modified Level D with the following modifications:

- Half or full-face air-purifying respirator (APR) equipped with appropriate cartridges/filters
- Chemical resistant clothing such as poly-coated Tyvek™
- Inner and outer nitrile gloves
- Chemical-resistant safety boots or boot covers to go over safety boots

Upgrading or downgrading the level of protection used by EAG employees and subcontractors is a decision made by EAG based on the air monitoring protocols presented in Section 7.0 for respiratory protection, the potential for inhalation exposure to toxic chemicals, and the need for dermal protection during the activity.

5.4 First Aid, Emergency and Safety Equipment

The following first aid, emergency and safety equipment will be maintained onsite at the work area:

- A portable eye wash
- Appropriate ABC-type fire extinguishers (minimum of 10 pounds; remediation systems to house individual 20 pound extinguishers) carried in every vehicle used during field operations
- Industrial first-aid kit (one 16-unit that complies with American National Standards Institute (ANSI) Z308A for every 25 persons or less)
- Bloodborne pathogen precaution kit with CPR mouth shield
- Instant cold packs
- Soap or waterless hand cleaner and towels
- American Red Cross First Aid and CPR Instruction Manuals

6.0 PERSONNEL TRAINING AND STANDARD SAFETY PROCEDURES

Employees must have received, at the time of project assignment, a minimum of 40 hours of initial OSHA health and safety training for hazardous waste site operations. Personnel who have not met the requirements for the initial training will not be allowed in the Exclusion Zone (EZ) or Contamination Reduction Zone (CRZ) of any active work area. A copy of each subcontractor site worker's 40-hour training certificate must be sent to the Project Manager for review prior to the start of the site work.

The 8-hour refresher training course must be taken at a minimum of once per year. At the time of the job assignment, all site workers must have received 8 hours of refresher training within the past year. This course is required of all field personnel to maintain their qualifications for hazardous waste site work. A copy of each subcontractor site worker's most recent 8-hour refresher training certificate must be sent to the Project Manager for review prior to the start of the site work.

A site-specific safety orientation will be conducted by EAG for all EAG employees and subcontractors engaged in fieldwork.

6.1 Onsite Safety, Health and Emergency Response Training

The OSHA 1910.120 standard requires that site safety and health training be provided by a trained, experienced supervisor. "Trained" is defined to mean an individual that has satisfactorily completed the OSHA 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) course and 8-hour site supervisor training. Training will be offered at the time of the initial task assignment and/or whenever new chemicals are introduced into the workplace. Training will include all applicable regulatory requirements, location of the program, inventory and MSDSs, chemicals used and their hazards (chemical, physical, and health), how to detect the presence or release of chemicals, safe work practices and methods employees can take to protect themselves from hazards, how to read MSDSs and site or project specific information on hazard warnings and labels in use at that location. All training will be documented and training certificates will be kept in the employee's permanent training file. All applicable training will also require annual refreshers.

EAG qualified personnel must also provide safety meetings.

6.2 Standard Safety Procedures

This section describes the standard safety procedures that EAG requires all onsite personnel to follow during site activities.

6.2.1 General Safety Work Practices

All onsite employees and subcontractors will observe the following general safety work practices:

- Health and safety tailgate briefings will occur to introduce new activities, any new safety issues, and emergency egress routes for work areas; any significant change (added personnel, change in scope, or change in field conditions) will trigger a second (or more) tailgate meeting to address whatever change occurred
- No food, drink, or tobacco products will be allowed in the Exclusion and Contamination Reduction Zones
- Loose clothing, hair, and/or jewelry will not be permitted around moving or rotating equipment
- The "buddy system" will be implemented as necessary whereby a pair of co-workers watches out for each other while in proximity of potential physical work hazards
- Good housekeeping of all work areas will be maintained on an ongoing basis

6.2.2 Hand Safety

This standard is intended to protect employees from activities that may expose them to injury. This standard provides information on recognizing those conditions that require personal protective equipment (PPE) or specific work practices to reduce the risk of hand injury.

Appropriate gloves must be worn when persons work with materials or equipment that presents the potential for hand injury due to sharp edges, corrosives, flammable and irritating materials, extreme temperatures, splinters, etc.

<u>Guidelines for Working With and Around Equipment (Hand Tools, Portable Powered Equipment)</u>:

- Employees should be trained in the use of all tools.
- Keep hand and power tools in good repair and use them only for the task for which they were designed.

- Inspect tools before use and remove damaged or defective tools from service.
- Operate tools in accordance with manufacturer's instructions.
- Do not remove or bypass a guarding device for any reason.
- Keep surfaces and handles clean and free of excess oil to prevent slipping.
- Wear proper PPE, including gloves, as necessary.
- Do not carry sharp tools in pockets.
- Clean tools and return to the toolbox or storage area upon completion of a job.
- Before applying pressure, ensure that wrenches have a good bite.
- Brace yourself by placing your body in the proper position so you will not fall if the tool slips.
- Make sure hands and fingers have sufficient clearance in the event the tool slips.
- Always pull on a wrench, never push.
- When working with tools overhead, place tools in a holding receptacle when not in use.
- Do not throw tools from place to place or from person to person, or drop tools from heights.
- Inspect all tools prior to start-up or use to identify any defects.
- Powered hand tools should not be capable of being locked in the ON position.
- Require that all power-fastening devices be equipped with a safety interlock capable of activation only when in contact with the work surface.
- Do not allow loose clothing, long hair, loose jewelry, rings, and chains to be worn while working with power tools.
- Do not use cheater pipes.
- Make provisions to prevent machines from restarting through proper lockout/tagout.

<u>Guidelines for using Cutting Tools:</u>

- Always use the specific tool for the task. Tubing cutters, snips, self- retracting knives, concealed blade cutters, and related tools are task specific and minimize the risk of hand injury. For more information about cutting tools, see Supplemental Information A.
- Fixed open-blade knives (FOBK) are prohibited from use. Examples of fixed open-blade knives include pocket knives, multitools, hunting knives, and standard utility knives.
- When utilizing cutting tools, personnel will observe the following precautions to the fullest extent possible:
- Use the correct tool and correct size tool for the job.
- Cut in a direction away from yourself and not toward other workers in the area.
- Maintain the noncutting hand and arm toward the body and out of the direction of the cutting tool if it were to slip out of the material being cut.
- Ensure that the tool is sharp and clean; dirty and dull tools typically cause poor cuts and more hazard than a sharp, clean cutting tool.
- Store these tools correctly with covers in place or blades retracted, as provided by the manufacturer.
- On tasks where cutting may be very frequent or last all day (e.g., liner samples), consider Kevlar® gloves in the PPE evaluation for the project.
- Do not remove guards on paper cutters.

6.2.3 Respiratory Protection

Based on air monitoring, an upgrade to Level C protection may be indicated. Half or full-face APRs will be utilized for protection against organic vapors and particulates. All employees required to wear respirators will be need to be medically cleared, in writing to do so by a qualified Occupational Physician.

All respirator users must be trained before they are assigned a respirator, annually thereafter, whenever a new hazard or job is introduces and whenever employees fail to demonstrate proper use or knowledge. Training will include, at a minimum:

- Why the respirator is necessary and what conditions can make the respirator ineffective.
- What limitation and capabilities of the respirators area.
- How to inspect, put on and remove and check the seals of the respirator.
- What respirator maintenance and storage procedures are.
- How to recognize medicals signs and symptoms that may limit or prevent effective use of the respirator.
- The engineering and administrative controls being used and the need for respirators.
- The hazards and consequences of improper respirator use.
- How to recognize and handle emergency situations.

Training will be documented and training certificated will be kept in the employee's permanent training file.

6.2.4 Personal Hygiene Practices

The field team must pay strict attention to sanitation and personal hygiene requirements to avoid personal contamination. The following instructions will be discussed and must be followed:

- During field activities, never put anything in the mouth, including fingers
- All employees must wash their hands, forearms, face, and neck before eating drinking, smoking or using the restroom
- Smoking is prohibited except in designated areas outside the work zone
- At the end of the day, all employees will shower upon returning home or to their hotel

6.2.5 Electrical Safety

All extension cords used onsite must be heavy-duty variety and must be properly grounded. All temporary circuitry must incorporate the use of GFCI devices. Refer to electrical safety in Section 4.2.6, Electrical Hazards.

6.2.6 Fire Safety

All flammable liquids will be used only for their intended purpose and stored and handled only in approved containers. Portable containers must be the approved red safety containers equipped with flame arresters and self-closing lids. All transfers of flammable liquids must be made with the containers grounded or bonded. Also, gasoline containers will be clearly labeled and storage areas (if

applicable) will be posted with "No Smoking" signs. Fire extinguishers will be stalled in all areas that contain flammable liquids.

6.2.7 Illumination

All work is planned for daylight hours. No special requirements are anticipated. However, should any work take place outdoors after daylight hours, suitable lighting will be required. In addition, suitable lighting is to be provided in each remediation system building or enclosure.

6.2.8 Sanitation

Potable water and toilet facilities will be provided in compliance with the OSHA 1926.51 standard. Any container used to distribute drinking water shall be clearly marked and not used for any other purpose. Single drinking cups will be supplied, both a sanitary container for the unused cups and a receptacle for disposed of the used cups will also be provided. Port-a-johns will be provided since there are no sanitary sewers on the job site.

7.0 EXPOSURE MONITORING PLAN

This section describes air and personnel monitoring protocols, sampling methods, and instrumentation to be used, as well as the methods and frequency of sampling instrument calibration and action levels for potential work site hazards. When engaged in air monitoring, EAG personnel and subcontractors must use the forms to record air monitoring data and air monitoring instrument calibration records. All monitoring records/forms are to be maintained in the project file by the EAG Project Manager.

7.1 Air Monitoring

The surveillance program is established to detect changes in the ambient air at the work site and to ensure the continuing safety of the work zones and adequacy of the level of worker protection. During field activities, the designated field team member will monitor the work site for combustible gas concentrations and organic vapors. Calibration of all monitoring equipment will be performed in accordance with the manufacturers' procedures by trained EAG employees and subcontractors. The Project Manager, Project Field Team Leader or representative will be notified immediately of any contaminant levels that could trigger an upgrade in PPE or cause a suspension of site activities.

- One or more of the following direct-reading instruments may be used to aid in this determination. Photoionization Detectors (PID) and Flame Ionization Detectors (FID) will measure non-specific organic gases and vapors. Combustible Gas Indicators (CGI) will detect explosive atmospheres. Oxygen (O2) meters will detect fluctuations in oxygen concentrations. These instruments should be calibrated or bump tested daily and whenever the readings may be erratic. All readings should be recorded in the field log books.

Air monitoring results obtained from the breathing zone during field activities will be recorded in field log books. All such records will also include the location, date/time, weather conditions, person monitored, background concentration, and identification of specific contaminant whenever possible. Air monitoring information will be utilized to evaluate personnel exposure and assess the appropriateness of PPE for Site conditions.

7.1.1 Combustible Gas and Oxygen Deficiency/Excess Monitoring

Explosive gas concentrations are not expected to exceed 10% of the lower explosive level (LEL). Should the need be indicated for monitoring, action guidance for the CGI/O2 meter responses is contained in **Table 7-1**.

Table 7-1

CGI/Oxygen Meter Action Levels	
Meter Response	**Action**
CGI response 0%-10% LEL	Continue normal operations
CGI initial response >10% and <20% LEL	Eliminate all sources of ignition from the work area; temporarily retreat from work area for 15-30 minutes and then monitor area again
CGI response after 15-30 minute retreat >10% and <20% LEL	Retreat from work area; notify Project Manager
CGI response >20%	Discontinue operations; retreat from work area
Oxygen level <19.5%	Retreat from work area; notify Project Manager
Oxygen level >23.5%	Retreat from work area; notify Project Manager

7.1.2 Organic Vapor Concentrations

Real-time monitoring for organic vapor concentrations in the breathing zone and down hole will be conducted during field operations (installation of groundwater monitoring and groundwater sampling by EAG and EAG subcontractor personnel) with a PID equipped with a 10.2- or 11.7-electron volt (eV) probe. The PID will be taken into the field and operated during site activities where contaminated soil and/or groundwater may be present. Air monitoring will be conducted during well installation and when a well is opened for groundwater measurements. Measurements will be made at the well head and personnel breathing zones where activities are being performed. The instrument will be calibrated using ultra-high purity air and isobutylene vapor of known concentration before and after use each day. Air calibration measurements will be documented in writing and kept in the project file. Action guidance for PID responses is contained in **Table 7-2**.

Table 7-2

Action Levels for General Site Work	
Meter Response in Breathing Zone (minimum of 3 minutes)	**Action Required**
<5ppm above background	Use Level D PPE
>5ppm above background	Level C PPE, including half or full-face APR with organic vapor cartridges/P100 filters
>50ppm above background	Stop work
Action Levels for Handling NAPL	
Meter Response in Breathing Zone (minimum of 3 minutes)	**Action Required**
<1ppm above background	Use Modified Level D PPE
>1ppm to <10ppm	Level C PPE, including half or full-face APR with organic vapor cartridges
>10ppm above background	Immediately withdraw; monitoring will continue until action levels will allow safe re-entry

If air concentrations of organic vapors are greater than 5 ppm above background in the breathing zone for a 3-minute period, personnel will stop work, retreat from site, and allow time (at least 15 minutes) for vapors to dissipate. If monitoring indicates that concentrations still exceed 5 ppm, workers will upgrade to Level C PPE. If monitoring indicates that concentrations exceed 50 ppm, work will be stopped until site conditions can be re-evaluated.

These action levels are based on the assumption that the major component of free product being recovered will be benzene or naphthalene.

Work involving NAPL recovery from monitoring wells will be conducted in Level C PPE. This level may be downgraded based on air monitoring data and actual field conditions. Downgrading of PPE must be approved by the PM and HSE staff. If ventilation is conducted, additional air monitoring will be performed to the resumption of work to determine the level of PPE required.

7.2 Physical Conditions Monitoring

Site workers will be monitored by the Project Manager for signs of weather-related symptoms from exposure to excessive heat or cold.

Whenever the air temperature exceeds 70°F for personnel wearing chemical protective clothing or 90°F for personnel wearing regular work clothes, the Project Manager will assess conditions that may cause heat stress in site workers.

8.0 MEDICAL SURVEILLANCE

This section discusses the medical surveillance program, how the results are reviewed by a physician and how participation is documented.

8.1 Medical Surveillance Program

All personnel who will be performing any task where potential exposure to hazardous material exists will undergo medical surveillance as outlined in OSHA 29 CFR 1910.120(f). All personnel performing tasks in the Exclusion Zone or Contamination Reduction Zone will be required to have passed the EAG medical surveillance examination (or equivalent), performed by a licensed Occupational Physician. The Project Manager will verify that all EAG and subcontractor personnel meet applicable OSHA medical surveillance requirements.

Applicable field employees will undergo an annual comprehensive medical examination, including a comprehensive health history, blood chemistry with complete blood count and differential, urinalysis, medical history, required chest x-rays, audiogram, pulmonary function testing, testing for heavy metals (as needed), and a physician's interpretation of each employee's medical surveillance examination, including the ability of the employee to wear a respirator. A comprehensive medical examination will be performed if an employee develops signs or symptoms indicating possible overexposure to hazardous substances and/or heat or cold stress.

8.2 Physician Review

All medical surveillance and examination results are reviewed by a licensed physician who is certified in Occupational Medicine by the American Board of Preventive Medicine. EAG employee participation in the medical surveillance program is a part of their permanent medical record maintained in the employee's home office. A copy of the current medical clearance signed by the occupational health physician for all EAG employees must be maintained at the home office.

9.0 SITE CONTROL MEASURES AND DECONTAMINATION

To provide for the protection of public health and safety and minimize the possibility of transferring hazardous substances from the site, contamination control procedures are required. These procedures consist of site control measures (which entail the delineation of work zones, communications, and site security) and decontamination procedures (which are necessary for both personnel and equipment). Contaminants that may be uncovered during sampling operations must not be transferred outside the work zone unless properly containerized, and must be removed from clothing, personnel, and equipment prior to relocation from that zone. This section discusses site control measures and decontamination procedures to be used during the collection of samples, the installation of soil borings and/or groundwater monitoring/remediation wells, excavations, and other intrusive work where contact with impacted soils and groundwater could occur by EAG and/or EAG subcontractor personnel.

9.1 Site Control Measures

Site control can be achieved by effectively delineating the work zone, providing appropriate communication, and establishing site security.

9.1.1 Work Zone Delineation

To minimize the transfer of hazardous substances from the site and to ensure proper protection of employees and subcontractors, work zones will be established by the Field Project Team Leader. Applicable site work and the associated requirement for work zones will be determined by the Project Manager. The work area will be divided into an Exclusion Zone (EZ), a Contamination Reduction Zone (CRZ), and a Support Zone (SZ). A typical work zone delineation setup is shown as **Figure 9-1**, below.

Exclusion Zone (EZ)

Contamination does or could exist in this zone. Only properly authorized and trained individuals (refer to Section 6.0) wearing appropriate PPE will be allowed to enter and work in this zone. All people entering the EZ must wear, at a minimum, Level D protection. An entry and exit point for personnel and equipment will be established at the periphery of the EZ (between the EZ and the CRZ) to regulate the flow of personnel and equipment.

Contamination Reduction Zone (CRZ)

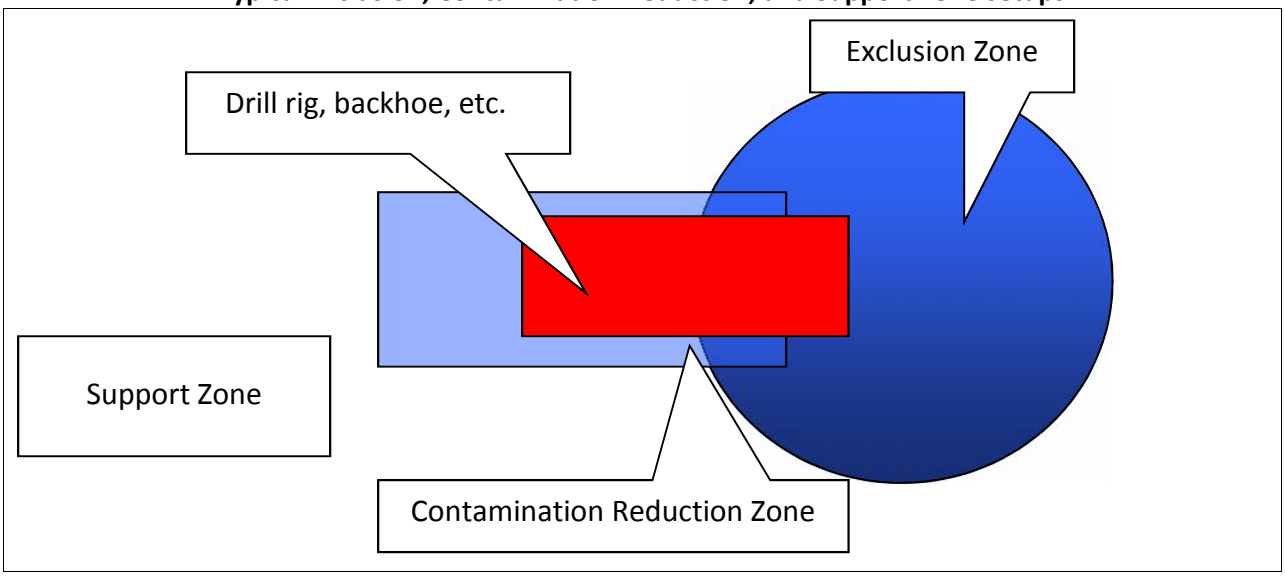
Between the EZ and the SZ will be the CRZ, which will provide a transition between the potentially contaminated EZ and the clean SZ. The CRZ (located upwind of the EZ, if possible) will be a corridor leading from the EZ and will serve as a buffer to further reduce the probability of the SZ becoming contaminated. Exit from the EZ will only be allowed through this CRZ. The CRZ will provide additional assurance that the physical transfer of contaminating substances on people, equipment, and/or in the air will be limited through a combination of decontamination and zone restrictions. Within this zone, employees and subcontractors may perform personal decontamination (e.g., face and hand washing), and certain PPE and small equipment decontamination. Buckets or wash basins for boot

washing and equipment decontamination will be stationed on a sheet of plastic (a minimum of 8 feet by 8 feet), the boundaries of which will constitute the CRZ.

Support Zone (SZ)

The Support Zone will be considered a non-contaminated area. The location of support facilities in the SZ will be upwind of the EZ (where possible) and readily accessible to the nearest road. The field office/support facilities, equipment vehicles, a first aid station and a visitors/personnel entry and exit log for the work site will be located in this zone. Potentially contaminated personal clothing, equipment and samples are not permitted in this zone unless properly containerized.

Figure 9-1
Typical Exclusion, Contamination Reduction, and Support Zone setups



9.1.2 Communications

A loud and clear form of communication should be made available for Site personnel entering the work zones. Site communication may be in the form of hand signals, voice, or other communication devices. All forms of communication should be understood by all workers on the Site prior to starting work. Offsite communications may be conducted with mobile phones or walkie-talkies only if the atmosphere has been deemed non-explosive, and the person using the mobile device is in the SZ while placing the call, or inside the cab of a stationary vehicle.

9.1.3 Site Security

The Sparrows Point facility is not open to the public, and there is a strictly monitored main entrance with a security guard on duty at all times who only allows authorized personnel onto the Site. This limited access to the facility should eliminate the need for many requirements for specific site security except those needed to maintain work zone integrity, such as visible barriers around open excavations or EZs and CRZs. No site visitors will be allowed to travel unescorted by EAG or subcontractor personnel around the facility.

Once site visitors arrive at their intended work zone, they must check in with the Field Team Lead. If visitors are authorized to enter the CRZ and/or the EZ, they must have completed OSHA 1910.120 medical surveillance and training requirements (refer to Section 8.0 and Section 6.0). Visitors must wear

appropriate PPE before they will be allowed to enter the CRZ and/or the EZ. They must also be taken through this HASP during a brief tail-gate meeting and sign the Acknowledgement page in the back prior to engaging in any activities inside the CRZ or the EZ. All site visitors must follow the same site control measures and decontamination procedures as EAG personnel and subcontractors. The Project Manager must also be informed of each visitor's name, purpose for their visit, time of entry (and exit), location of tasks they wish to perform, whether they completed their intended task(s), and any other relevant information pertaining to their visit.

9.2 Decontamination Procedures

Decontamination of employees, subcontractors, and equipment leaving the EZ will be performed to minimize human exposure to hazardous substances and to minimize the spread of contamination to surrounding areas. The purpose of the CRZ is to provide a location to perform limited personnel decontamination and certain PPE and small equipment decontamination.

9.2.1 Personnel Decontamination

Persons leaving the EZ must pass through the CRZ and follow decontamination procedures before entering the SZ. Hand tools and other sampling equipment used in the EZ and reusable PPE (boots, safety glasses, etc.) will be appropriately cleaned prior to removal from the site each day. The step-by-step sequence for personnel decontamination is as follows:

- Remove boot covers (if used) at the boot washing station and place them in the disposal container provided
- Wash outer gloves and chemical resistant boots (if used) at the boot washing station
- Remove wrist tape (if used) and outer gloves and place them in the disposal container provided
- Remove ankle tape (if used) and disposable coveralls (if used) and place them in the disposal container provided
- Remove respirators (if used) and place each in designated locations in the CRZ
- Remove inner gloves and discard in the disposal container provided
- Wash hands and face and proceed to the SZ

Respirators must be fully decontaminated after each use by the personnel who previously wore them. All project employees and subcontractors are required to take a thorough soap and water shower in their home or motel room at the end of each workday. If monitoring or a general exposure assessment indicates that an employee has become contaminated, the employee or subcontractor will notify the EAG Project Manager and the Field Team Lead as soon as the contaminated state has been discovered.

9.2.2 Equipment Decontamination

All equipment leaving the EZ must be decontaminated either within the CRZ or at the central decontamination area. Small equipment, such as hand tools, will be thoroughly decontaminated within the CRZ before being placed in the SZ. The field tools may be scrubbed visually clean using a detergent solution (Alconox/Liquinox) with water and a stiff, long-bristled scrub brush. Following the solution scrubbing, the tools may be rinsed with distilled water or isopropyl alcohol. Any vehicle working in an EZ will be decontaminated before leaving the site. The vehicle will be cleaned by sweeping excess soil and debris off the wheels. A high-pressure sprayer will then be used to wash the wheels, if necessary.

Each piece of equipment will be inspected after cleaning for any soil remaining on the tires or elsewhere. All vehicles will be cleaned to the satisfaction of the Field Team Lead or a designated assistant prior to entering the SZ or leaving the site. Employees or subcontractors performing decontamination shall wear the appropriate level of PPE (refer to Section 5.0).

9.2.3 Waste Management

The Project Manager and the Field Team Leads will be responsible for overseeing the containerization and disposal of any field derived wastes. Contaminated or suspected contaminated field derived wastes shall be disposed of in accordance with all local, state, and/or federal regulations. Field derived wastes include decontamination rinse waters and other related decontamination generated wastes.

Soils and groundwater expected to be encountered during any sampling or intrusive work not to be contaminated, based on existing data, may be discharged to the ground surface in the immediate vicinity of the monitoring well. However, any known or suspected to be contaminated soil (in small quantities) or groundwater will be containerized for future removal, likely in 55-gallon drums or other approved storage vessels. Depending on the suspected contaminants, the recovered groundwater may be sent through one of the onsite groundwater treatment units. However, the treatment unit must be designed to address the contaminants of concern in the groundwater being treated. Otherwise, the liquid must be staged onsite for eventual offsite disposal at an approved facility.

Impacted soil, if in drums, will be staged in an area designated by the Project Manager or Field Team Lead for eventual disposal. For large excavations, where excavated soil is stockpiled, it may be necessary to place soils on plastic and cover with plastic to prevent any potential leachable runoff. The Project Manager and/or Field Team Lead will provide the proper guidance necessary for handling bulk soil piles.

Any NAPL recovered via remediation systems or manual recovery efforts will be properly containerized and either disposed of offsite as a recyclable material, if possible, or as a hazardous waste. The receiving facility must be an approved facility.

10.0 EMERGENCY RESPONSE AND CONTINGENCY PROCEDURES

The objective of emergency response and contingency procedures is to ensure that effective actions are implemented in a timely manner to minimize or control the effects of adverse events (e.g., potential chemical exposures, personal injuries, fires/explosions, and spills/releases). The following subsections describe the basic emergency responses required should an emergency take place during field investigation or remedial effort activities.

10.1 Emergency Phone Numbers

Emergency telephone numbers are listed in **Table 10-1**.

Table 10-1
Emergency Telephone Numbers and Agencies

Agency	Telephone Number
Security (Sparrows Point facility)	(410) 388-7761
Ambulance	911
Fire	911
Occupational Health Clinic	(410) 633-3600
Hospital	(410) 550-0100 (general) (410) 550-0350 (emergency)
National Response Center	(800) 424-8802
Poison Control Center - Maryland	(800) 222-1222
EAG Main Contact	
VP Remediation, Russ Becker	(314) 686-5611
Project Manager, James Calenda	(314) 620-3056

10.2 Injury/Illness Treatment

In the event of illness or injury, the following steps will be taken:

- Evaluate the extent of injuries or seriousness of illness.
- When employees require urgent medical attention, call for emergency assistance. First aid should be administered while awaiting an ambulance or paramedics. All emergency medical treatment, other than first aid, will be administered by the local paramedics. **Table 10-1** lists site emergency telephone numbers. In all cases, critical injuries must be immediately referred for professional medical attention.
- For a non-critical injury/illness, first aid will be administered by onsite personnel. Anyone sustaining a non-critical injury/illness who continues to work will be monitored by the Field Team Lead for any signs of worsening condition, if it is deemed that the person can return to work by the Team Lead and Project Manager. Injured personnel who later suffer any worsening change in status are to immediately notify the Team Lead or the Project Manager.

10.3 Occupational Health Clinic and Hospital Information

Occupational Health Clinic

The Concentra Medical Center, located at 1833 Portal Street, Baltimore, MD, is the closest occupational health clinic, just over 6 miles away. A map to the clinic in included as **Figure 10-1**. The clinic should be used for non-emergency injuries and illnesses.

Directions:
From Sparrow's Point Road, turn left onto Wharf Road;
Turn left onto MD-158 W/Bethlehem Blvd. (0.4 mile);
Turn right onto MD-157 N/Peninsula Expy. (2.7 miles);
Turn slight left onto Merritt Ave. (0.1 mile);
Merritt Ave. becomes Sollers Point Rd. (0.3 mile);
Turn left to stay on Sollers Point Rd (0.6 mile);
Turn left onto Williams Ave. (0.2 mile);
Turn right onto Dundalk Ave. (<0.1 miles);
Turn left onto Chandlery St. (0.1 mile);
Turn left onto Portal St.

Figure 10-1: Health Clinic (Non-Emergency) Map

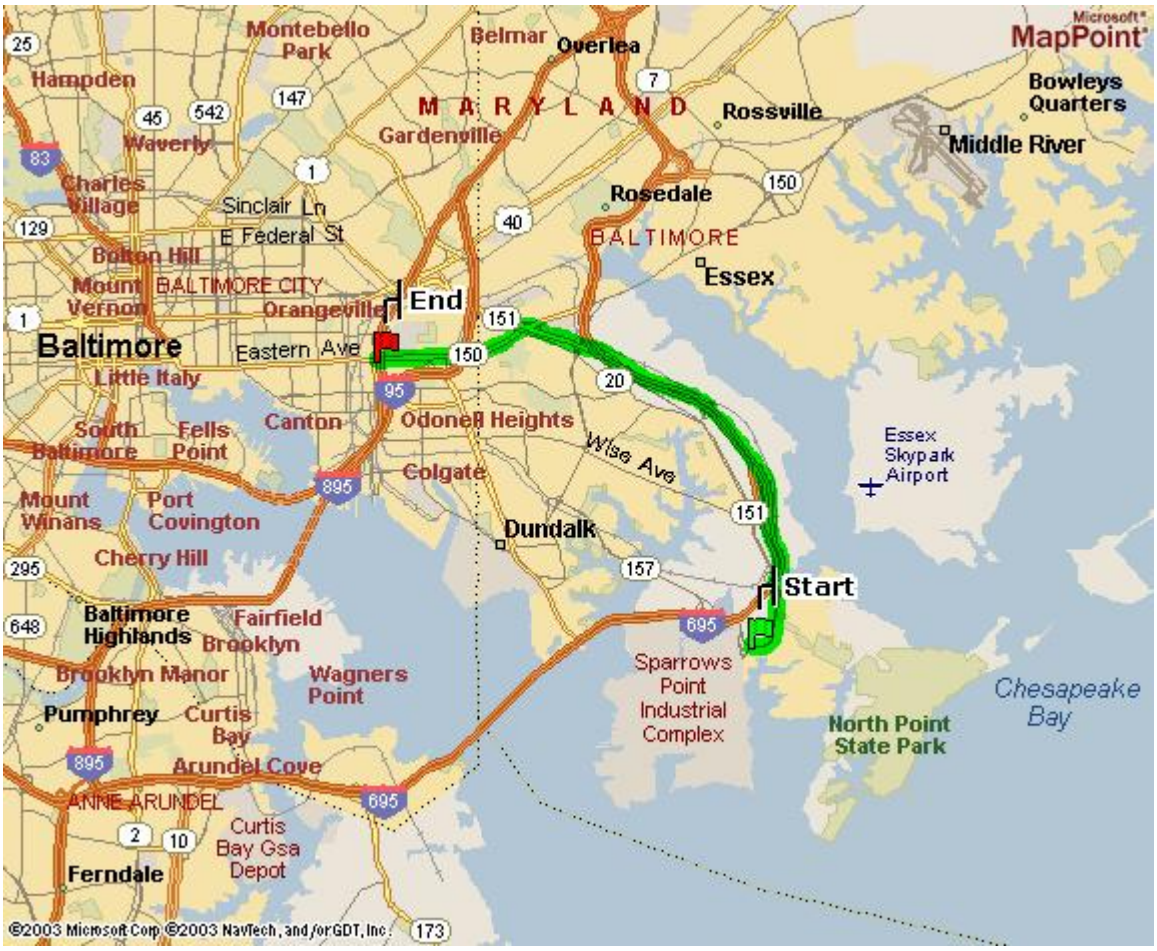
Hospital

The Johns Hopkins Bayview Hospital is the closest emergency facility, just over 9 miles away. The hospital is located at 4940 Eastern Avenue in Baltimore, MD. **Figure 10-2** is a map to this hospital. Maps are also included in **Attachment E**.

Directions:

From the Sparrows Point Industrial Complex, go north on Route 151 for approximately one mile.
Take ramp (right) onto I-695 towards I-695/Essex.
At exit 40, take ramp (right) onto Route 151/North Point Boulevard North/MD 150;
Take ramp (right) onto Route 150 (Eastern Avenue).
Continue on Eastern Avenue to hospital on right.

Figure 10-2: Hospital Map



Prior to the start of field activities, the Project Field Team Leader will call to verify the telephone numbers and directions for the clinic and hospital, and then distribute location maps and the emergency telephone list to workers and vehicles.

10.4 Accident and Emergency Medical Response

All field team members will be aware of the location of a first aid kit kept onsite. All vehicles used to transport injured persons to an offsite medical facility will be provided with directions and a map to the medical facility.

If treatment beyond first aid is required, emergency response personnel will be contacted for assistance and transport. Before beginning site activities, the Project Field Team Leader will ensure that each field team member knows where the nearest emergency medical facilities are and how to get there. The closest hospital will be used in cases of life-threatening emergencies at the direction of the Project Field Team Leader. The telephone numbers of the local emergency services will be available in the SZ, and the Project Field Team Leader will brief the field team on the procedures for calling for help in an emergency.

Site personnel will inform the Project Manager of any medications, allergies, or other medical information that may be applicable for their medical treatment. The Project Manager will supply this information to emergency response personnel, and will accompany the victim to the hospital, if possible.

10.4.1 Chemical Exposure

In case of accidental overexposure to a hazardous material (groundwater, soil, and/or off-gas materials), guidelines shown in **Table 10-2** will be used.

Table 10-2
Chemical Exposure Guidelines

Type of Overexposure	First Aid Guidelines
Skin Contact	Skin: Wash/rinse the affected area thoroughly with copious amounts of soap and water.
	Eyes: Eyes should be rinsed for at least 15 minutes following chemical contamination.
	Contact emergency response personnel if required, or transport victim to the hospital.
Inhalation	Move the victim to fresh air.
	Contact emergency response personnel if required, or transport victim to the hospital.
Ingestion	Contact Poison Control Center.
	Contact emergency response personnel, or transport victim to the hospital.

10.4.2 Decontamination During a Medical Emergency

For minor medical problems or injuries, regular decontamination procedures will be followed. If emergency, life-saving first aid and/or medical treatment are required, regular decontamination procedures may need to be abbreviated or omitted:

- Do not attempt to wash or rinse an unresponsive victim unless the victim has been contaminated with an extremely toxic or corrosive chemical that may cause injury or loss of life to emergency response personnel.
- Outer garments can be removed if it does not cause a delay, interfere with treatment, or aggravate the problem.

- PPE can be cut away and respiratory protective equipment must always be removed.
- If contaminated clothing cannot be safely removed, then the victim should be wrapped in a blanket or plastic sheeting to prevent contamination to the inside of the ambulance and/or emergency response personnel.

The Project Manager or Field Team Lead will advise the medical staff as to the type of contamination possibly involved.

10.4.3 Small or Incipient Fire

A small fire is defined as a fire that can be extinguished with an available 20 pound type ABC fire extinguisher. An incipient fire is a fire that is small because it has just started. In the event of a small or incipient fire, the following minimum actions will be taken:

- Evacuate nearby personnel from the area, if possible, to an upwind location or to an area not affected by smoke or hazardous decomposition products if an upwind location is not feasible.
- Attempt to extinguish fire using portable fire extinguisher or by smothering.
- Contact emergency response personnel, as needed, for any injuries or exposures to hazardous decomposition products, or if fire cannot be put out.
- After the fire has been extinguished, or emergency response personnel have been contacted, notify the following project personnel:

  The Project Manager

10.4.4 Large Fire or Explosion

An explosion, large fire or a small fire which cannot be extinguished is beyond the first line capabilities of EAG personnel. Professional emergency response personnel would be needed to provide emergency assistance for these types of incidents. In the event of a large fire, explosion or a small fire that cannot be extinguished, the following minimum actions will be taken:

- Evacuate all personnel from the site, if possible, to an upwind location, or to an area not affected by smoke or hazardous decomposition products if an upwind location is not feasible
- Perform a quick role call to account for all site personnel
- Contact the fire department
- Contact emergency response personnel, as needed, for any injuries or exposures to hazardous decomposition products
- After emergency response personnel have been contacted, notify the following project personnel:

  The Project Manager

10.4.5 Adverse Weather Conditions

In the event of adverse weather conditions, the Project Manager will determine if work can continue without sacrificing the health and safety of site personnel. Threatening weather conditions will be monitored by the Project Manager and possibly the Team Lead via radio, television, internet, and/ or calls to the National Weather Service. Some of the conditions to be considered include:

- Potential for heat or cold stress
- Limited visibility

- Electrical storms
- Treacherous weather-related working conditions (i.e., heavy rainfall, icy conditions causing slippery footing hazards, etc.).

10.4.6 First Aid for Heat Stress/Cold Stress

First aid treatment for **heat cramps** includes shade, rest and fluid replacement. If available, the individual should drink electrolyte replacement fluids (e.g., Gatorade, Squincher or 10-K). The individual should recover within half an hour.

First aid treatment for **heat exhaustion** includes cooling the victim, elevating the feet and fluid replacement. If the individual has not recovered within half an hour, then transport the victim to the hospital for medical attention.

Heat stroke is a medical emergency, requiring the immediate cooling of the victim and transport to the hospital for medical treatment immediately.

First aid treatment for **frost nip** and **frostbite** includes covering the affected area with warmth and retreating to a warm area. If the individual has not recovered within half an hour, then transport the victim to the hospital for medical attention.

Frozen tissue is a medical emergency and the victim must receive medical attention immediately. Contact emergency response personnel immediately or transport the victim to the hospital.

First aid treatment of **mild hypothermia** includes using heat to raise the individual's body temperature. Heat may be applied to the victim in the form of heat packs, hot water bottles and blankets. If the individual has not recovered within half an hour, then transport the victim to the hospital for medical attention.

Severe hypothermia is a medical emergency and the victim must be transported to the hospital immediately. First aid treatment for severe hypothermia includes handling the victim very gently; rough handling may set off of an irregular heartbeat. ***DO NOT*** attempt to re-warm the severely hypothermic victim; re-warming may cause the development of an irregular heartbeat.

10.4.7 Snake Bites

If bitten, lower the extremity below the heart to reduce the poison's dissemination through the body. Remain calm, try to keep the heart rate reduced and seek medical attention immediately. Do not cut the wound or attempt to suck out the venom. Note any physical features (e.g., shape of head and color or pattern on body) of the snake.

10.4.8 Animal Bites

All bites should be treated as contaminated soft tissue injuries. Bites should be washed immediately with large amounts of soap and water. If soap is not available, flush the wound with water. The severity and onset of any infection is dependent upon the number of organisms (viruses or bacteria) introduced into the wound. Washing saliva out of the wound immediately will reduce the number of bacteria or viruses that can enter the tissue. Medical attention must be sought if rabies is suspected or the individual has not had a recent tetanus booster.

10.4.9 Insect Bites and Stings

Emergency care for insect bites and stings depends on the individual's reaction. To treat a sting that results in a minor reaction, remove the stinger by gently scraping it off the skin. Do not try to grasp the sac or stinger, because this forces the remaining venom into the skin. Once the stinger has been removed, clean the wound and surrounding area. Apply cold packs to slow the absorption of the venom and reduce pain and swelling. The treatment for a severe reaction to insect stings includes the following:

- Confirm with the victim whether they are highly allergic to the insect that stung them
    - If victim has gone into anaphylactic shock, retrieve their epi pen or other auto-injector and administer per the directions as hastily as possible
- Assuming the victim remains conscious, ask them to refrain from moving around, and to lie down
- Immobilize the injured area immediately
- If an extremity is involved, remove any rings or watch
- Keep the affected part low, below the level of the heart
- Apply cold compresses to the affected area
- If possible, try to identify the type of insect that inflicted the sting
- Transport the victim to a medical facility immediately, continuing supportive measures en route.

All employees and subcontractors must report severe reactions to insect stings prior to the beginning of work to both the Project Manager and Field Team Lead.

10.4.10 Poisonous Plants

Decontamination: Wash the skin immediately after contact with the plant. Proper washing may not be practical in the middle of the woods, but a product such as Technu or a small wash-up kit with prepackaged, alcohol-based cleansing tissues can be effective. Employees and subcontractors should not forget to wash contaminated clothing and clean up contaminated equipment prior to re-use.

Treatment: Options are as follows:

- Home treatment: Calamine lotion and an oatmeal bath (one cup to a tub full of water) can help relieve itching. To prevent secondary skin infection, scratching is not helpful and the fingernails should be cut to avoid damage to the skin. Over-the-counter hydrocortisone cream can decrease inflammation and itching; however, the label should be read and the cream used according to directions.
- When to see the doctor: Severe cases may require further treatment. A physician should be seen if the rash appears infected, is on the face or other sensitive body areas, or is too extensive to be easily treated at home.

10.4.11 Ticks

To remove an attached tick:

- Use fine-tipped tweezers or a "tick tool" to grasp the tick at the surface of the skin
- If tweezers are not available, use a tissue to protect the fingers (exposure to the tick's body fluid may lead to transmission of disease)
- With a steady motion, pull the tick straight out

Disinfect the bite site and the tweezers. Wash your hands thoroughly with soap and water. Save the tick if you can by placing it in a Ziploc bag in the freezer; this may help with diagnosis in the future.

If flu-like symptoms such as fatigue, headache, neck-stiffness or jaw discomfort begin following a tick bite, seek medical attention.

APPENDICES

EnviroAnalytics Group

Environmental Engineers

ATTACHMENT A

COMPLIANCE AGREEMENT

EAG HEALTH AND SAFETY PLAN

ACKNOWLEDGEMENT FORM

I, _____, have read (or had read to me), EAG's health and safety plan.
(Print Name)

I understand my responsibilities as they are defined in this plan and will abide by these rules and procedures, as well as any regulations or otherwise governing safety. When in doubt concerning safe job performance, I will speak to my immediate supervisor and/or Project Manager.

I understand EAG reserves the right to change or amend the HASP at any time.

I understand any violation to the plan policies or procedures will be cause for disciplinary action up to and including termination.

_____ _____

Employee Signature Date

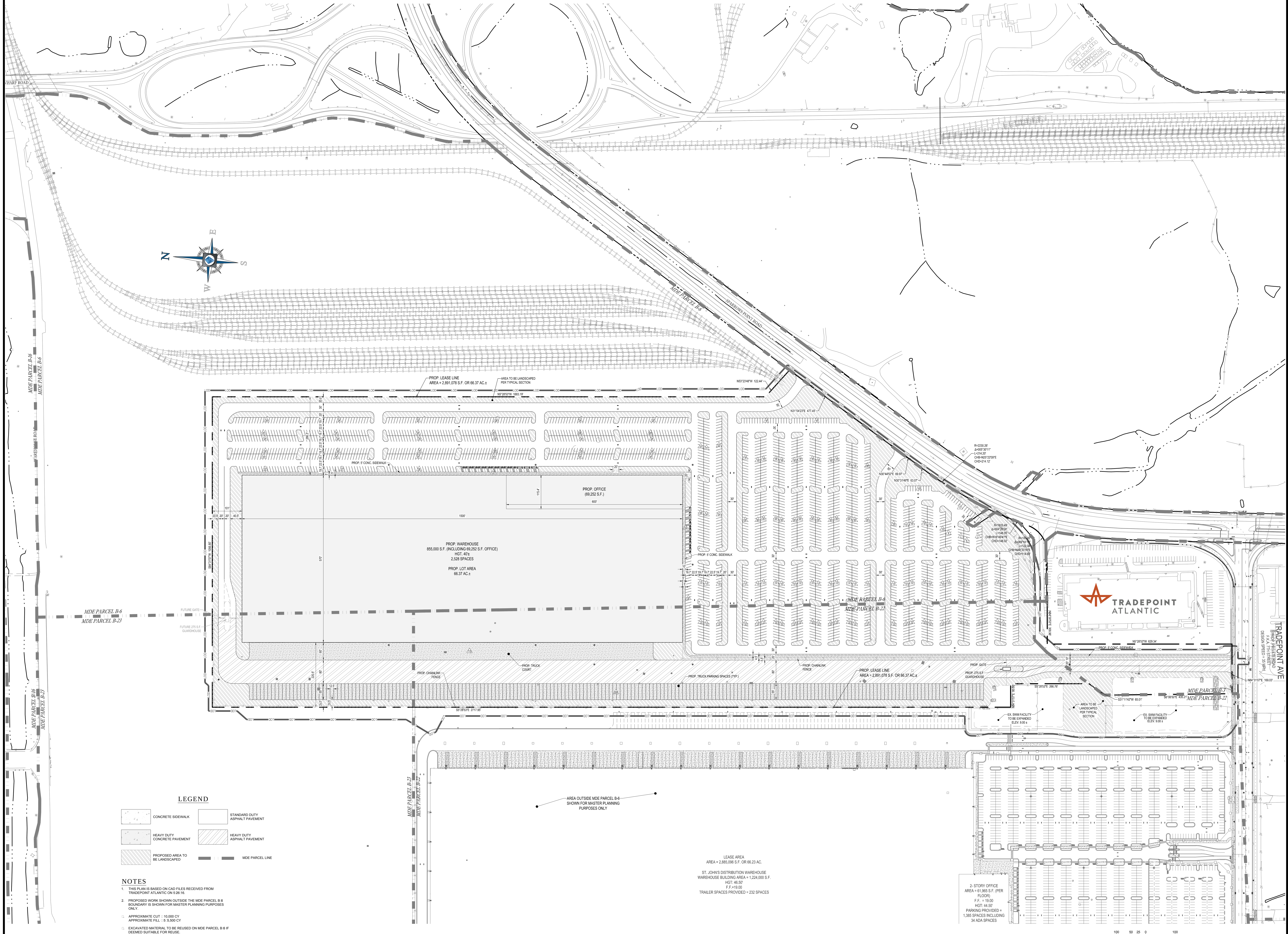
_____ _____

EAG Supervisor/Project Manager Signature Date

ATTACHMENT B

Material Safety Data Sheets (MSDSs)

APPENDIX D



LEGEND

CONCRETE SIDEWALK	STANDARD DUTY ASPHALT PAVEMENT
HEAVY DUTY CONCRETE PAVEMENT	HEAVY DUTY ASPHALT PAVEMENT
PROPOSED AREA TO BE LANDSCAPED	MDE PARCEL LINE

NOTES

1. THIS PLAN IS BASED ON CAD FILES RECEIVED FROM TRADEPOINT ATLANTIC ON 5/26/16.
2. PROPOSED WORK SHOWN OUTSIDE THE MDE PARCEL B-6 BOUNDARY IS SHOWN FOR MASTER PLANNING PURPOSES ONLY.
3. APPROXIMATE CUT : 10,000 CY
   APPROXIMATE FILL : 5 5,500 CY
4. EXCAVATED MATERIAL TO BE REUSED ON MDE PARCEL B-6 IF DEEMED SUITABLE FOR REUSE.

BOHLER ENGINEERING

REVISIONS

REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE. IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL 811

NOT APPROVED FOR CONSTRUCTION

PROJECT No.:	MD1620662
DRAWN BY:	M G
CHECKED BY:	M G
DATE:	0 20 201
SCALE:	1"=100'
CAD I.D.:	SS0

PROJECT:

PRELIMINARY SITE PLAN MDE PARCEL B-6

FOR

TRADEPOINT ATLANTIC

LOCATION OF SITE
TRADEPOINT ATLANTIC - DISTRIBUTION WAREHOUSE B-6
SPARROWS POINT ROAD
BALTIMORE, MD 21219
BALTIMORE COUNTY

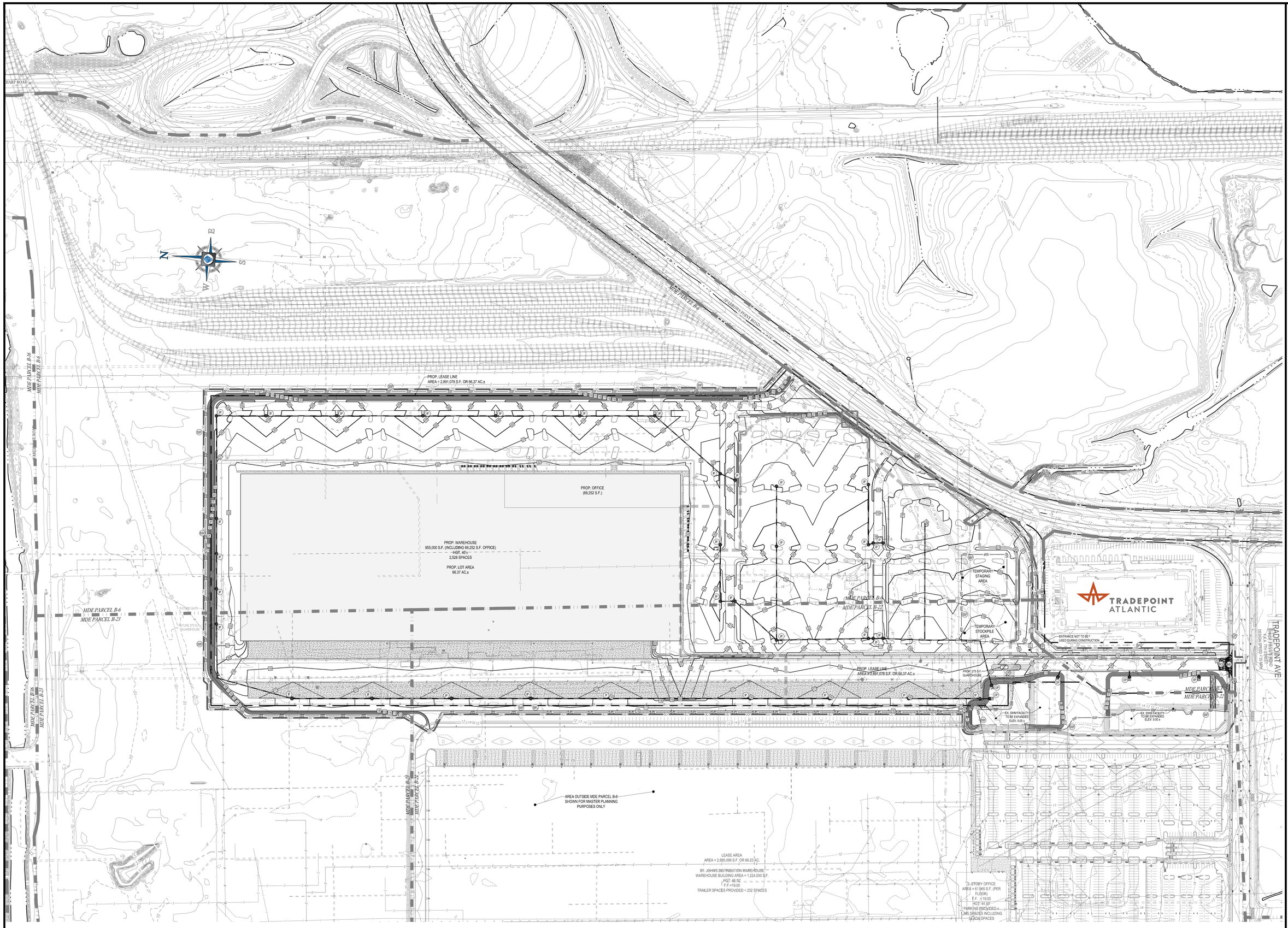
BOHLER ENGINEERING
901 DULANEY VALLEY ROAD, SUITE 801
TOWSON, MARYLAND 21204
MD@BohlerEng.com

SHEET TITLE:

SITE PLAN

SHEET NUMBER:

1



LEGEND

- PROPOSED CONTOUR
- EXISTING CONTOUR
- PROPOSED LIMIT OF DISTRIBUTION
- APPROXIMATE DRAINAGE AREA TO STORMWATER MANAGEMENT FACILITY
- PROPOSED STORMDRAIN
- EXISTING STORMDRAIN
- STANDARD INLET PROTECTION
- PROPOSED SUPER SILT FENCE
- PROPOSED OUTLET PROTECTION
- PROPOSED RIPRAP
- PROPOSED STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED MOUNTABLE BERM
- PROPOSED STACKED FILTER LOG

NOTES

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APPROXIMATE CUT : 10,000 CY
APPROXIMATE FILL : 5 ,5,500 CY

EXCAVATED MATERIAL TO BE REUSED ON MDE PARCEL B-6 IF DEEMED SUITABLE FOR REUSE.

100 50 25 0 100
1" = 100'

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SUSTAINABILITY SERVICES
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
PLANNING SERVICES

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- RALEIGH, NC
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- TAMPA, FLORIDA
- SOUTH FLORIDA
- SOUTHERN MARYLAND
- NORTHERN VIRGINIA
- CENTRAL VIRGINIA

REVISIONS

REV	DATE	COMMENT	BY

THE FOLLOWING STATES RE : URE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE OF VIRGINIA, MARYLAND, PENNSYLVANIA, DISTRICT OF COLUMBIA, AND DELAWARE CALL 811!
WV: 1 800 2 3 : 8 :8 (PA: 1 800 2 2 1 : 8) (DC: 1 800 25 ... VA: 1 800 552 : 0011 (MD: 1 800 25 ...) (DE: 1 800 282 8555

NOT APPROVED FOR CONSTRUCTION

PRO. ECT N.:	MD16200662
DRAWN BY:	M. G
CHECKED BY:	M. G
DATE:	0 : 20 :201
SCALE:	1" : 100
CAD I.D.	SSP

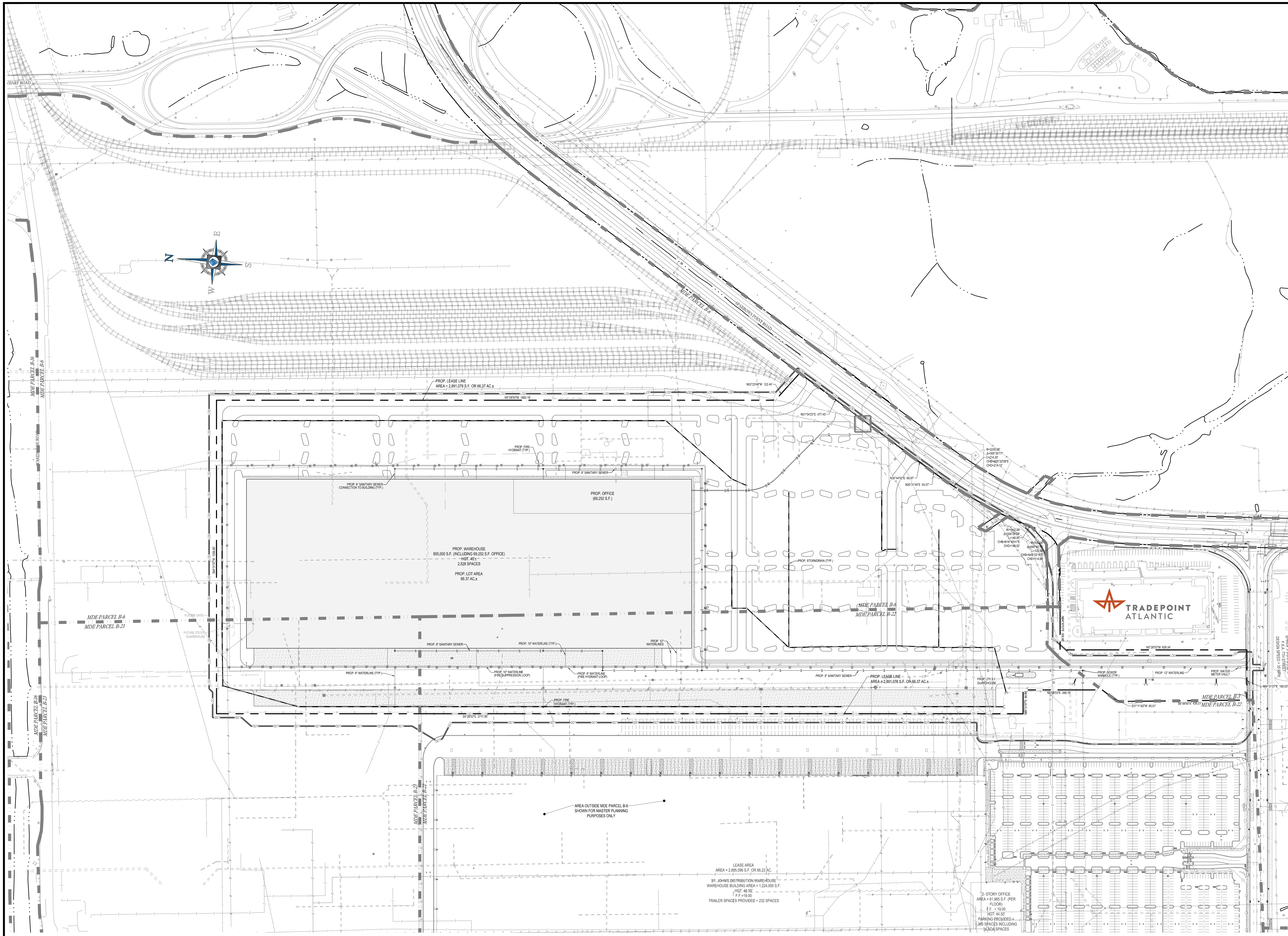
PRO. ECT :
PRELIMINARY SITE PLAN
MDE PARCEL B-6
FOR
TRADEPOINT ATLANTIC

LOCATION OF SITE
TRADEPOINT ATLANTIC - DISTRIBUTION WAREHOUSE B-6
SPARROWS POINT ROAD
BALTIMORE, MD 21219
BALTIMORE COUNTY

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD, SUITE 801
TOWSON, MARYLAND 21204
P: (: 10) 821 : 900
F: (: 10) 821 : 98 :
MD@BohlerEng.com

SHEET TITLE:
GRADING PLAN

SHEET NUMBER:
2



LEGEND

W	PROPOSED WATERLINE	W	EXISTING WATERLINE
S	PROPOSED SANITARY SEWER	S	EXISTING SANITARY SEWER
	PROPOSED STORMDRAIN		EXISTING STORMDRAIN
E	PROPOSED ELECTRIC LINE	E	EXISTING ELECTRIC LINE
G	PROPOSED GAS LINE	G	EXISTING GAS LINE

NOTES

1. THIS PLAN IS BASED ON CAD FILES RECEIVED FROM TRADEPOINT ATLANTIC ON 5 26 16.
2. PROPOSED WORK SHOWN OUTSIDE THE MDE PARCEL B 6 BOUNDARY IS SHOWN FOR MASTER PLANNING PURPOSES ONLY.
3. APPROXIMATE CUT 10,000 CY
APPROXIMATE FILL 5 5,500 CY
4. EXCAVATED MATERIAL TO BE REUSED ON MDE PARCEL B 6 IF DEEMED SUITABLE FOR REUSE.

BOHLER ENGINEERING

REVISIONS

REV	DATE	COMMENT	BY

DIG WITH C.A.R.E. CALL BEFORE YOU DIG

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE. IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL 811

NOT APPROVED FOR CONSTRUCTION

PROJECT No.:	MD1620662
DRAWN BY:	M G
CHECKED BY:	M G
DATE:	0 20 201
SCALE:	1" 100
CAD I.D.:	SS0

PROJECT:

PRELIMINARY SITE PLAN MDE PARCEL B-6

FOR

TRADEPOINT ATLANTIC

LOCATION OF SITE
TRADEPOINT ATLANTIC - DISTRIBUTION WAREHOUSE B-6
SPARROWS POINT ROAD
BALTIMORE, MD 21219
BALTIMORE COUNTY

BOHLER ENGINEERING

901 DULANEY VALLEY ROAD, SUITE 801
TOWSON, MARYLAND 21204
MD@BohlerEng.com

SHEET TITLE:

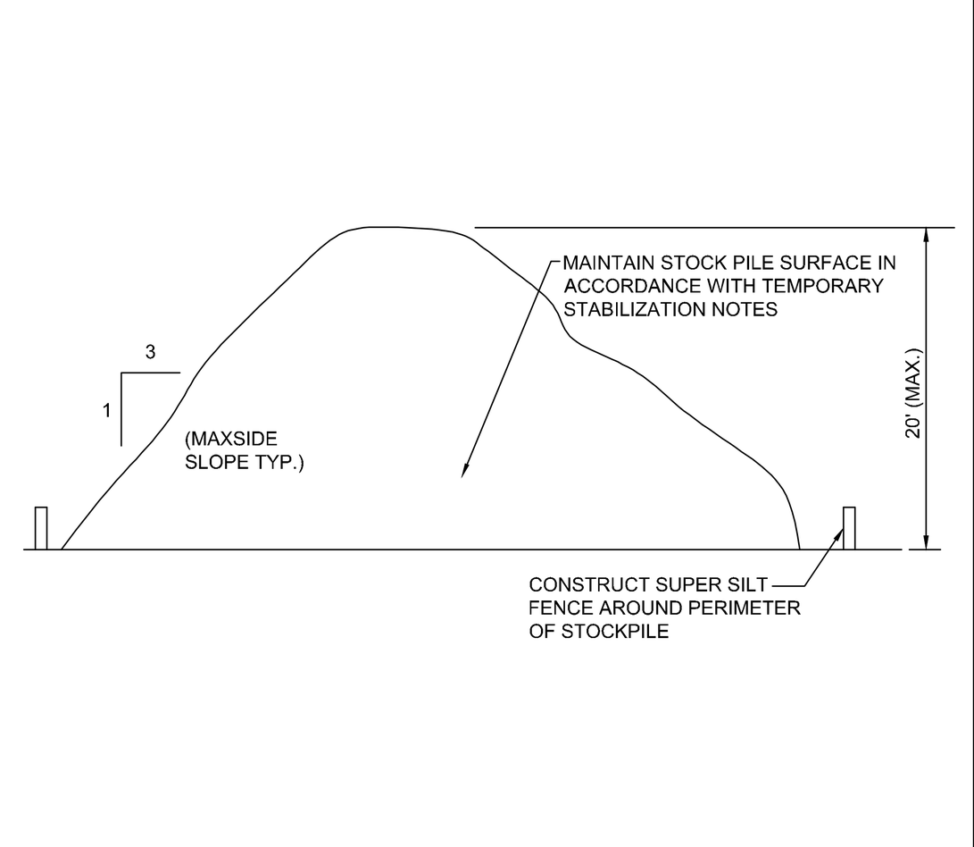
UTILITY PLAN

SHEET NUMBER:

3

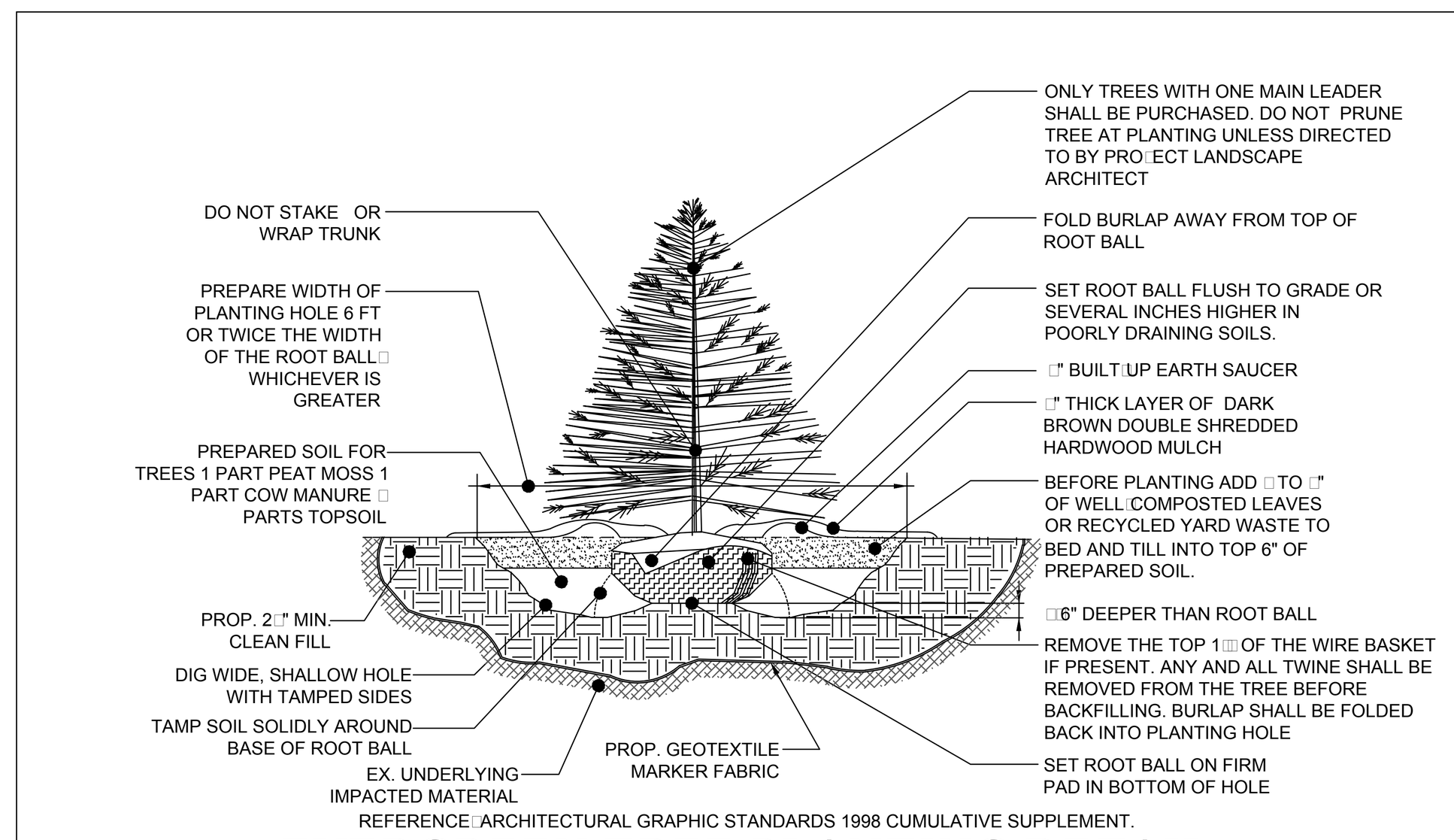
SEQUENCE OF CONSTRUCTION:

1. NOTIFY BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS, AND INSPECTIONS, SEDIMENT CONTROL ([illegible]10[illegible]88[illegible]226) AT LEAST [illegible]8 HOURS PRIOR TO BEGINNING WORK ON SITE.
2. IF APPLICABLE, ORANGE HIGH VISIBILITY FENCE SHALL BE MANUALLY INSTALLED ALONG THE LIMIT OF DISTURBANCE, WHERE THE LIMIT IS WITHIN 50 FEET OF THE FOREST BUFFER/CONSERVATION EASEMENT, THIS SHALL BE COMPLETED BY AND INSPECTED AT THE PRE-CONSTRUCTION MEETING.
3. INSTALL SAFETY FENCE AROUND SITE IF NECESSARY.
4. CLEAR, GRUB AND REMOVE ANY NECESSARY EXISTING FEATURES INTERFERING WITH PERIMETER SEDIMENT AND EROSION CONTROL MEASURES AND DEVICES ONLY. INSTALL STABILIZED CONSTRUCTION ENTRANCE WITH MOUNTABLE BERM, STACKED FILTER LOGS, SUPER SILT FENCE, AND CONCRETE WASHOUT STATION AS DIRECTED BY THE BALTIMORE COUNTY SEDIMENT CONTROL INSPECTOR, AND STABILIZED CONSTRUCTION ENTRANCE AS SHOWN ON PLAN. SUPER SILT FENCE AND STACKED FILTER LOGS SHALL BE INSPECTED [illegible] MAINTAINED EACH DAY AND AFTER EACH STORM EVENT. MAINTENANCE SHALL INCLUDE BUT NOT BE LIMITED TO REMOVAL OF ALL ACCUMULATED SEDIMENT. GEOTEXTILE FABRIC SHALL BE REPLACED AS NEEDED TO ENSURE PROPER FUNCTION.
5. NOTIFY BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS, AND INSPECTIONS, SEDIMENT CONTROL UPON COMPLETION OF SAID INSTALLATION.
6. WITH THE APPROVAL OF BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS, AND INSPECTIONS, SEDIMENT CONTROL AND THE SEDIMENT CONTROL INSPECTOR, CLEAR AND GRUB REMAINDER OF THE SITE. REMOVE REMAINDER OF PAVING, CURB, ETC. AS SHOWN ON DEMOLITION PLAN. ALL AREAS OUTSIDE OF THE PERIMETER CONTROL MEASURES SHALL BE COMPLETED PER BALTIMORE COUNTY SCD'S "WORK OUTSIDE PERIMETER CONTROLS NOTES" AND "UTILITY NOTES". DISPOSAL MATERIAL WILL EITHER NEED TO BE TAKEN TO A RUBBLE LANDFILL WITH AN ACTIVE GRADING PERMIT AND APPROVED SEDIMENT CONTROL PLAN, OR AN EXISTING ASPHALT RECYCLING FACILITY SUBJECT TO THE SAME.
7. IMMEDIATELY AFTER DEMOLITION ACTIVITIES HAVE OCCURRED, BEGIN ROUGH GRADING THE SITE.
8. INSTALL STORM DRAIN STRUCTURES ALONG WITH ASSOCIATED STORM DRAIN PIPES. IMMEDIATELY INSTALL INLET PROTECTION ON PROPOSED INLETS. CONTRACTOR SHALL PERFORM SUFFICIENT GRADING SURROUNDING INLETS, TO ENSURE THAT IT IS CAPABLE OF FUNCTIONING AND CAPTURING ALL UPSLOPE FLOWS.
9. ONCE SUBGRADES ARE REACHED, BEGIN CONSTRUCTION OF WAREHOUSE AND CONCRETE CURB AND GUTTER. BEGIN CONSTRUCTION OF UNDERGROUND UTILITIES. GRADES AROUND THE BUILDING SHOULD BE DESIGNED SUCH THAT ALL RUNOFF WILL FLOW AROUND THE BUILDING.
10. COMPLETE FINE GRADING OF SITE. SITE SHALL BE BROUGHT TO GRADE AS SOON AS POSSIBLE AND STABILIZED WITH EITHER STONE SUBBASE OR PERMANENT SEED AND MULCH.
11. INSTALL ANY REMAINING STONE SUBBASE AND BEGIN PAVING.
12. UPON STABILIZATION OF THE CONTRIBUTING DRAINAGE AREA WITH ESTABLISHED VEGETATION AND WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR, INSTALL LANDSCAPING.
13. UPON STABILIZATION OF SITE WITH ESTABLISHED VEGETATION AND WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR , REMOVE SEDIMENT CONTROL MEASURES AND STABILIZE THOSE AREAS DISTURBED BY THIS PROCESS.



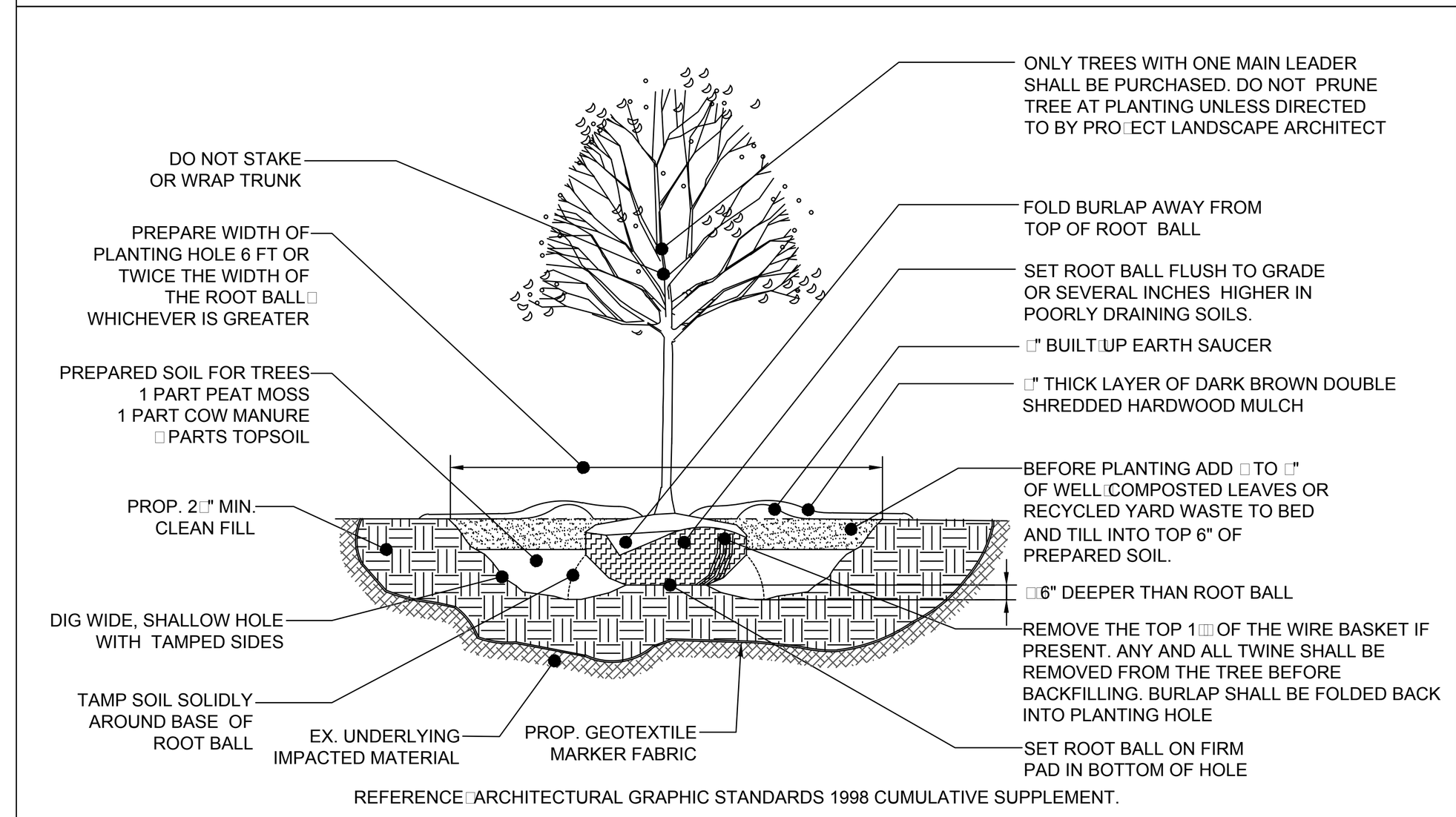
TEMPORARY STOCKPILE DETAIL

NOT TO SCALE



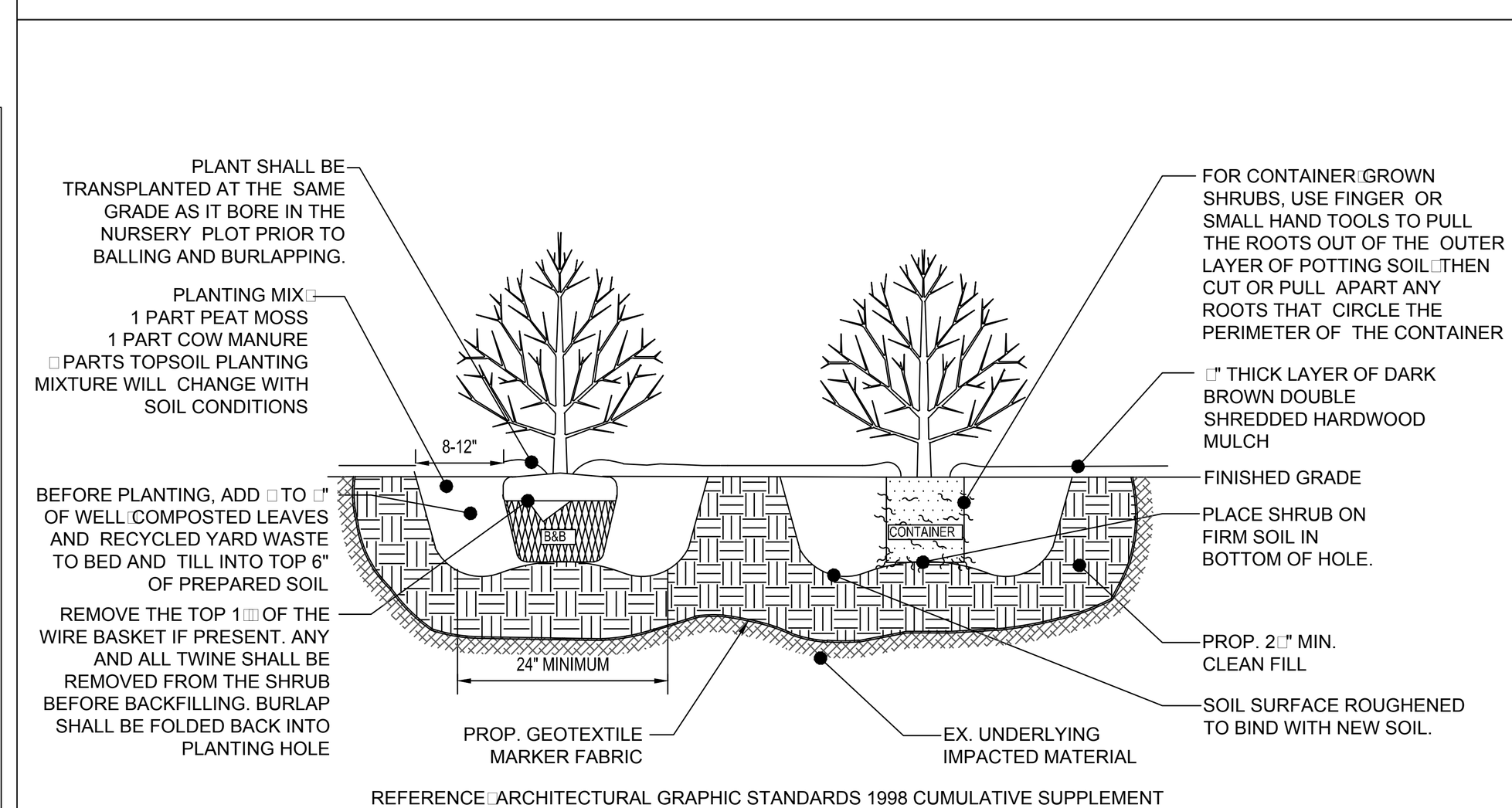
EVERGREEN TREE PLANTING DETAIL

NOT TO SCALE



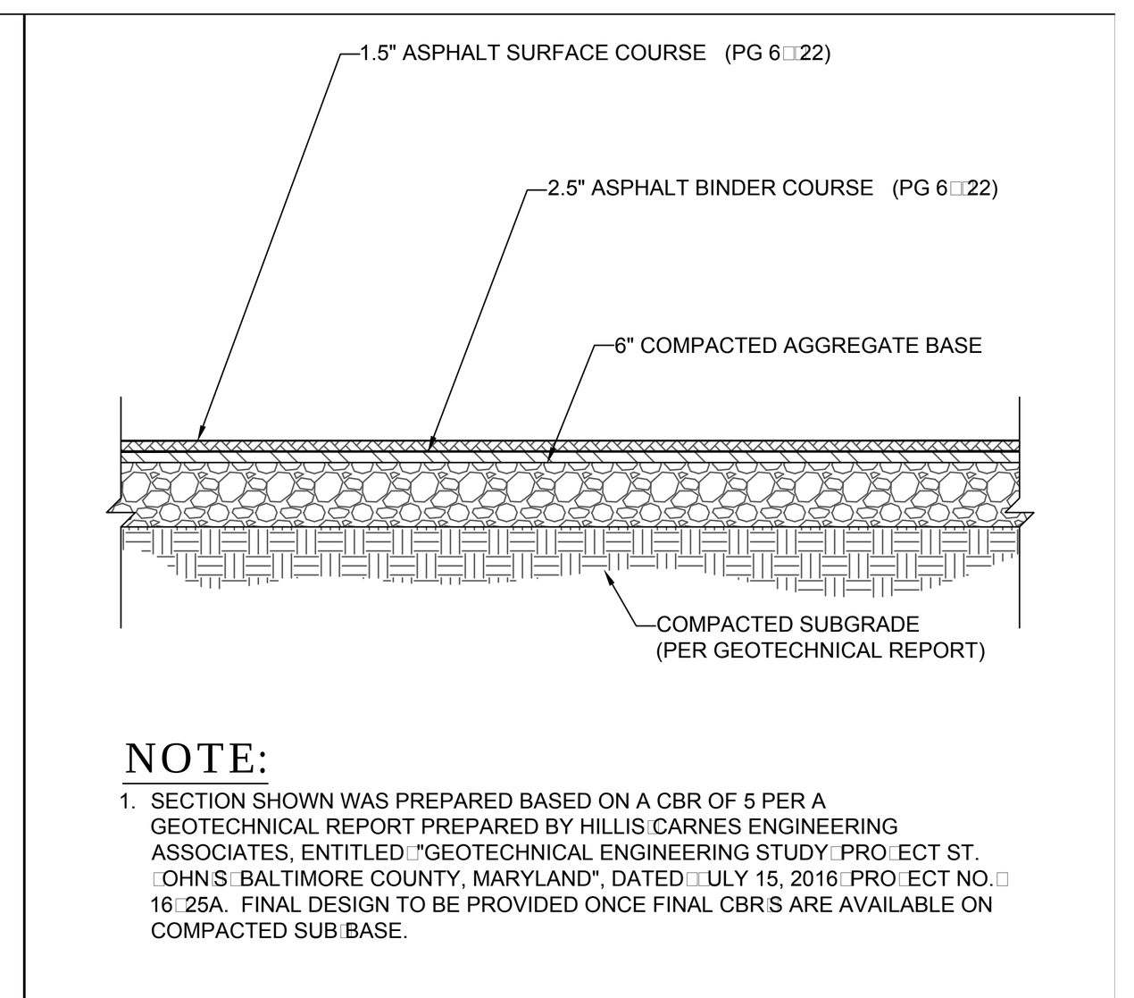
DECIDUOUS TREE PLANTING DETAIL

NOT TO SCALE



DECIDUOUS AND EVERGREEN SHRUB PLANTING DETAIL

NOT TO SCALE



STANDARD DUTY ASPHALT PAVEMENT SECTION

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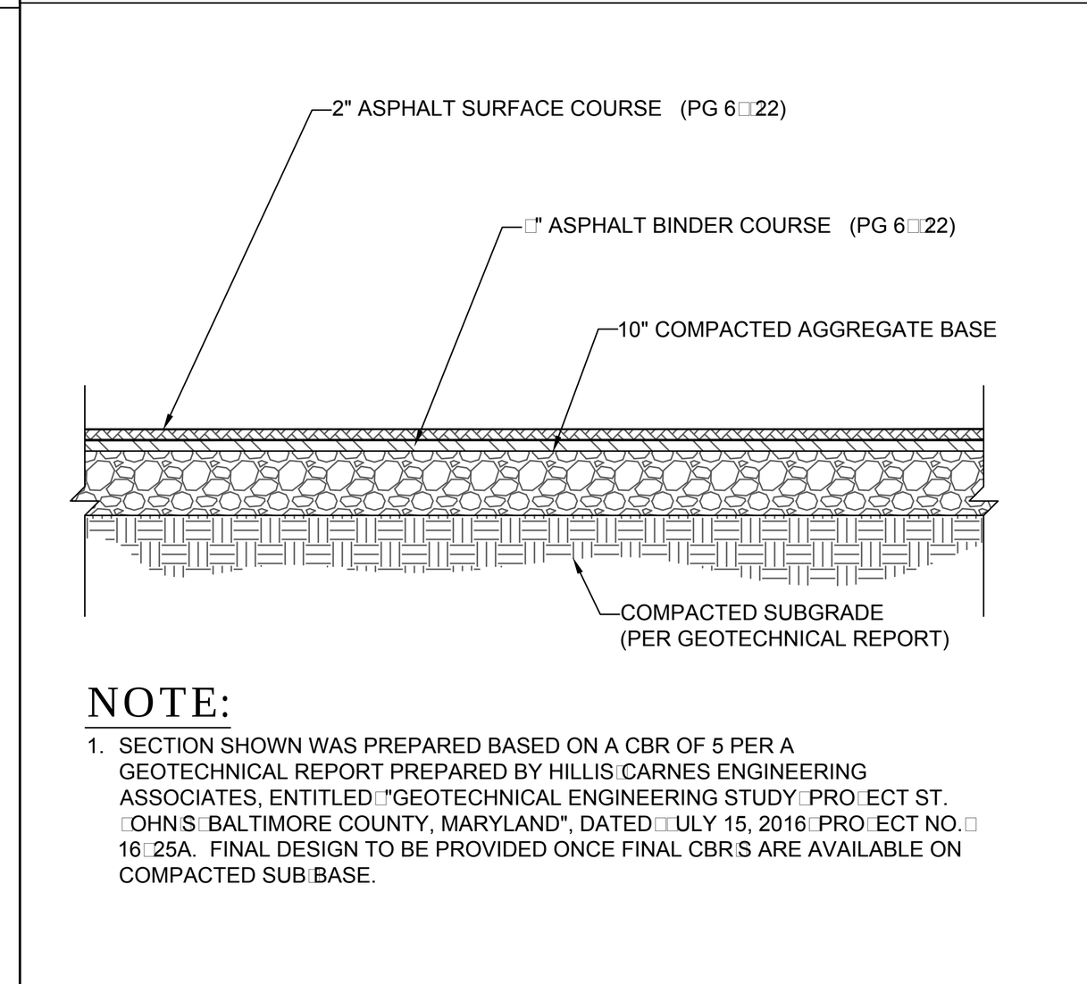

HEAVY DUTY ASPHALT PAVEMENT SECTION

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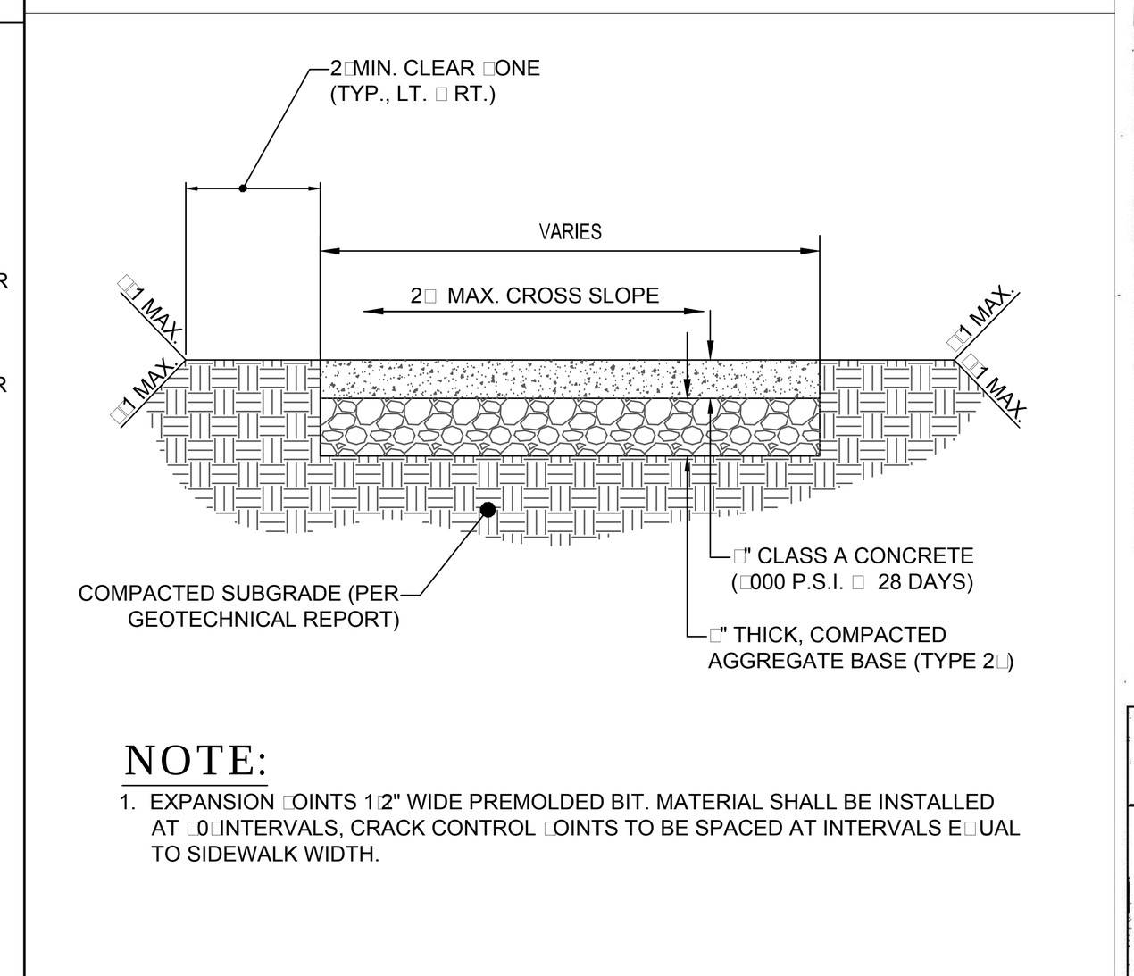

CONCRETE SIDEWALK DETAIL

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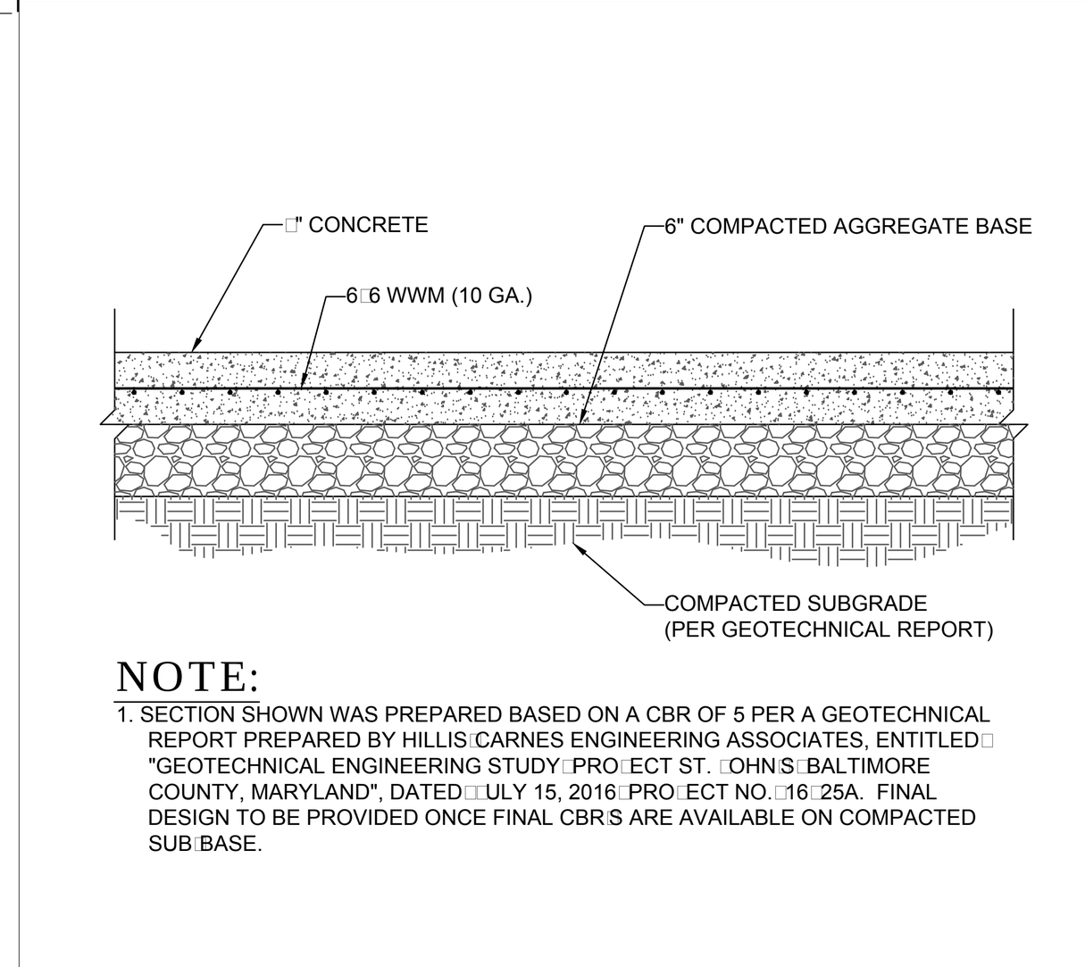

HEAVY DUTY CONCRETE SECTION

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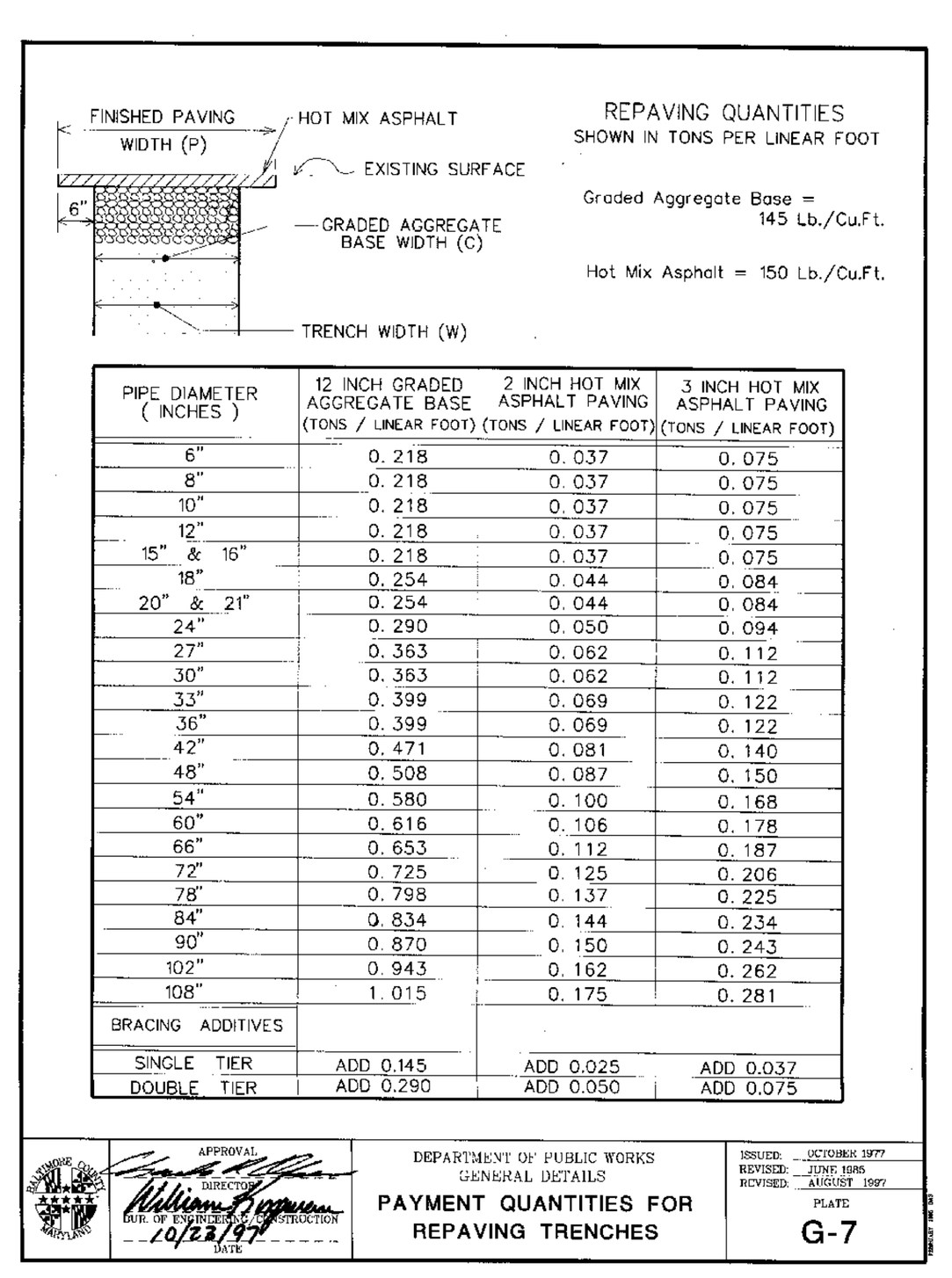
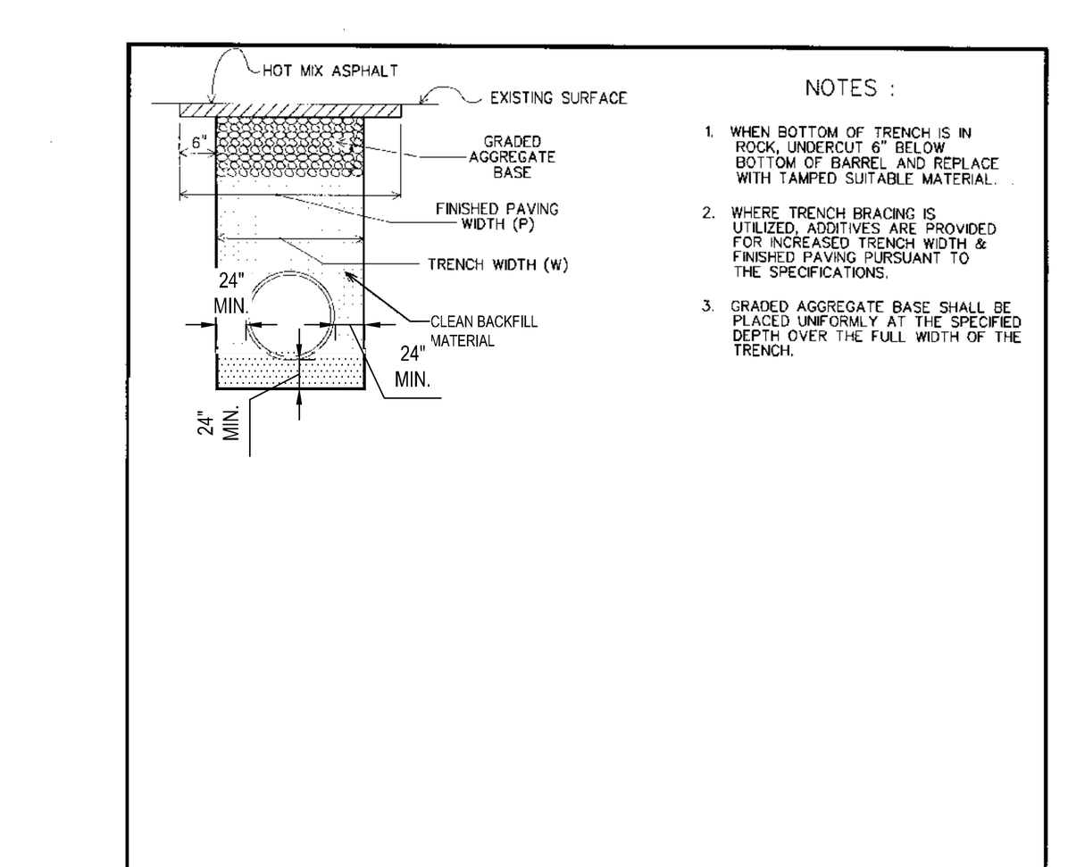
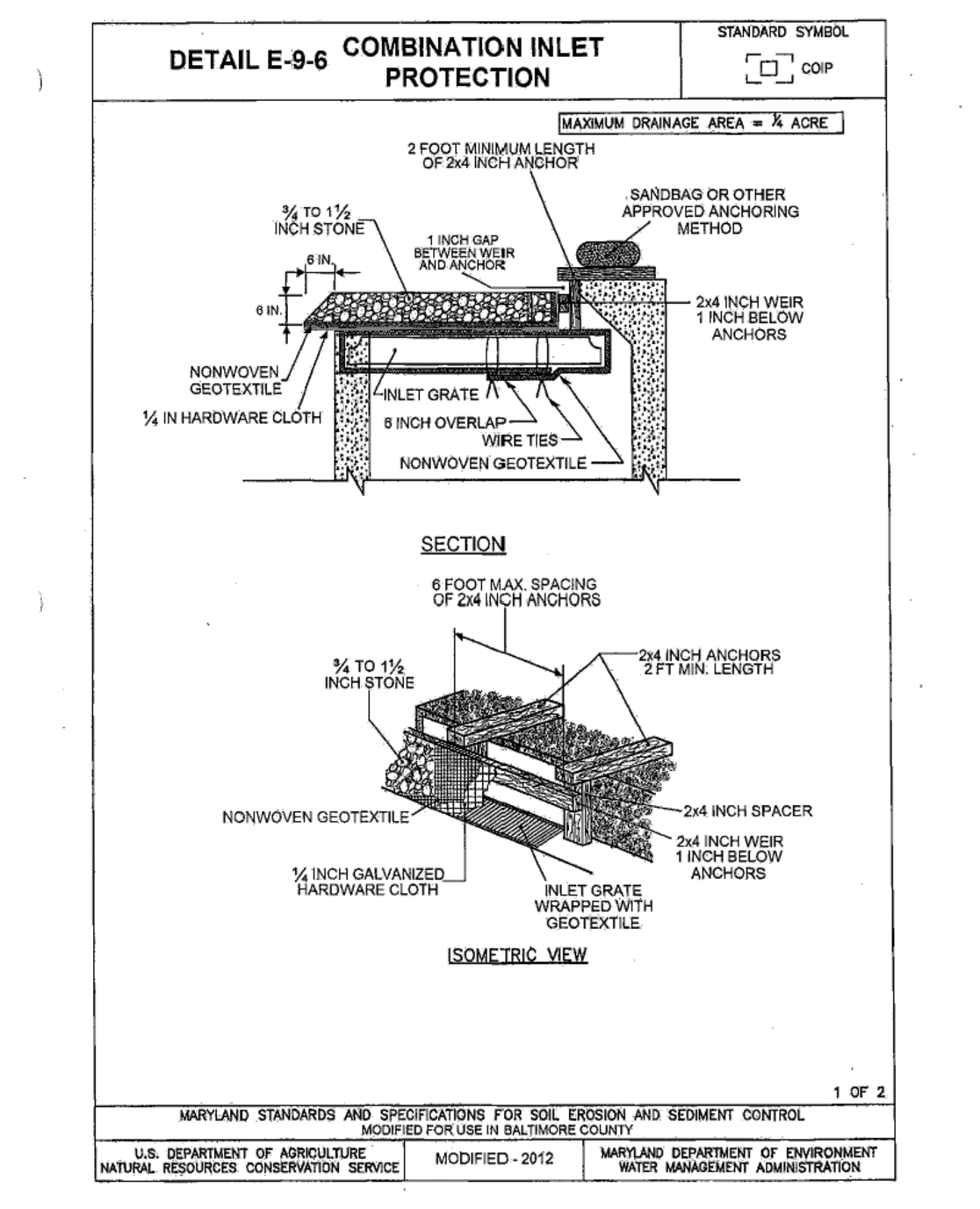
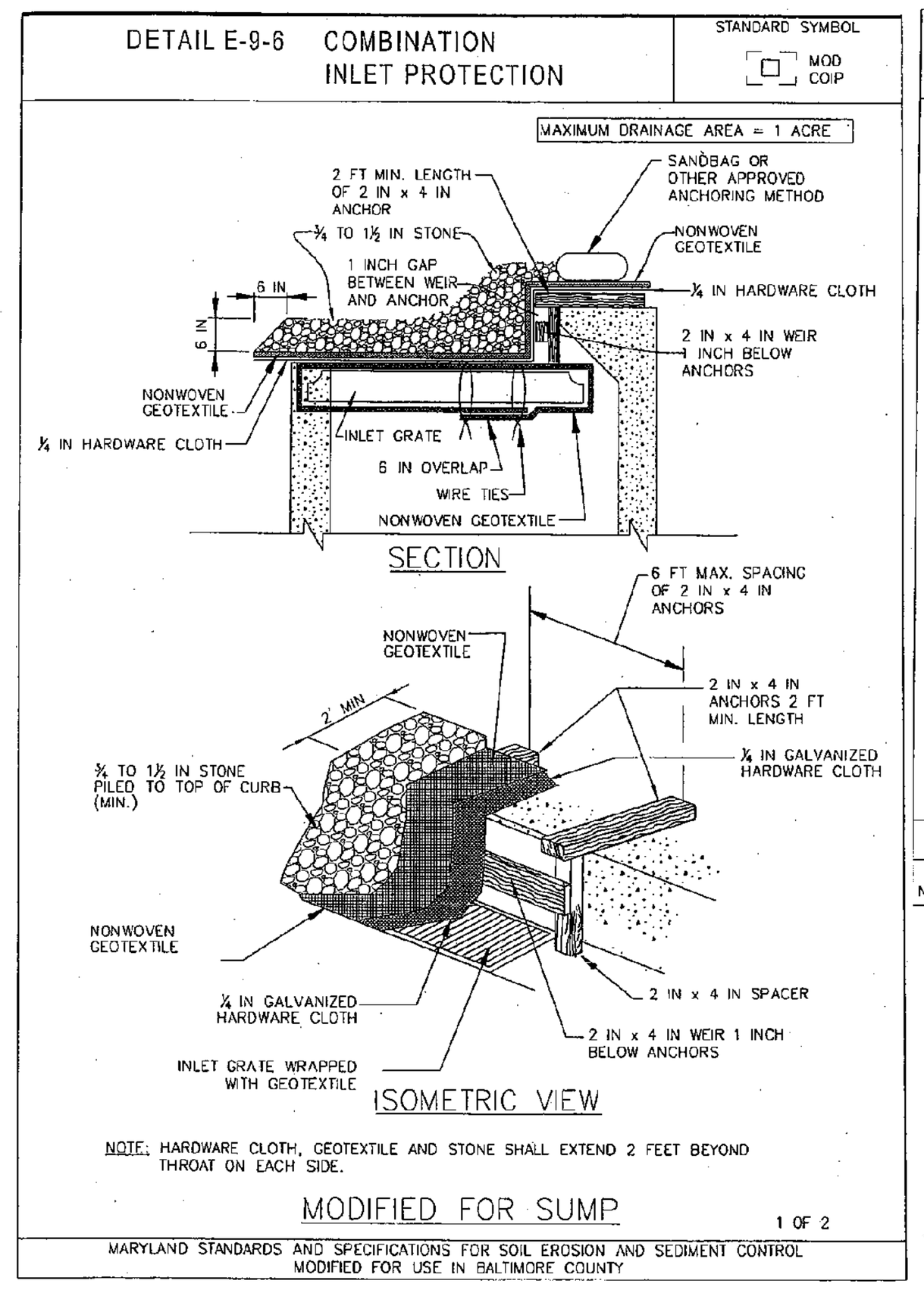


PAYMENT QUANTITIES FOR REPAVING TRENCHES G-7





DETAIL E-9-6 COMBINATION INLET PROTECTION



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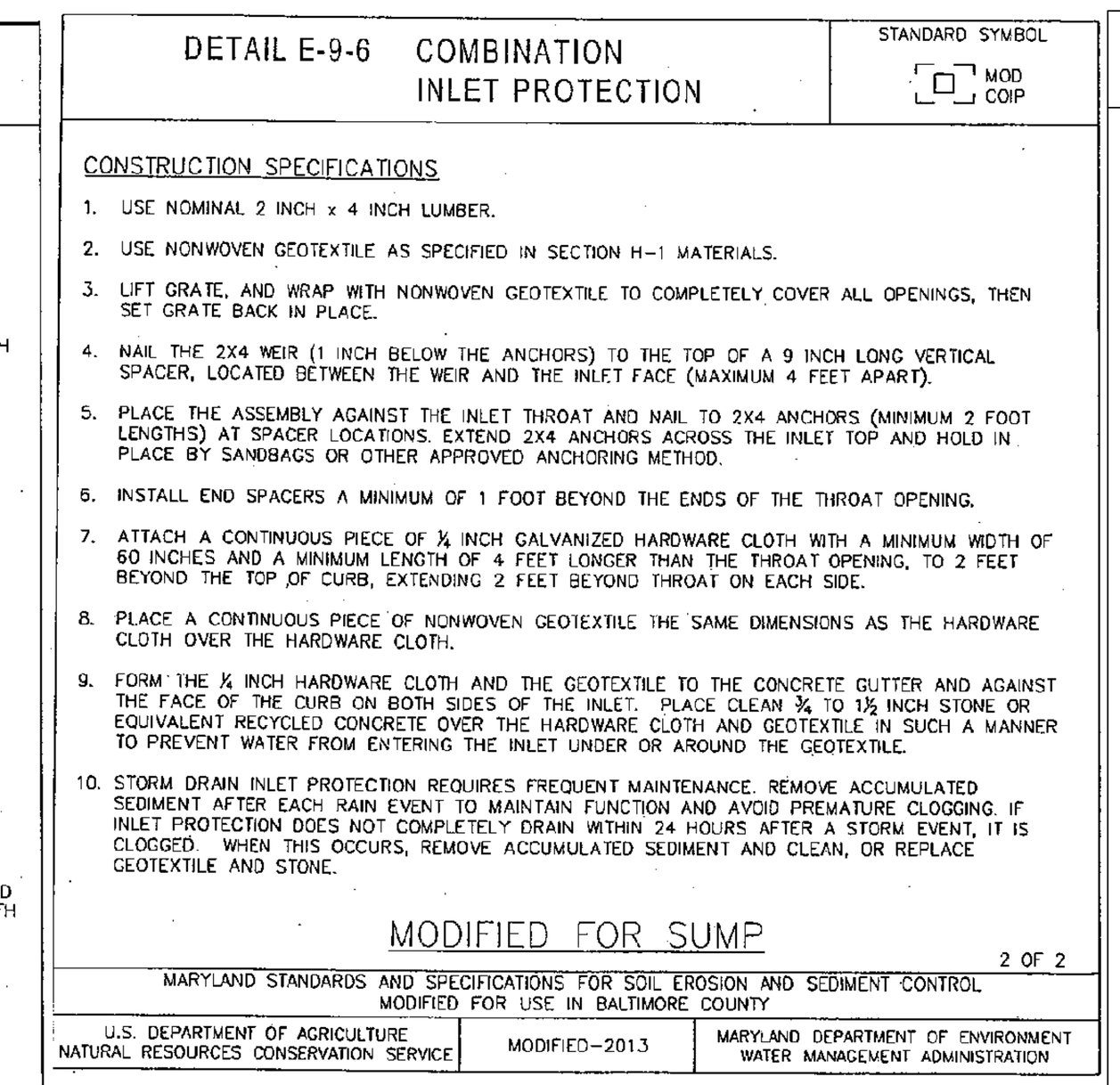

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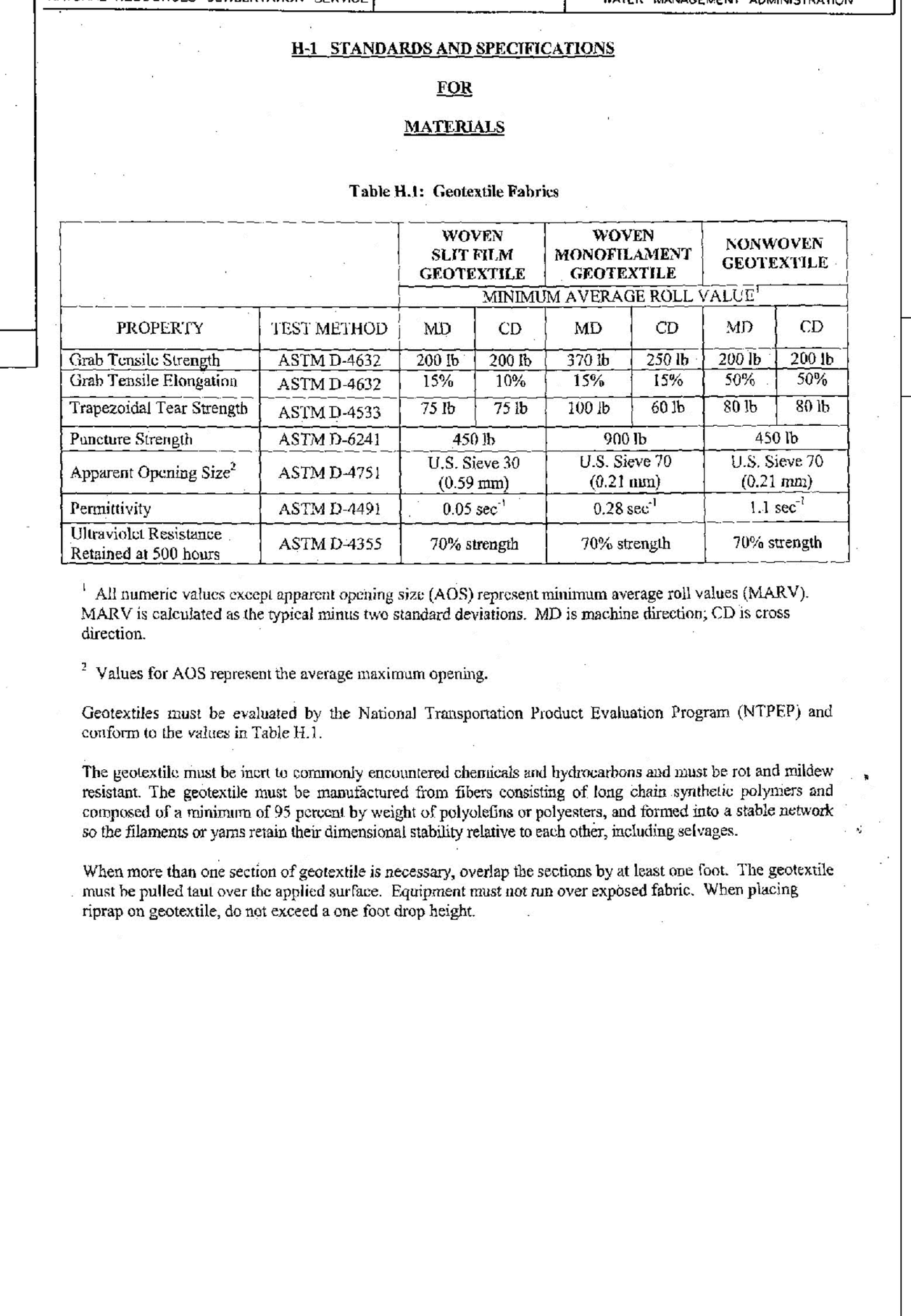
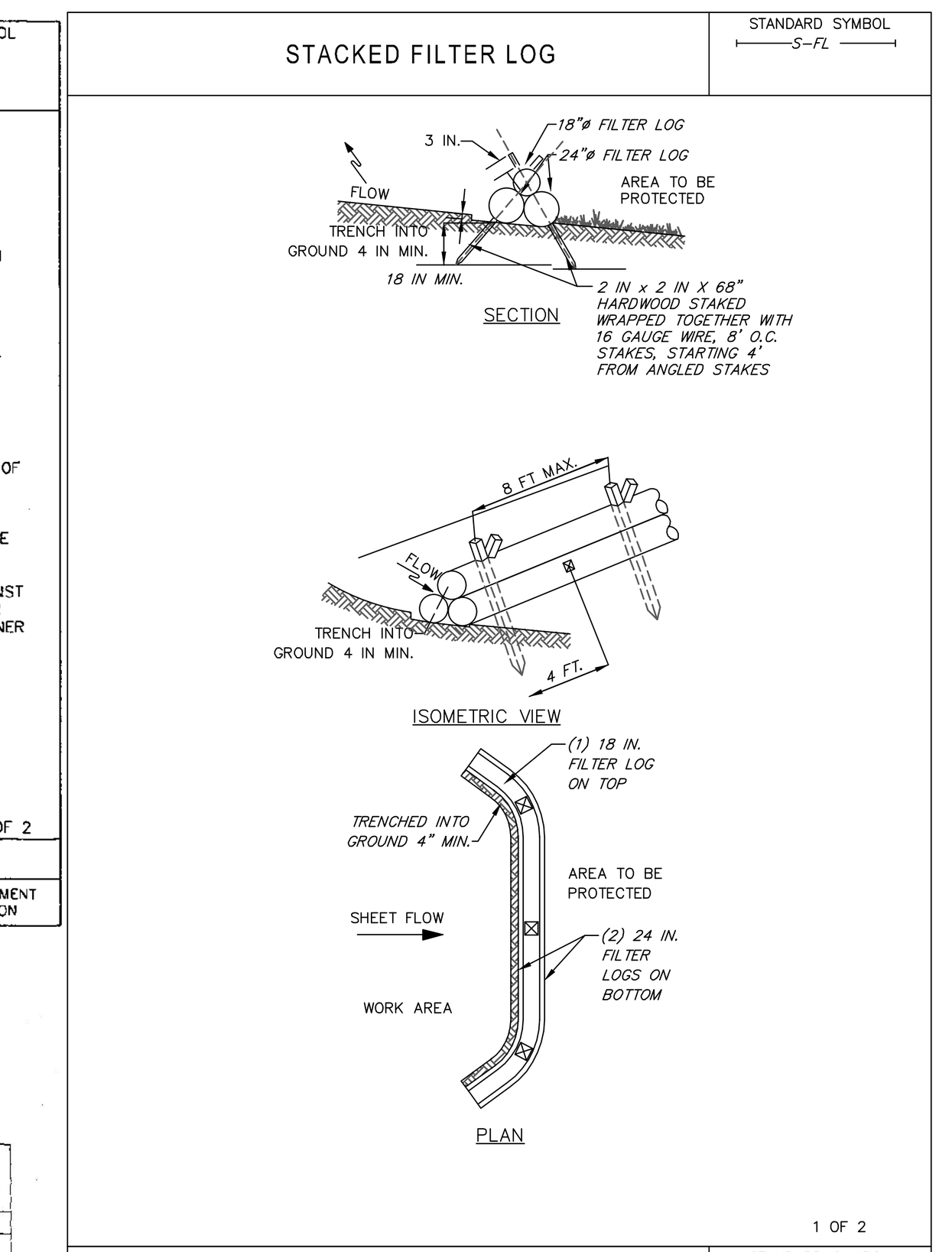
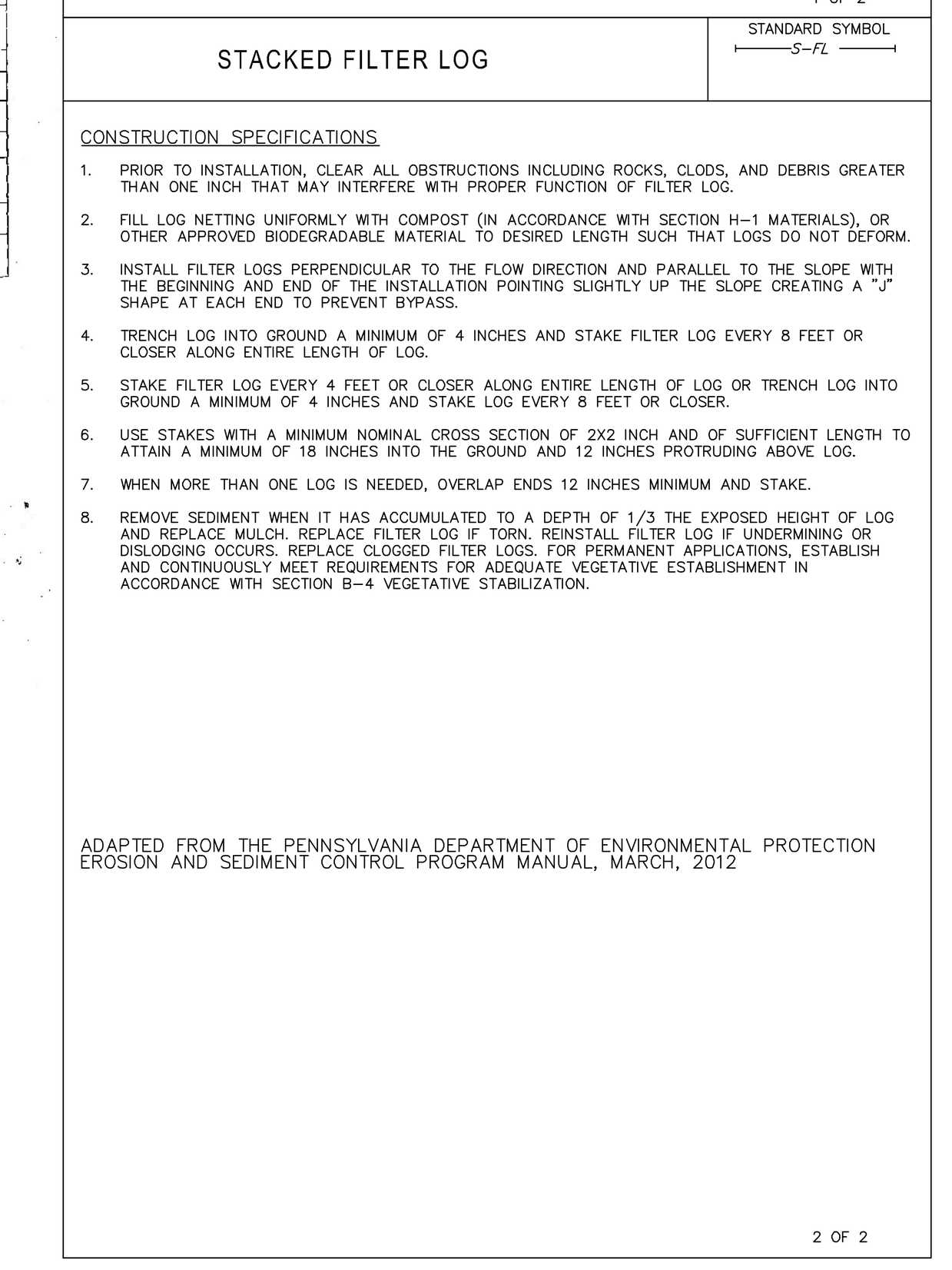


H-1 STANDARDS AND SPECIFICATIONS FOR MATERIALS



STACKED FILTER LOG



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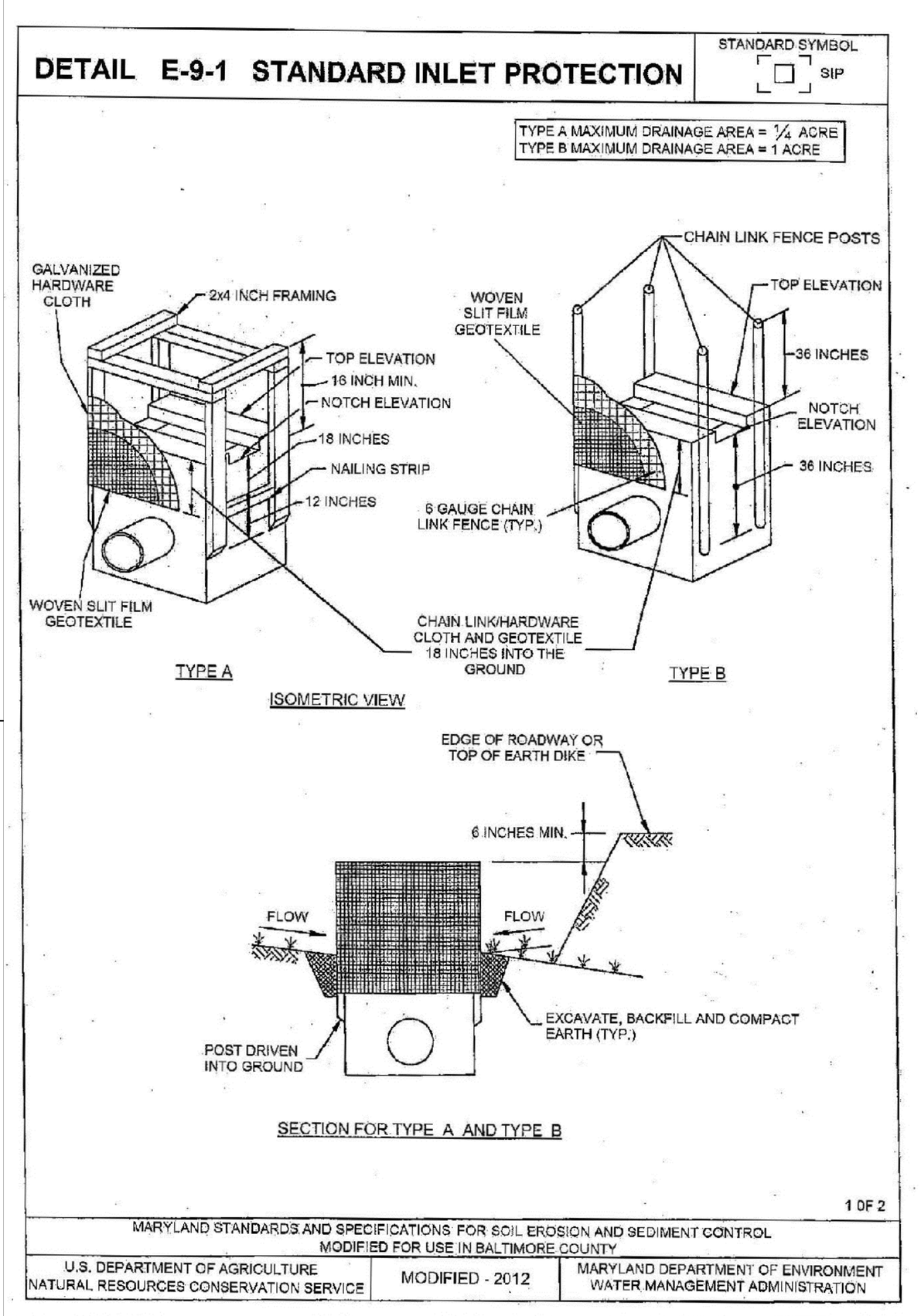
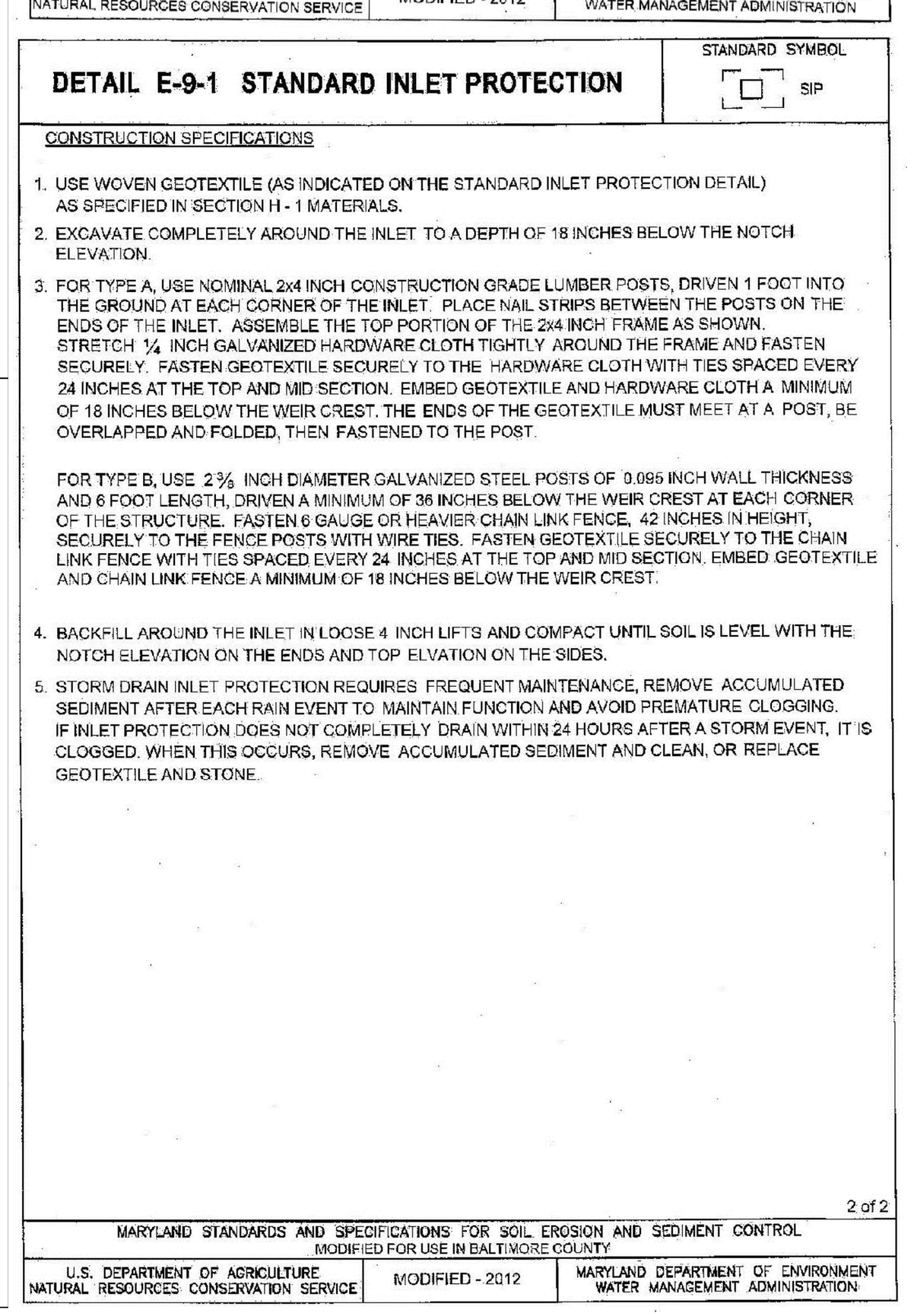
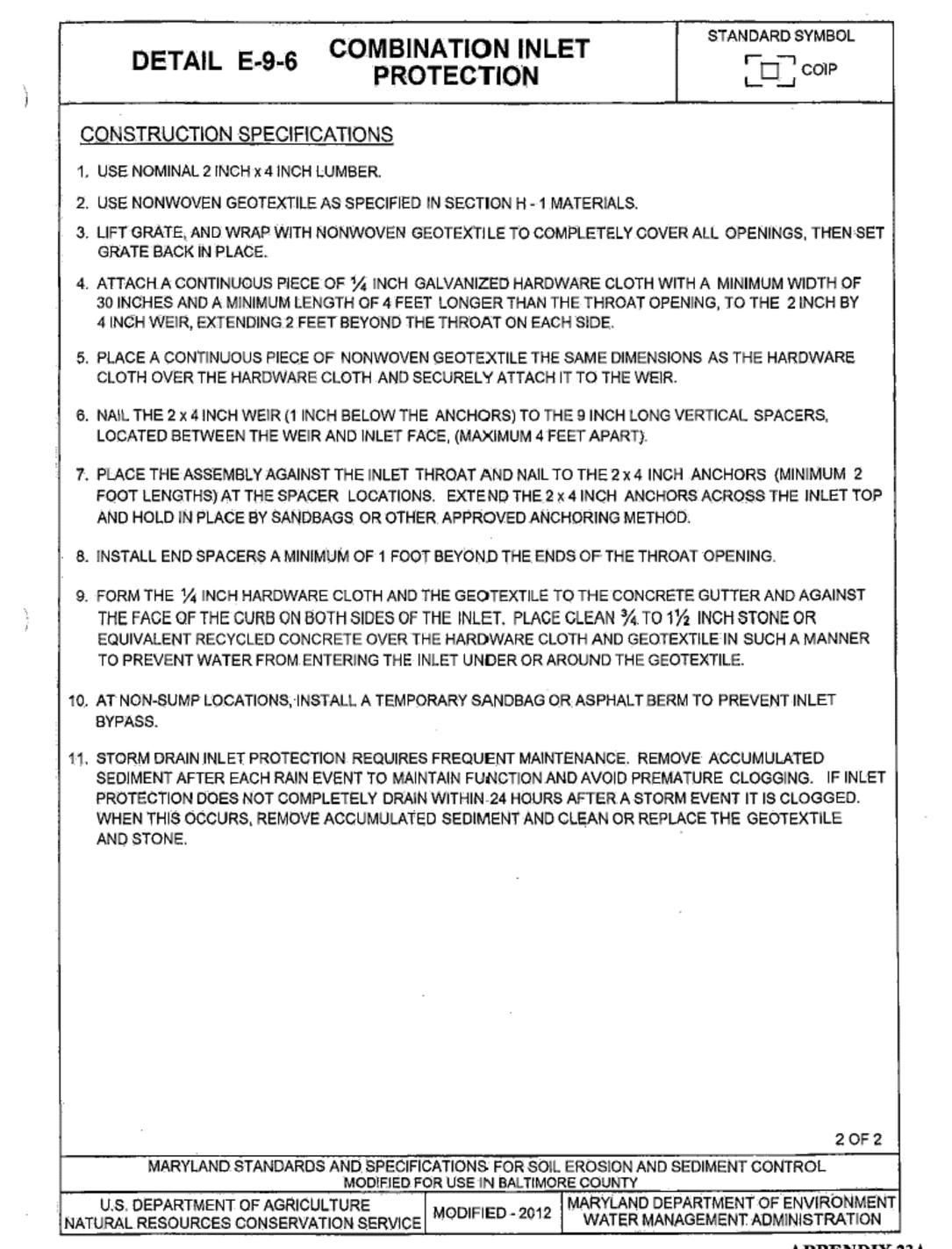


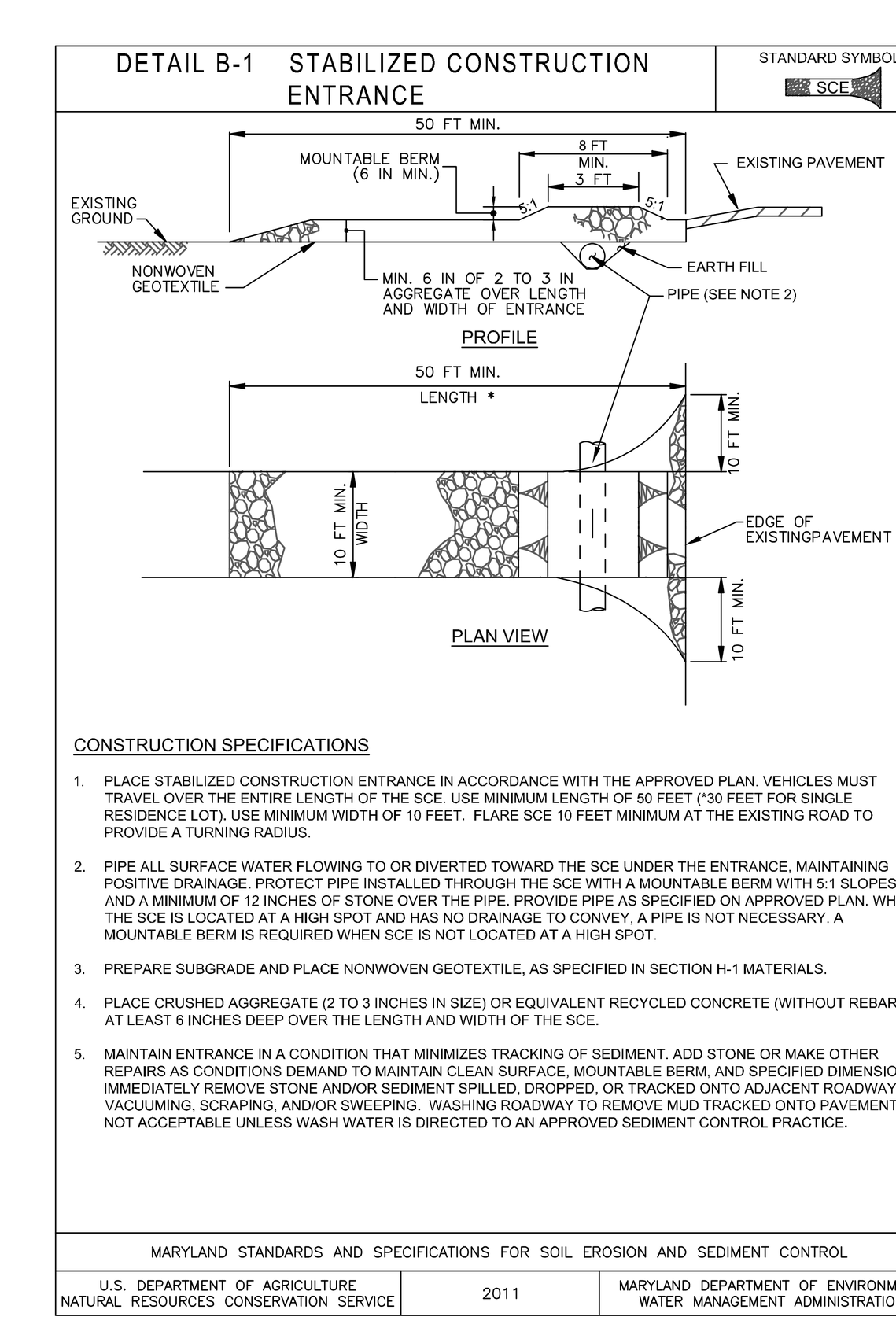
DETAIL E-9-1 STANDARD INLET PROTECTION



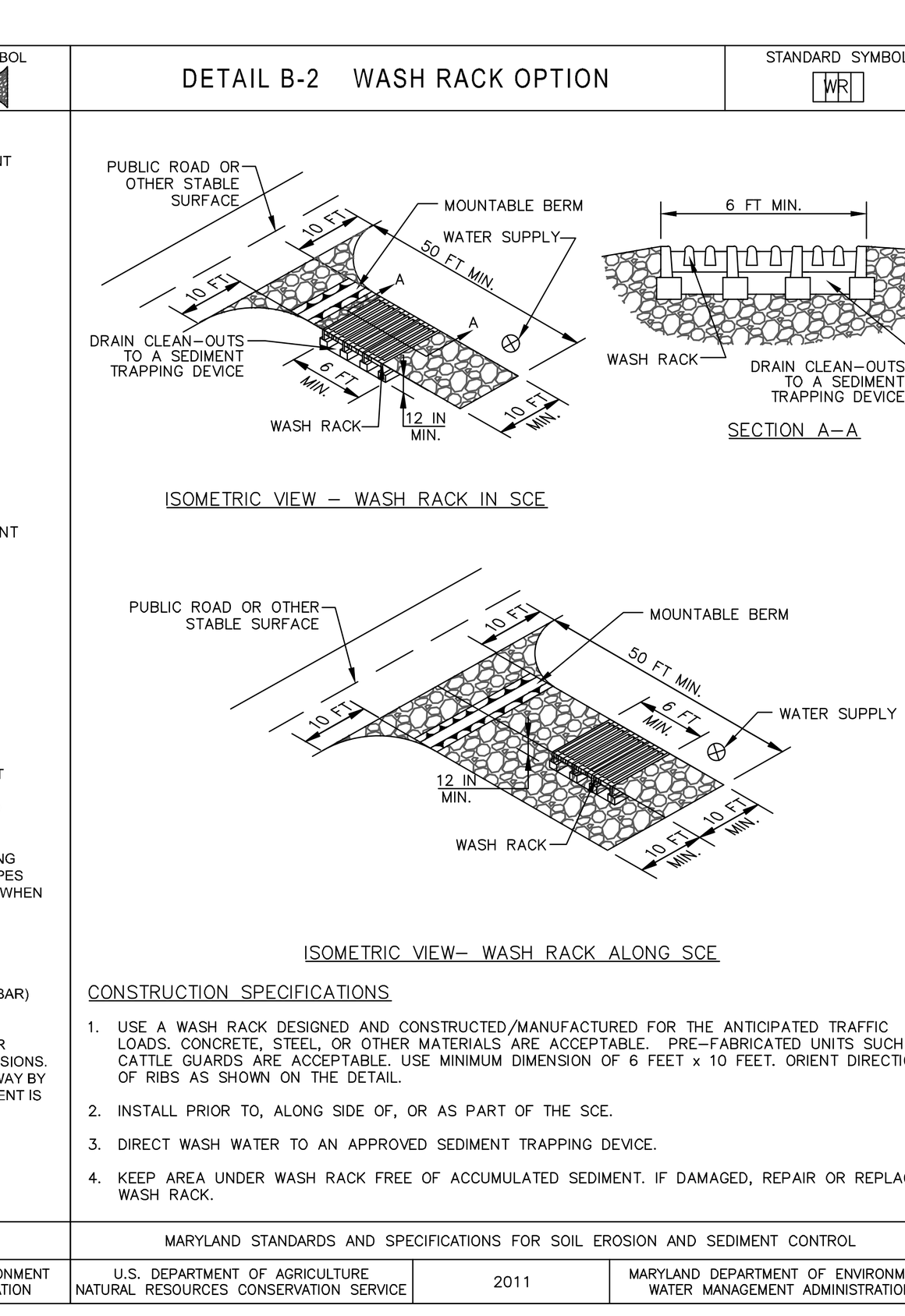
DETAIL E-9-1 STANDARD INLET PROTECTION



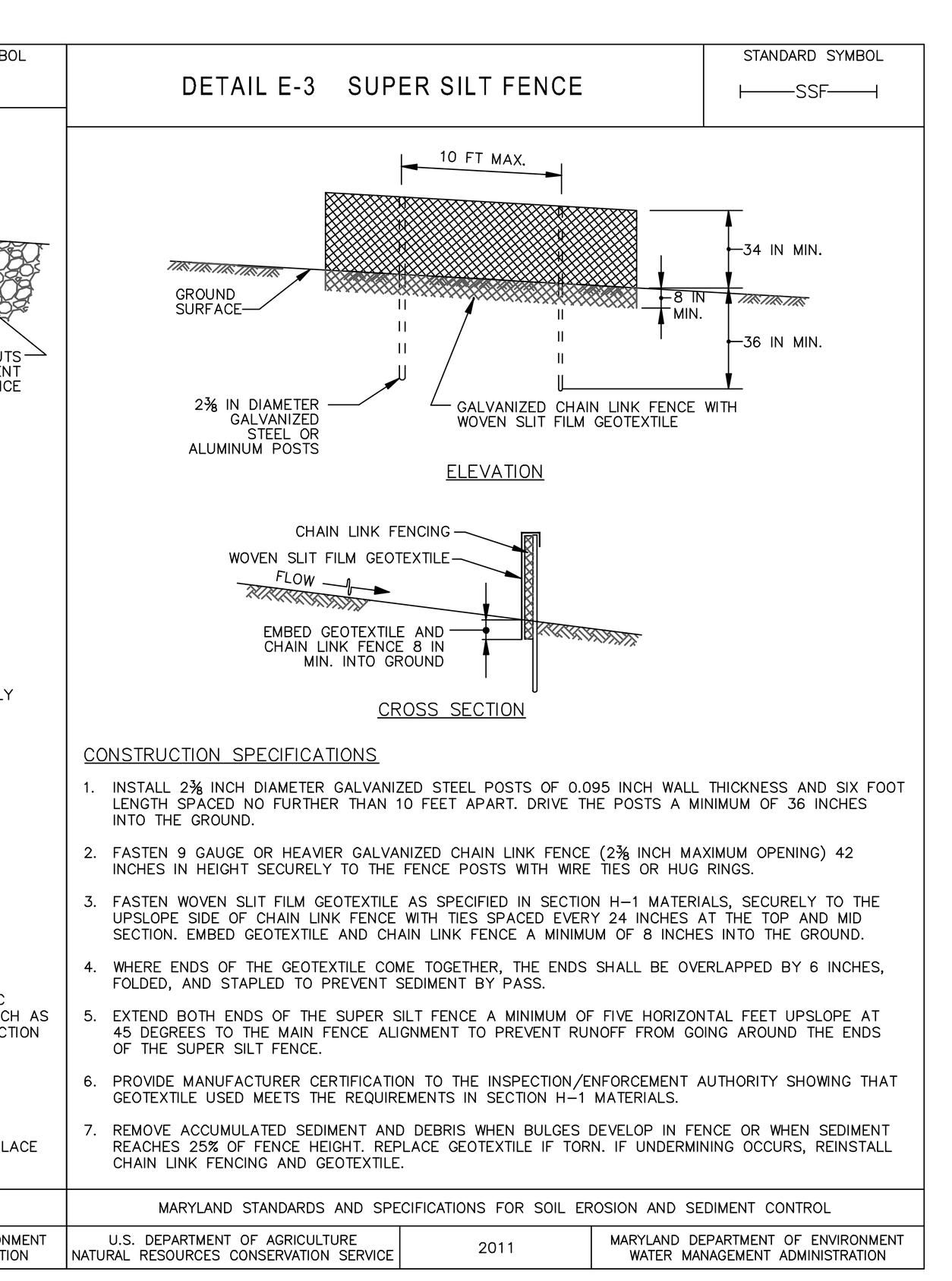
DETAIL E-9-6 COMBINATION INLET PROTECTION



DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE



DETAIL B-2 WASH RACK OPTION



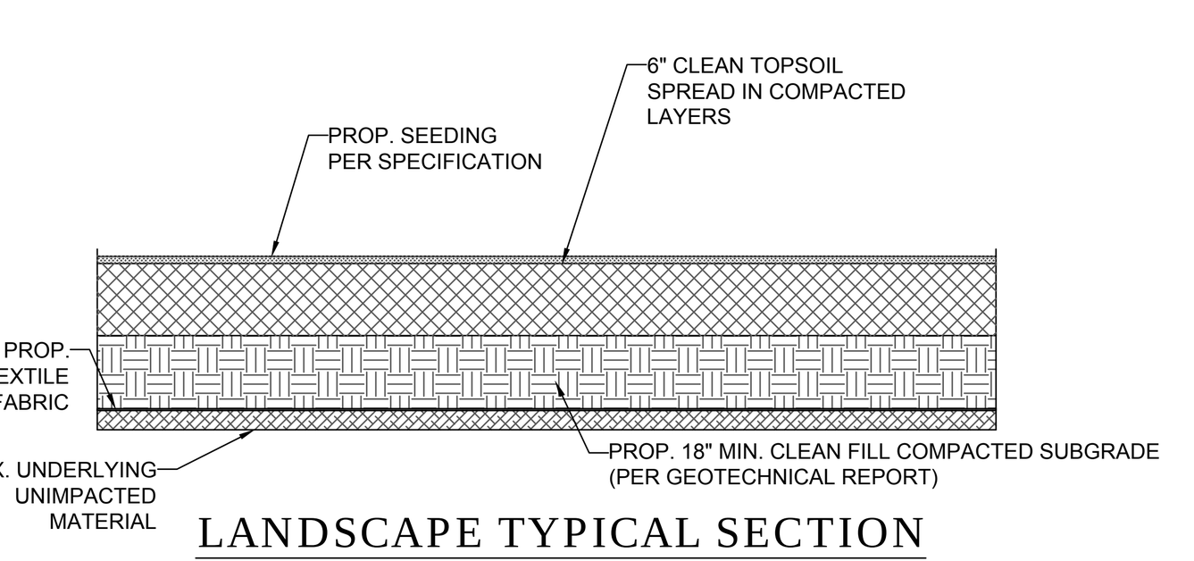
DETAIL E-3 SUPER SILT FENCE

SEEDING SPECIFICATIONS

1. PRIOR TO SEEDING, AREA IS TO BE TOPSOILED, FINE GRADED, AND RAKED OF ALL DEBRIS LARGER THAN 2" DIAMETER.
2. PRIOR TO SEEDING , CONSULT MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS.
3. SEEDING RATES:

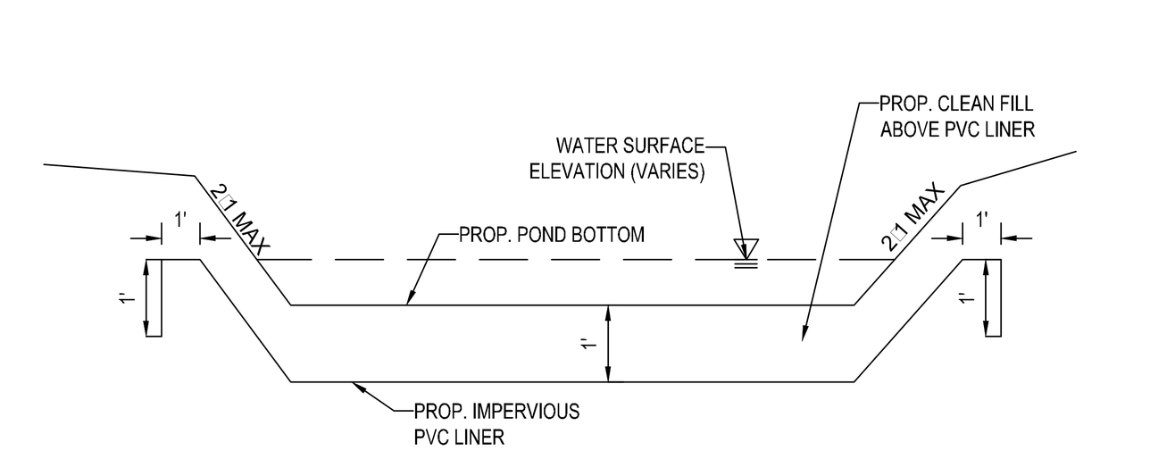
PERENNIAL RYEGRASS	½ LB/1,000 S.F.
KENTUCKY BLUEGRASS	1 LB/1,000 S.F.
RED FESCUE	1 ½ LBS/1,000 S.F.
SPREADING FESCUE	1 ½ LBS/1,000 S.F.
FERTILIZER (20-10-10)	1[illegible] LBS/1,000 S.F.
MULCH	90 LBS/1,000 S.F.

4. GERMINATION RATES WILL VARY AS TO TIME OF YEAR FOR SOWING. CONTRACTOR TO IRRIGATE SEEDED AREA UNTIL AN ACCEPTABLE STAND OF COVER IS ESTABLISHED BY OWNER.



LANDSCAPE TYPICAL SECTION (LAWN AREA)

NOT TO SCALE



STORMWATER MANAGEMENT POND - TYPICAL SECTION

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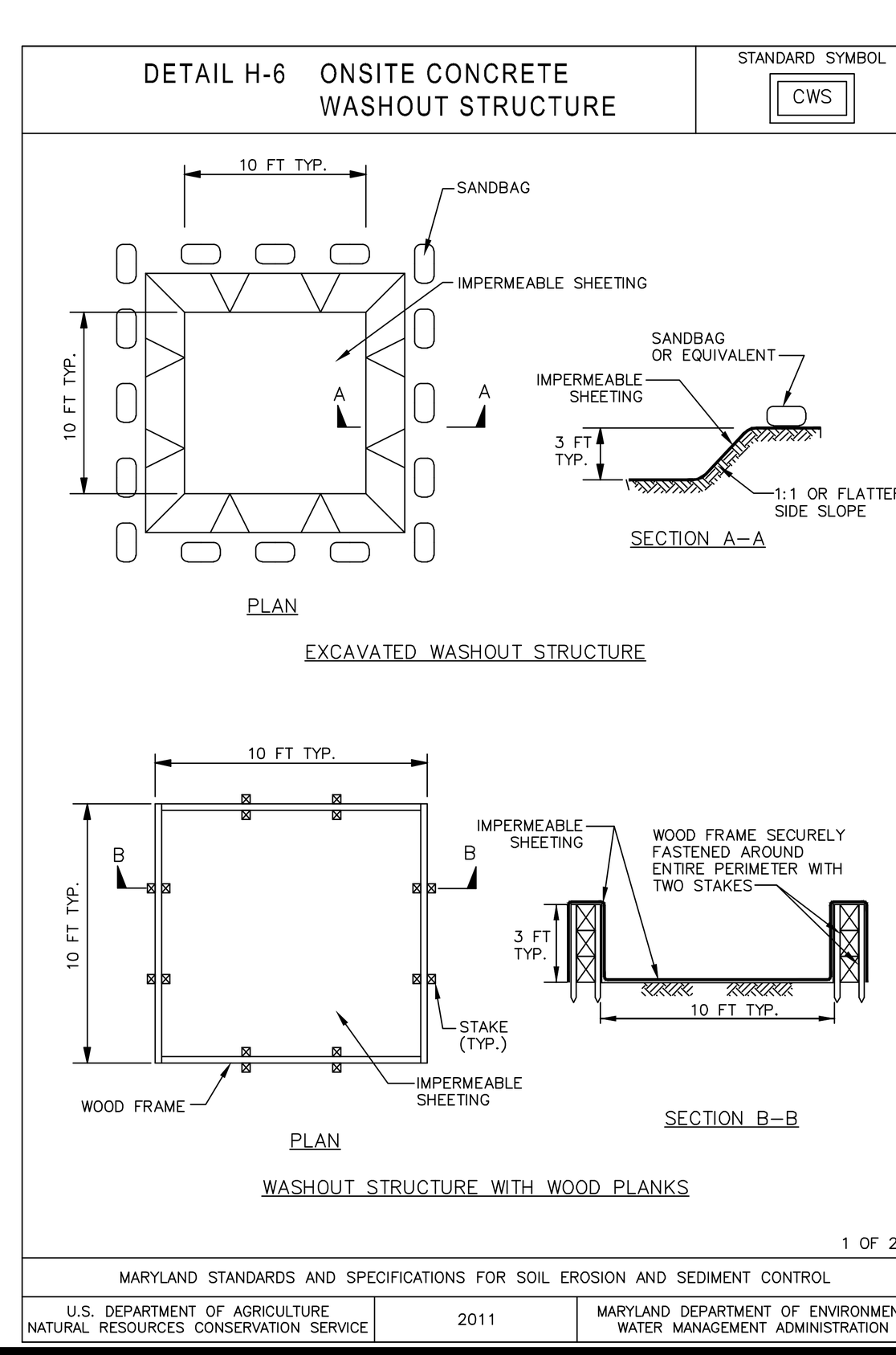
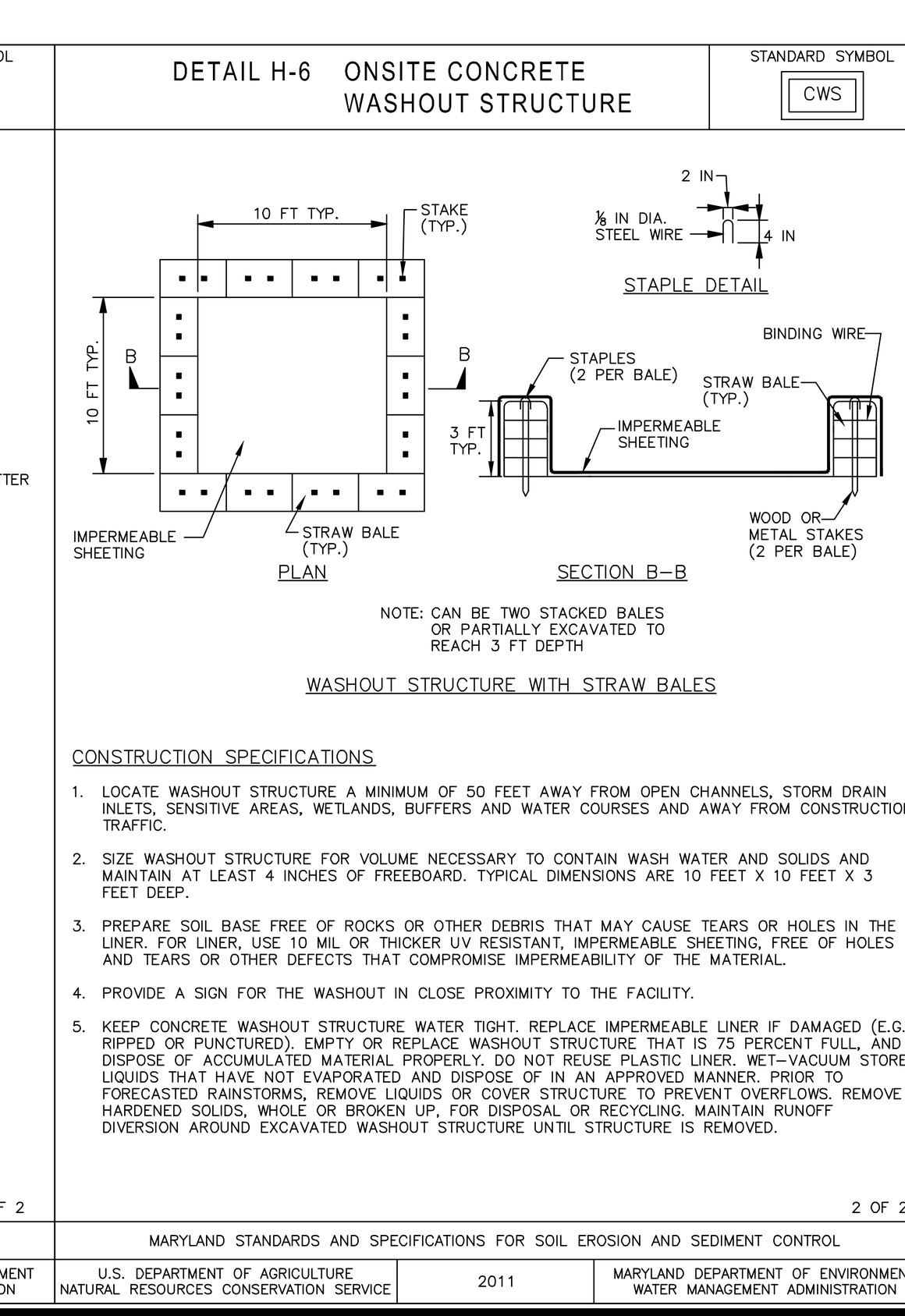
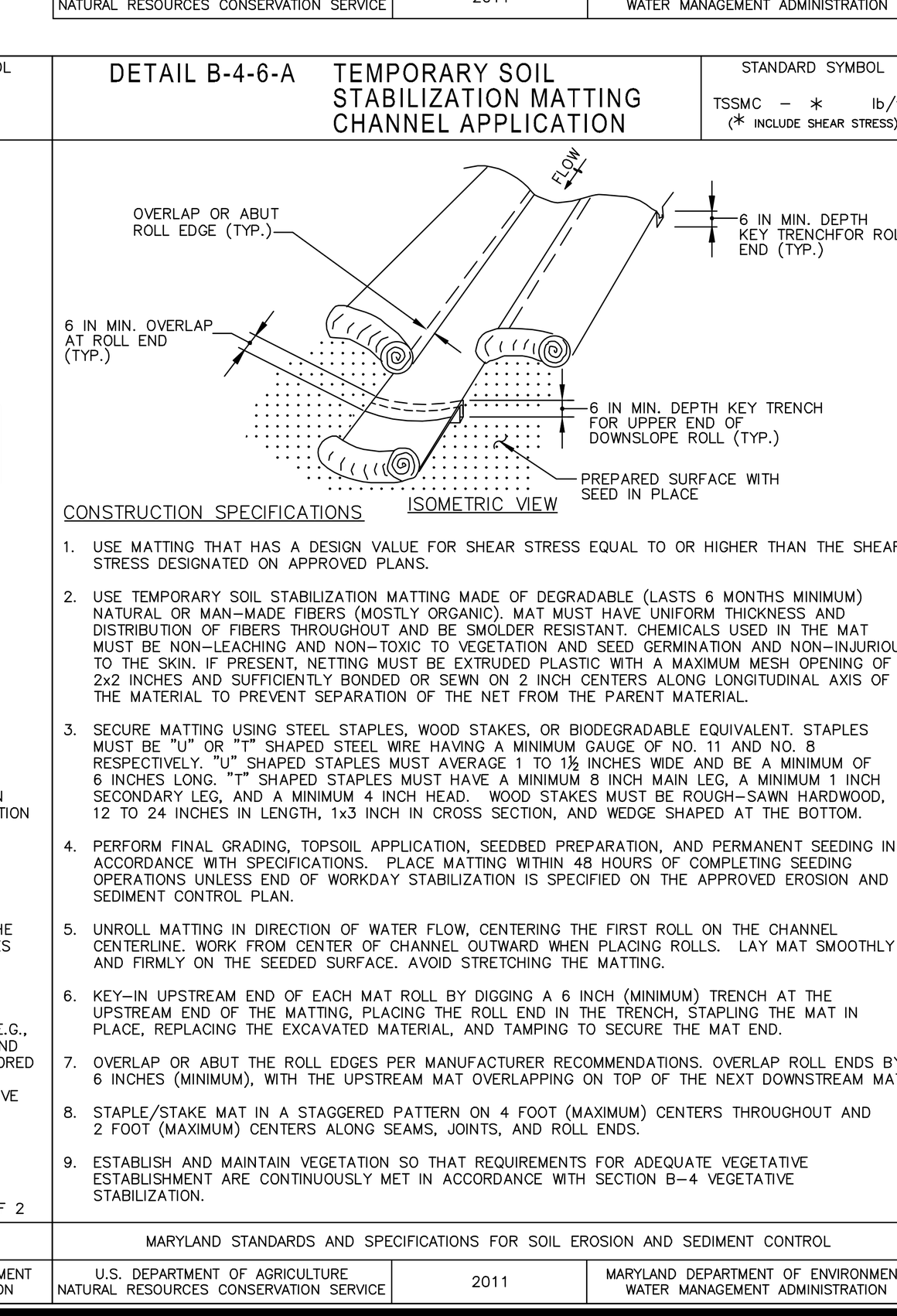


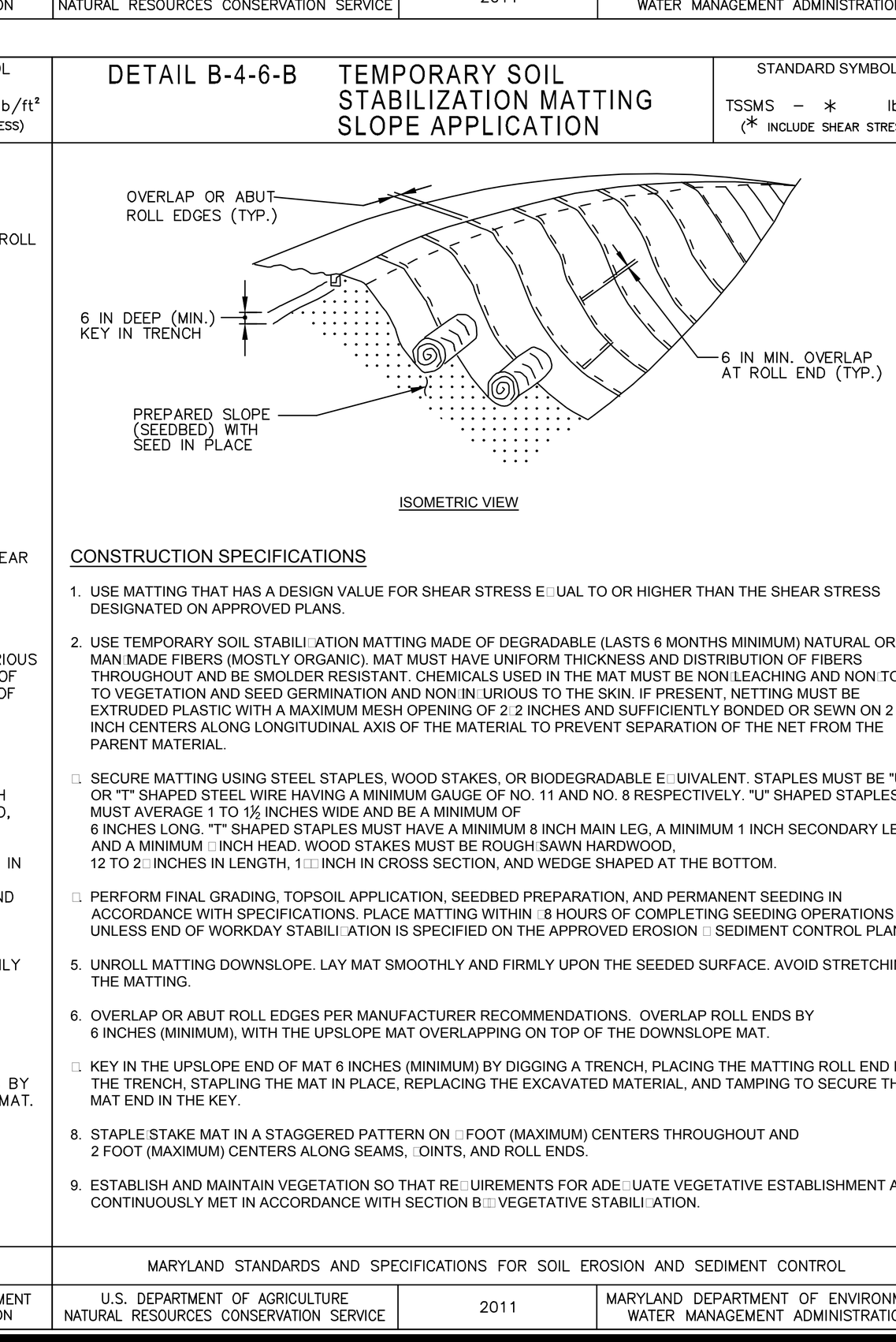
DETAIL H-6 ONSITE CONCRETE WASHOUT STRUCTURE



DETAIL H-6 ONSITE CONCRETE WASHOUT STRUCTURE



DETAIL B-4-6-A TEMPORARY SOIL STABILIZATION MATTING CHANNEL APPLICATION



DETAIL B-4-6-B TEMPORARY SOIL STABILIZATION MATTING SLOPE APPLICATION

BOHLER ENGINEERING

REVISIONS

REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE. IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL 811

NOT APPROVED FOR CONSTRUCTION

PROJECT No.:	MD1620662
DRAWN BY:	M[illegible]G
CHECKED BY:	M[illegible]G
DATE:	0[illegible]20[illegible]201[illegible]
SCALE:	N/A
CAD I.D.:	SS0

PROJECT:

PRELIMINARY SITE PLAN MDE PARCEL B-6

FOR

TRADEPOINT ATLANTIC

LOCATION OF SITE
TRADEPOINT ATLANTIC - DISTRIBUTION WAREHOUSE B-6
SPARROWS POINT ROAD
BALTIMORE, MD 21219
BALTIMORE COUNTY

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD, SUITE 801
TOWSON, MARYLAND 21204
MD@BohlerEng.com

SHEET TITLE:

SECTIONS AND DETAILS

SHEET NUMBER:

4

APPENDIX E

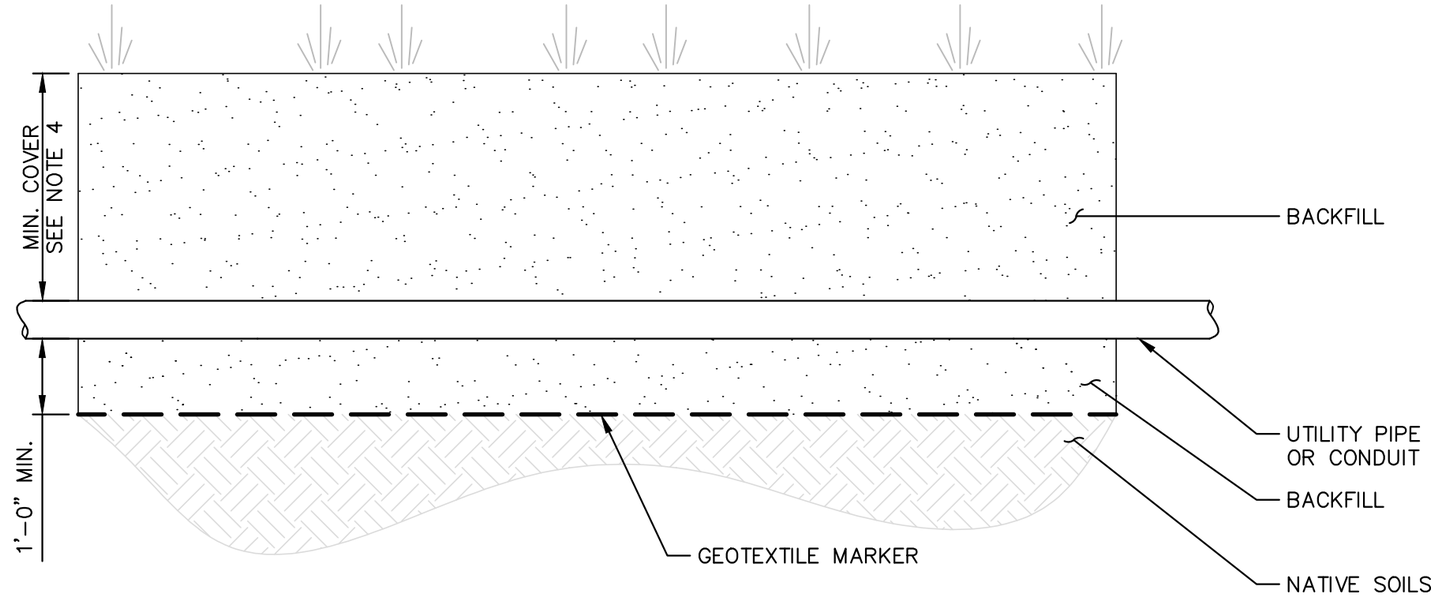
GENERAL NOTES:

1. ALL PIPES OR CONDUIT SHALL BE LEAK–PROOF AND WATERTIGHT. ALL JOINTS SHALL BE SEALED OR GASKETED.

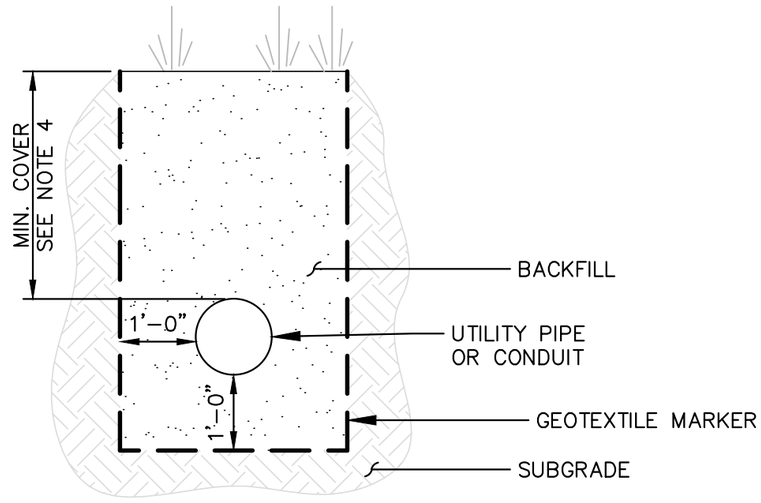
2. ALL PIPES SHALL BE PROPERLY PLACED AND BEDDED TO PREVENT MISALIGNMENT OR LEAKAGE. PIPE BEDDING SHALL BE INSTALLED IN SUCH A MANNER AS TO MINIMIZE THE POTENTIAL FOR ACCUMULATION OF WATER AND CONCENTRATED INFILTRATION.

3. TRENCHES SHALL BE BACKFILLED WITH BEDDING AND MATERIALS APPROVED BY MDE.

4. MINIMUM COVER ABOVE UTILITY SHALL BE BASED ON SPECIFIC UTILITY REQUIREMENTS.



PROFILE : TYPICAL UTILITY TRENCH



SECTION : TYPICAL UTILITY

ARM Group Inc.
Earth Resource Engineers and Consultants
www.armgroup.net

UTILITY CROSS SECTION
Sparrows Point Site
EnviroAnalytics Group, LLC

June 2017
1/2" = 1'-0"
160443M

Figure 1

APPENDIX F

Utility Excavation NAPL Contingency Plan

Revision 4 – June 19, 2017

Introduction:

Proposed underground utilities and excavations necessary for the redevelopment of the Tradepoint Atlantic property may encounter areas of petroleum and/or Oil & Grease contamination in soil. The assessment of total petroleum hydrocarbons (TPH) diesel range organics (DRO), gasoline range organics (GRO), Oil & Grease, and/or non-aqueous phase liquid (NAPL) completed as part of each Phase II Investigation includes the following:

- Each soil boring with evidence of NAPL (i.e., containing a sheen or free oil in the soil core), whether located near utilities or not, is investigated via the installation of a piezometer to assess mobility to groundwater. If measureable NAPL is present in the initial piezometer, additional soil borings and shallow temporary piezometers are installed surrounding the initial detection to delineate the impacts. Each piezometer installed to delineate the presence or absence of NAPL is checked with an oil-water interface probe immediately after installation, 48 hours after installation, and at least 30 days after installation.
- TPH-DRO/GRO and Oil & Grease data, once received, are assessed in their magnitude and location respective to subsurface utilities, stormwater conveyances, and surface waters.
- Locations that exhibit elevated detections of TPH/Oil & Grease or evidence of NAPL, that are within reasonable proximity (i.e. 25 feet) to subsurface utilities or stormwater conveyances and/or within reasonable proximity (i.e. 100 feet) to surface waters, are identified for further delineation and selective removal (if warranted).

Any NAPL identified in soil borings or piezometers during the Phase II Investigation would be noted on relevant logs and identified in Response and Development Work Plans for construction planning purposes. Despite these planning efforts, unidentified pockets of contamination (including NAPL) may still be encountered during construction. This contingency plan provides the procedures to be utilized during construction work to properly address response and construction techniques if any materials impacted with NAPL are encountered.

Objectives:

The purpose of this plan is to describe procedures to be followed in the event that NAPL is encountered in utility trenches or other excavations during development of the Tradepoint Atlantic property. The specific objectives of this plan and the procedures outlined herein are:

1. To ensure identification and proper management of Oil & Grease and petroleum-contaminated soils.
2. To ensure proper worker protection for working in areas of Oil & Grease and petroleum contamination.
3. To ensure that the installation of new utilities does not create new preferential flow paths for the migration of free-phase hydrocarbons (Oil & Grease, TPH-DRO/GRO, etc.) or soil vapors.

Identification of Oil & Grease and Petroleum Contaminated Soil:

An Environmental Professional (EP) will be on-site to determine if soils show evidence of the presence of Oil & Grease or TPH present as NAPL during installation of utility trenches or other excavation activities completed during development. Oil & Grease or petroleum-contaminated soils can be identified by the presence of free oil, oil staining, a petroleum odor, or any combination of these conditions. Free oil (NAPL) is liquid oil which could potentially be drained or otherwise extracted from the soil, and is the focus of this contingency plan, although severe staining accompanied by odors should be addressed via the same contingency measures provided herein (based on the judgement of the EP). The appearance of oil staining is not always consistent, but varies depending on the nature of the oil, the soil type, and the age of the release. Staining associated with old petroleum contamination often has a greenish hue, but may also be brown or black. The olfactory sense is the most sensitive instrument for identifying petroleum contamination in the field. Therefore, a petroleum odor may be noted although there is no visible sign of oil or staining. In some instances, decaying organic matter can produce an odor similar to petroleum, but this is rare.

If NAPL is encountered during construction, the extent of impacts shall be delineated by excavating trenches or installing four soil borings (two in each direction) perpendicular to the utility alignment or excavation to examine the soil for physical evidence of NAPL. Perpendicular transects will be investigated every 50 feet along the section of the utility trench or excavation where there is physical evidence of NAPL. Each transect will extend to a distance of 10 feet from the edge of the utility trench or excavation. This represents the maximum distance which would require mandatory excavation to mitigate potential migration risks (see below).

NAPL delineation will be guided primarily by screening observations from the perpendicular borings or trenches, and samples will be collected to test for extractable Oil & Grease or petroleum-contaminated soil using the Oil Sticks™ test kit. This test kit provides a determination of whether hydrocarbons are present in soil and extractable (i.e. could mobilize as a NAPL). Oil Sticks™ change from a pale blue to a deep blue color when they come in contact with free product. This instantaneous change in color occurs even when miniscule amounts of product come in contact with the strip. The sensitivity of Oil Sticks™ to determine the presence/absence of oil is reported by the manufacturer to be about 1,000 to 2,000 mg/kg. The

field test is performed by placing approximately 3 tablespoons of soil in a clean sample cup and adding enough water to cover the sample. After stirring the sample and waiting ~1 minute, the Oil Sticks™ test strip should be swished through the water, making sure to touch the strip to the sides of the cup where product may collect at the interface (meniscus) between the cup, water, and air. If the strip turns deep blue, or deep blue spots appear, oil or hydrocarbon is present. However, the MDE has observed that the Oil Sticks™ method may produce inconsistent results. Therefore, documentation of all screening methods is necessary during boring/trenching work. This documentation shall include an accurate record of visual and olfactory screening, along with a narrative with photographs. Field screening will be aided by photoionization detector (PID) results, and Oil Sticks™ samples should be biased to target elevated PID readings, if any. The agencies have requested that all soil samples prepared for the Oil Sticks™ field test be photographed for evidence of sheen/residue on the cup sides. Detailed records are required to be submitted with the project-specific Completion Report.

If petroleum or Oil & Grease impacts are identified in Site soils based on use of the Oil Sticks™ test kit or other field screening methods, disposal requirements will be determined using the quantitative PetroFLAG™ hydrocarbon analysis system or fixed laboratory analysis (see following section). The PetroFLAG™ hydrocarbon analysis system is a broad spectrum field test kit suitable for TPH contamination regardless of the source or state of degradation (Dexsil Corporation). PetroFLAG™ field test kits do not distinguish between aromatic and aliphatic hydrocarbons, but quantify all fuels, oils, and greases as TPH. Dilutions can be used to determine concentrations of TPH/Oil & Grease above the normal calibration range. Dexsil notes that positive results for TPH may occur if naturally occurring waxes and oils, such as vegetable oils, are present in the sample. Additional detail regarding the procedure for the PetroFLAG™ kit is given in **Attachment 1**.

Soil Excavation, Staging, Sampling and Disposal:

The EP will monitor all utility trenching and excavation activities for signs of potential contamination. In particular, soils will be monitored with a hand-held PID for potential VOCs, and will also be visually inspected for the presence of staining, petroleum waste materials, or other indications of NAPL contamination that may be different than what was already characterized. Excavated material that is visibly stained or that exhibits a sustained PID reading of greater than 10 ppm will be segregated and containerized or placed in a stockpile on polyethylene or impervious surface until the material can be analyzed using the PetroFLAG™ test kit to characterize the material for appropriate disposal. If a PetroFLAG™ test kit is not available to the contractor, or if the contractor prefers to use fixed laboratory analysis, samples may be characterized via submittal to a laboratory for TPH/Oil & Grease analysis. However, any excavated material containing NAPL (i.e., containing free oil) cannot be characterized for waste disposal using the PetroFLAG™ test kit and must instead be characterized via fixed laboratory analysis, as described in the final paragraph of this section. In addition, any hydrocarbon contaminated soil discovered during construction activities that was not previously

characterized must also be analyzed for PCBs prior to removal and transport to an appropriate disposal facility. If excavated and stockpiled, such materials will be covered with a plastic tarp so that the entire stockpile is encapsulated, and anchored to prevent the elements from affecting the integrity of the containment. The MDE will be notified if such materials are encountered during utility work.

Soil exhibiting physical evidence of NAPL contamination or elevated TPH/Oil & Grease with detections in the low percentage range, which is located within 10 feet of a proposed new utility or subsurface structure (i.e., foundation, sump, electrical vault, underground tank, etc.), will be excavated and segregated for disposal at the on-site nonhazardous landfill (Greys Landfill) or an off-site facility pending the completion of any required PCB analytical testing. Impacted soil which is located greater than 10 feet away from the proposed utility or subsurface structure may be left in place and undisturbed. The extent of the excavation will be determined in the field following visual/olfactory screening supplemented by the PID and Oil Sticks™ test kit, but soil disposal requirements will be determined with the PetroFLAG™ test kit (since the Oil Sticks™ method is not quantitative) or via fixed laboratory analysis for TPH/Oil & Grease (if preferred by the contractor or if the PetroFLAG™ test kit is unavailable to the contractor).

Any recovered NAPL will be collected for off-site disposal. As required by the appropriate and MDE approved facility, samples impacted by NAPL (i.e., containing free oil) will be collected for profiling/waste characterization and submitted to a fixed laboratory, as mentioned above, for the following analyses: metals, VOCs, TPH-DRO/GRO, and/or additional analysis required by the selected disposal facility. Upon receipt of any additional characterization analytical results, the MDE will be notified of the proposed disposal facility. Non-impacted material with no evidence of NAPL (i.e. soils that may contain measureable concentrations of TPH/Oil & Grease but below percentage levels) may be placed on the Site in areas to be paved or capped as long as all other requirements specified in the Response and Development Work Plan (or similar governing document) are met.

Initial Reporting:

If evidence of NAPL in soil or groundwater is encountered during excavation, it will be reported to the MDE within two hours. Information regarding the location and characteristics of any NAPL contaminated soil will be documented as follows:

- Location (exact stationing);
- Extent of contamination (horizontally and vertically – prepare a sketch including dimensions);
- Relative degree of contamination (i.e. free oil with strong odor vs. staining); and
- Visual documentation (take photographs and complete a photograph log)

Utility Installations in Impacted Areas:

Underground piping or conduits installed through areas of Oil & Grease or petroleum contamination shall be leak proof and water tight. All joints will be adequately sealed or gasketed, and pipes or conduits will be properly bedded and placed to prevent leakage. All trench backfill will meet the MDE definition of clean fill, or otherwise be approved by the MDE. Pipe bedding will be installed to minimize the potential for accumulation of water and concentrated infiltration. This can be achieved by using a relatively small amount of low-permeability pipe bedding; open-graded stone will be avoided or only used in thicknesses of 6 inches or less. Bedding must be properly placed and compacted below the haunches of the pipe. Clay, flowable fill, or concrete plugs will be placed every 100 feet across any permeable bedding to minimize the preferential flow and concentration of water along the bedding of such utilities.

If required, each trench plug will be constructed with a 2-foot-thick clay plug or 1-foot-thick flowable fill or concrete plug, perpendicular to the pipe, which extends at least 1 foot in all directions beyond the permeable pipe bedding. The plug acts as an anti-seep collar, and will extend above the top of the pipe. Installation of each trench plug will follow the completion of the trench excavation, installation of granular pipe bedding (because dense-graded aggregate or soil or other pipe bedding is difficult to properly compact below the haunches of the pipe), and seating of the pipe. The trench plug will then be installed by digging out a 1-foot trench below and around the pipe corridor, and placing clay, flowable fill, or concrete to construct the plug. A specification drawing for installation of the trench plug has been provided as **Figure 1**.

Attachment 1 - PetroFLAG™ Procedure

PetroFLAG™ field test kits use a proprietary turbidimetric reaction to determine the TPH concentration of solvent extracted samples (USEPA). Calibration standards provided with the unit are used to perform a two-point calibration for the PetroFLAG™. A blank and a 1,000 ppm standard are run by the analyzer unit to create an internal calibration curve.

Analysis of a soil sample is performed using three simple steps: extraction, filtration, and analysis. The PetroFLAG™ analysis is performed as follows:

- Place a 10 gram soil sample in a test tube.
- Add extraction solvent to the tube.
- Shake the tube intermittently for four minutes.
- Filter the extract into a vial that contains development solution
- Allow the solution to react for 10 minutes.

The filtration step is important because the PetroFLAG™ analyzer measures the turbidity or "optical density" of the final solution. Approximately 25 samples can be analyzed per hour. The vial of developed solution is placed in the meter, and the instrument produces a quantitative reading that reveals the concentration of hydrocarbons in the soil sample. The PetroFLAG™ method quantifies all fuels, oils, and greases as TPH between 15 and 2000 ppm (Dexsil Corporation). A 10x dilution of the filtered extraction solvent will be completed to allow for quantification of soil concentrations in excess of 10,000 ppm. The specially designed PetroFLAG™ analyzer allows the user to select, in the field, the response factor that is appropriate for the suspected contaminant at each site. Vegetable-based oils have been shown to exhibit a response factor of 18% (EPA Method 9074). Using the selected response factor, the analyzer compensates for the relative response of each analyte and displays the correct concentration in parts per million (ppm).

References:

U.S. Environmental Protection Agency (EPA). Contaminated Site Clean-up Information (Clu-IN): Test Kits. Office of Superfund Remediation and Technology Innovation. http://www.clu-in.net/characterization/technologies/color.cfm

Dexsil Corporation. 2016. PetroFLAG Analyzer System (PF-MTR-01). http://www.dexsil.com/products/detail.php?product_id=23

EPA SW-846 Method Number 9074 - Turbidimetric Screening Procedure for Total Recoverable Hydrocarbons in Soil

GENERAL NOTES:

1. ALL PIPES OR CONDUIT PASSING THROUGH AREAS OF PETROLEUM CONTAMINATION SHALL BE LEAK–PROOF AND WATERTIGHT. ALL JOINTS SHALL BE SEALED OR GASKETED.

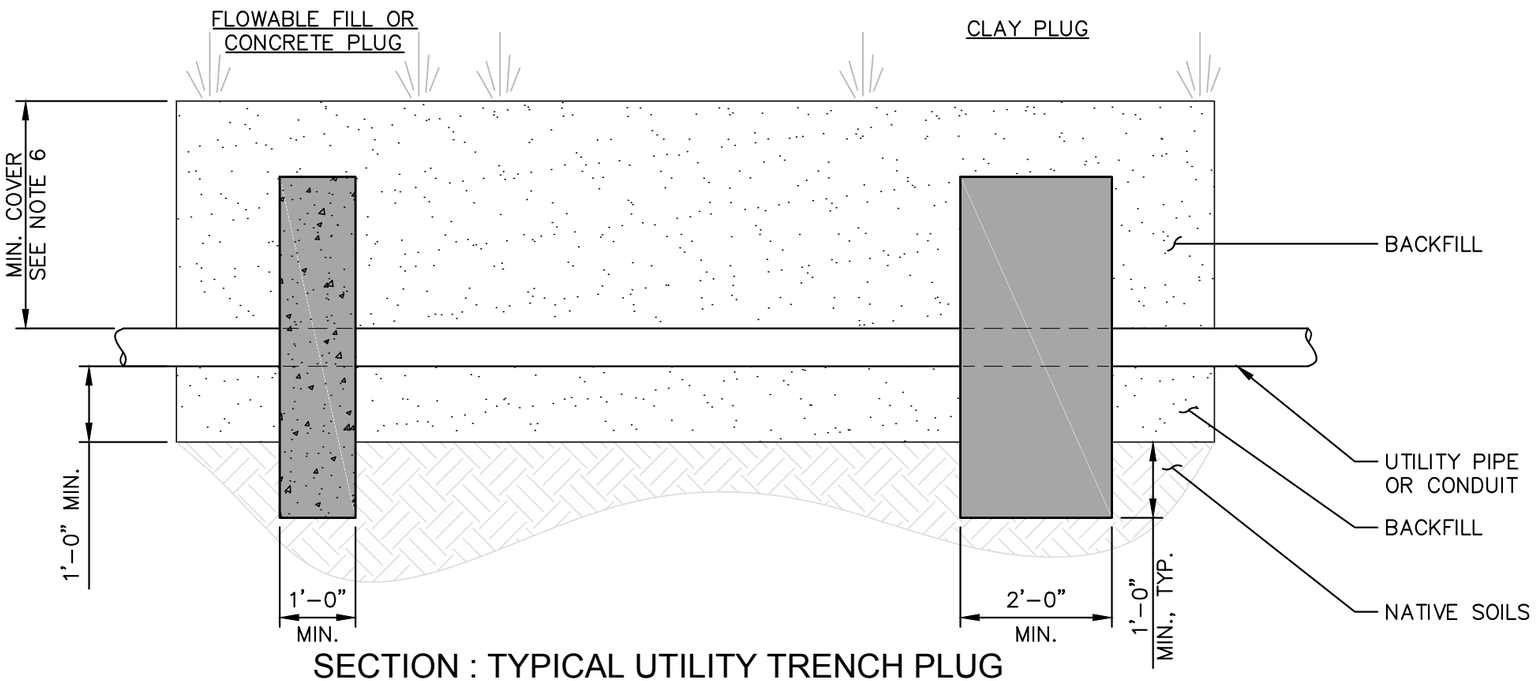
2. ALL PIPES SHALL BE PROPERLY PLACED AND BEDDED TO PREVENT MISALIGNMENT OR LEAKAGE. PIPE BEDDING SHALL BE INSTALLED IN SUCH A MANNER AS TO MINIMIZE THE POTENTIAL FOR ACCUMULATION OF WATER AND CONCENTRATED INFILTRATION.

3. TRENCHES SHALL BE BACKFILLED WITH BEDDING AND MATERIALS APPROVED BY MDE.

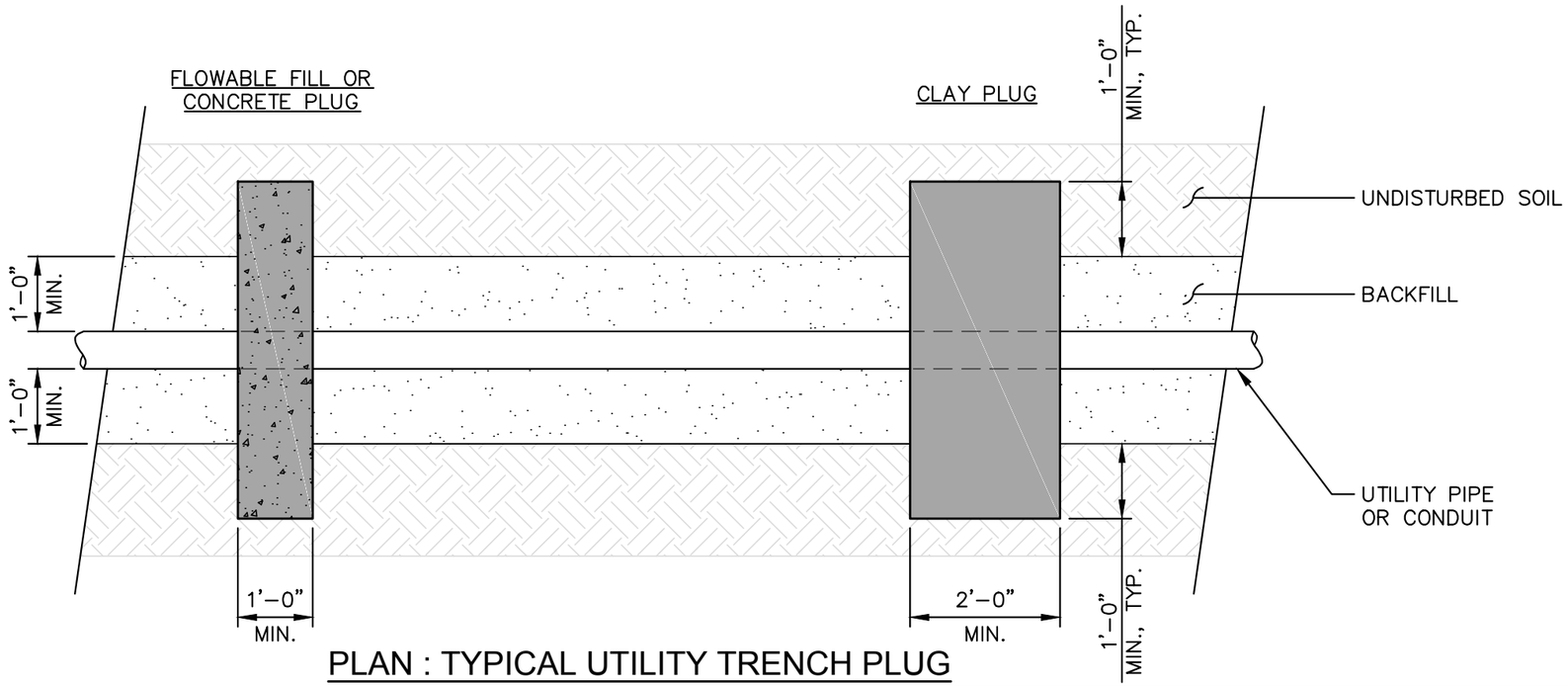
4. TRENCH PLUGS SHALL EXTEND A MINIMUM OF ONE (1) FOOT BEYOND PERMEABLE BEDDING OR BACKFILL IN ALL DIRECTIONS.

5. ANTI–SEEP COLLARS FROM THE PIPE MANUFACTURER, THAT ARE PRODUCED SPECIFICALLY FOR THE PURPOSE OF PREVENTING SEEPAGE AROUND THE PIPE, ARE ACCEPTABLE IF INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, AND ONLY WITH PRIOR APPROVAL BY EAG.

6. MINIMUM COVER ABOVE UTILITY SHALL BE BASED ON SPECIFIC UTILITY REQUIREMENTS.



SECTION : TYPICAL UTILITY TRENCH PLUG



PLAN : TYPICAL UTILITY TRENCH PLUG

ARM Group Inc.
Earth Resource Engineers and Consultants
www.armgroup.net

UTILITY TRENCH PLUG
Sparrows Point Site
EnviroAnalytics Group, LLC

June 2017
1/2" = 1'-0"
160443M

Figure 1